



**MUMBAI PORT AUTHORITY
CIVIL ENGINEERING DEPARTMENT**

TENDER NO. E. 09/2024

Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

FIRST COVER

TECHNICAL BID

CIVIL ENGINEERING DEPARTMENT
THIRD FLOOR, PORT BHAWAN, SHOORJI VALLABHDAS MARG,
BALLARD ESTATE, MUMBAI – 400 001
TELEPHONE No.: +91-22-6656 4521
FAX No.: +91-22-2261 6804
WEBSITE: <http://www.mumbaiport.gov.in>

Important Note:

Any amendments to this tender including the dates, corrigendum, clarifications, if any etc. shall be posted on the website of Mumbai Port Authority & the e-portal of the Govt. of India (<http://www.mumbaiport.gov.in> & www.eprocure.gov.in). Separate newspaper advertisement may not be placed. The Tenderers are required to keep themselves informed of the developments by visiting websites regularly.

Mumbai Port Authority
Civil Engineering Department

TENDER NO. E. 09/2024

Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

TENDER ACTIVITY SHEET

Tender Schedule: -

Sr. No.	Particulars	Date	Time
1.	Tender e-publication date	07.02.2024	10:00 Hrs.
2.	Document Download start date	07.02.2024	10:00 Hrs.
3.	Document Download End Date	28.02.2024	15:00 Hrs.
4.	Bid Submission Start Date	18.02.2024	10:00 Hrs.
5.	Bid Submission End Date	28.02.2024	15:00 Hrs.
6.	Technical Bid Opening Date	01.03.2024	15:30 Hrs.
7.	Price Bid Opening Date	Will be Conveyed subsequently after Technical Bid Scrutiny.	

Pre Bid Meeting will not be held physically. Prospective bidders are requested to address their Pre Bid queries to Shri. S.J. Sawant, Executive Engineer at sj.sawant@mumbaiport.gov.in The replies to the Pre Bid Queries will be published on CPP Portal and MbPA website.

Tender Information: -

Sr.No.	Particulars	Details
1.	Name of Work	Tender No.E.09/2024 – Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.
2.	Scope of Work	The proposal comprises of: 1. Excavation, laying of stone metal as sub base, milling wherever required, laying of asphaltic material etc. 2. Storm water drainage system to drain out the water Including construction of RCC water gully & Manholes 3. Dismantling of existing fencing & providing & fixing fencing wherever required. 4. Other associated works- as described in the Schedule of Quantities and Rates.
3.	Estimated Cost of work put to tender	Rs.1,80,68,265/- (exclusive of GST)
4.	Tender Fee	Rs. 10,500/- (including 5% GST) shall be paid online at www.eplatform.mbptedi.gov.in
5.	Earnest Money Deposit	Rs.3,62,000/- (Rupees three Lakhs Sixty -Two Thousand only) shall be paid online at www.eplatform.mbptedi.gov.in
6.	Performance Security Deposit (Security Deposit)	a) Performance Security Deposit (PSD) equivalent to the 5 % of the contract value. b) Additional Security Deposit for abnormally low bids: - In case the contractors offer is more than fifteen percent (15%) below the cost of work put to tender. c) Retention Money (RM) equivalent to five percent (5%) of Contract Price, deducted at the rate of five percent (5%) of the gross value of work certified in each bill. PSD and ASD (If applicable) is payable in the form of DD/Pay order or Bank Guarantee from Scheduled/ Nationalized Banks carrying on business in Mumbai and to be approved by the Employer.
7.	Completion Period	Five months (excluding monsoon) from the date of release of site or part thereof.
8.	Liquidated Damages for default	The liquidated damages for delay to complete the work covered under this tender is 0.50% (1/2 %) of the contract price for delay of each week or part thereof in completion of work subject to maximum ceiling of 10% of contract price.
9.	Validity of Offer	90 days from the opening of Technical Bid (First Cover)



Mumbai Port Authority
Civil Engineering Department
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Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

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Contents of Tender Document

Sl. No.	Contents
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8	Annexure 4 – Annual Financial Turnover
9	Annexure 5 – Experience of Similar Work
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11	Annexure 7 – ECS Mandate Form
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Mumbai Port Authority
Civil Engineering Department
TENDER NO. E. 009/2024

Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

TENDER NOTICE

1. Invitation:

Digitally signed and uploaded, Online bids under Single Stage Two Cover system are invited by the Chief Engineer on behalf of Board of Mumbai Port Authority from the experienced, resourceful firms with proven technical and financial capabilities as detailed in clause No.2 hereinafter for executing the work **“Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.**

1.1 Interested eligible tenderers may obtain further information and inspect the tender documents at the e-Procurement website <https://eprocure.gov.in/eprocure/app> This website can also be accessed by clicking the link at MbPA’s Website <http://www.mumbaiport.gov.in>

1.2 The Tender is to be submitted under two cover system, the first cover containing technical information and second cover containing the price bid.

1.3 Salient Features/Scope of the Work: The proposal comprises of:

The proposal comprises of excavation work where ever required, laying of 240mm thick stone metal where ever directed to maintain the gradient, Milling the area where ever directed, Asphaltic layers of DBM/AM and AC.

Storm water drainage system consisting of construction of Manhole, Water-gullies and laying of 450 mm and 300 mm dia. pipe along with encasing of the pipe to drain out the water.

The work is to be carried out as described in Schedule of Quantities & Rates and as directed at site. The materials should comply with relevant Indian Standard Specifications of the latest edition.

1.4 The other pertinent information of the work is as under.

a)	Estimated Cost	Rs.1,80,68,265/- (exclusive of GST)
b)	EMD	Rs.3,62,000/- (Rupees three Lakhs Sixty -Two Thousand only) shall be paid online at www.eplatform.mbptedi.gov.in
c)	Completion Period	Five months (excluding monsoon) from the date of release of site or part thereof
d)	Free Maintenance Period	2 (Two) Years from the date of completion of work.
e)	Liquidated Damages	The liquidated damages for delay to complete the work covered under this tender is 0.50% (1/2 %) of the contract price for delay of each week or part thereof in completion of work subject to maximum ceiling of 10% of contract price

2. **Eligibility Criteria:** To qualify for the tender, the tenderer must satisfy the following eligibility criteria as detailed in Table below.

Estimated Cost of Work excluding 18% GST put to Tender Rs. in Lakhs	(A) Financial Criteria	(B) Technical Criteria				
	Minimum Average annual financial turnover during the last three years ending 31.03.2023 Rs. (in lakhs)	Three similar works completed during last seven years ending 31.01.2024 each costing not less than Rs. (in lakhs)	OR	Two similar works completed during last seven years ending 31.01.2024 each costing not less than Rs. (in lakhs)	OR	One similar work completed during last seven years ending 31.01.2024 costing not less than Rs. (in lakhs)
(1)	(2)	(3)		(4)		(5)
180.68	63.96	85.28	OR	106.60	OR	170.56

Similar Work' shall mean the Completed asphaltic road works involving drainage work.

Note: - The firm shall have successfully completed 'similar work/s' as 'Prime contractor' or approved sub-contractor' from the Principal Employer with reference being submitted to confirm satisfactory performance from the employer.

- 2.1 **Joint Venture / Consortium: Not allowed for this tender.**
- 2.2 The tenderer shall furnish complete information in respect of their firm, including financial and technical capabilities etc. in Annexure- '3,4,5' enclosed with the Tender Notice. Bidders should mention the Unique Identification Number (UDIN) in Annexure 4
- 2.3 The tenderers will be short-listed based on the Eligibility criteria detailed in Clause Nos. 2 above and submission of documents as per clause 5.4 below. The Second Cover of the short-listed tenderers will be opened on the date and time, which will be intimated to them subsequently.

- 2.4 In order to cross verify the work experience claimed by the bidders, TDS certificate from their previous employers shall be submitted. In case of difficulty on submission of TDS, Form 26AS of IT Department shall be submitted.
- 2.5 **Bidders are requested to submit Power of Attorney as per Annexure 11 to the person signing the Bid on Non Judicial Stamp Paper of Rs.500/-**
- 2.6 The tenderer should be registered under (a) The Employee's State Insurance Corporation, Maharashtra & (b) Employee's Provident Fund Organization and the firm shall submit certificates thereof.
3. Pre Bid Meeting will not be held physically. Prospective bidders are requested to address their Pre Bid queries to Shri. S.J. Sawant, Executive Engineer at sj.sawant@mumbaiport.gov.in. The replies to the Pre Bid Queries will be published on CPP Portal and MbPA website. For further provisions refer clause no. 11 of Instructions for Preparation and Submission of Tender.

4. **Procedure for obtaining Tender Documents:**

- 4.1. Interested tenderers will have to download the tender document from MbPA website www.mumbaiport.gov.in and/or www.eprocure.gov.in/eprocure/app. The bidder has to submit the tender fee of **10,500/-** (Rupees Ten Thousand Five Hundred only) (Inclusive of GST 5%) payable online at www.eplatform.mbptedi.gov.in The downloading of the tender documents shall be carried out strictly as provided on the web site. No editing, addition / deletion of matter shall be permitted, if such action is observed at any stage, such bid is liable for outright rejection.
- 4.2. The bidder is responsible to download Addendums / Amendments / Errata / replies to the queries of the bidder etc. if any, issued by the employer, from web site before the submission of the Bid Document. Any shortfall in submissions of the said Addendum / Amendments / Errata / replies to the queries of the bid document, etc. along with the downloaded documents while submitting the bid documents will not be considered. Incomplete Bid documents shall be rejected outright.

5. **Bid Submission**

- 5.1 The detailed procedure for online bid submission has been provided in "Instructions for Online Bid Submission" of this tender.
- 5.2. Complete bid submission is online on the website www.eprocure.gov.in The payment of Earnest Money Deposit & Tender Fee can be done online. Tenderer shall

visit <https://eplatform.mbptedi.gov.in> for making the payment for EMD and Tender Fee and choose the option “Latest Tenders” on the dashboard. After selecting the relevant tender, the tenderer can make online payment after entering the basic details of bank for refund purpose, the receipt generated as PDF file of EMD & Tender Fee shall be uploaded by the tenderer on CPP Portal under relevant option as a proof for the payment, failing which Tender will not be opened. The details of bank payment reference number and payment date also need to be entered while uploading in the relevant fields. Bids if not accompanied by the E.M.D. and or Tender Fee shall not be opened.

5.3. Since the Tender set is non-transferable, the tenderer who is making the online payment should only utilize the same for submitting his/her own Tender on CPP portal

5.4. The following documents are required to be submitted online.

Sr. No	Documents to be submitted online
1	Scanned copy of the online receipt for EMD & tender fee.
2	Scanned copy of duly filled & signed Annexure 1 – Draft Letter of Application Annexure 2 – Undertaking by the Tenderer Annexure 3 – Tenderer’s Particulars Annexure 6 – Integrity Pact Annexure 7 – ECS Mandate Form Annexure 8 – Undertaking by the Tenderer for DEP Annexure 9– Non discloser Agreement
3	Annexure 4: Annual Financial Turnover with signature of CA OR Separate Annual Financial Turnover Certificate issued by Chartered Accountant. AND Profit & Loss Account statement of last three financial years Certified by Chartered Accountant. NOTE: All the above certificates shall bear Unique Document Identification Number (UDIN).
4	Scanned copy duly filled & signed Annexures along with Supporting Documents for Eligibility criteria. a) Annexure-5: Experience of Similar Work b) Additional Documents:

	<ul style="list-style-type: none"> ➤ Work order issued by the Principle Employer ➤ Completion Certificate issued by the Principle Employer ➤ Copy of TDS certificate from the previous employer or Form 26 AS of IT department as evidence to establish the work experience
5	<p>Scanned copy of following certificates:</p> <p>Annexure 11: Power of Attorney of signatory to Tender executed on Non Judicial Stamp Paper of Rs.500/- (Notary attested copy)</p> <ul style="list-style-type: none"> ➤ Attested copies of following documents Names, Addresses & ages of partners and Deed of Partnership OR Memorandum and Articles of Association of the Company. ➤ Copy of PAN card issued by Income Tax authorities. ➤ Copy of GST Registration ➤ Copy of Registration of Employee's Provident Fund Organisation ➤ copy of registration with Employee's State Insurance Corporation
6	Technical Bid (First Cover) in full duly filled in and signed at required places.
7	Financial Bid (Second Cover) in full duly filled in and signed at required places
8	Annexure 10: Drawing No. 3/2024 published with the tender.
8	Price Bid - Second Cover in full duly filled in and signed at required places along with BOQ in PDF and Excel file

5.5. Price Bid:

Price Bid: Bidders are requested to note that they should necessarily submit their online financial bids in the format provided in the tender and no other format is acceptable. The bidder shall submit his offer in BOQ online in the Excel format provided in Price Bid. Bidders are requested to quote their Price for the subject work in the Excel file (.xls) published along with this tender.

5.6 Bids will not be considered in case the EMD, Tender Fee is not submitted and signed Integrity pact is not uploaded in the form and manner described at 5.4 above.

5.7 The tender documents are NOT TRANSFERABLE

6. Pre Bid Meeting will not be held physically. Prospective bidders are requested to address their Pre Bid queries to Shri. S.J. Sawant, Executive Engineer at sj.sawant@mumbaiport.gov.in. The replies to the Pre Bid Queries will be published on CPP Portal and MbPA website. For further provisions refer clause no. 11 of Instructions to Tender.

7. Completion period:

The Completion period for the work covered under this tender is Five (5) months

excluding monsoon from the date of release of site or part thereof.

8. The bidders shall give an undertaking as per Annexure-'3' that they have not made any payment or illegal gratification to any person/ authority connected with the bid process so as to influence the bid process and have not committed any offence under the PC Act in connection with the bid.
9. The bidders shall disclose any payments made or proposed to be made to any intermediaries (agents etc.) in connection with the bid.
10. The Board of Mumbai Port Authority reserves the right to reject any or all tenders without assigning any reasons thereof.
11. The Board of Mumbai Port Authority reserves the right to cancel the work at any stage of contract without assigning any reasons thereof.
12. The rate quoted by the contractor shall be **exclusive of GST** but inclusive all other incidental charges that the contractor may have to bear for the execution of the works.
13. **Goods and Service Tax (GST) as applicable shall be reimbursed to the contractor through the interim bills against the invoices raised.** However, the taxes like Income Tax etc. will be deducted at source as applicable as per prevailing rules and regulations.
14. For any details/clarification Asstt. Executive Engineer, Roads Shri. PMH. Barge at e-mail pmh.barge@mumbaiport.gov.in, and on telephone 665644593 and at his office address 3rd floor Port Bhavan, S V Road, Mumbai 400 001.
15. The successful Bidder shall comply with all prevailing Central and state laws.
16. The successful Bidder shall make payment to his workers/staff deployed for the execution of the work as per Minimum Wages notifications issued by the Govt. of India and comply with the provisions of PF and ESIC in respect of his employees.
17. Tender document and extension or any other notice/ corrigendum/ addendum/ clarification, if any, are being uploaded in the website of MBPA (www.mumbaiport.gov.in),cpp portal <https://eprocure.gov.in/eprocure/app>. Bidders are advised to visit the websites regularly.
18. Non-Disclosure Agreement-(Annexure-9): The bidder has to download the Non-Discloser Agreement, sign same and shall upload scanned copy of same with the Bid. The scanned copy of Non-Discloser Agreement signed by the Bidder when uploaded by the bidder shall be treated as Non-Disclosure Agreement, till the formal execution of Non-Disclosure Agreement by the successful bidder

19. The bidder will be required to submit evidence of payment of wages to the labour/workmen in to their bank account, the statement of remittance towards wages, EPF&ESIC for all labours engaged for the subject work along with their bills duly verified by the Executing Engineer and an Officer of the Welfare Division of Mumbai Port Authority. The wages and remittances for ESIC, EPF etc. shall be in accordance with the prevailing labour laws, rules and regulations governing the minimum wages Act. The contractor's bills will not be processed / passed/ in case of non-compliance of these provisions in the contract.
20. Liquidated damages: The liquidated damages for delay to complete the work covered under this tender is 0.50% (1/2 %) of the contract price for delay of each week or part thereof in completion of work subject to maximum ceiling of 10% of contract price. However, if the work is delayed by more than 25% of the contracted completion period, the contract is liable to be terminated and the balance works shall liable to be got completed by MbPA through other agency at the risk and cost of the defaulting contractor, as set out in clause No.9.5.3 of the conditions of contract hereinafter contained.
21. INTEGRITY PACT
 1. The scanned copy of Integrity Pact (IP) Agreement signed by the employer is uploaded along with the tender document. The bidder has to download the IP Agreement, sign and shall upload the same scanned copy of signed IP Agreement along with the bid.
 2. In case of a joint venture, all the partners of the joint venture should sign the IP. In case of sub-contracting, the Principal Contractor shall take the responsibility of the adoption of IP by the sub-contractor.
 3. The person signing IP shall not approach the Courts while representing the matters to IEM and he/she will await their decision in the matter.
 4. The unsigned scan copy of IP Agreement by the bidder shall be treated as invalid and the bid shall be considered as non-responsive bid.
 5. In case the letter of intent / work order of contract / procurements is for Rs. 45 Lakhs and above, the successful bidder shall execute Integrity Pact Agreement on stamp paper of appropriate value. The scanned copy of Integrity Pact Agreement signed by the Employer, Bidder and uploaded by the bidder with the tender document shall be treated as Integrity Pact, till the formal execution of Integrity Pact by the successful bidder.
 6. IP essentially envisages an agreement between prospective vendors / bidder, and Mumbai Port Authority, committing the person / officials of both sides to not to resort to any corrupt practice in any aspect of the contract at any stage. Only those

venders / bidders who commit themselves to IP with MbPA, would be consider for evaluation of bid. IP would be implemented through Independent External Monitor (IEM), eminent person appointed by MbPA with approval of Central Vigilance Commission. The IEM would asses independently and objectively, as to whether and what extent the parties have complied with their obligations under the IP. IEM would have access to all contract documents, whenever required. The bidder may raise disputes / complaints if any with the IEM. The IEM would examine complaints received by him and give his recommendations / views to the Chairman of Mumbai Port.

7. Shri Rajiv, IPS (Retd), Ex-Vigilance Commissioner, CVC and Shri V. Kannan, Ex-CMD, Vijaya Bank have been nominated as Independent External Monitors (IEMs) for the implementation of Integrity Pact whose address is as under:

Shri Rajiv, IPS (Retd), Ex-Vigilance Commissioner, CVC Bungalow No.88, New Motibagh, New Delhi-110021 Mobile No. +91-9818916161 Email: shreerajiv1975@gmail.com	Shri V. Kannan, Ex-CMD, Vijaya Bank TA-1, Krishna Regency, Third Floor, Tata Silk Farm, K. R. Road, Basavanagudi Bangalore-560004 Mobile No. +91-8105305555 Email: kannan.venkata@gmail.com
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23. Tenderer is responsible to purchase/ download Tender document and download Addendums/ Amendments/ Errata/ Replies to the queries of the Party etc., if any, issued by MbPA, from the website before submission of the Tender. The tenderer shall submit duly signed copies of Addendums/ Amendments/ Errata/ Replies to the queries of the Party etc. along with the purchased or downloaded documents while submitting the Tender.
24. Un-authorized dumping of debris within MbPT estate will be penalized with Rs.50,000/- per truck load.
25. For any details /clarification Asstt. Executive Engineer, can be contacted on 66564593 or Executive Engineer, Roads on 66564525.

Chief Engineer
Mumbai Port Authority



Mumbai Port Authority
Civil Engineering Department
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Instructions for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link "**Online bidder Enrollment**" on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid e-mail address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (DSC) (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters

such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.

- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 4) Documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

- 1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as "offline" to pay the tender fee as applicable and enter details of the instrument.
- 4) Bidders are requested to note that they should necessarily submit their online financial bids in the format provided in the tender and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save

it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

- 5 Bidder are requested to note that they should submit their online financial bids in the format provided in the tender and no other format is acceptable.
- 5a) **Price Bid:** The bidder shall submit his offer in BOQ online in the format provided in Price Bid. The items of Bill of Quantities are provided in the PDF format (.pdf file) Bidders are requested to quote the tender percentage in the Excel file (.xls) published along with this tender. Price bid should not be submitted in hard copy format in any case.
- 6) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 3070 2232. Foreign bidder can get help at +91-79-40007451 to 460.

ONLINE PAYMENT OF TENDER FEE: As tender submission is online on CPP portal; the payment of Tender Fees and EMD will be done online. Tenderer shall visit <https://eplatform.MbPAedi.gov.in> for making the payment for Tender Fee and choose the option "Latest Tenders" on the dashboard. After selecting the relevant tender, the tenderer can make online payment after entering the basic details of bank, the receipt

generated as PDF file of Tender Fees AND EMD (as the case may be) shall be uploaded by the tenderer on CPP Portal under relevant option as a proof for the payment, failing which Tender will not be opened. The details of bank payment reference number and payment date also need to be entered while uploading in the relevant fields. Since the tender set is not transferrable, the tenderer who is making the online payment, should only utilize the same for submitting his/her own Tender on CPP portal.

**Chief Engineer
Mumbai Port Authority**



Mumbai Port Authority Civil Engineering Department

TENDER NO. E. 09/2024

Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

Instructions to Tenderers

- 1.1 On line Tenders in two stages (technical bid and price bid) are invited for the work of **“Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.”**
- 1.2 The tenders will be received by the Employer On Line at the website www.eprocure.gov.in. The Employer may at their discretion extend the date for receiving tender.
- 1.3 The tenderer is advised to acquaint himself with the job involved at the site, examine soil conditions, hydrological conditions, climatic conditions, availability of labour, quarry materials, equipment, means of transport, communication facilities, laws and bylaws of Govt. of Maharashtra or Govt. of India and any other statutory bodies and collect all information that may be necessary for preparing and submitting the Tender and entering into the contract.
- 1.4 The Tenderers shall bear all the costs of visiting the site, collecting the information and for preparing and submitting the tender.
- 1.5 The Tenderer and or his servants and agents will be granted permission to visit the site for the purpose of inspection. The Tenderer will be fully responsible for any injury (whether fatal or otherwise) to himself or his servants and agents or for any loss or damage to property or for any other loss, damage, costs and expenses whatsoever caused which but for the granting of such permission would not have arisen. The Tenderer will be liable to indemnify the Employer against any loss or damage to the property of the Employer or neighbouring property which may be caused due to any act of the Tenderer or his servants and agents.
- 1.6 The Tender prepared by the tenderer, all documents and correspondence in respect of or in connection with the tender and the work to be executed hereunder shall be in English Language only.
- 1.7 The Tenderer shall examine carefully, all instructions, General Conditions of Contract, Specifications, Bill of quantities, Scope of work, Drawings etc. and all documents issued along with and for the purpose of tender, any amendments made there to from time to time, conditions, nature of the ground and substrata, quantity and nature of work, materials necessary for the completion of work, the surface conditions, the hydrological and climatic conditions, means of access to the site, the existing roads and other means of communication and in general shall be deemed to have been examined and obtained all

necessary information as to risks, contingencies and other circumstances which may influence or affect his tender. Failure to comply with the requirements of the tender documents will be on tenderers own risks. Tenders, which are not substantially responsive to the requirement of the tender documents, are liable to be rejected.

- 1.8 Tenderer shall bear all costs for preparation and submission of his tender. Employer will not be responsible for or pay for any expenses or losses, which might be incurred or suffered by any tenderer in connection with submission of tender.

2. Earnest Money Deposit (EMD):

2.1 The Earnest Money shall be lodged by the tenderer on the understanding that in the event of the tenderer withdrawing his tender before the expiry of the tender validity period stipulated in the Tender Notice, the Earnest Money deposited by the tenderer shall be forfeited.

2.2 Tender Fee and EMD shall be paid online at <https://eplatform.mbptedi.gov.in> and the payment receipt is to be submitted online at CPP portal.

2.3 Tenders if not accompanied by the requisite Earnest Money Deposit (EMD) & Tender fee and in the manner described at 2.2 above shall be left out of consideration.

2.5 PEMD not applicable to this tender.

2.6 Refund of Earnest Money Deposit:

(a) EMD of the Tenderers who are not short-listed shall be refunded to them immediately after finalisation of short listing.

(b) EMD of the Tenderers except of lowest tenderer, whose Price Bids are opened shall be refunded within a fortnight from the date of opening of the Price Bids.

(c) EMD of successful tenderer may be retained as part of the Performance Guarantee

(d) The return of Earnest Money will be effected through ECS/ Banker's Cheque. In case of ECS, the tenderers are required to furnish particulars of the bank to which the amount of EMD is to be credited, in a mandate form.

2.7 The tenderer shall submit with his tender Permanent Account Number (PAN). Copy of latest income tax clearance certificate and also his sales tax registration number if any.

2.8 The Tender shall remain valid and open for acceptance for a period of 90 days from the date fixed for receiving the same. The Employer reserves their right to extend the period of validity for a specific time. The request and the response thereto shall be made in writing or by telegram, Fax, E-mail or telex. The Tenderers will have an option to refuse the request without forfeiting his tender security. However, in the

event of the Tenderer agreeing to the request, he will not be permitted to modify his tender. In the event of the tenderer agreeing to the extension, the Tenderer shall correspondingly extend the validity of his tender security.

3. Eligibility and Qualification Requirement:

To be eligible for award of contract, tenderers shall provide evidence, satisfactory to the Employer of their eligibility and of their capability and adequacy of resources to carry out the subject contract effectively in addition to documents evidencing fulfilment of all the minimum qualifying criteria as stipulated in the "Tender Notice ". The tenderer shall also submit following information.

- a) Copies of original Documents defining the constitution or legal status, place of registration and principal place of business of the company or firm or partnership.
 - b) Details of the experience of the Tenderer on works of a similar nature within the past seven years,
 - c) Reports on the financial standing of the Tenderer as prescribed in the tender document including profit and loss statements, balance sheets and auditor's reports for the past three years and an authority from the Tenderer for the Employer to seek reference from the Tenderer's bankers.
 - d) Information regarding any current litigation in which the Tenderer is involved.
4. At any time prior to the last date for submission of tenders, the employer may for any reason whatsoever change or modify the tender documents by amendments. The amendments so carried out will be hosted on e-procure & MbPT website. The amendment so carried out will form part of the tender and shall be binding upon the Tenderers. The Employer may at their discretion extend the last date for submission of the tenders to enable the Tenderers reasonable time to submit their tender after taking into consideration such amendments. The responsibility of downloading such documents from above website fully lies with the Tenderer.
5. The tenderers are required to enter the percentage addition or deduction in the BOQ Excel File published with the tender. The items of BOQ are published separately in PDF file. The percentage addition/ deduction will apply to the rates for each of the items in the Schedule of Quantities and Rates without reference to quantity or location of the work or any variation in the estimated quantity. The percentage addition/ deduction shall be quoted by tenderer having regard to the specification, conditions of contract and all other provisions in the tender document, and no variation in rates etc. will be allowed on any ground such as mistake, misunderstanding etc. after the tender has been submitted.
6. The price 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 GST** as per

- Govt. Notifications etc. necessary for proper execution and maintenance of the works.
7. The tender documents shall not be defaced or detached. Additions and alterations or interpolations shall not be made in the tender document.
 8. The tenderer shall submit his tender strictly based on MbPT's design and specifications.
 9. Inspection of Site: Tenderers are strongly advised to inspect the site of work and acquaint themselves with the site conditions and quantum of work involved etc. before tendering. Access to the site for inspection will be arranged by Asstt. Executive Engineer, 3rd Port Bhavan, Mumbai - 400 001, Telephone No.66564593
 10. Pre-Bid Meeting: Pre Bid Meeting will not be held physically. Prospective bidders are requested to address their Pre Bid queries to Shri. S.J. Sawant, Executive Engineer at sj.sawant@mumbaiport.gov.in The replies to the Pre Bid Queries will be published on CPP Portal and MbPA website. For further provisions refer clause no. 10 of Instructions to Tender.
 11. Conditional Tender will be rejected outright considering it as nonresponsive offer and Tender will be liable to be rejected outright if it is found that;
 - i) The Tenderer proposes any alteration in the work specified in the tender or in time allowed for completing the works or indicate any other unacceptable condition.
 - ii) All corrections are not initialed by the tenderer.
 - iii) Disclosure/indication of the price in the technical bid shall render the tender disqualified and rejected.
 - iv) The bid is non-responsive
 12. After the public opening of Tenders, information relating to the clarification, evaluation and comparisons of Tenders and recommendations concerning the award of contract shall not be disclosed to Tenderers or any other(s). Any efforts by the tenderer to influence the Employer, in the process of examination, clarification, evaluation and comparison of tenders and decisions concerning award of contract may result in the rejection of the tenderer's tender.
 13. To assist in the evaluation and comparison of tenders, the employer may ask tenderers, individually for clarifications of their tenders. The request for clarification and the response shall be in writing or by email, but no change in price or substance of the tender shall be sought, offered or permitted nor the tenderer be permitted to withdraw his tender before the expiry of the tender validation period.
 14. Prior to the expiration of the prescribed period of tender validity or such extended period the Employer will notify the successful tenderer, by email or telex, fax confirming in writing by registered letter that his tender has been accepted. The notification of award will constitute the formation of the contract. Upon the furnishing by the successful tenderer of a performance security, the Employer will promptly notify the unsuccessful tenderers that

their tenders have been unsuccessful.

15. Fraudulent documentation by bidders:
Submission of fraudulent documents by the bidder shall be treated as major violation of the tender procedure and in such cases, pursuant to clause no 33 of GCC, the Port shall resort to forfeiture of EMD/SD/BG of the bidder, apart from blacklisting the firm for the next 3 years. The list of blacklisted firms shall be published on Port Trust website.
16. All costs, charges and expenses including stamp duty in connection with contract as well as preparations and completion of agreement shall be borne by the tenderers.
17. The contractor shall, in accordance with the requirement of the Employer, afford all reasonable opportunities for carrying out their work to any other contractors employed by the Employer and their workmen and to the workmen of the Employer and of any other duly constituted authorities who may be employed in the execution on or near the site of any work not included in the contract or of any contract which the employer may enter into in connection with or ancillary to the works.
18. Evidence of Work Experience:
 - 19.1 In order to cross verify the work experience claimed by the bidders, TDS Certificate from their previous employers is to be submitted.
 - 19.2 In case of difficulty on submission of TDS by bidders, Form 26 AS of IT Department shall be submitted as evidence for establishing work experience.

**Chief Engineer
Mumbai Port Authority**



**MUMBAI PORT AUTHORITY
CIVIL ENGINEERING DEPARTMENT**

TENDER NO. E. 09/2024

Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

CONDITIONS OF CONTRACT

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Clause No.	Description
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Mumbai Port Authority
Civil Engineering Department
TENDER NO. E. 09/2024

Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

CONDITIONS OF CONTRACT

1. Definitions and Interpretations:

Definitions:

In the Contract (as hereinafter defined) the following words and expressions shall have the meaning hereby assigned to them except where the context otherwise requires.

- (a) '**Employer**' means the Board of Mumbai Port Authority i.e. "MbPA".
- (b) '**Contractor**' means the person or persons, firm or company whose tender has been accepted by the Employer and includes the Contractor's personal representatives, successors and permitted assigns.
- (c) '**Engineer**' means the Chief Engineer of the Port of Mumbai or other Engineer authorised from time to time by the Employer/ Chief Engineer/ to act as Engineer for the purpose of the Contract.
- (d) '**Engineer's Representative**' means any Engineer Namely Dy. Chief Engineer/ Superintending Engineer/ Executive Engineer/ Assistant Executive Engineer/ Jr. Engineer authorised from time to time by the Engineer to be in direct supervision of the Works.
- (e) '**Works/ Permanent Works**' means the works to be executed in accordance with the Contract.
- (f) '**Contract**' means the Contract Agreement, the Letter of Acceptance, the Letter of Tender, Conditions of Contract, the Specifications, the Drawings, the BOQ, and the further documents (if any) which are listed in the Contract Agreement or in the Letter of Acceptance and includes the entire document comprising of the following.

FIRST COVER

- 1) Tender Schedule & Salient features of tender.
- 1) Content of Tender document.
- 1) Tender Notice.
- 1) Instructions for Online Bid submission.
- 1) Instructions for Preparation and Submission of Tender.
- 1) a) General Conditions of Contract – Index.
b) General Conditions of Contract

- 1) Technical Specifications
- 1) Annexure '1 to 11'.
- 1) Proforma I to IV

and

TENDER NO. E.09/2024. FIRST COVER-26

SECOND COVER

1. Directions to Tenderers for filling in the schedule of Quantities
2. Preamble to Schedule of Quantities & Rates
3. Schedule of Quantities & Rates
4. Form of Tender

and

The correspondence exchanged between MbPT and the tenderer upto issue of the letter of acceptance.

and

The letter of acceptance

and

When completed, the Contract Agreement.

- (g) **'Tender'** means the Contractor's priced offer to the Employer for the execution and completion of the works and the remedying of any defects therein in accordance with the provisions of the contract, as accepted by the Letter of Acceptance.
- (h) **'Contract Price'** means the sum named in the Tender subject to such additions thereto or deductions there from as may be made under the provisions hereinafter contained.
- (i) **'Construction Plant'** means all appliances or things of whatsoever nature, required in or about the execution or completion of the Works or Temporary Works (as hereinafter defined) but does not include materials or things intended to form or forming part of the permanent work.
- (j) **'Temporary Works'** means all temporary works of every kind required in or ancillary to or about the efficient execution and completion of the Works.
- (k) **'Drawings'** means the drawings indicated in this document and any modifications of such drawings approved in writing by the 'Engineer' and such other drawing as may from time to time be furnished or approved in writing by the 'Engineer'.
- (l) **'Site'** means the land or other places, on which the Works are to be executed or carried out and any other lands or places provided by the Employer for the purpose of the Contract.
- (m) **'Approved'** means approved in writing, including subsequent written confirmation of previous verbal approval and 'Approval', means approval in writing including as aforesaid.
- (n) **'Letter of Acceptance/ Work Order'** means formal letter with accompaniments issued by Engineer or Engineer's representative addressed to the tenderer, conveying the acceptance of his tender.

1.2. Singular and Plural: Words importing the singular only also include the plural and vice versa where the context requires.

1.3. Applicability of Clauses / Conditions: All the clauses/ conditions of this 'Contract' are

applicable for the subject tender work unless otherwise specified.

2. Duties and Powers of Engineer's representative:

The duties of the Engineer's Representative are –

- to monitor and supervise the Works & workmanship employed.
- to test and examine materials to be used in the works.
- to direct removal of improper work and materials in connection with the Works.
- to take measurements of works and material.
- To ensure compliance of all the conditions of contract & specifications by the contractor.

3. Subletting and Partnership:

The Contractor shall not sublet the Works or any portion thereof without the written permission of the Engineer nor assign his right and interest in these presents, nor assume a fresh partner or partners nor dissolve the partnership at present subsisting between them in reference to this Contract, without the written permission of the Engineer and such consent if given shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts defaults and neglects of any sub-Contractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor/his agents, servants or workmen provided always that the provision of labour on a piece work basis shall not be deemed to be a subletting under this Clause.

4. Extent of Contract:

The Contract comprises the construction, completion and maintenance of the Works and the provision of all labour, materials, constructional plant, temporary works and everything whether of a temporary or permanent nature required in and for such construction, completion and maintenance of works upto Defect Liability Period.

5. Contract Documents:

5.1. Documents mutually explanatory:

The several documents forming the Contract are to be taken as mutually explanatory of one another.

In the case of discrepancy/ ambiguities, if any, found in these documents, the Engineer will decide which document would prevail and his decision shall be final and binding on the contractor. The contractor shall execute the works according to such decision without any variation in the price quoted by the contractor.

5.2. Further Drawings and Instructions:

The Engineer shall have full power and authority to supply to the Contractor from time to time during the progress of the works, such further drawings and instructions as shall be necessary for the purpose of the proper and adequate execution and maintenance of the works and the Contractor shall carry out the works accordingly and be bound by

the same

5.3. Drawings For Temporary Works:

The Contractor shall submit to the Engineer for his approval and / or record full details and drawings of any temporary works / working platforms etc. which he proposes to construct / erect necessary for execution of works. These details shall be submitted well in advance before erection of any such Temporary works at site. The submission to and approval by the Engineer or Engineer's representative of such particulars shall not relieve the contractor of any of the duties or responsibilities under the contract in connection with the Works or Temporary works.

6. General Obligations:

6.1. Contract Agreement:

The successful tenderer will be required to enter into a formal Agreement with the Employer incorporating the documents detailed in clause No.1.1 (f) hereto before, with such modifications as may be necessary and the correspondence exchanged upto and including the stage of award of the contract and the letter of acceptance. The Contract Agreement will be prepared by the Employer as per the format enclosed as Annexure-I. All costs, charges and expenses including stamp duty incurred in this connection will be borne by the Contractor. Until such Contract Agreement is executed, the acceptance of the tender in terms of the Contract as defined in Clause No.1.1 (f) shall be binding upon the MbPA & the Contractor, and shall be the Contract.

The Contractor's bills will not be passed for payment until the contract agreement is executed.

The works contracts which do not involve transfer of property in goods are to be stamped with stamp duty of only Rs.100 and Rs.500/- and are not to be registered. As per the provisions of the Maharashtra Stamp Act, 1958, the Stamp Duty and registration charges of each tender including tender for works contract will be paid by the contractor/successful bidder.

6.2. Security Deposits:

The security deposit for due performance of the contract shall comprise of the following.

(a) Performance Security Deposit (PSD) equivalent to 5% of the contract value payable in the form of Demand Draft/Pay Order OR Bank Guarantee issued from any of the commercial Bank in India. It will be refunded to the contractor without interest, after he duly performs and completes all obligations under the contract but not later than 365 days of completion of the Defect Liability Period (DLP).

Plus

(b) Additional Security Deposit for Abnormally Low Bids (ASD): Payable only if the contractor quotes more than 15 % below the cost put to tender payable in the

form of Demand Draft / Pay Order OR Bank Guarantee issued from any of the commercial bank in India. Addl. Security Deposit will be refunded to the contractor after successful completion of work.

No costs/ charges will be recovered from the Contractor for approval of the Bank Guarantee by the Employer's Chief Law Officer & Advocate but all other costs of and in respect of furnishing the Guarantee shall be borne by the Contractor. The format of Bank Guarantee towards Security Deposit is enclosed as Proforma-II.

Plus

- (c) **Retention Money (RM)** equivalent to Five percent (5%) of Contract Price and rounded off to the next higher thousand in Rupees deducted at the rate of five percent (5%) and rounded off to the next higher thousand Rupees of the gross value of work certified in each bill, until an amount of Five percent (5%) of Contract Price and rounded off to the next higher thousand in Rupees is reached.

Retention Money will be released upon expiration of the Defect Liability Period of the works or final Payment, whichever is earlier, on certification by the engineer. In the event of different defect liability periods being applicable to different sections or parts, the expiration of defect liability period shall be the latest of such periods.

- iv. Additional Security Deposit (ASD) for abnormally low bids; Payable only if the contractor quotes more than 15% cost put to the tender payable in the form of Demand draft/Pay Order or Bank Guarantee issued from any commercial bank in India.

ASD shall be valid up to scheduled completion and subsequently be extended up to actual completion and shall be in favour of the 'Board of Mumbai Port Authority'. The Additional Security Deposit will be released on satisfactory completion of work.

Formula:

$$\text{Additional Security Deposit (ASD)} = \frac{A \times \text{Cost of work put to tender}}{100}$$

Where 'A' = Percent rebate quoted on the cost of work put to tender for a particular part by the contractor minus fifteen percent (15%).

For Example: If the contractor has quoted twenty-five percent (25%) below the cost put to tender, for any particular part of this tender, then the Additional Security Deposit shall be worked out as under.

$$\text{ASD} = \frac{(25-15)}{100} \times \text{cost of work put to tender}$$

No costs/ charges will be recovered from the Contractor for approval of the Bank Guarantee by the Employer's Chief Law Officer & Advocate but all other costs of and in respect of furnishing the Guarantee shall be borne by

the Contractor. The format of Bank Guarantee towards Security Deposit is enclosed as Proforma-II.

v. The Security Deposit under sub clause (a) and (b) above if applicable, shall be lodged by the Contractor within 21 days from the date of award of contract.

vi. The security deposit and retention money shall not bear any interest and these shall be refunded to the Contractor in the manner detailed in the clause No 15.b of Conditions of Contract.

vii. The Contractor shall ensure that the BG towards Security Deposits (Performance Security) is valid till completion/ extended completion of contract.

viii. Bank Guarantees submitted for the above deposits are liable for encashment if the work is not completed satisfactorily.

6.3 Delay/ Failure to lodge Security Deposit:

Unless the Additional Security Deposit and Extra Additional Security Deposit (if applicable), is furnished by the Contractor within **21 days** from the date of award of contract or such further period as may be allowed by the Engineer in writing, the Earnest Money lodged with the tender will be liable to forfeiture and the contract is liable to be terminated and the tenderer will be responsible to the Employer for the damage thereby incurred by the Employer.

6.4 Inspection of site:

The Contractor shall be deemed to have inspected and examined the site and its surroundings and have satisfied himself before submitting his tender regarding the nature and condition of structure, nature and scope of the work, materials necessary for the completion of the Works, the physical and climatic conditions there, the availability and conditions affecting labour, the facilities for obtaining materials necessary for the completion of the Works, the condition of the existing roads/ access, under-ground services etc. and shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his tender.

6.5 Sufficiency of tender:

The Contractor shall be deemed to have satisfied himself before tendering as to the practicability and the suitability of the design and his method of working and to the correctness and sufficiency of his tender for the Works; and the rates and prices stated in the Schedule of Quantities and Rates shall be held to cover all his obligations under the Contract and all matters and things necessary for the proper execution, completion and maintenance of the work.

6.6 Work to the satisfaction of Engineer:

The Contractor shall execute, complete and maintain the works in strict accordance with the Contract to the satisfaction of the Engineer/ Engineer's Representative and shall comply with and adhere strictly to his instructions and directions on any matter,

Whether, mentioned in the Contract or not, concerning the Works. The Contractor shall

take instructions and directions only from the Engineer or from the Engineer's Representative.

6.7 Programme to be furnished:

The execution of the works shall be so planned as to cause as little impediment as practicable to the working of the Port and other persons using the site and the organisations in the vicinity in general.

After the award of the contract, the Contractor shall prepare network-based programme of work and will further breakdown his 'work/s' into weekly/ fortnightly/ monthly targets, as required by the Engineer's representative.

The progress of the work shall be reviewed periodically with reference to the network-based programme of work. The network shall be up-dated by the Contractor periodically so as to ensure completion within completion period and the Contractor must mobilise at no extra cost to the Employer, additional resources if required for completion of the whole work in the completion period.

6.8 Contractor's superintendence:

- a. The Contractor shall deploy at least one 'Site Supervisor' in addition to muccadam for each part of work. The site Supervisor shall be deployed for the full time supervision of work, during the execution and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. The above persons shall be constantly on the work/s and shall give their whole time to the superintendence of the works.
- b. The Contractor, prior to commencement of work at site shall appoint the above mentioned Site Supervisor with the approval / consent of Engineer's representative. If this consent/approval is withheld or subsequently revoked or if the appointed person's performance is not satisfactory, the contractor shall immediately appoint other suitable personnel with the consent of the Employer's representative.
- c. The contractor shall not without the prior consent of the Engineer's representative, revoke the appointment of these personnel.
- d. The Site Supervisor shall receive on behalf of the Contractor specific work orders / directions and instructions from the Engineer or the Engineer's Representative for the execution of work.

6.9 Contractor's Employees:

- 6.9.1 The Contractor shall provide and employ on the Site in connection with the execution and maintenance of the Works,
- a)** Only such technical assistants as are skilled and experienced in their respective trades, as are competent to give proper supervision to the work they are supposed to supervise;

- b) Such skilled, semi-skilled and unskilled labour as is necessary for the proper and timely execution of the Works.
- c) The personal to be deployed under this contract should be skilled and should be able to read English/Marathi/ and Hindi words, so as to enable them to read the instructions issued by Engineer in charge.
- d) 1 Site Engineer will be Diploma holder (minimum) in Civil Engineering with 4 to 6 years' experience for full time. Site Engineer will maintain all site record as directed.
- e) 1 Supervisor having 5 years' experience in civil works shall be posted full time.

6.9.2. The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person or Sub-Contractor employed by the Contractor in or about the execution or maintenance of the Work who in the opinion of the Engineer misconducts himself or is incompetent or negligent in the proper performance of his duties or whose employment is otherwise considered by the Engineer to be undesirable and such person shall not be again re-employed.

6.9.3. **Employment of retired Class-I Officers of MbPA:** The Employer shall be at liberty to terminate the Contract if the contractor himself or any of his partners/ employees or any of his directors who having held Class-I post in the Mumbai Port Authority prior to his retirement has failed to obtain the Mumbai Port Authority Chairman's specific permission to undertake an occupation or any outside employment before the expiry of two years from the date of his retirement, in accordance with the provisions of the Mumbai Port Authority Class-I employees (Acceptance of employment after retirement) Regulations 1975.

6.10. Setting out of work:

The Contractor shall be responsible for the true and proper setting out of the Works in relation to original points, lines and levels of references given by the Engineer/ Engineer's Representative in writing and for the correctness of the positions, levels, dimensions and alignment of all parts of the work and for the provision of all necessary instruments, appliances and labour in connection therewith. If at any time during the progress of works any error shall appear or arise in the positions, levels dimensions or alignment of any part of the works, the Contractor on being required so to do by the Engineer or Engineer's Representative shall at his own expense rectify such error to the satisfaction of the Engineer or Engineer's Representative. The checking of any setting-out of any line or level or dimension by the Engineer or the Engineer's Representative shall not in any way relieve the Contractor of his responsibility for the correctness thereof. The Contractor shall carefully protect and preserve all benchmarks, sight-rails, pegs and other things used in setting out the works.

6.11. Care of works:

6.11.2. From the commencement to the completion of the Work the Contractor shall take full responsibility to care the work and temporary work. In case any damage, loss shall happen to the Works or to any part thereof or to any temporary Works from any cause whatsoever, shall at his own cost repair and make good the same so that on completion, the Works shall be in good order and condition and in conformity in every

respect with the requirements of the contract and the Engineer's instructions.

- 6.11.3. There are various utility services like oil pipe lines, electrical services, water mains, drainage lines, telephone cables etc. Electrical cables are running near the location of subject work. These services shall be safeguarded and protected by the contractor at his own cost, during the execution of repairs works at locations and its surroundings where work is being executed.
- 6.11.4. The Contractor at his own cost shall make such provisions for lighting the works, storage area and plant and shall provide all such marks and lights as may be required by the Engineer or any other authority having jurisdiction in connection with the site together with all labour, stores and services required for their efficient working and use at any time of day and night. He shall require to protect and secure all places dangerous whether to the Contractor's workmen or to other persons until the work shall be handed over to the Employer unless the Engineer shall decide that such services are no longer required.

6.12. Insurance:

6.12.1 Insurance of works:

CONTRACTOR ALL RISK INSURANCE POLICY

Without limiting his obligations and responsibilities under Clause No.6.11 hereof the Contractor shall insure in the joint names of the Employer and the Contractor against all loss or damage from whatever cause arising for which damage he is responsible under the terms of Contract and in such manner that the Employer and the Contractor are covered during the period of construction of the Works and are also covered during the Defect Liability period for loss or damage arising from a cause occurring prior to the expiry of Defect Liability period and for any loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purpose of complying with his obligations under Clause No.10 hereof.

the Works and the temporary Works to the full value of such works executed from time to time and

the materials, constructional plant and other things brought on to the site by the Contractor to the full value of such materials, constructional plant and other things.

Such insurance shall be effected with the General Insurance Corporation of India or other insurance company approved by the Employer and in terms approved by the Employer and the Contractor shall whenever required produce to the Engineer or the Engineer's Representative the policy or policies of insurance and the receipt for payment of the current premium. All Insurance policy premiums shall be paid by the contractor.

6.12.2. Third party insurance:

Before commencing the execution of the Works the Contractor shall insure in the joint names of the Employer & the Contractor against any damage, loss or injury which may

occur to any property or persons inter-alia including any property of the Employer and any employee of the Employer by or arising out of the execution of the Works or temporary Works or in carrying out of the Contract.

Such Insurance shall be affected with the General Insurance Corporation of India or other Insurance company approved by the Employer and in terms approved by the Employer. Third Party Insurance shall be for an amount of Rupees **Fifteen lakhs (Rs.15 lakhs)** in any one incident and to be recouped after every incident till completion of the entire work. The Contractor shall whenever require produce to the Engineer or the Engineer's Representative the policy or policies of insurance.

All Insurance policy premiums shall be paid by the contractor.

6.12.3. **Insurance against accident to workmen:**

WORKMEN COMPENSATION POLICY

The Contractor shall indemnify and keep indemnified the Employer against all damages or compensation payable at Law in respect or in consequence of any accident or injury to any workmen or other person in the employment of the Contractor or any Sub-Contractor and against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto and the Employer shall be at liberty to deduct or adjust from the Contractor's bills any amount that Employer may be called upon to pay toward claims, demands, proceedings, costs, charges and expenses whatsoever in respect of or in relation to any accident or injury referred to above without any reference to the Contractor.

The Contractor shall insure against such liability with the General Insurance Corporation of India or other insurance company approved by the Employer and shall continue such insurance during the whole of the time that any persons are employed by him in the Works and shall when required produce to the Engineer or the Engineer's Representative such policy of insurance and the receipt for payment of the current premium provided always that in respect of any persons employed by any Sub-Contractor the Contractor's obligations to insure as aforesaid under this sub-clause shall be satisfied if the sub-Contractor shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy but the Contractor shall require such sub-Contractor to produce to the Engineer or the Engineer's Representative when required such policy of insurance.

In case of department's requirement for early completion of work requires deployment of additional labour and the contractor is prevailed upon for additional labour deployment, the premium of additional policy/ies shall also be borne by contractor. **The premium paid by the contractor is not reimbursable.**

6.12.4. **Insurance against war risk:**

If during the course of Contract there occurs war or threat of war and the Government impose War Risk Insurance, in that event the Contractor shall take out War Risk Insurance.

6.12.5. Payment of insurance premia:

The premia and other charges for the various insurance policies required to be furnished by the Contractor under this tender shall be paid by the Contractor. **No reimbursement will be made for any policy premium by MbPA.**

6.12.6. Remedy on Contractor's failure to insure:

If the Contractor shall fail to effect and keep in force the insurance referred to above the contract will be liable to be terminated and the Contractor will be responsible to the Employer for the damage thereby incurred by him.

6.13. Damage to persons and property:

6.13.2. The Contractor shall indemnify and keep indemnified the Employer against all losses and claim for injuries or damage to any persons or any property whatsoever which may arise out of or in consequence of the construction and maintenance of the Works and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto.

6.13.3. In case of any damage to Employer's property, a preliminary formal enquiry will be held by the person nominated by the Employer. The enquiry will be held in the presence of the concerned Representative of the Engineer and of the Contractor's authorised representative. If, as a result of the enquiry, a prima-facie case is established against the Contractor, recovery towards making good the damage will be made from the Contractor.

6.13.4. In case Insurance coverage is available for making good the damages, the contractor may claim from the Insurance Company for the same. However, the Employer will effect the recovery as stated above at the first instant and the contractor may then claim to the Insurance Company.

6.14. Giving of notices and payment of fees:

The Contractor shall at his own expense give all notices and provide in his rates for the payment of all fees, octroi, terminal, income tax, import duties, wharfage, pilotage and other charges, duties and taxes if required GST to be given or paid by an act of the Central or State Government or any regulation or bye-law of any local or any other statutory authority in relation to the materials, labour and plant and all other things obtained by him or used by him for the execution of the works or temporary works and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the works or temporary works.

6.15. Compliance with statutes, regulations etc.:

The Contractor shall conform in all respects with the provisions of any such Statutes Ordinance or Law as aforesaid and the Regulations or Bye-laws or any local or other duly constituted authority which may be applicable to the Works or to any temporary Works and with such rules and regulations of public bodies and companies as aforesaid and shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such Statutes, Ordinance or Law, Regulations or Bye-Laws.

6.16. Patents, Rights and Royalties:

The Contractor shall save harmless fossils and indemnify the Employer from and against all claims and proceedings for or an account of infringement of any patent rights, design trade mark or name or other protected rights in respect of any construction plant, machine, work or material used for or in connection with the works or temporary works or any of them and from against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. The contractor shall pay all tonnage and other royalties, rent and other payments or compensation (if any) for getting stone, sand, gravel, clay or other materials required for the works or temporary works. The contractor shall also pay all royalties, rents and other payments for the disposal of material from demolition and other surplus material.

6.17. Interference with traffic and adjoining properties:

All operations necessary for the execution of the Works and for the construction of temporary Works shall so far as compliance with the requirements of the Contract shall be carried in such manner so as to have least interference with the operation of docks and its utility services.

6.18. Removal of Craft or Plant That Has Sunk:

The Contractor shall forthwith and with despatch at his own cost raise and remove any craft or plant (floating or otherwise) belonging to him or any sub-contractor employed by him (including also any plant which is held by the contractor under agreement for hire or hire-purchase) which may be sunk in the course of construction, completion or maintenance of the works or otherwise deal with the same as the Engineer may direct and until the same shall be raised and removed the contractor shall set all such buoys and display at night such lights and do all such things for the safety of navigation as may be required by the Engineer or Employer. In the event of the Contractor not carrying out the obligation imposed upon him by this clause the Employer may buoy and light such sunken craft or plant and raise and remove the same and the contractor shall reimburse to the Employer all costs incurred in connection therewith.

6.19. Contractor's Temporary Moorings and Payment of Charges:

Should the contractor for the purpose of the contract desire to provide temporary moorings for his craft and floating plant, he will be allowed to do so in positions and manner approved by the Dy. Conservator, Mumbai Port Authority. The contractor shall not lay such moorings so as to interfere with traffic in the waterways and such moorings shall be removed if and when required by the Dy. Conservator. The contractor shall pay all docks, port, customs and wharfage charges, bunder charges and other fees, charges, dues, assessments and outgoings as may become payable in the course of execution of the contract works and the contractor would be deemed to have made allowance for these charges in the contract price quoted by him in the tender.

6.20. Bribes, Commission and Corrupt Gifts:

Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner, agent or employee or anyone in his or their behalf to any officer, servant, representative or agent of the Engineer or to any person on his behalf in relation to the obtaining or to the execution of this or any other Contract with the Employer shall in addition to any original liability which he may incur, subject the Contractor to the cancellation of this and all other Contracts with the Employer and also to the payment of any loss or damage resulting from any such cancellation and the Employer shall be entitled to deduct the amount so payable from any money otherwise due to the Contractor during this or any other Contract. Any question or dispute as to the commission of any offence under the present Clause shall be settled by the Engineer in such manner and on such evidence or information as he shall think fit and consider sufficient and his decision shall be final and binding on the Contractor.

6.21. Official secrets and drawings and photographs of works:

6.21.2. The Contract involves an obligation of secrecy and the commission by the Contractor, the agents servants, or sub-Contractor or their agents or servants of any offence under the Indian Official Secret Act 1923 or any statutory modifications or re-enactments thereof will apart from being a criminal offence constitute a breach of the Contract.

6.21.3. The Contractor shall not disclose the detail of drawings furnished to him and of Works on which he is engaged without the approval of the Engineer. No photographs of the Works or any part thereon or plant employed thereon shall be taken or permitted by the Contractor to be taken by any of his sub-contractors' employees without the approval of the Engineer and no such photographs shall be published, or otherwise circulated without the approval of the Engineer.

6.22. Precautions:

6.22.2. Anti-malarial precautions:

Every precaution shall be taken by the Contractor to prevent the breeding of mosquitoes on the Site and all receptacles used for the storage of water must be suitably protected for this purpose.

6.22.3. Precaution against air and water pollution:

Every precaution shall be taken by the Contractor to reduce air and water pollution resulting from his operations. He shall fully comply with the relevant provisions of the Maharashtra Prevention of Water Pollution Act, 1969 or subsequent legislation thereof.

The contractor shall follow the Mumbai Air Pollution Mitigation Plan and Guidelines for Air Pollution Mitigation as per instructions/guidelines issued by the Hon'ble Municipal Commissioner on 25.10.2023 for Mumbai Air Pollution Mitigation Plan.

6.23. Custom and Security requirements:

The Contractor shall comply with all the regulations imposed by the Customs and Port Security Authorities in respect of the passage of Plant, vehicles, material and personnel through Custom's barriers.

6.24. Water supply for construction purposes:

- 6.24.2. The contractor may seek fresh water for construction purposes from the Employer's water main existing in the vicinity of site on chargeable basis at the prevailing rates along with extra water charges, if any levied by the MCGM. In case the water supply from Employers main is insufficient to meet the requirements at the site, the contractor shall make the arrangements at his own cost to bring fresh/ MCGM tested water from outside sources. Inadequate supply of water, if any, from Employer's water main will not be accepted as an excuse for delay or deficiencies in the work.
- 6.24.3. For obtaining water supply from Employer's water main, the Employer will provide a connection at suitable location with a meter from where the contractor will draw water for construction purposes. The contractor at his own cost lay and maintain the water pipe lines and storage tanks etc as may be required by him for further use. The charges for the water supplied by the Employer shall be recovered through the contractor's bills for the work/s.

6.25. Electric supply for construction purposes:

- 6.25.2. All costs in connection with the procurement of all electrical energy required for the construction and maintenance of the works shall be borne by the Contractor.
- 6.25.2 The Contractor may seek electrical energy for construction purposes from the Employer's electrical distribution system available at site on chargeable basis at the prevailing rates. In the event of non-supply or inadequate load from Employer's Electrical System, the contractor has to make his own arrangement to produce the required electricity at their cost.
- 6.25.3. In case of electric connection from the Employer's electrical network, the Electrical Department of the Employer will provide, at the cost of the Employer, a meter at the location of supply. The Contractor shall at his own cost, lay and maintain the cable and install and maintain a distribution board with good quality switch gear through a licensed electrical Contractor and the Contractor shall submit Insulation Test Certificate issued by the licensed electrical Contractor. The contractor shall approach Mechanical Engineering & Electrical Department for electrical connection and make requisite security Deposit and complete the requisite formalities of MEED.
- 6.25.4. The Employer reserves the right to disconnect or switch off the electric connection given from its electrical network if
- i. it becomes necessary to do so for maintaining electric supply to the Employer's installations
 - ii. the Contractor's installation is defective
 - iii. the Contractor fails to comply with any of the conditions under which the connection has been given.

In the event of disconnection/ switching off of the electric connection as above the

Contractor will have to make his own arrangements at his cost for diesel generating sets etc. and the Contractor will have no claim to extra cost for completing the Works. In case of (b) above the electric supply will be restored only after the Contractor rectifies the fault and submits a fresh Insulation Test Certificate through a licensed electrical Contractor.

6.25.5. The electrical energy consumed will be charged on the basis of meter reading at the prevailing rate at the time of use. The Contractor shall fulfil all other formalities necessary for electrical connection, from the employer's electrical network.

6.26. Restrictions for safety, security and co-ordination:

6.26.1. General safety rules:

Contractor shall adhere to safe construction practice and guard against hazardous and unsafe working conditions and shall comply with safety rules regulations of the Employer and other concerned authorities. The cost of the same is deemed to be included in the rates quoted by the Contractor.

i) First-aid and industrial injuries:

1. Contractor shall maintain first aid facilities for his employees and those of his sub-contractors and also for Employer's representative working / supervising the work.
2. Contractor shall make necessary arrangements of boat (Water transport leg) and ambulance (land transport leg) for the treatment of industrial injuries requiring hospitalisation, without loss of time. Names of those providing these services and their telephone numbers shall be prominently displayed at the site.
3. All critical industrial injuries shall be reported promptly to Employer, and a copy of Contractor's report covering each personal injury requiring the attention of a physician shall be furnished to the Employer.

ii) No smoking:

Smoking within the dock areas, extended dock area and on the Jetty is strictly prohibited. Violators of the no smoking rules shall be removed immediately.

iii) Contractor's Barricades and lights:

Contractor shall erect and maintain barricades and lighting required in connection with his operation to guard or protect, Hoisting areas, Areas adjudged hazardous, Employer's existing property subject to damage by Contractor's operations, Road, unloading spots Any other area directed by the Engineer.

Contractor's employees and those of his sub-contractors shall become acquainted with the Employer's barricading practice and comply with the provisions thereof.

Red flasher lanterns shall mark barricades and hazardous areas adjacent to but not located on normal routes of travel at nights.

iv) Scaffolding:

1. Suitable strong suspended or otherwise scaffolding should be provided for workmen for all works that cannot safely be carried out from the available access/approaches or from existing permanent structures.
2. Scaffolding or staging and swing suspended from an overhead support or erected with stationary support shall have a guard rail properly attached bolted braced and otherwise guarded at least 1 m. high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the structure.
3. Working platform, gangways and stairways should be so constructed that they should not sag unduly or unequally and should be closely boarded, should have adequate width and should be suitably fastened.
4. Every opening in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 metre.
5. Safe means of access shall be provided to all working platforms and other working places. Adequate precautions shall be taken to prevent danger from electrical equipment. No material on any of the sites of work shall be so stacked or placed to cause danger or inconvenience to any person or public. The Contractor shall also provide all necessary fencing and lights to protect the workers and staff from accidents, and shall be bound to bear the expenses of defence of every suit, action or other proceeding of law and that may be brought by any person for injury sustained owing to neglect of necessary precautions and pay any damage and costs which may be awarded in any such suit or action or proceedings to any such person or which may with the consent of the Contractor be paid to compromise any claim by any such person.

v) Demolition:

Before any demolition work is commenced and also during the progress of the work,

All areas adjacent to the work site prone to accidents shall either be closed or suitably protected.

Sufficient care shall be taken for electric cable or apparatus which are potential source of danger.

All practical steps shall be taken to prevent danger to persons employed from risk of fire, explosion etc.

vi) Safety equipment:

1. All necessary personnel safety equipment as considered adequate by the Engineer should be kept available for the use of the persons employed on the

site and maintained in condition suitable for immediate use, and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned.

2. Workers employed on mixing chemicals, cement concrete, mortars etc. shall be provided with protective footwear and protective gloves.
3. Those engaged in white washing and mixing or stacking of cement or any materials, which are injuries to the eyes, shall be provided with protective goggles.
4. Those engaged in welding and cutting works shall be provided with face & eye shields and hand gloves.
5. Those engaged in works near any place where there is a risk of drowning, necessary equipments shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger. Besides above these workers shall be provided with life-saving safety jackets to ensure flotation.

vii) General:

1. All ladders / temporary supporting platforms and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use.
2. These safety provisions should be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work-spot. The person responsible for compliance of the safety code shall be named therein by the Contractor.
3. To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the Contractor shall be open to inspection by the Employer's Welfare Officer, Engineer or Safety Officer or their representatives.
4. Notwithstanding the above clauses there is nothing in these to exempt the Contractor for the operations of any other Act or rules in force.

6.26.2. Carrying out welding, gas cutting or other hot work:

Whenever welding, gas cutting or other hot work is to be carried out, the Contractor shall give at least one week's prior notice to the to Employer's Port Safety & Fire Officer (and copy to Engineer's Representative) who in turn will issue the permission along with the guidelines and precautions required to be taken while carrying out the hot work. The Contractor shall at his own cost, immediately comply with all the requirements intimated to him, such as provision of fire buckets, water, sand, portable fire extinguishers etc. The Contractor shall not commence hot work until he receives clearance in writing from Employer's Port Safety & Fire Officer to do so. In case the hot work is required to be suspended for safety reasons, the Contractor shall immediately suspend the hot work upon receiving instructions from the Engineer's Representative and the hot work shall not be resumed until further instructions are issued by the Engineer's Representative to do so.

6.26.3. Facilities for works of other agencies:

The Contractor shall take care to see that his works do not, in anyway, hamper the concurrent progress of works of other agencies in and around the premises. The Contractor shall afford all facilities to them like lockable & open place for storing their materials, place for their site office, etc., as may be directed by the Engineer's Representative, so that they can concurrently carry on their works. These agencies will make their own arrangements for the security of their stores, works, offices, etc.

- 6.27. **Life saving appliances and First-Aid equipment:** The Contractor shall provide and maintain upon the works sufficient, proper and efficient life saving appliances and first aid equipments to the approval of the Engineer and Port Safety Officer.

7. Labour:

7.1. Compliance with statutes and payment of wages:

- 7.1.1. The Contractor shall make his own arrangements for the engagement of all labour preferably local.

- 7.1.2. The Contractor shall comply fully with all Central and State laws dealing with the employment of persons, apprentices etc. including the Employment of Children Act, 1938, Payment of Wages Act, 1936, the Workmen's Compensation Act, 1923, the Factories Act, 1948, the Minimum Wages Act, 1948, Dock Labour Regulations, Contract Labour (Regulation and Abolition) Act 1970 and any statutory amendment or re-enactment thereof for the time being in force.

The successful Contractor shall also obtain certificate of registration under rule No.24 of the 'Building and Other Construction Workers Central Rules 1988' from the office of the Deputy Chief Labour Commissioner (Central)-IV, Mumbai.

- 7.1.3. The Contractor shall display on the site of the Work notices regarding wages etc. as are required under the law. The Contractor shall also maintain Wage Books and Wage Slips and other records concerning labour/ workers as are required under the law.
- 7.1.4. The Contractor shall submit periodical return records concerning the labour employed on the Works, to the Engineer's representative.
- 7.1.5. The Contractor shall ensure that none of his or his Sub-Contractor's employees camp at the site/ working area or at the Employer's lands/ premises.
- 7.1.6. The Contractor shall be responsible for the observance by his sub-contractors of the foregoing provisions.
- 7.1.7. The Contractor shall make necessary arrangements for the representative of MbPA to witness the payment made by the Contractor/ sub-contractor to his labourers.
- 7.1.8. The Employer shall have the right to deduct from the moneys due to the Contractor, any sum required or estimated to be required for making good loss suffered by a worker or workers by reason of non-compliance by the Contractor to the existing laws and regulations concerning the labour employed on the Work.

7.1.9 The contractor is hereby directed to comply with the following conditions while deploying of casual labours on the contracts awarded to them by MbPA and submit the required documents in support thereof.

- (i) Registration with Employees Provident Fund (EPF), Organisation & intimation of P.F. Registration code No.
- (ii) Registration with Employees State Insurance Corporation and submission of ESI code No and updating the contribution towards the ESIC,
- (iii) Workmen Compensation Policy shall be invariably taken irrespective of labour strength,
- (iv) Labour License shall be obtained if the deployed man power is more than 19,
- (v) All the workmen shall be paid as per Minimum Wages Act.
- (vi) Payment to the workers shall be made through Bank accounts only;
- (vii) All the workmen should be covered under Life Insurance under Pradhan Mantri Bima Scheme.

All the conditions mentioned above, shall be scrupulously followed failing which payment of bills will not be recommended.

7.2. Supply of drinking water to labour:

The Contractor as far as practicable, having regard to local conditions, provide on the Site, to the satisfaction of the Engineer's Representative an adequate supply of drinking and other water for the use of the Contractor's staff and workmen.

7.3. Festivals and religious customs:

The Contractor shall in all dealings with labour in his employment have due regard to all recognised festivals and observe days of rest as applicable to the outdoor staff of the Engineering Department of Mumbai Port Authority.

7.4. Epidemics:

In the event of any outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities for the purpose of dealing with and overcoming the same.

7.5. Disorderly conduct etc.:

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or among his employees, officers or agents and for the preservation of peace and protection of persons and property in the

neighbourhood of the works against the same.

7.6. Foot wear, gloves etc.:

The Contractor shall at his own expense provide footwear and gloves for all labour engaged on concrete mixing work and all other types of work involving the use of tar and cement, glass shields for welder and diving equipment for divers etc. to the satisfaction of the Engineer or his Representative and on his failure to do so, the Employer shall be entitled to provide the same and recover the cost from the Contractor.

7.7 Accidents:

The Contractor shall within 24 hours of the occurrence of any accident at or about the site or in connection with the execution of the Work report such accidents to the Engineer and the Engineer's Representative. The Contractor shall also report such accidents to the concerned constituted authorities.

7.8. Fair wages clause:

- a) The Contractor shall pay the labourers engaged by him on the work not less than fair wages which expression shall mean whether for time or piece work the respective rates of wages as fixed by the Central Public Works Department as Fair Wages for Greater Mumbai payable to the different categories of labourers as set out in the schedule annexed thereto. However, subject to the other provisions in the Conditions of Contract herein and to provision of any other law for the time being in force in the country.
- b) Contractor shall notwithstanding the provision of any contract to the contrary cause to be paid a fair wages to the labourers directly engaged on the work including any labour engaged by the sub-Contractor in connection with the said works as if the labourers had been immediately employed by him.
- c) Display of notices regarding wages, etc.:
The Contractor shall, before he commences his work of contract, display and correctly maintain and continue to display and correctly maintain in a clean and legible condition at conspicuous places on the work site notices in English and in the local Indian language spoken by the majority of the workers stating therein the rates of wages which have been fixed as fair wages and the hours of work for which such wages are earned and send a copy of such notices to the Engineer, Mumbai Port Authority.
- d) Wages, Books and Wage Slips:-
The Contractor shall maintain Wage book of each worker in such form as may be convenient but the same shall include the following particulars.
 - Rate of daily or monthly wages.
 - Nature of work on which employed.
 - Total number of days worked during each wage period.
 - Total amount payable for the work during each wage period.

All deductions made from the wages with all indications in each case of the ground for which the deductions are made.

Wages actually paid for each wage period.

A wage slip for each worker employed on the work.

Provided that the Engineer may grant exemption from the maintenance of the wage slip if in his opinion not more than 10 persons are likely to be employed directly or indirectly on the work but in any case he will have to maintain wage books.

- e) Preservation of books and slips:-
The wage books and the wage slips shall be preserved for a period of not less than 12 months after the date of last entry made in it.
- f) Inspection of books and slips:-
The Contractor shall allow inspection of the aforesaid wage books and wage slips to any of his workers or to an agent at a convenient time and place after due notice is received or to the Engineer, MbPA or any other person authorised by him or on his behalf.
- g) Power of the Engineer, MbPA to make investigation and enquiries:-
The Engineer, MbPA or any other person authorised by the Engineer on his behalf shall have power to make enquiries with a view to ascertaining and enforcement due and proper observance of the fair wage clause. He shall also have the power to investigate into any complaint regarding any default made by the Contractor or sub-Contractor in regard to such provision.
- h) The Engineer shall have the right to deduct from the money due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers for the reason of non-payment of the aforesaid fair wages except on account of any deductions that may be permissible under any law for the time being in force.
- i) The contractor will be required to submit evidence of payment of wages to the labour/ workmen in to their bank account, the statement of remittance towards wages, EPF & ESIC for all labours engaged for the subject work along with their bills duly verified by the Executing Engineer and an Officer of the Welfare Division of Mumbai Port Authority. The wages and remittances for ESIC, EPF etc. shall be in accordance with the prevailing labour laws, rules and regulations governing the minimum wages Act. The contractors bills will not be processed / passed/ in case of non-compliance of these provisions in the contract.

8. Materials and Workmanship:

a. Quality of materials, workmanship and tests:

- i) All material and workmanship shall be of the respective kinds described in the Specification and in accordance with the Engineer's Instructions and shall be subjected from time to time to such test as the Engineer may direct at the place of manufacture or fabrication, on the Site or any approved Testing Laboratories. The scale of sampling and testing shall be as per norms prescribed by the Bureau of Indian Standard, and where not prescribed by BIS the same shall be as directed by the Engineer.

- ii) The Contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for inspection, sampling, measurement or testing any work and the quality, weight or quantity of any material used and shall supply samples of materials before incorporation in the Works for testing as may be selected and required by the Engineer.
- iii) The material under test shall be stacked by the Contractor separately and he shall not use a material unless and until it is tested and accepted by the Engineer or his Representative. In case of violation of this requirement by the Contractor, payment may not be made for the work executed with such materials. If the Contractor repeatedly violates the above requirement, the Employer will be at liberty to determine the contract and the Contractor will be responsible to the Employer for the damage thereby incurred by the latter.
- iv) Acceptance/ rejection of the material(s) will normally be communicated to the Contractor as per the test result findings. Rejected material shall be removed from the site by the Contractor within three days of rejection or such period as may be specified by the Engineer or his Representative.
- v) The Contractor shall arrange to test any of the materials/ finished items/ concrete cubes etc. as per relevant IS Specifications in laboratories of Engineer's choice. All other costs (except the testing charges) i.e. cost of material, packaging, transportation etc. shall be borne by the Contractor. The testing charges shall be borne by the Employer if the test results are satisfactory except for the testing carried out at the Contractors Material Testing Laboratory at site. If the test results are unsatisfactory/not as per relevant IS Specifications/ MbPA's Specifications, the testing charges shall be borne by the Contractor. The payment of testing charges for satisfactory test results will be reimbursed through the Contractor's next interim bill.

b. Access to place of manufacture / works etc.:

The Employer and the Engineer and any person authorised by them shall at all times have access to the Contractor's plant, Works and to the site and to all workshops and places where work is being prepared or where material, manufactured articles or machinery are being obtained for the Works and the Contractor shall afford every facility for and every assistance in obtaining right to such access.

C Examination of work before covering up:

No work shall be covered up or put out of view without the approval of the Engineer or the Engineer's Representative. The Contractor shall afford full opportunity for the Engineer or the Engineer's Representative to examine and measure any work, which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The Contractor shall give due notice to the Engineer's Representative whenever any such work are ready or about to be ready for examination and the Engineer's Representative shall without unreasonable delay attend for the purpose of examining and measuring of such work.

d **Removal of improper work and materials:**

- i) The Engineer or his Representative shall, during the progress of the works, have power to order in writing from time to time.
- ii) the removal from the site within such time or times as may be specified in the order, of any materials which in the opinion of the Engineer or his Representative are not in accordance with the Contract, and
- iii) the substitution of the materials so removed by proper and suitable materials, and
- iv) The removal and proper re-execution (notwithstanding any previous test thereof or interim payment thereof) of any Work which in the opinion of the Engineer or his representative is not in accordance with the Contract in respect of materials or workmanship.

In case of default on the part of the Contractor in carrying out such order the Employer shall after giving a notice to the Contractor, be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recovered from him by the Employer or may be deducted by the Employer from any moneys due or which may become due to the Contractor.

e **Right to use before tests:**

If the Contractor neglects to make the tests on completion within the time stipulated by the Contractor, the Engineer / Employer shall nevertheless have the right of using the works at the Contractor's risk until the test on completion are successfully carried out.

9. Commencement and Delays:

9.1 Release of site for carrying out the works:

The Contractor shall complete all **pre requisites** for the tender such as payment of Security deposit, taking out necessary insurance policies, Labour License etc. under this contract within 21 days after the date of receipt of the letter of acceptance of his offer. If the Contractor delays these activities, the contract will be liable for termination and the Earnest money deposited by him will be forfeited and the Contractor will be responsible for the losses suffered by the Employer.

The site will be released in part(s) within a week after Contractor fulfilling all above mentioned formalities depending upon the release of part of berth from Traffic Department. Contractor shall complete the work at the part site(s) released, before making request for release of next part of site. However, it will be obligatory on the part of the contractor to complete the whole work within the scheduled completion period.

9.2 Commencement & execution of works: Contractor shall commence the work immediately at the site or part site(s) released to them. The works shall be carried out as described in the 'Schedule of Quantities & Rates' and as specified and as directed.

9.3 Remedy for Contractor's failure to make proper progress:

Upon the Engineer certifying that, in his opinion, the Contractor, after receiving from the Engineer a written notice,

1. has suspended progress on any portion or any item of the Works for seven days, or
2. has failed to make proper progress on any portion of item of the works for seven days, or
3. has failed to complete any portion or items of the works by the time specified by the Engineer, or
4. has failed to remove from site within seven days, materials which have been condemned and rejected, or
5. has failed to pull down within seven days and rebuild within the time stipulated by the Engineer, works which have been condemned and rejected, or
6. has failed to give to the Engineer or his Representative proper facilities for inspecting the works or any part thereof for three days, or
7. has failed to carry out proper tests for three days on any work or materials,

Then the Employer, without restricting/prejudice to their rights under Clause No.15 of the 'Conditions of Contract' and without expelling the contractors from the site of works, without determining the contract and while permitting the Contractor to carry out other balance works under this contract, may carry out at the risk and cost of the Contractor

- a) the execution of such portion or items of the works which the Contractor has suspended or failed to make proper progress in or failed to complete within the specified time,
- b) removal of condemned and rejected materials from the site,
- c) pulling down and rebuilding of condemned and rejected work,
- d) the provision of proper facilities for inspecting the works, and
- e) Testing of any work or materials.

In such cases, additional expenditure incurred if any by the Employer over and above that which would have been incurred by him had the above works been carried out by the Contractor under the terms of this contract shall be paid by the Contractor to the Employer. The Employer reserves his right to recover such additional expenditure from the money's payable to the Contractor or from deposits or such amount that may have been lodged by the Contractor with the Employer for due performance of the contract. The Employer further reserves his right to recover such additional expenditure from the money's Payable to the Contractor for any other contracts or transactions of any nature whatsoever existing between the Employer and the Contractor.

9.4 Suspension of work on order of Engineer:

The Contractor shall on the written order of the Engineer or his representative suspend the progress of the Works or any part thereof for such time or times and in such manner as the Engineer or his representative may consider necessary and shall, during such suspension, properly protect and secure the Work so far as is necessary in the opinion of Engineer or his representative and shall not resume the execution of the same until a written order is received from the Engineer or his Representative to proceed. Cost, if any,

incurred by the Contractor in giving effect to the instructions of the Engineer or his Representative under this clause shall not be borne or paid by the Employer.

9.5 Completion Period:

- 9.5.1. Time is the essence of the Contract. The Completion Period for the entire work covered under this tender is Five (5) months including monsoon from the date of release of site or part thereof as mentioned in the tender Notice hereinbefore.
- 9.5.2 If the work is delayed beyond the completion period stipulated in the contract or extended period as may be allowed by the Engineer in accordance with Clause No.9.6 hereunder, the Contractor shall be liable to pay liquidated damage to the Employer as set out in Clause No.9.8 hereunder.
- 9.5.3. If the delay in completion of the work is more than twenty five percent (25%) of the stipulated completion period, the contract is liable to be terminated.

9.6 Extension of time:

In the event of

- (i) any delay, impediment or prevention by employer
- (ii) Any extra or additional works
- (iii) Exceptionally adverse climatic conditions
- (iv) Other special circumstances which may occur other than through a default of or breach of contract by the contractor or for which he responsible.

which may occur be such as may in the opinion of the Engineer fairly entitle the Contractor to an extension of time for the completion of the work, the Engineer shall determine the period of such extension, subject to the condition that any and every extension of time granted by the Engineer shall be deemed to be in full compensation and satisfaction for and in respect of any and every actual or possible loss/ damage or injury sustained or sustainable by the Contractor in respect of the cause or causes giving rise to such extension. Provided further that the Engineer is not bound to take into account above circumstances / event unless the Contractor has within 28 days after such circumstances / event have arisen or as soon thereafter as is practicable delivered to the Engineer's Representative particulars of any claim to an extension of time to which he may consider himself entitled in order that such claim may be investigated at that time.

9.7 Working hours:

The contractor has to work from morning till sunset. However, the site will be given to the contractor as per the availability without hindrance to the port operation.

9.8 Liquidated damages for delay in completion:

- If the Contractor fails to complete the Work within the time period prescribed in the Contract or extended time period as may have been granted by the Engineer, then the

Contractor shall pay to the Employer, liquidated damages for such default (and not as a penalty).

- Liquidated damages for delay in completion of the works are 1/2 percent (0.50%) of the Contract Price, for delay of each week or part of a week subject to a maximum ceiling of 10% of the Contract Price of work. However, if the work is delayed by more than 25% of the contracted completion period of tender, the contract is liable to be terminated and the balance works are liable to be got completed by Mumbai Port Authority through any other agency at the risk and cost of the defaulting Contractor.
- The Employer may without prejudice to any other method of recovery deduct the amount of such damages from any moneys in his hands due or which may become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligations to complete the works under tender or from any other of his obligations and liabilities under the Contract.

9.9 Certificate of substantial completion of works:

- **This clause is not applicable to this work.**

- 9.9.1 As soon as, in the opinion of the Engineer the works have been substantially completed and have satisfactorily passed any final test that may be prescribed by the Contract, and the site shall have been handed back by the Contractor to the Employer, the Engineer may on receiving a written undertaking by the Contractor to finish all outstanding work during the first two months of Defect liability period, issue a certificate of substantial completion. The Defect Liability Period for the Works shall commence from the date of such certificate. In the event of the outstanding works not being completed within two months from the date of issue of the Substantial Completion Certificate, the Work shall be deemed not to have been taken over on the date of the Substantial Completion Certificate and the Defect liability period thereof shall begin only when the outstanding works are completed in all respects and handed over to the Engineer.
- 9.9.2 The issue of such certificate of Substantial Completion is a matter to be decided by the Engineer in his absolute discretion and the discretion will be exercised in cases of the following types.
- i. Work has been completed to such an extent that the Employer is enabled to occupy and make gainful use of it to the extent he intended to and such gainful use can be made by him without being unduly inconvenienced by concurrent execution of the balance of works by the Contractor.
 - ii. The work has been absolutely handed over to another agency and the balance of works is small and the Contractor cannot undertake these small balance works efficiently concurrently with the work of the other agency.
- 9.9.3 In cases where the Engineer decides that the circumstances justifying issue of certificate of Substantial Completion do not exist, the date of completion means the date on which the work has been completed in all respects (barring rectification of minor defects, which rectification does not interfere with the gainful use).

10. Maintenance and defects:

10.1 Defect during execution:

The Contractor shall at his own cost and within three days after notice in writing to that effect has been given, commence to re-execute such portion of the works under each part of the tender as the Engineer or his Representative may consider have been executed in an unsatisfactory manner, even though the works may have been previously passed, or even if the Contractor's attention had not been previously drawn to the unsatisfactory nature thereof. No certificate that may be granted by the Engineer to the Contractor under these presents shall relieve the Contractor from his liability for and in respect of unsound work discovered prior to the date of issue of the final certificate.

10.2 Defect liability period:

The Defect Liability Period is mentioned in Tender Notice. The Defect Liability Period/ Free Maintenance Period will be reckoned from the date of completion of entire work under the tender.

10.3 Repair and remedies during defect liability period:

During the Defect Liability Period, the Contractor shall execute all such works of repair, amendment, reconstruction, rectification and making good of defects, imperfections, shrinkages or other faults as may be instructed to the Contractor in writing by the Engineer. Such repair or remedial measures shall be attended within fourteen days from the date of receipt of written instructions.

As regards to the procedure of carrying out the repair/s, rectification and making good of defects, the decision of Engineer shall be final and binding upon the Contractor. The works carried out during the Defect Liability Period shall also be maintained till the end of Defect Liability Period.

10.4 Cost of repairs and remedies:

All such work of repairs and remedies shall be carried out by the Contractor at his own expense, if in the opinion of the Engineer, the same is due to the use of materials or workmanship not in accordance with the Contract or due to neglect or failure on the part of the Contractor to comply with any obligations expressed or implied under the contract.

10.5 Remedy on Contractor's failure to carry out work as required:

If the Contractor fails to do any such work of repairs and remedies and as required by the Engineer, the Employer shall be entitled to carry out such work by his own workmen or by other Contractor. The cost so incurred shall be deducted from any money's due or that become due to the Contractor.

11 Additions, Alterations and Omissions

11.1. Variations:

(i) The Engineer may make any variations in the, quality or quantity of the Works, or any part thereof that may in his opinion be necessary, and for that purpose or if for any other reason it shall in his opinion be desirable, shall have powers to order the Contractor to do and the Contractor shall do any of the following.

- a. Increase or decrease the quantity of any work included in the Contract.
- b. Deletion of any work.
- c. Change the character or quality or kind of any work.
- d. Change the levels, lines, position and dimensions of any part of the Works, and
- e. Execute additional work of any kind necessary for the completion of the Works.

Such variation shall not in any way vitiate or invalidate the Contract but the value (if any) of all such variations shall be taken into account in ascertaining the amount of the Contract Price.

(ii) No such variation shall be made by the Contractor without an order in writing of the Engineer, provided that no order in writing shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an order given under this clause but is the result of the quantities required to be executed for completion of the work being more or less than those stated against the respective items in the Schedule of Quantities and Rates, and provided further that in such cases, variation from the rates in the accepted Schedule of Quantities and Rates shall not be allowed.

(iii) The valuation of extra item / substituted item / modified item shall be made in accordance with Clause No.11.2 hereunder, provided that the varied work has been executed with the prior approval of the Engineer.

(iv) If extra item / substituted item / modified items are executed by the Contractor without the prior approval of the Engineer, such work is liable to be rejected and shall be re-executed by the Contractor at no extra cost. However, the Engineer, at his sole discretion, may accept such works, but the payment for the same will be made after reduction of ten percent (10%) from the valuation of such works made as per Clause No.11.2.

11.2. Valuation of extra item / substituted item / modified item:

The rate for any extra item/ substituted item/ modified item shall be determined by the Engineer as detailed below.

- a) From a similar item if such an item exists in the tender.
- b) From a comparable item, if such an item exists in the tender.

If (a) & (b) are not available then, in the following order of preference

- c) From a similar or comparable item from the Mumbai Port Authority Schedule of Rates.
- d) From CPWD Analysis of Rates/ All India Standard Schedule of Rates -Standard

Analysis of Rates published by Government of India, Ministry of Works and Housing, National Buildings Organisation and using current costs of labour and materials and with an allowance of 10% on direct costs toward contractors' profit and overheads.

e) From actual direct costs of labour and materials consumed and with an allowance of 10% towards contractors' profit and overhead.

In case of (d) and (e) above, the Contractor shall submit vouchers in respect of the rates of labour, material and hire charges of hired plant and equipment paid by him. In case of plant and equipment owned by the Contractor, the rates of hire charges to be billed will be fixed by the Engineer.

Provided that no increase of the Contract price under this clause of variation of rate or price shall be made unless as soon after the date of the order as is practicable, and in the case of extra or additional work before the commencement of the work or as soon thereafter as is applicable, notice shall have been given in writing:

Provided further that in the event of the Contractor disagreeing with the rate determined by the Engineer, the Contractor shall not stop the work but shall expeditiously execute the same and the Employer will make provisional payment at the rate determined initially pending review and final decision.

If the valuation of rates of extra items/ substituted/ modified items are determined as per Clause Nos.11.2(a), 11.2(b) & 11.2(c) then the percentage on total amount/ offered/ quoted by the Contractor above or below the estimated cost put to the Tender shall be applied to these rates and if the valuation of rates of extra items/ substituted items are determined as per Clause Nos.11.2(d) & 11.2(e) then the percentage on total amount/ offered/ quoted by the Contractor above or below the estimated cost put to the Tender Notice, shall not be applied to these rates.

11.3 Payments for extra work. –

The contractor shall send to the Engineer once in every month an account giving particulars (as full and detailed as possible) of all payments for any additional works to which the contractor may consider himself entitled and of all extra and additional works ordered by the Engineer which he has executed during the preceding months and no claim for payment for any such works will be considered which has not been made within such time as may be possible for the Engineer to physically check the said extra or additional work done by the contractor. Provided always that the Engineer shall be entitled to authorise payment to be made for any such works notwithstanding the contractors failure to comply with this condition, if the contractor has at the earliest practicable opportunity, notified the Engineer that he intends to make a claim for such works.

12. Plant, temporary works and materials:

12.1. Exclusive use for the works:

All Construction Plant, Temporary Works and materials provided by the Contractor

shall when brought on to the site be deemed to vest in the Employer and the Contractor shall not remove the same without the consent in writing of the Engineer's representative. Provided that nothing contained in these conditions shall prevent the Employer from retaining on the site for the due completion of the Works any item of construction plant, Temporary Works and materials after the happening of any event, which gives to the Engineer the right to exclude the Contractor from the site and proceed with the completion of the Works. Upon the completion of the Works, or certification by the Engineer that the plant, Temporary Works or materials are no longer required for the Works, the same shall be deemed to re-vest in the Contractor, who may then remove them from the site of work within the period stipulated by the Engineer.

12.2. Removal of plant etc.:

Upon completion of the works, the Contractor shall remove from the site all the said construction plant and temporary works remaining thereon and any unused and surplus materials provided by the Contractor and rubbish of every kind and leave the whole of site and Works clean and in a workmanlike condition to the satisfaction of the Engineer. If the Contractor fails to remove any of the said construction plant, temporary works or unused materials or rubbish within such reasonable time after the completion of the Works as may be allowed by the Engineer, then the Employer may sell the same and shall after deducting from the proceeds, the costs, charges and expenses of and in connection with such sale, pay the balance if any to the Contractor.

12.3. Employer not liable for damage to the plant etc.:

The Employer shall not at any time be liable for the loss or damage of said construction plant, temporary Works or materials.

12.4. Employer's plant and equipment:

The Contractor may be permitted the use of the Employer's plant and other equipments (if the same can be conveniently spared) only on payment of deposit and such charges as may be determined, and on execution of Agreements as may be prescribed by the Employer. Such plant and equipment will be given on commercial terms as applicable to other users.

While using the equipment the Contractor shall carry out such directions as may be given by the Docks Manager or other office in-charge of such equipment and pay to the Employer the charges that are due but in event of his failure to do so, the amounts due shall be recovered from any amount that shall become due and payable to the Contractor.

The Employer does not guarantee availability of his plant and equipment for use by the Contractor.

12.5. Contractor's Vehicles / Cranes

As far as practicable and subject to load carrying capacity of the docks, the contractor will be allowed with prior permission to use vehicles / cranes/ plants and equipments

etc on the roads of the docks etc.

The contractor will be allowed to use the plant and equipments including mobile crane etc. on the roads etc. subject to the approval of the Engineer's representative for the safe load to be withstood by the jetty structure.

13. Measurement:

13.1 Quantities:

The quantities set out in the Schedule of Quantities and Rates are the estimated quantities and are liable to altered or omitted to any extent.

13.2 Works to be measured:

The Engineer shall ascertain and determine by measurement, the value of the work done in accordance with the Contract. From time to time during the execution of the works and whenever required by the Engineer or his Representative, detailed measurements of any part or parts of the Work shall be taken jointly by the Engineer's Representative and the authorised representative of the Contractor. If any work is likely to be covered up or put out of view the Contractor shall give due notice to the Engineer's Representative to enable him to examine and measure such work before it is covered up or put out of view (see Clause No.8.3 of 'Conditions of Contract'). The Contractor shall provide qualified staff and appropriate equipment to assist the Engineer or his Representative in taking such joint measurements and shall furnish all particulars required by either of them. The measurements will be recorded by the Engineer's Representative in the Measurement Books, which shall be countersigned by the authorised representative of the Contractor at the time of recording the measurements.

If the Contractor has any difference of opinion as to the recorded measurements, he shall submit, in writing, to the Engineer, within one week from the date of the measurement, the details as to the points of differences claimed, which will be examined and decided upon by the Engineer separately.

Should the Contractor or his authorised representative fail to forthwith attend for taking the measurements along with qualified staff and appropriate equipment after having been intimated by the Engineer or his Representative,

and/ or

fail to countersign the measurements in the Measurement Books,

and/ or

fail to submit to the Engineer, in writing, within one week from the date of the measurement, the details of the points of differences claimed, if any,

then the measurements taken and recorded by the Engineer's Representative shall be taken to be the correct measurements which shall be final and binding on the Contractor and the Contractor shall have no right to dispute the same.

Should the Contractor fail to give due notice to enable the Engineer's Representative to examine and measure works before the same are covered up or put out of view, such work will not be measured and the Contractor shall have no right to claim payment for

the same.

The authorised representative of the Contractor is also required to countersign the Progress Books, cement register, material register and all other record books, in which the Engineer's Representative records the progress in connection with the contract work. In case the contractor's representative does not countersign the above records, the records maintained by the engineer's representative shall be treated as final and binding on the contractor.

13.3 Method of measurement:

The Works shall be measured net, notwithstanding any general or local custom except where otherwise specifically described or prescribed in the Contract.

14 Certificates and Payments:

14.1. Mode of payment:

14.1.1 Mode of payment for civil works:

- a) The Contractor shall submit to the Engineer after the end of each month his bills for the Works executed upto the end of the month together with particulars of other amounts to which he is entitled under the Contract. The minimum amount of an interim bill shall be of Rupees Ten lakhs. However, in exceptional cases, the Engineer/ Engineer's representative at his discretion, may issue an interim bill even if the amount is less than the above.
- b) These bills shall be submitted on a printed Proforma to be prepared at the cost of the Contractor as per the proforma at Annexure-III (A) or Annexure-III(B).
- c) In a cycle of three interim bills, two consecutive bills will be based on estimated value of work done as certified by the Engineer (referred to as estimated interim bills) and the third bill (referred to as measured interim bill) will be based on detailed measurements as certified by the Engineer.
- d) For the purpose of estimated interim bill, the amount to be billed will be worked out by the Engineer's Representative and the Contractor shall submit the bill accordingly.
- e) The measured bill shall be based on detailed measurements of the Works taken jointly by the Engineer's Representative and the authorised representative of the Contractor, subject to the provisions of Clause No.13.2 of 'Conditions of Contract'.
- f) If the Contractor has any difference of opinion as to the estimated value of work/ measured quantities of work billed he may indicate the same by way of a separate Annexure to the bill and not by altering the estimated value of work/ measured quantities of work recorded by the Engineer's Representative. The differences claimed by the Contractor will be examined and decided upon by the Engineer separately in terms of the contract.
- g) All payments against interim bills shall be treated as 'on account' payments subject to adjustment at any time until the date of payment of final bill.
- h) The Employer/ Engineer reserves the right to adjust the amount of any bill against the Contractor's dues to the Employer in connection with this contract or in connection with any other dealings of the Contractor with the Employer.
- i) In case of interim bills based on estimated value of work, one hundred percentage (100%) of the amount certified by the Engineer shall generally be paid by the Employer within

- ten (10) working days from the date of certification of the bill by the Engineer.
- j) In case of interim bills based on detailed measurement of work Eighty percentage (80%) of the amount certified by the Engineer shall generally be paid by the Employer within ten (10) working days from the date of certification of the bill by the Engineer and the balance twenty percentage (20%) of the amount will be paid by the Employer within twenty one (21) working days from the date of certification of the bill by the Engineer.
 - k) The Contractor's final bill shall be passed for payment after the Engineer certifies completion/ substantial completion of the work and the Contractor complies with all the Conditions of the Contract excluding the Condition regarding Defect Liability Period.
 - l) The date, on which a cheque of payment is handed over to the Contractor by the Employer, will be considered as the date of payment for all purposes.
 - m) The Engineer may at any time make any correction or modification to any certificate, which shall have been issued by him and shall have powers to withhold any certificate if the works or any parts thereof are not being carried out to his satisfaction.
 - n) In case the Contractor fails to prepare and submit interim or final bills, the Engineer reserves the right to prepare and certify the bills for payment/ recovery as the case may be.

14.1.2 Price Variation & Price adjustment: (THIS CLAUSE NOT APPLICABLE TO THIS TENDER).

14.2 Refund of security deposits:

- i. Upon the Engineer certifying in writing that the Works have been completed, Five percent (5%) Performance Security Deposit mentioned in Clause No.6.2(a) and Additional Security Deposit mentioned in clause no. 6.2(b) (if applicable) herein will be refunded to the Contractor, provided there are no breaches of any conditions of the contract as on the date of completion and only after final bill for the work has been certified (excluding any claims referred to arbitration & pending settlement).
- ii. Upon the expiry of the Defect Liability Period, the five percent (5%) Retention Money mentioned in Clause No.6.2(c) will be refunded to the Contractor, provided always that if at such time if any work remain to be executed by the Contractor ordered during the Defect Liability Period pursuant to Clause 10 hereof, the Employer shall be entitled to recover from the Security Deposit and the Retention Money the actual expenditure incurred by the Employer in the completion of such works or if such works have yet to be completed, the Engineer's estimate of the cost of completion of such works, plus any other amounts due from the Contractor. For Defect Liability Period, RM can be retained with this port authority in the form of BG after work completion.

14.3 No interest payable:

No claim for interest from the contractor will be entertained by the Employer in respect of any deposits or with respect to any moneys or balances which may be in the hands of the

Employer owing to any dispute between the Employer or the Engineer and the Contractor, or with respect to any delay on the part of the Employer in making monthly or final payments or otherwise.

15. Remedies and Powers:

15.1 Employer's lien:

The Employer shall have a lien on and over all or any moneys that may become due and payable to the Contractor under these presents, and/or also on and over the deposit or security amount or amounts paid under the Contract and which may become repayable to the Contractor under the conditions on that behalf herein contained for or in respect of any debt or sum that may become due and payable to the Employer by the Contractor either alone or jointly with another or other, and either under this or under any other contracts or transactions of any nature whatsoever between the Employer and the Contractor.

15.2 Liquidation and re-entry:

In the event of the Contractor going into liquidation or passing an effective resolution for winding up or upon the Contractor becoming bankrupt or making an arrangement with or assigning in favour of his creditors or upon his assigning this Contract or upon an execution having been levied on the Contractor's goods or upon the Engineer certifying under his hand to the Contractor that in his opinion the Contractor

- a) has abandoned the Contract, or
- b) has suspended the progress of the Works for seven days after receiving from the Engineer written notice to proceed without any lawful excuse under these conditions, or
- c) has failed to make proper progress with the Works for seven days after receiving from the Engineer written notice to employ more men, and/ or items of Plant equipment and/ or materials, or
- d) has failed to remove materials from the site or re-execute work seven days after receiving from the Engineer written notice that the said materials or Works were rejected by the Engineer, or
- e) has failed to give the Employer or the Engineer proper facilities for inspecting the Works or any part of them for three days after receiving from the Employer or the Engineer written notice demanding the same, or
- f) has failed to complete all or any part of the Work by the time or extended time for completion, or
- g) has failed to submit any work or material to proper tests for three days after receiving a written notice from the Engineer requiring the same, or
- h) has failed to give proper account of the materials issued to him, or
- i) has removed from the Site without the Engineer's written permission any plant or material brought to the site, or
- j) has committed repeated breaches of any of the conditions of the contract or Specifications for the materials and workmanship, or
- k) has failed to complete the work within twenty five percent (25%) of the contracted completion period over the completion period as stipulated under Clause No. 9.5 herein above.

then the Employer after giving fourteen (14) days' notice in writing to the Contractor, may enter upon the site and the Works and expel the Contractor therefrom and may use the

materials and plant upon the premises for completion of the Work and employ any other Contractor to complete or may himself complete the Works and upon such entry the Contract shall be determined save as to the rights and powers conferred upon the Employer and the Engineer hereby. The Engineer's Certificate under this clause shall be conclusive proof as between the Contractor and the Employer of the statements contained therein.

15.3 Damages and forfeiture of security deposit:

In case of failure on the part of the Contractor at any time during the currency of the Contract to comply with any of the conditions herein contained or in case of any breach of any of the terms and Conditions of the Contract or if the Employer shall enter and determine the Contract under Clause No.15.2 above no right of action for any work done or for materials or plant of which the Employer may have taken possession in accordance with Clause No.15.2 above or in any other respect shall arise until the Engineer has certified that the Work has been satisfactorily completed and the costs of completion and penalties due for delay in completion and the periodical payments which have been made to the Contractor have been ascertained and the amount thereof certified by the Engineer in writing. The Contractor shall be liable to make good to the Employer the difference, if any, between the costs of the completion of the Works by the Employer or through other Contractors as aforesaid and the costs on the basis of the Schedule of Quantities and Rates hereunder and all other charges and expenses as shall or may in anyway be incurred or sustained. The Employer shall be at liberty to retain the said sums from any amount that shall become due and payable to the Contractor under this or any other contract without prejudice to the provision hereof. The Employer shall be entitled to forfeit the Security Deposit lodged by the Contractor with the Employer and the Retention Money retained by the Employer under Clause 6.2 above or to assess the loss or damage which the Employer has suffered by reason of such failure or breach and to appropriate the said Security Deposit towards such loss and damage without recourse to a Court of Law and without prejudice to any right of recovery by and any other means. If however, upon this being done, it appears from the Engineer's certificate that the aggregate amount of the cost of construction and the penalty if any payable by the Contractor is less than the sum which will be justly due to the Contractor in respect of the work actually executed by him upon the basis of the rates and prices hereunder written then the Employer shall pay the balance to the Contractor within a reasonable time after the issue of such certificates and if it so appears that such amount is more the sum aforesaid then the balance shall be paid by the Contractor to the Employer.

15.4 Extras Expenses:

Any extra expenses in addition to the amount specified in the Schedule of Quantities and Rates which may be incurred by the Employer in the performance of the Works, required owing to the neglect or omission on the part of the Contractor or his workmen during the execution of the Contract shall be deducted from any sums due or which may thereafter become due to the Contractor, or the Contractor may be called upon to pay the amount of such extra expense to such person or persons as the Employer may appoint to receive the same and in the event of the Contractor failing to make such payment the said amount shall be recoverable from him in such manner as the Employer may determine.

16 Law and Language:

The Contract shall be interpreted and have effect in accordance with the Law of India and no suit or other proceeding relating to this Contract shall be filed or taken up by the Contractor in any Court of Law except in Mumbai.

The Language for communications shall be English in which the Tender / contract is written.

17 Engineer Decision Final

The whole of the work under this contract shall be carried out under the direction of the Engineer and his decision upon all questions relating to the details of construction or the meaning of the drawings, conditions of contract, Specifications, Schedule of quantities and rates and the methods of carrying out the work shall be final and any dispute arising under in connection with this contract or the carrying out thereof including any question as to construction and meaning of this contract or any clause therein shall be final and binding upon the Contractor whether such decision shall have given by way of certificate or otherwise and whether it shall have been given during the progress of the work or after completion of the same.

18 Notice to Statutory bodies:

The Contractor shall give the notices to traffic police, municipal corporation, police, and other statutory and non statutory authorities, etc. that may be required by law and obtain all requisite licences for temporary obstructions, enclosures and for any other purposes whatsoever and pay all fees, taxes and charges which may be leviable on account of his/ their own operations in executing the contract.

The contractor shall also give notices to Central Industrial Security Force (CISF), Mechanical Engineering Department, Welfare department, Port Department and Port Fire and Safety Officer of Mumbai Port Authority and shall abide by their terms and conditions.

19 Safety of existing services:

The Contractor shall take due care and adopt such measures to ensure that the existing underground utility services of Mumbai Port Authority as well as other Public Utility Bodies viz. TATA, BEST, MTNL, MCGM etc. are not damaged during the execution of the work. Exact location and nature of a service shall be ascertained by the contractor from the concerned agencies by taking trial pits at strategic points as directed by the Engineer or his representative. The work in the vicinity of such services shall be carried out to meet the specific requirements of the concerned authority to which the service belongs. Any damage caused to a service, irrespective of the fact that the utmost precautions are taken to avoid damage shall be at the entire risk and cost of the Contractor.

20 Execution of works inside Dock/ restricted areas:

1. Since the works to be executed inside in the restricted areas, the access to the site will be from Dock Gates/ Security Gates. The Contractor shall arrange to obtain from time to time the necessary temporary Dock Entry Permits for himself and his workmen from the

Police Authorities/ MbPA Security/CISF authorities as may be applicable for which the Engineer's Representative will issue recommendatory letter to the Dock/ Police Authorities/ MbPA Security upon being requested by the Contractor to do so. The Contractor shall comply with the customs, CISF and police formalities. When the Entry Permits are issued to the Contractor in favour of a group of persons, the group shall wear distinctive cotton arm bands for proper identification.

2. The Contractor will be held fully responsible for the rightful and proper use of the Temporary Entry Permits that may be issued by the Dock/ Police Authorities/ MbPA Security/CISF authorities to him, for himself, his workmen, sub-contractors, transport contractors, etc. in connection with the contract work. The temporary Dock Entry Permits that are issued to the Contractor shall invariably be returned to the Engineer on expiry of the validity period of the permit or on completion of work or when the person on whose name the permit is issued ceases to be employed on the contract work or whenever directed by the Engineer whichever event above mentioned is earlier.
3. In case of loss of any of the Temporary Entry Permits by the Contractor, or by his workmen, or the sub-contractors, or by the Transport Contractor, etc. the Contractor shall immediately report such loss in writing to the Dock/ Police/CISF/MbPA Security Authority who has issued the Temporary Dock Entry Permit/ Permits and also advise the Engineer accordingly. Failure to report such loss of the Temporary Entry Permit or permits will be viewed very seriously, and the Contractor will be held full responsible for any misuse of such lost permits.
4. The use of the Temporary Dock entry permit for purposes other than the performance of the Contract will be a criminal offence.

21 Facilities to be provided by the Contractor :

21.1 Vehicle:

The contractor at his own cost shall provide within 15 days, from the issue of letter of acceptance, one vehicle, which is not more than five years old, of any model of Mahindra Bolero/ Tata Sumo or similar vehicle of any other manufacturer, for the entire contract period for exclusive use of Engineer and his representative. The vehicle shall be well maintained to the entire satisfaction of Engineer/ Engineer's representative. All expenses for fuel, lubricant oil, other consumables, service and maintenance, drivers, repairs and replacements etc. to be borne by the contractor. The vehicle should be made available on all the days during the currency of contract and as per the requirement of work. However, the usage of the vehicle will not exceed 80 Kms. per day calculated on monthly average basis. In case of failure to provide vehicle on any day an amount of Rs. 5,000/- per day shall be deducted from the contractor's bills as a penalty.

21.2 Site Office:

Subsequent to award of work, the contractor, at his own cost, shall provide & maintain readymade air-conditioned site offices 20'X10' size or nearest, ready to use, at site – 1 No and in the form of Porta cabin/ container cabin with necessary electrical fittings, for the exclusive use of Engineer and his representative during the tenure of contract.

The contractor shall also provide wash basin arrangement for MbPA staff and workers maintaining the cleanliness and hygiene of the same. The site offices shall be equipped with the following facilities:

1	Table + 4 chairs for MbPT Staff	1 set
2	Tube Lights and Fans	Sufficient Nos.
3	Desktop Computer set with Coloured Printer Latest Configuration and Dongle for internet	1 Set
4	Stationary for office use	Required Quantity

Note: Contractor shall arrange at his own cost the cleaning, maintenance and up keep of this site office during the currency of contract. After completion of the work, contractor shall remove the site office at appropriate time to be decided by the Engineer. The electric connection and the electric charges required for site office shall be borne by the Mumbai Port Authority. Contractor has to handover item No 3 to MbPA after completion of work at no extra cost to MbPA.

22 Removal of Surplus Excavated Materials & Debris :

The excavated material/ debris/ kutchra shall not be dumped in PORT AUTHORITY estate. If any such material/ debris/ kutchra is found dumped in MbPA estate, a fine of Rs. 50,000/- per lorry load or part therefore will be recovered from the contractor.

23 Records:

The contractor shall keep and maintain work instruction book, Progress Register, material account register, work diary and such other records which they are bound to keep or which are required to be kept under any provisions of law time being in force or that may be enacted subsequently and the same shall be made available for inspection of the employer from time to time as and when demanded by the Employer.

24. Adjustments for Changes in Legislation:

The contract price shall be adjusted to take account of any increase or decrease in cost resulting from a change in the laws (including the introduction of new laws and the repeal or modification of existing laws) or in the judicial or official government interpretation of such law, made after cut off date (i.e. 28 days prior to submission of tender), which affect the contractor in the performance of his obligations under the contract.

If the contractor suffers (or will suffer) delay and / or incurs (or will incur) additional cost as a result of these changes in the laws or in such interpretations made after the cut off date, the contractor shall give notice to the Engineer and shall be entitled to (i) an

extension of time for any delay (to be established by the contractor) and (ii) payment of such costs arising out of such changes in legislations.

25. Force Majeure

(A) In this clause, 'Force majeure' means an exceptional event or circumstances:

- a) Which is beyond party's (Employer or contractor) control
- b) Which such party could not reasonably have provided against before entering into the contract.
- c) Which, having arisen, such party could not reasonably have avoided or overcome and
- d) Which is not substantially attributable to the other party

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions a) to d) above are satisfied.

- 1 War, hostilities (whether war to be declared or not), invasion, act of foreign enemies
- 2 Rebellion, terrorism, revolution, insurrection, military or usurped power or civil war,
- 3 Riot, commotion, disorder, strike or lockout by persons other than contractor's personnel and other employees of the contractor and sub-contractors,
- 4 Munitions of war, explosive materials, ionising radiations or contaminations by radio-activity, except as may be attributable to the contractor's use of such munitions, explosives, radiations or radio-activity and
- 5 Natural catastrophes such as earthquakes, tsunami, hurricane, typhoon or volcanic activity.

(B) No Breach of Contract –

The failure of the party to fulfil any of its obligations hereunder shall not be considered to be breach of, or default under this contract in so far as such inability arises from any event of Force Majeure, provided that the party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this contract.

(C) Measures to be taken –

- 1 A party affected by an event of Force Majeure shall take all reasonable measures to remove such party's inability to fulfil its obligations hereunder with a minimum of delay.
- 2 A party affected by an event of Force Majeure shall notify other party of such event as soon as possible, and in any event not later than 14 days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give notice of the restoration of the normal conditions as soon as possible.
- 3 The parties shall take all reasonable measures to minimise the consequences of any event of force majeure.

26. Use of MbPA weigh bridges:

The weighment of Asphaltic materials shall be carried out on MbPA's weigh bridge. In case of failure of MbPA's weighbridge, the contractor will be allowed to weigh asphaltic materials on Private weighbridges.

27. Rate of progress:

The contractor shall submit a weekly progress report on each Monday to the Employer giving details of the progress achieved in earlier week. The format for the report shall be decided in consultation with the employer to meet the work schedule requirement.

If for any reason, the rate of progress of the works or any section thereof at any time in the opinion of the employer is too slow to comply with the time for completion, the employer shall so notify the contractor who shall there upon take such steps as are necessary, subject to the consent of the Employer to expedite progress so as to comply with the time of completion. The contractor is not entitled to any additional payment for taking such steps, as a result of any notice given by the Employer, under this clause. IF the contractor considers that it is necessary to do any work at night or on locally recognized days of rest, he has to seek the consent of the Employer to do so. Employers consent may be granted subject to fulfilment of conditions necessary on account of security, safety and ensuring quality of works

28. As made drawing and progress photographs:

This Clause is deleted.

29. Manager / Supervisory staff and work order Book:

29.1 The contractor shall himself manage the work or engage authorized full time **Engineer** and supervisory staff on the work capable of managing and guiding the work and understanding the specifications and contract conditions. The contractor shall deploy a team of qualified and experienced Engineers who are well versed with asphaltic works and SAP system for entering measurements of the works in SRM Module for submission of bills.

Work order book and other necessary registers shall be maintained on site and the contractor promptly sign orders given therein by Engineers-in-charge or his representative and his superior officer and comply with them. The contractor, to the Engineer-in-charge or his representative shall report compliance in good time so that it can be checked.

29.2 Initial Measurements for initial levels of the works as necessary shall be taken jointly by the contractor and authorized representative of Engineer in charge and same shall be jointly record in the field book or Measurement book by the Engineer in charge or his authorized representative and the same shall be signed by the contractor.

29.3 The rate quoted by the contractor shall be **exclusive of GST**. The GST shall be payable to the contractor along with the running bills. All other incidental charges shall be borne by the contractor for the execution of the works.

30. Working space for fabrication work/site office/store

Adequate space required for the fabrication work in connection with the said work will be allotted to the successful contractor 'free of cost' in the nearby vicinity, as directed by Engineer In charge.

The contractor will be allowed, rent free, the use of such ground as is available at or near the site of work, for his site office & store, as in the opinion of the Engineer's Representative may be absolutely necessary for the execution of works.

31. Safety Instructions during the execution of the work

1. The contractors shall provide all safety equipments such as safety jacket, safety belts, safety shoes, helmets etc. to his labourers during the execution of the work.
2. If the contractor does not follow the safety precautions as prescribed in the tender conditions, the contractor will be imposed a penalty of Rs.1,00,000/- per occasion for not adhering to the instructions of the engineers.
3. Even if the contractor do not adhere to the safety instructions for continually three occasions during the execution of particular work, the contractor shall be debarred for Five Months period for participating in MbPA tenders.
4. During the execution of work if any death incidence occurs to the labourers employed by the contractor due to the negligence and also not adhering to the instructions on safety, the contractor shall be blacklisted for minimum 3 years and/or as may be decided by the Chief Engineer and will not be allowed to participate in any of the tenders of MbPA.
5. If the labourer is required to be worked at a height of 20 feet and above, the contractor shall provide the safety net. However, the Contractor has to keep separate supervisor for supervising the same.

32. Guidelines for Air Pollution Mitigation

1. Perimeter Erection:
 - Construction projects exceeding 70 meters in height must have at least 35 feet high tin/metal sheets around the periphery.
 - Projects with an area greater than one acre shall have 35 feet high sheets, and those less than one acre shall have a minimum height of 25 feet.
2. Enclosure during Construction:
 - All buildings under construction must be enclosed by green cloth/jute/tarpaulin from all sides.
3. Demolition Procedures:
 - Structures under demolition must be covered with tarpaulin/green cloth/jute sheets, with continuous water sprinkling during the demolition process.
4. Material Handling:
 - Water fogging during loading/unloading of materials using stationary/mobile anti-fogging guns.
 - Water sprinkling during handling of debris/earth material at construction sites.
5. Vehicle Transportation:
 - All vehicles carrying construction materials must be fully covered.

- Vehicles must not be overloaded to prevent spillage,
 - And construction sites shall install CCTV cameras along the periphery of their work sites to ensure that, vehicles are plying after cleaning tyres.
6. Air Quality Monitoring:
- Installation of sensor-based air pollution monitors at construction sites.
 - Immediate action required on observing pollution levels exceeding limits.
7. Worksite Activities:
- Grinding, cutting, drilling, sawing, and trimming work to be carried out in enclosed areas.
 - Continuous water sprinkling/water fogging during such activities to prevent fugitive air escape.
8. Waste Management:
- All the construction sites shall ensure that C&D (Construction and Demolition) waste generated within the premises /site of work is transported to the designated unloading site strictly as per BMC's C& D waste management plan.
 - Vehicles to be washed thoroughly after unloading.
9. Vehicle Compliance:
- All vehicles carrying materials shall have valid PUC certificates and the same shall be produced as and when asked by competent authorities.
10. Safety Measures:
- All the construction workers /managers shall mandatorily wear personal protective equipment (PPE) such as mask, goggles, helmets etc.
11. Accountability:
- Site engineers/in charges held accountable for lapses in guideline adherence.
12. Procurement Timelines:
- 15 days for sprinklers, 30 days for smog guns from the issuance of work orders. Strict adherence is expected. All the project proponents/contractors shall abide by the above timeline without fail.
13. Vehicle Tracking:
- All builders/Developers/Contractors only engage vehicles with installed vehicle tracking systems.
14. Storage and Dumping:
- Store soil, sand, materials, and debris in designated areas, fully covered/enclosed.
 - No dumping on public roads, footpaths, pavements, or open areas.
15. Cleaning and Maintenance:
- Provide vehicle tire washing facilities at exit points.
 - Daily cleaning of major roads using vacuum sweeping, water sprinkling, brushing, brooming, and sweeping.
16. Open Burning Ban:
- Complete ban on open burning, especially at garbage dumping spots anywhere in the geographical area under MbPA.

17. Inclusion in Tenders:

- Include all relevant items mentioned here in the circular in new tenders and bids.
- Notify contractors/bidders whose work has started to adhere strictly to these guidelines.

**Chief Engineer
Mumbai Port Authority**

**Mumbai Port Authority
Civil Engineering Department**

TENDER NO. E.09/2024

**Resurfacing with asphaltic materials including improvement to storm water drainage system
from Green Gate, I.D. to CMC Building, Indira Dock.**

Technical Specifications

SECTION-I: Specifications for asphaltic pavement works

1. Excavation & preparation of the sub-grade:

The formation/ sub-grade shall first be prepared by excavating the existing surface manually/ using JCB/ Poclain upto required levels, in any type of strata i.e. soil, rubble, aggregate, asphalt, khandki pavement etc. including bailing out water, thoroughly watering. The sub-grade shall be prepared by compacting the formation with a heavy 8 to 10 tonnes roller or as directed to the required grade and camber. The contractor shall note that in case of any settlement of ground due to rolling, the depressions and settlements shall be filled in with selected excavated materials and rolled again to present a uniform surface.

The sub-grade shall comply with the following requirements.

1. That no soft spots are present in the sub-grade.
2. That the uniformly compacted sub-grade extends at least 200 mm on either side of the width to be concreted.
3. That the sub-grade is properly drained.
4. That if required by the Engineer's representative C.B.R. test shall be carried out to ascertain the strength of sub-grade. The C.B.R. value shall not be less than 10%.
5. That the sub-grade is to the proper alignment, grade and camber.

2. Rubble packing:

Rubble stone shall be of the approved quality. The rubble packing shall be hand packed and properly rammed and consolidated to required thickness. The stones shall be hand set as close as possible and to a uniform depth. The interstices shall be filled with stone chips, removing the projections above the rubble layer with care, so as not to loosen the whole. The rubble packing shall be thoroughly watered and rammed. It shall be rolled with a road roller of approved capacity as directed. The rubble packing shall be blinded by 50 mm metal before being rolled.

3. Sub-base & Water Bound Macadam:

The stone metal to be used for the sub base and water bound macadam shall be of approved quality, well graded and of size as mentioned in the Schedule of Quantities & Rates. It shall have sharp edges and shall be clean and free from any deleterious material. The metal shall be spread over to the required thickness and shall be rolled and consolidated so that after completing all the operations described below, the metal layer shall not be less than the specified thickness mentioned in the Schedule of Quantities & Rates.

After spreading the metal, rolling shall be started from the edge and shall proceed towards the crown, the longitudinal strips overlapping on successive strips by at least half the width of the rear wheel. The operation shall continue till no visible settlement of the metal or movement of metal under the roller is observed. The gradient and camber shall be checked from time to time by means of level, stakes, strings, camber board etc. Any depression or hump shall be corrected by removing completely the metal layer thereat and rolling the same satisfactorily.

After the dry rolling is completed, grade screenings and blinding materials such as stone dust, grit, brick powder etc. shall be spread. Moderate sprinkling of water and rolling shall be continued, adding stone dust etc., if required, till all the voids are completely filled and movement of metal under the wheels ceases. If there is excess powder, the same shall be removed by brooming lightly. The surface shall be checked for camber etc. The undulations or unevenness shall be rectified as required.

For Water Bound Macadam the whole surface shall then be watered (adding extra stone dust or specified binding material if required), brushed and rolled to obtain a mosaic surface. The rate of spreading binding materials shall not be less than 0.30 Cu.M. per 10 Sq.M. of the treated area.

Grading for metal and screenings material shall be as under.

	Size range	Sieve Designation	Percentage by weight passing sieve
For Sub Base	90 mm to 40 mm	100 mm	100
		80 mm	65 - 85
		63 mm	25 - 60
		40 mm	0 - 15
		20 mm	0 - 5
For Water Bound Macadam	63 mm to 40 mm	80 mm	100
		63 mm	90 - 100
		50 mm	35 - 70
		40 mm	0 -15
		20 mm	0 - 5

Grading for screenings

	Size of screenings	Sieve Designation	Percentage by weight passing sieve
For Sub Base	12.5 mm	12.50 mm	100
		10.00 mm	90 – 100
		4.75 mm	10 – 30
		150 microns	00 – 08
For Water Bound Macadam	10.0 mm	10.00 mm	100
		4.75 mm	85 - 100
		150 microns	00 – 04

4. Asphaltic Concrete and Asphaltic Macadam:

4.1 General:

The asphaltic concrete and asphaltic macadam shall conform to the B.S. No.594, B.S. No.598 and B.S. No.812 so far as the materials, laying and testing of the same are concerned.

4.2 Materials:

- (A) Bitumen: The bitumen shall be of 60/70 grade and free from water and shall conform to the specifications as per IS – 73. Approved anti-

stripping agent shall be used at the rate of 0.50% of bitumen content by weight in the asphaltic concrete and asphaltic macadam mixes.

- (B) Coarse Aggregate: Coarse aggregate shall be stones retained on the 4.75 mm sieve and shall consist of crushed hard basalt of uniform quality and shall be clean and free from an excess of dust and flat or elongated pieces, soft or disintegrated stone or other deleterious matter.
- (C) Fine Aggregate: Fine aggregate shall be the fraction passing the 2.36 mm sieve and retained on the 75 micron sieve. The fine aggregate shall consist of sand or stone screenings or a mixture of the two, composed of clean sharp grains free from clay or other foreign matter.
- (D) Mineral Filler: Mineral filler shall be inert material all Passing the 600 micron sieve and at least 90% passing 75 micron sieve. The filler shall consist of dry limestone dust or other approved material.

a. Aggregate grading and bitumen contents for asphaltic concrete:

The grading of combined aggregate including filler shall fall within the following limits.

I. S. Sieve Size	Total Passing by weight	I. S. Sieve Size	Total Passing by weight
40 mm	100 %	2.36 mm	25 - 50%
25 mm	90 - 100%	1.18 mm	20 - 40%
20 mm	80 - 100%	600 micron	10 - 25%
10 mm	55 - 85%	300 micron	7 - 25%
4.75 mm	40 - 65%	150 micron	5 - 12%

Bitumen content: To the above shall be added bitumen at the rate from 5.50 to 6.50 kgs. per quintal of aggregate.

b. Aggregate grading and bitumen content for asphaltic macadam :

The grading of combined aggregate including filler shall fall within the following limits.

I. S. Sieve Size	Total Passing by weight
40 mm	100 %
25 mm	50 - 100%
12.5 mm	26 - 50%
6.3 mm	18 - 30%
1.7 mm	10 - 20%
75 micron	0 - 5

Bitumen content: To the above shall be added bitumen at the rate from 4.5 to 5.50 kgs. per quintal of aggregate.

c. Mixing:

The coarse and fine aggregate shall be dried and heated so that when delivered to the mixer they shall have a temperature of not less than 149°C and not more than 177°C.

The graded hot aggregate, mineral filler and bitumen at a temperature between 177°C and 149°C shall be measured separately and accurately to the proportions in which they are to be mixed. Mixing shall continue until all particles are completely coated with bitumen.

An anti-stripping agent shall be added to asphaltic macadam and asphaltic concrete at the rate of 0.5% of the specified bitumen content by weight.

The asphaltic macadam and asphaltic concrete shall be prepared in a hot mix plant (Batch mix asphalt plant/ Drum mix asphalt plant) of adequate capacity and capable of yielding a mix of proper and uniform quality with a thoroughly quoted aggregates. Before commencement of the Asphaltic works the contractor shall submit for approval of Engineer's representative, the details of asphalt plant such as name of the owner, address, location, type of plant, capacity of the plant etc from where he is intending to procure the asphaltic materials. The Engineer's representative shall have access to the asphalt plant for inspection of materials, manufacturing process, etc. contractor shall procure the asphaltic materials from the Asphalt plants approved by the Engineer's representative.

The asphaltic material shall be transported in a covered insulated vehicle i.e. lorries and shall be fully covered with tarpaulin while in transit or awaiting tipping. Every lorry transporting the asphaltic materials from the asphalt plant to the site will carry delivery challans with following details.

- (i) Printed serial number,
- (ii) Tender number and part thereof,
- (iii) Division/ Section of MbPA by whom the asphaltic material is requisitioned,
- (iv) Type of asphaltic material,
- (v) Gross weight of material,
- (vi) Departure time from the asphalt plant.

These challans shall be signed by Engineers representative and contractor's representative and shall form as record at site.

- e. Cleaning: The area to be attended and resurfaced shall be cleaned to the satisfaction of Engineer's representative before application of tack coat.
- f. Tack coat: On the cleaned surface, the tack coat (80/100 bitumen) at the rate of 0.5 Kg/Sq.M. shall be applied.
- g. Laying: Laying of asphaltic materials shall be carried out by means of a mechanical spreader and finisher. The temperature of the mix at the time of laying shall be in the range of 120°C to 163°C, and rolling shall be completed before the temperature of mix falls below 80°C.
- h. Joints: Longitudinal and transverse Joints of butt type between old and new pavements or between successive days work shall be carefully made to ensure well bonded and sealed joint. Before placing the mixture the faces of the joints shall be painted with a uniform coating of hot bitumen of 80/100 penetration to provide a seal.
- i. The edge of previously laid course shall be cut back by 75 mm to its full depth, after which the fresh mixture shall be placed in contact with it and raked to the proper depth and shape.

(E) Compaction of the mixture:

Compaction shall be carried out by 8 to 10 tonnes roller. For compaction in inaccessible areas/ train track compaction shall be carried out by small roller/ hand roller.

Rolling shall start longitudinally at the sides and proceeds towards the crown, the roller wheels overlapping one half their width in each successive travel and shall continuous until the pavement is thoroughly compacted and there is no movement under the roller.

The speed of the roller shall not exceed 4.8 km/hour and shall at all times be slow

enough to avoid displacement of the materials and any displacement occurring as a result of reversing the direction of the roller or from any other cause, shall at once be corrected by the use of rakes and fresh material where required. Rolling shall continue until all roller marks are eliminated on the surface and no further compaction is possible. Only water shall be used for moisturizing the roller wheel and no other liquid such as LDO etc. shall be permitted.

5.0 Murum Filling:

The hard murum filling should be layed in layers of 150 mm to 200 mm, breaking clods, dressing to required line and level, watering and compacting with 8-10 tonnes roller to not more than 100 mm thick and achieve Standard Procter density of not less than 97% etc. complete. The CBR value shall be greater than 5. Murrum filling should conform to the MORTH Specifications. The contractor shall submit the initial level before proceeding for murrum filling work subsequently the levels of each compacted layer (not more than 100 mm thick) should be taken and submitted before carrying out the work of next level. The payment will give after completion/ submission of final level (i.e 500 mm of compacted thickness).

6.0 GRANULAR SUB-BASE (GSB)

6.1 Scope:

This work shall consist of laying and compacting well-graded material on prepared subgrade in accordance with the requirements of these specifications. The material shall be laid in one or more layers as sub-base or lower sub-base and upper sub-base (termed as sub-base hereinafter) as necessary according to lines, grades and cross-sections shown on the drawings or as directed by the Engineer.

6.2 Materials :

6.2.1 The material to be used for the work shall be natural sand, gravel, crushed stone or combination thereof depending upon the grading required. Materials like crushed slag, crushed concrete, brick metal and kankar may be allowed only with the specific approval of the Engineer. The material shall be free from organic or other deleterious constituents and conform to one of the three gradings given in Table-1.

While the grading in Table - 1 are respect of close-graded granular sub-base materials, one each for maximum particle size of 75 mm, 53 mm and 26.5 mm, the corresponding gradings for the coarse graded materials for each of the three maximum particle sizes are given at Table - 2. The Grading-I to be adopted for this project as specified in the BOQ.

6.2.2 **Physical requirements:** The material shall have a 10 percent fines value of 50 kN or more (for sample in soaked condition) when tested in compliance with BS:812 (Part-III). The water absorption volume of the coarse aggregate shall be determined as per IS:2386 (Part-III); if this value is greater than 2 percent, the soundness test shall be carried out on the material delivered to site as per IS:383.

For grading II & III materials, the CBR shall be determined at the density and moisture content likely to be developed in equilibrium conditions which shall be taken as being the density relating to a uniform air voids content of 5 percent.

TABI E - 1
GRADING FOR CLOSE GRADED GRANULAR SUB- BASE
MATERIALS

IS Sieve Designation	Per cent by weight passing the IS Sieve		
	Grading - I	Grading - II	Grading - III
75.0 mm	100	--	--
53.0 mm	80 - 100	100	--
26.5 mm	55 - 90	70 – 100	100
9.50 mm	35 - 65	50 – 80	65 - 95
4.75 mm	22 - 55	40 – 65	50 - 80
2.36 mm	20 - 40	30 – 50	40 - 65
0.425 mm	10 - 25	15 – 25	20 - 35

TABI E - 1
GRADING FOR CLOSE GRADED GRANULAR SUB- BASE MATERIALS

IS Sieve Designation	Per cent by weight passing the IS Sieve		
	Grading - I	Grading - II	Grading - III
0.075 mm	3 - 10	3 - 10	3 - 10
CBR Value (Minimum)	30	25	20

TABLE – 2			
GRADING FOR COARSE GRADED GRANULAR SUB- BASE MATERIALS			
IS Sieve Designation	Per cent by weight passing the IS Sieve		
	Grading - I	Grading - II	Grading - III
75.0 mm	100	--	--
53.0 mm		100	
26.5 mm	55 - 75	50 - 80	100
9.50 mm			
4.75 mm	10 - 30	15 - 35	25 - 45
2.36 mm			
0.425 mm			
0.075 mm	<10	<10	<10
CBR Value (Minimum)	30	25	20

Note : The material passing 425 micron (0.425 mm) sieve for all the three gradings when tested according to IS:2720 (Part-5) shall have liquid limit and plasticity index not more than 25 and 6 percent respectively.

6.3 **Strength of sub-base :**

It shall be ensured prior to actual execution that the material to be used in the sub-base satisfies the requirements of CBR and other physical requirements when compacted and finished.

When directed by the Engineer, this shall be verified by performing CBR tests in the laboratory as required on specimens remoulded at field dry density and moisture content and any other tests for the "quality" of materials, as may be necessary.

6.4 **Construction Operations:**

6.4.1 **Preparation of subgrade :** Immediately prior to the laying of sub-base, the subgrade already finished to Clause 301 or 305 of MORT & H Specification as applicable shall be prepared by removing all vegetation and other extraneous matter, lightly sprinkled with water if necessary and rolled with two passes of 80-100 kN smooth wheeled roller.

6.4.2 **Spreading and compacting:** The sub-base material of grading specified in the contract shall be spread on the prepared subgrade with the help of a motor grader/JCB of adequate capacity, its blade having hydraulic controls suitable for initial adjustment and for maintaining the required slope and grade during the operation or other means as approved by the Engineer.

When the sub-base material consists of combination of materials mentioned in Clause 401.2.1 of MORT & H Specifications, mixing shall be done at plant and shall be transported on site.

Manual mixing shall be permitted only where the width of laying is not adequate for mechanical operations, as in small-sized jobs. The equipment used for mix-in-place construction shall be a rotavator or similar approved equipment capable of mixing the material to the desired degree. If so desired by the Engineer, trial runs with the equipment shall be carried out to establish its suitability for the work.

Moisture content of the loose material shall be checked in accordance with IS:2720 (Part-2) and suitably adjusted by sprinkling additional water from a truck mounted or trailer mounted water tank and suitable for applying water uniformly and at controlled quantities to variable widths of surface or other means approved by the Engineer so that, at the time of compaction, it is from 1 percent above to 2 percent below the optimum moisture content corresponding to IS:2720 (Part-8). While adding water, due allowance shall be made for evaporation losses. After water has been added, the material shall be processed by mechanical or other approved means like disk horrows, rotavators until the layer is uniformly wet. Immediately thereafter, rolling shall start. If the thickness of the compacted layer does not exceed 100 mm, a smooth wheeled roller of 80 to 100 kN weight may be used. For a compacted single layer upto 225 mm the compaction shall be done with the help of a vibratory roller of minimum 80 to 100 kN static weight with plain drum or pad foot drum or heavy pneumatic tyred roller of minimum 200 to 300 kN weight having a minimum tyre pressure of 0.7 MN/m² or equivalent capacity roller capable of achieving the required compaction. Rolling shall commence at the lower edge and proceed towards the upper edge longitudinally for portions having unidirectional crossfall and super-elevation and shall commence at the edges and progress towards the centre for positions having crossfall on both sides.

Each pass of the roller shall uniformly overlap not less than one-third of the track made in the preceding pass. During rolling, the grade and crossfall (camber) shall be checked and any high spots or depressions, which become apparent, corrected by removing or adding fresh material. The speed of the roller shall not exceed 5 km. per hour.

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

6.5 **Surface Finish and Quality Control of Work:**

The surface finish of construction shall conform to the requirements of Clause 902 of MORT & H Specifications. Control on the quality of materials and works shall be exercised by the Engineer in accordance with Section 900.

6.6 **Arrangements for Traffic:**

During the period of construction, arrangement of traffic shall be maintained in accordance with Clause 112 of MORT & H Specifications.

6.7 **Measurement for Payment:**

Granular sub-base shall be measured as finished work in position in Cubic metres. The protection of edges of granular sub-base extended over the full formation as shown in the drawing shall be considered incidental to the work of providing granular sub-base and as such no extra payment shall be made for the same.

6.8 **Rate :**

The contract unit rate for granular sub-base shall be payment in full for carrying out the required operations including full compensation for :

- 1) Making arrangements for traffic to Clause 112 of MORT & H Specifications except for initial treatment to verges, shoulders and construction of diversions;
- 2) Furnishing all materials to be incorporated in the work including all royalties, fees, rents where necessary and all leads and lifts;
- 3) All labour, tools, equipment and incidentals to complete the work to the specifications;
- 4) Carrying out the work in part widths of road where directed; and
- 5) Carrying out the required tests for quality control.

7.0 **WET MIX MACADAM SUB-BASE/BASE (WMM):**

7.1 **SCOPE:**

This work shall consist of laying and compacting clean, crushed, graded aggregate and granular material, premixed with water, to a dense mass on a prepared subgrade/sub-base/base or existing pavement as the case may be in accordance with the requirements of the specification. The material shall be laid in one or more layers as necessary to lines, grades and cross sections shown on the approved drawings or as directed by the Engineer.

The thickness of a single compacted Wet Mix Macadam layer shall not be less than 100 mm. When vibrating or other approved types of compacting equipment are

used, the compacted depth of a single layer of the sub-base course may be increased to 200mm upon approval of the Engineer.

7.2

MATERIALS:

7.2.1

Physical requirement:

Coarse aggregates shall be crushed stone. If crushed gravel/shingle is used not less than 90 percent by weight of the gravel/shingle pieces retained on 4.75 mm sieve shall have at least two fractured faces. The aggregates shall conform to the physical requirements set forth in the following Table-1.

TABLE - 1

PHYSICAL REQUIREMENTS OF COARSE AGGREGATES FOR WET MIX MACADAM FOR BASE COURSES

SL. NO.	TEST	TEST METHOD	REQUIREMENTS
1.	*Loss Angles Abrasion Value or	IS : 2386 (Part-IV)	40% Maximum
	*Aggregate impact value	IS : 2386 (Part-IV) or IS : 5640	30% Maximum
2.	Combined flakiness and Elongation indices (total)	IS : 2386 (Part-I)	30% Maximum**

* Aggregates may satisfy requirements of either of the two tests.

** To determine this combined proportion, the flaky stone from a representative sample should first be separated out. Flakiness index is weight of flaky stone metal divided by weight of stone sample. Only the elongated particles be separated out from the remaining (non-flaky) stone metal. Elongation index is weight of elongated particles divided by total non-flaky particles. The value of flakiness index and elongation index so found are added up.

7.2.2

Grading requirements:

The aggregates shall conform to the grading given below:

TABLE - 2

GRADING REQUIREMENTS OF AGGREGATES FOR WET MIX MACADAM

SIEVE DESIGNATION	PERCENT PASSING
53 mm	100
45 mm	95 - 100
26.5 mm	-
22.4 mm	60 - 80
11.2 mm	40 - 60
4.75 mm	25 - 40
2.36 mm	15 - 30
600 microns	8 - 22
75 microns	0 - 8

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.

7.2.3.1

Construction operation:

7.2.3.2

Preparation of Base:

Clause 404.3.1 of MORT & H shall apply. 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 the wet mix macadam layer and following the sequence of operations described in Clause 407.4.1 of MORT & H.

7.2.3.3

Preparation of mix :

Wet-mix macadam shall be prepared in an approved mixing plant of suitable capacity having provision for controlled addition of water and forced/positive mixing arrangement like pugmill or pan type mixer of concrete batching plant. For small quantity of wet mix work, the Engineer may permit the mixing to be done in concrete mixers. Optimum moisture for mixing shall be determined in accordance with IS:2720 (Part-8) after replacing the aggregate fraction retained on 22.4 mm sieve with material of 4.75 mm to 22.4 mm 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.

7.2.3.4

Spreading of mix :

Immediately after mixing, the aggregates shall be spread uniformly and evenly upon the prepared subgrade/sub-base/base 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.

The mix may be spread either by a sensor paver finisher or a motor grader. For portions where mechanical means cannot be used, manual means as approved by the Engineer shall be used. The motor grader shall be capable of spreading the material uniformly all over the surface. Its blade shall have hydraulic control suitable for initial adjustments & maintaining the same so as to achieve the specified slope and grade.

The paver finisher shall be self propelled having the following features

- i) Moving hoppers and suitable distribution mechanism
- ii) The screed shall have tamping and vibrating arrangement for initial compaction to the layer as it is spread without rutting or otherwise marring the surface profile.
- iii) The paver shall be equipped with necessary control mechanism so as to ensure that the finished surface is free from surface blemishes.

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 may be tested by depth blocks during construction. No segregation of large and fine particles should be allowed. The aggregates as spread should be of uniform gradation with no pockets of fine/coarse materials.

7.2.3.5

Compaction :

After mix have been laid to the required thickness, grade and cross fall/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 200mm, the compaction shall be done with the help of vibratory roller of minimum static weight

of 80 to 100 kN of equivalent capacity roller. The speed of the roller shall not exceed 5 Km/h.

In portions having unidirectional cross fall/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 overlapping each preceding track by at least one third width until the entire surface has been rolled. Alternate strips of the roller shall be terminated in stops at least 1 m. away from any preceding stop.

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 centre 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.

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 the made good.

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 material shall not be permitted.

Rolling should not be done when the sub-grade is soft or yielding or when it causes a wave-like motion in the sub-base/base course or sub-grade. If irregularities develop during rolling which exceed 12 mm when tested with a 3 metre straight edge, the surface should be loosed and premixed material added or removed as required before rolling again so as to achieve a uniform surface conforming to the desired grade and cross fall. In no case should the use of unmixed material be permitted to make up the depressions.

Rolling should be continued till the density achieved is at least 98% of the maximum dry density for the material as determined by the method outlined in IS:2720 (Part 8).

After completion, the surface of any finished layer should 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 shall be made good to the full thickness of the layer and re-compacted. layer and re-compacted.

7.2.3.6 **Setting and drying :**

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

7.2.4 **Opening to traffic :**

Preferably no vehicular traffic of any kind should be allowed on the finished wet-mix macadam surface till it has dried and the wearing course laid.

7.2.5 **Surface Finish and Quality Control of work:**

7.2.5.1 **Surface evenness:**

The surface finish of construction shall conform to the requirements of Clause 902.

7.2.5.2 **Quality control:**

Control of the quality of materials and work shall be exercised by the Engineer in accordance with Section 900 of M.O.R T. & H.

7.2.6 **Rectification of Surface irregularity:**

Where the traffic irregularity of the wet mix macadam course exceeds the permissible tolerances or where the course is otherwise defective due to sub-grade soil getting mixed with the aggregates, the full thickness of the layer shall be scarified over the affected area, re-shaped with added premixed material or removed and replaced with fresh premixed material as applicable and re-compacted in accordance with Clause 406.3. The area treated in the aforesaid manner shall not be less than 5 m. long and 2 m. wide. In no case shall depressions be filled up with unmixed and ungraded material or fines.

7.2.7 Measurement for payment:

Wet mix macadam shall be measured as finished work in position in cubic metres.

8.0 BITUMINOUS BOUND MACADAM (BBM)

Providing and laying full grout paving with 75 mm consolidated thick metal layer comprising of 40 to 20 mm size metal, laid to a thickness of 113 mm and consolidated by means of 8 to 10 tonnes capacity road roller and full grouting the same with hot bitumen (grade:30/40) at the rate of 5 Kgs./Sq.M., spreading stone chips on grouted surface at the rate of 1.83 Cu.M. per 100 Sq.M. and rolling with 8 to 10 tonnes capacity road roller, spreading hot bitumen (grade:30/40) at the rate of 1.75 Kgs./Sq.M., spreading stone grit at the rate of 1.22 Cu.M. per 100 Sq.M. and finally rolling with 8 to 10 tonnes capacity road roller etc. complete as specified and as directed.

8.1 MATERIALS:

8.1.1 Bitumen:

The bitumen shall be paving bitumen or suitable penetration grade (60/70) as per Indian Standard Specifications for "paving bitumen" IS: 73-1962.

8.2 AGGREGATES:

The aggregate shall comprise of 40 mm size & broken stone satisfying standard specification clause Rd.22.3.2, Page 201 of edition 1979, 20 mm size & 12 mm size crush aggregate satisfying standard specifications clause Rd.41.3.2, Page 216 of edition 1979 for respective size of crush metal. The aggregate shall be free from disintegrated pieces, organic or other deleterious set for in table 500/4 of Ministry of Surface Transport's specifications for Road & Bridges edition June 1 992.

8.3 PROPORTIONING OF MATERIALS:

The quantities of bitumen & stone chips/grit required for the work of 75mm compacted bituminous bound macadam is detailed below:

- a) Bitumen 5 Kgs./Sq.M & 1.75 Kgs./Sq.M.
- b) Stone chips/grit (12mm) 1.83 cum. per 100 sq.mt. & 1.22 cum per 100 Sq.M.

8.4 PREPARATION OF BASE:

The road surface shall be swept clean of all dirt, dust and other loose and foreign matter. The work shall be performed on such widths and lengths as directed by Engineer and may require scarifying of existing layer, filling of pot holes etc. The edge lines may be marked with stakes.

8.5 SPREADING AND COMPACTION:

8.5.1 Spreading of metal:

40mm to 20 mm size hand broken metal shall be spread evenly to form uniform layer of 133 mm free from any foreign matter, organic matter, dust grades etc. The sections shall be checked with camber board, straight edge batten etc. Any irregularities shall be made good by adding aggregates in case of depressions and removing aggregates from high spots.

8.5.2 Compacting of metal:

The surface of metal layer after brought to necessary grades and sections shall be rolled with the use of 8 to 10 tons road roller. Rolling shall commence from the edges and progress towards the centre longitudinally except on super elevated portion it shall progress from the lower to upper edge parallel to the center line of pavement. When the roller has passed over the whole area as prepared once, any high spots or depressions which become apparent shall be corrected by removing or adding aggregates. The rolling shall then continue till the entire surface has been rolled to desired compaction such that there is no crushing of aggregates and all roller marks have been eliminated. The each pass of roller shall uniformly overlap not less than one third of the track made in the preceding pass.

8.5.3 Bitumen application:

Bitumen to be used shall be got approved from Engineer. Bitumen of I.S. grade S-65 needs heating to a temperature range between 177 degrees to 191 degrees. Bitumen other than grade I.S. S-65 shall be heated to a temperature appropriate to that grade. Bitumen shall be applied through a pressure sprayer with flow meter attachment uniformly at the rate of 5 Kgs./Sq.M & subsequently at the rate of 1.75 Kgs./Sq.M. To ensure correct application of bitumen being sprayed, known dimensioned area be checked for use of bitumen and accordingly dosage may be increased or decreased as the case may be.

8.5.4 Key aggregates:

On completion of bitumen application, stone chips/grit (12mm) shall be spread immediately at a uniform rate of 1.83 cum. per 100 sq.mt. & subsequently at the rate of 1.22 cum per 100 Sq.M. of area when entire surface is in hot condition. Brooms shall be used to ensure even distribution of key aggregate.

8.5.5 Final Compaction:

Immediately after spraying of bitumen and spraying of key aggregates the surface shall be rolled with a power roller to obtain full compaction and to force the blindage of key aggregates in to the interstices of the course aggregate. The rolling

shall continue till the asphalted surface hardens and key aggregates stop moving under power roller.

8.6 SURFACE FINISH AND QUALITY CONTROL:

The surface finish shall conform to requirements of clause 902 of specification for Roads and Bridges by Ministry of Road Transport & Highways. Quality control test and their frequencies shall be as per table 900-3 of specification for Roads and Bridges by Ministry of Road Transport & Highways.

8.7 MODE OF MEASUREMENT AND PAYMENT:

The contract unit rate for finished work of bituminous bound macadam is in full for carrying out all operations. The finished work shall be measured in square metres.

9.0 DENSE BITUMINOUS MACADAM (DBM)

9.1 SCOPE:

This clause specifies the construction of Dense Bituminous Macadam (DBM), for use mainly, but not exclusively, in base/binder and profile corrective courses. DBM is also intended for use as road base material. This work shall consist of construction in a single or multiple layers of DBM on a previously prepared base or sub-base. The thickness of a single compacted layer shall be 60mm.

Providing and laying hot pre-mixed dense bituminous macadam (bitumen grade:60/70) with approved anti-stripping agent at the rate of 0.50% of bitumen content by weight, laid to the required thickness in regulating course and rolling with 8-10 tonnes capacity road roller, cleaning the road surface and laid in required grade and camber etc. complete as directed.

9.2 MATERIAL:

9.2.1 Bitumen:

The bitumen shall be paving bitumen or suitable penetration grade (60/70) with approved anti-stripping agent at the rate of 0.50% of bitumen content by weight as per Indian Standard Specifications for "paving bitumen" IS: 73-1962. Bitumen content shall be minimum 4.5% by weight of total mix/ depending on job mix formula & as per clause 507 of MORTH (2001) specification for road & bridges.

9.2.2 Coarse aggregates:

The coarse aggregates shall consist of crushed rock, crushed gravel or other hard material retained on the 2.36 mm sieve. They shall be clean, hard, durable of cubical shape, free from dust and soft or friable matter, organic or other deleterious substances. Where the Contractor's selected source of aggregates have poor affinity for bitumen, as a condition for the approval of that source, the bitumen shall be treated with an approved anti-stripping agent, as per the manufacturer's recommendations, without additional payment. Before approval of the source, the aggregates shall be tested for stripping. The aggregates shall satisfy the physical

requirements specified in Table 500-8 of MORT & H Specifications, for dense bituminous macadam. Where crushed gravel is proposed for use as aggregate, not less than 90% by weight of the crushed material retained on the 4.75mm sieve shall have at least two fractured faces.

9.2.3

Fine aggregates :

Fine aggregates shall consist of crushed or naturally occurring mineral material or a combination of the two, passing the 2.36mm sieve and retained on the 75 micron sieve. They shall be clean, hard, durable, dry and free from dust, and soft or friable matter, organic or other deleterious matter. The fine aggregate shall have a sand equivalent value of not less than 50 when tested in accordance with the requirement of IS:2720 (Part 37).

The plasticity index of the fraction passing the 0.425 mm sieve shall not exceed 4, when tested in accordance with IS:2720 (Part 5)

TABLE 500-8

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATES FOR DENSE GRADED
BITUMINOUS MACADAM

Property	Test	Specification
Cleanliness (dust)	1. Grain size analysis	Max 5% passing 0.075mm sieve
Particle shape	2. Flakiness and Elongation Index (Combined)	Max 30%
Strength*	Los Angeles Abrasion Value Aggregate Impact Value	Max 35% Max 27%
Durability	Soundness Sodium Sulphate Magnesium Sulphate	Max 1 2% Max 1 8%
Water Absorption	7. Water absorption	Max 2%
Stripping	Coating and stripping of Bitumen Aggregate Mixtures	Minimum retained Coating 95%
Water Sensitivity**	10. Retained Tensile Strength	Min 80%

Notes :

1. IS:2386 Part 1 5. IS:2386 Part 5

2. IS:2386 Part 1 6. IS:2386 Part 3

(the elongation test to be done only on non-flaky aggregates in the sample)

3. IS:2386 Part 4* 7. IS:6241

4. IS:2386 Part 4* 8. AASHTO T283**

* Aggregates may satisfy requirements of either of these two tests.

** The water sensitivity test is only required if the minimum retained coating in the stripping test is less than 95%

9.2.4

Filler :

Filler shall consist of finely divided mineral matter such as rock dust, hydrated lime or cement approved by the Engineer.

The filler shall be graded within the limits indicated in Table 500-9

TABLE 500-9

GRADING REQUIREMENTS FOR MINERAL FILLER

IS Sieve (mm)	Cumulative percent passing by weight of total aggregate
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. When the coarse aggregate is gravel, 2 percent by weight of total aggregate shall be Portland cement or hydrated lime and the percentage of fine aggregate reduced accordingly. Cement or hydrated lime is not required when the limestone aggregate is used. Where the aggregate fail to meet the requirements of the water sensitivity test in Table 500-8, then 2 percent by total weight of aggregate, of hydrated lime shall be added without additional cost.

9.2.5

Aggregate grading-and binder content :

When tested in accordance with IS:2386 Part I (wet sieving method), the combined grading of the coarse and fine aggregates and added filler for the particular mixture shall fall within the limits shown in Table 500-10, for dense bituminous macadam grading 1 or 2 as specified in the Contract. The type and quantity of bitumen and appropriate thickness, are also indicated for each mixture type.

TABLE 500-10

COMPOSITION OF DENSE GRADED BITUMINOUS MACADAM PAVEMENT

LAYERS

Grading	1	2
Nominal aggregate size	40 mm	25 mm
Layer Thickness	80-100 mm	50-75 mm
IS Sieve ¹ (mm)	Cumulative % by weight of total aggregate passing	

45	100	-
37.5	95-100	100
26.5	63-93	90-100
19	-	71-95
13.2	55-75	56-80
9.5	-	-
4.75	38-54	38-54
2.36	28-42	28-42
1.18	-	-
0.6	-	-
0.3	7-21	7-21
0.15	-	-
0.075	2-8	2-8
Bitumen content % by mass of total mix	Min 4.0	Min 4.5
Bitumen grade (pen)	65 or 90	65 or 90

- Notes : 1. The combined aggregate grading shall not vary from the low limit on one sieve to the high limit on the adjacent sieve.
2. Determined by the Marshall method.

9.3 **MIXTURE DESIGN:**

9.3.1 **Requirement for the mixture:**

Apart from conformity with the grading and quality requirements for individual ingredients, the mixture shall meet the requirements set out in

TABLE 500-11

REQUIREMENTS FOR DENSE GRADED BITUMINOUS MACADAM

Table 500-11.

Minimum stability (kN at 60°C)	9.0
Minimum flow (mm)	2
Maximum flow (mm)	4
Compaction level (Number of blows)	75 blows on each of the two faces of the specimen
Percent air voids	3-6
Percent voids in mineral aggregate (VMA)	See Table 500-12 below
Percent voids filled with bitumen (VFB)	65-75

The requirements for minimum percent voids in mineral aggregate (VMA) are set out in Table 500-12.

TABLE 500-12

MINIMUM PERCENT VOIDS IN MINERAL AGGREGATE (VMA)

Nominal Maximum Particle 1 Size mm)	Minimum VM Percent Related to Design Air Voids, Percent ²		
	3.0	4.0	5.0
9.5	14.0	15.0	16.0
12.5	13.0	14.0	15.0
19.0	12.0	13.0	14.0
25.0	11.0	12.0	13.0
37.5	10.0	11.0	12.0

- Notes :
1. The nominal maximum particle size is one size larger than the first sieve to retain more than 10 percent.
 2. Interpolate minimum voids in the mineral aggregate (VMA) for design air voids values between those listed.

9.3.2 **Binder content:**

The binder content shall be optimised to achieve the requirements of the mixture set out in Table 500-11 and the traffic volume specified in the Contract. The Marshall method for determining the optimum binder content shall be adopted as described in The Asphalt Institute Manual MS-2, replacing the aggregates retained on the 26.5 mm sieve by the aggregates passing the 26.5 mm sieve and retained on the 22.4 mm sieve, where approved by the Engineer.

Where 40 mm dense bituminous macadam mixture is specified, the modified Marshall method described in MS-2 shall be used. This method requires modified equipment and procedures, particularly the minimum stability values in Table 500-11 shall be multiplied by 2.25 and the minimum flow shall be 3mm.

9.3.3 **Job mix formula :**

The Contractor shall inform the Engineer in writing, at least 20 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 where each is applicable.
 - a) Binder type, and percentage by weight of total mixture
 - b) Coarse aggregate/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 grading.
- v) The results of tests enumerated in Table 500-11 as obtained by the Contractor.
- vi) Where the mixer is a batch mixer, the individual weights of each type of aggregate and binder per batch.
- vii) Test results of physical characteristics of aggregates to be used.
- viii) Mixing temperature and compacting temperature.
- viii) 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.

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

The approval 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 for approval before the placing of the material.

9.3.4

Plant trials - Permissible variation in job mix formula :

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 500-13. These variations are intended to apply to individual specimens taken for quality control tests in accordance with Section 900.

TABLE 500-13

PERMISSIBLE VARIATIONS FROM THE JOB MIX FORMULA

Description	Permissible variations	
	Base/binder course	Wearing course
Aggregate passing 1 9mm sieve or large	+ 8%	+ 7%
Aggregate passing 13.2mm, 9.5mm	+ 7%	+ 6%
Aggregate passing 4.75mm	+ 6%	+ 5%

Aggregate passing 2.36mm, 1.18mm, 0.6mm	+ 5%	+ 4%
Aggregate passing 0.3mm, 0.15mm	+ 4%	+ 3%
Aggregate passing 0.075mm	+ 2%	+ 1.5%
Binder content	+ 0.3%	+ 0.3%
Mixing temperature	+ 10°C	+ 10°C

Once the plant trials have demonstrated the capability of the plant, and the trials are approved, the laying operation may commence. Over the period of the first month of production for laying on the works, the Engineer shall require additional testing of the product to establish the reliability and consistency of the plant.

9.3.5 **Laying Trials :**

Once the plant trials have been successfully completed and approved, the Contractor shall carry out laying trials, to demonstrate that the proposed mix can be successfully laid, and compacted all in accordance with Clause 501. The laying trial shall be carried out on a suitable area which is not to form part of the works, unless specifically approved in writing, by the Engineer. The area of the laying trials shall be a minimum of 100 sqm. of construction similar to that of the project road, and it shall be in all respects, particularly compaction, the same as the project construction, on which the bituminous material is to be laid.

The Contractor shall previously inform the Engineer 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.

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

9.4 **CONSTRUCTION OPERATIONS :**

9.4.1 **Weather and seasonal limitations :**

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 left 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/h at 2m height unless specifically approved by the Engineer.

9.4.2 **Preparation of base:**

The base on which Dense Graded Bituminous Material is to be laid shall be prepared in accordance with Clauses 501 and 902 as appropriate or as directed by the Engineer. 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.

9.4.5 **Prime coat:**

Where the material on which the dense bituminous macadam is to be laid is other than a bitumen bound layer, a prime coat shall be applied, as specified, in accordance with the provisions of Clause 502 of MORT & H specifications, or as directed by the Engineer.

9.4.6 **Mixing and transportation of the mixture:**

The provisions as specified in Clauses 501.3 and 501.4 of MORT & H specifications shall apply.

9.4.7 **Spreading:**

The provisions of Clauses 501.5.3 and 501.5.4 of MORT & H specifications shall apply.

9.4.8 **Rolling:**

The general provisions of Clauses 501.6 and 501.7 of MORT & H specifications shall apply, as modified by the approved laying trials. The compaction process shall be carried out by the same plant and using the same method, as approved in the laying trials, which may be varied only with the express approval of the Engineer in writing.

9.5 **SURFACE FINISH AND QUALITY CONTROL OF WORK:**

The surface finish of the completed construction shall conform to the requirements of Clause 902 of MORT & H Specifications. All materials and workmanship shall comply with the provisions set out in Section 900 of this specifications.

9.6 **MEASUREMENT FOR PAYMENT:**

Dense Bituminous Materials actually laid shall be paid in Metric Tonne.

10.0 **BITUMINOUS/ASPHALTIC CONCRETE**

10.1 This clause specified the construction of Bituminous Concrete for use in wearing and profile corrective course. This work shall consist of construction in a single or multiple layers of bituminous concrete on a previously prepared bituminous bound surface. A single layer shall be 40mm in thickness.

Providing and laying hot pre-mixed dense asphaltic concrete wearing course (bitumen grade:60/70) with approved anti-stripping agent at the rate of 0.50% of bitumen content by weight to the required thickness as directed and rolling with 8-10 tonnes capacity road roller including cleaning the surfaces and laid to required grade and camber etc. complete as directed.

10.2 **MATERIALS:**

10.2.1 **Bitumen:**

The bitumen shall be paving bitumen or suitable penetration grade (30/40)

with approved anti-stripping agent at the rate of 0.50% of bitumen content by weight as per Indian Standard Specifications for "paving bitumen" IS: 73-1962. Bitumen content shall be minimum 5.5% by weight of total mix/ depending on job mix formula & as per clause 507 of MORTH (2001) specification for road & bridges.

10.2.2 Coarse aggregates :

The coarse aggregates shall be generally as specified in Clause 507.2.2 of M.O.R.T. & H. Specifications (Fourth Revision), except that the aggregates shall satisfy the physical requirements of Table 500-17 of M.O.R.T. & H. Specifications (Fourth Revision).

10.2.3 Fine aggregates :

The fine aggregates shall be all as specified in Clause 507.2.3 of M.O.R.T. & H. Specifications (Fourth Revision).

10.2.4 Filler :

Filler shall be generally as specified in Clause 507.2.4 of M.O.R.T. & H. Specifications (Fourth Revision). Where the aggregates fails to meet the requirements of the water sensitivity test in Table 500-17 of M.O.R.T. & H. Specifications (Fourth Revision), then 2 per cent by total weight of aggregate, of hydrated lime shall be added without additional cost.

TABLE 500-17

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATES FOR BITUMINOUS
CONCRETE PAVEMENT LAYERS

Property	Test	Specification
Cleanliness (dust)	1. Grain size analysis	Max 5% passing 0.075mm sieve
Particle shape	2. Flakiness and Elongation Index	Max 30% (Combined)
Strength*	3. Los Angeles Abrasion Value 4. Aggregate Impact Value	Max 30% Max 24%
Polishing	5. Polished Stone Value	Min 55
Property	Test	Specification
Durability	6. Soundness Sodium Sulphate Magnesium Sulphate	Max 1 2% Max 18%
Water Absorption	7. Water absorption	Max 2%
Stripping	Coating and stripping of Bitumen 8. Aggregate Mixtures	Minimum retained Coating 95%
Water Sensitivity**	9. Retained Tensile Strength	Min 80%

- Notes :
- | | |
|-------------------|-------------------|
| 1. IS:2386 Part 1 | 6. IS:2386 Part 5 |
| 2. IS:2386 Part 1 | 7. IS:2386 Part 3 |

(the elongation test to be done only on non-flaky aggregates in the sample)

- | | | | |
|----|-----------------|----|---------------|
| 3. | IS:2386 Part 4* | 8. | AASHTO T283** |
| 4. | IS:2386 Part 4* | 9. | IS:6241 |
| 5. | BS:812 Part 114 | | |

* Aggregates may satisfy requirements of either of these two tests.

** The water sensitivity test is only required if the minimum retained coating in the stripping test is less than 95%

10.2.5

Aggregate grading and binder content :

When tested in accordance with IS:2386 Part-1 (Wet grading method), the combined grading of the coarse and fine aggregates and added filler shall fall within the limits shown in Table 500-18 of M.O.R.T. & H. Specifications (Fourth Revision), for gradings 1 or 2 as specified in the contract.

TABLE 500-18

COMPOSITION OF BITUMINOUS CONCRETE PAVEMENT LAYERS

Grading	1	2
Nominal aggregate size	19 mm	13 mm
Layer Thickness	50-65 mm	30-45 mm
1. IS Sieve (mm)	Cumulative % by weight of total aggregate passing	
45	-	-
37.5	-	-
26.5	100	-
19	79-100	100
13.2	59-79	79-100
9.5	52-72	70-88
4.75	35-55	53-71
2.36	28-44	42-58
1.18	20-34	34-48
0.6	15-27	26-38
0.3	10-20	18-28
0.15	5-13	12-20
0.075	2-8	4-10
2. Bitumen content % by mass of total mix	5.0 - 6.0	5.0 - 7.0
Bitumen grade (pen)	65	65

Notes :

1. The combined aggregate grading shall not vary from the low limit on one sieve to the high limit on the adjacent sieve.
2. Determined by the Marshall method.

10.3 **MIXTURE DESIGN :**

10.3.1 **Requirements for the mixture :**

Apart from conformity with the grading and quality requirements for individual ingredients, the mixture shall meet the requirements set out in Table 500-19 of M.O.R.T. & H. Specifications (Fourth Revision).

The requirements for minimum per cent voids in mineral aggregate (VMA) are set out in Table 500-12 of M.O.R.T. & H. Specifications (Fourth Revision).

TABLE 500-19

REQUIREMENTS FOR BITUMINOUS PAVEMENT LAYERS

Minimum stability (kN at 60°C)	9.0
Minimum flow (mm)	2
Maximum flow (mm)	4
Compaction level (Number of blows)	75 blows on each of the two faces of the specimen
Percent air voids	3-6
Percent voids in mineral aggregate (VMA)	See Table 500-12 of MORT & H.
Percent voids filled with bitumen (VFB)	65-75
Loss of stability on immersion in water at 60°C (ASTM D 1075)	Min. 75 % retained strength.

10.3.2 **Binder content:**

The binder content shall be optimized to achieve the requirements of the mixture set out in Table 500 - 18 of M.O.R.T. & H. Specifications (Fourth Revision) and the traffic volume as specified in the contract. The Marshall method for determining the optimum binder content shall be adopted as described in the Asphalt Institute Manual MS-2, replacing the aggregates retained on the 26.5 mm sieve and retained on the 22.4 mm sieve, where approved by the Engineer.

10.3.3 **Job mix formula:**

The procedure for formulating the job mix formula shall be generally as specified in Clause 507.3.3 of M.O.R.T. & H. Specifications (Fourth Revision) and the results of tests enumerated in Table 500-19 of M.O.R.T. & H. Specifications (Fourth Revision) as obtained by the Contractor.

10.3.4 **Plant trials - permissible variation in job mix formula:**

The requirements for plant trials shall be as specified in Clause 507.3.4 of M.O.R.T. & H. Specifications (Fourth Revision), and permissible limits for variation as shown in Table 500 - 13 of M.O.R.T. & H. Specifications (Fourth Revision).

10.3.5 **Laying trials:**

The requirements for laying trials shall be all as specified in Clause 507.3.5 of M.O.R.T. & H. Specifications (Fourth Revision).

10.4 **CONSTRUCTION OPERATION:**

10.4.1 **Weather and seasonal limitations:**

The provisions of Clause 501.5.1 of M.O.R.T. & H. Specifications (Fourth Revision) shall apply.

10.4.2 **Preparation of base:**

The surface on which the bituminous concrete is to be laid shall be prepared in accordance with Clauses 501 and 902 of M.O.R.T. & H. Specifications (Fourth Revision) as appropriate, or as directed by the Engineer. The surface shall be thoroughly swept clean by mechanical broom and dust removed by compressed air. In locations where a mechanical broom cannot access, other approved methods shall be used as directed by the Engineer.

10.4.5 **Tack coat:**

Where specified in the contract, or otherwise required by the Engineer, a tack coat shall be applied in accordance with the requirements of Clause 503 of M.O.R.T. & H. Specifications (Fourth Revision).

10.4.6 **Mixing and transportation of the mixture:**

The provisions as specified in Clauses 501.3 and 501.4 of M.O.R.T. & H. Specifications (Fourth Revision) shall apply.

10.4.7 **Spreading:**

The general provisions of clauses 501.5.3 and 501.5.4 of M.O.R.T. & H. Specifications (Fourth Revision) shall apply.

10.4.8 **Rolling:**

The general provisions of clauses 501.6 and 501.7 of M.O.R.T. & H. Specifications (Fourth Revision) shall apply, as modified by the approved laying trials.

10.5 **SURFACE FINISH AND QUALITY CONTROL:**

The surface finish of the completed construction shall conform to the requirements of Clause 902 of M.O.R.T. & H. Specifications (Fourth Revision). All materials and workmanship shall comply with the provisions set out in Section 900 of M.O.R.T. & H. Specifications (Fourth Revision).

10.6 **ARRANGEMENTS FOR TRAFFIC:**

During the period of construction, arrangements for traffic shall be made in accordance with the provisions of Clause 112 of M.O.R.T. & H. Specifications (Fourth Revision).

10.7 **MEASUREMENT FOR PAYMENT:**

Bituminous concrete actually laid shall be paid in Metric Tonne.

11.0 Quality Control:

For ensuring the requisite quality of construction, the materials & the works shall be subjected to quality control tests as per relevant IS Codes. The Engineer's representative shall have the full authority to carry out test as frequently as he may

deem necessary to satisfy himself that the materials and works comply with appropriate specifications. Where specific procedure is not indicated for quality control test in these specifications the same shall be carried out as per the prevailing accepted engineering practice to the directions of the Engineer's representative.

SECTION-II: Specifications for allied works

12.0 Excavation:

The excavations shall be in any soil, asphalt, road metal and rubble packing. The Contractor should ascertain the nature of these strata by trial bores or pits at his own expenses before tendering. Useful excavated materials as may be required by the Engineer's representative will be stacked within a lead of 50 m.

The Contractor shall observe fully the safety requirements, as mentioned in IS - 3764 - "Safety Code for excavation work".

The contractor shall provide and work at his own cost all pumps, engines and machinery required to keep the trenches for the drains or foundations, and all other excavations, clear of water, whether subsoil water, storm water, or leakage from tanks, walls drains, sewers or pipes, so that there may be no accumulation of such water and that no setting out may be done, no masonry be laid, no concrete deposited, no joints made and no measurements taken in water. The pumping shall be continued so long after execution of any portion of the work and repeated so often as the Engineer's representative may consider necessary. The pumps and power applied must be such as the Engineer's representative may determine to be sufficient at any particular time, or he may himself supply pumps and power at the Contractor's expense, or he may stop the work together until he is satisfied.

13.0 Rubble:

Rubble stone shall be of the approved quality. The rubble packing shall consist of good hard basalt stone hand packed and properly rammed and consolidated to required thickness. The stones shall be hand set as close as possible and to a uniform depth. The width of the upper part of the stones shall not be more than 200 mm or less than 150 mm unless otherwise directed. The interstices shall be filled with stone chips, removing the projections above the rubble layer with care, so as not to loosen the whole. The rubble packing shall be thoroughly watered and rammed. Where specified it shall be rolled with a road roller of approved capacity as directed. The rubble packing shall be blinded by 50 mm metal before being rolled. Where waterproof paper is to be laid on top of the rubble packing a small quantity of murrum (not to form a layer in itself) should be spread smoothly without any extra cost.

- 14 CEMENT:** Cement to be used for cement concrete works shall be
OPC 33 grade, Confirming to IS:269 OR
OPC 43 grade, Confirming to IS:8112 OR
OPC 53 grade, Confirming to IS:12269.

For Cement brought at site, large stocks of cement shall not be kept but only sufficient quantities to ensure continuity of the work. The contractor shall provide and maintain a proper and efficient storage shed for the cement on the works. The floor of the stores shed shall raised at least 30 cm above the ground in order to protect the bags from dampness. No cement damaged by exposure or otherwise will be allowed to be used on

the works, but shall be removed at once from the site. While removing cement bags for use, apply the "first in, first out," rule i.e. take out the oldest cement first.

Cement shall be tested for each batch or consignment as directed by the Engineer's representative. The method and sampling shall be in accordance with IS: 3535, and testing as per IS:4031. Cement with satisfactory test results shall only be used.

15. **SAND:** Sand to be used on works shall conform to the requirements of the Indian Standard Specification No.383 for "Coarse and Fine Aggregates from natural sources for concrete". Sand shall be of approved quality, clean, sharp and free from injurious amounts of dust, mica, shells, soft particles, shale, alkali, organic matter, silt, loam or other deleterious substances. It shall conform as nearly as possible to the grading shown in Table III of I.S. 383. Sand shall not contain more than 4% of silt and other deleterious matter by weight or 8% by volume. Sand shall be washed or screened, if necessary at no extra cost.

16. **AGGREGATE:** Coarse aggregate to be used on works shall conform to the requirements of Indian Standard Specification No.383 for "Coarse and Fine Aggregates from natural sources for concrete".

Coarse aggregate shall consist of crushed hard rock from approved sources. It shall be clean and free from dirt flat, elongated or laminated flaky pieces and shall be roughly cubical in shape. The total amount of deleterious substances and foreign materials shall not exceed 5% of its weight.

All coarse aggregate shall be stored on the works in such a manner as to prevent the intermixing and intrusion of foreign matter.

If it is considered necessary, the Engineer's representative may order it to be washed and screened at the contractor's expense.

The coarse aggregate shall be classified as under.

Aggregate No.1: The whole of the aggregate to be retained on 4.75 mm mesh screen and to pass through 20 mm mesh screen. Nominal size 12.5 mm.

Aggregate No.2: The whole of the aggregate to be retained on 10 mm mesh screen and to pass through 25 mm mesh screen. Nominal size 20 mm.

17. **Water:**

The water shall be clean, free from oil, acid, alkali, organic or other deleterious substances.

18. **Reinforcement:**

The mild steel to be used in reinforced cement concrete work shall be tested quality and shall comply with the requirements of Indian Standard Specification No.432. High strength deformed bars shall conform to I.S.1786. The contractor shall produce test certificates from the manufacturers of steel. In addition to these certificates, tests shall be carried out at an approved laboratory and should the result of tests made in accordance with the provisions of the Indian Standard Specification show that the steel does not comply with this specification, the Engineer's representative will reject the lot / lots from which the sample or samples were taken and the same shall not be used in the works but shall be removed there from and the work already executed with such bars may be ordered to be demolished.

In addition to the laboratory test as stated above, the sample pieces of reinforcement bars from each lot of the steel brought at site shall be weighed and the weight per

running meter of bar shall be recorded by the Engineer's representative, in the presence of contractor's representative. If the weight of the bar is within tolerance limits as specified in the relevant I.S., the same may be allowed to be used in the work. The payment shall, however, be restricted to the actual weight as recorded above or theoretical weights as per I.S. code whichever is less.

All steel used for reinforcement shall be free from loose scales of rust, which must be removed with stiff wire brush. Steel bars must also be free from oil or paint.

The steel shall be properly braced, supported and otherwise held in position so as to get proper cover and to prevent displacement while concrete is put in. The correct number and sizes of reinforcing bars, stirrups and binders shall be provided and placed in position strictly according to the drawings or as may be ordered by the Engineer's representative, from time to time. This must be looked after with proper care and checked over by a competent Foreman personally and finally before placing the concrete.

19. **Formwork:**

Steel plates for formwork to be used in connection with reinforced cement concrete work shall be strongly and firmly erected. The Form Work must be plane, smooth and free from holes, open joints and other imperfections. They shall be coated with suitable mould oil to prevent the concrete adhering to the surface of the mould. Proper precautions must be taken to see that all the joints in shuttering are water tight and the same should be covered with G. I. Strips, plastic paper etc. to prevent the escape of cement slurry. At exceptional places, wooden Form Work may be permitted by the Engineer's Representative. The timber should be of sufficient thickness and scantlings should be of such good quality as not to warp, deflect, or deform the same.

The formwork shall be properly strutted and braced in and be strong enough so as to be perfectly rigid and unyielding during the operation of filling, ramming and vibrating the concrete with vibrator. The props of the slabs shall be braced laterally.

The dimensions and constructions of the form work, shall be to the entire satisfaction of the Engineer's representative and shall be such as to bring out the completed work to the required dimensions and with perfect smooth finish.

Before filling the forms, care shall be taken to see that the reinforcements are in their proper positions and thoroughly secured from being disturbed during the filling and ramming of the concrete and that the moulds are absolutely free from dried up cement or concrete, pieces of wood rags, projecting nails or other rubbish.

All precautions must be taken to prevent the leakage of cement slurry during vibration and the consequent honeycombing. Any honey combed concrete members may require to be dismantled or repaired at the discretion of the Engineer's representative, at no extra cost to MbPA.

Stripping of Form Work shall be not prior to 3 days for the in situ vertical members and 1 day for precast elements like dhappa, Kerb Stone, Divider Block etc.

20. **Concrete:**

20.1 The concrete shall be composed of water, Portland Cement, or Portland Pozzolana Cement, sand and coarse aggregate.

All sand and coarse aggregate used on the works shall be carefully and accurately measured in suitable gauge boxes and in quantities to the entire satisfaction of the

Engineer's representative and the cement to be added to the aforesaid mix shall be either by one or two full bags, the water being added to the dry mix in a manner in which it can be properly controlled and measured.

The cement shall be measured by weight or by bags. One bag of cement weighing 50 kg. shall be considered equal to 0.034 cu.m. in volume.

20.2` Concrete mixing:

The concrete shall be mixed in an efficient power driven batch mixer. The capacity of the drum shall as far as possible be such that only whole bags of cement are used in each batch. Mixing shall continue for at least 2 minutes after all the materials including water, are placed in the drum and before any part of the batch is discharged. The drum shall be revolved not less than 14 and not more than 18 revolutions per minutes. The drum shall be completely emptied before receiving materials for the succeeding batch. The volume of the mixed material of each batch shall not exceed the mixer manufacturer's rated capacity of the drum. The drum shall be thoroughly washed when mixing operations cease for any period longer than 1 hour. Hand mixing of concrete , if permitted by the Engineer's representative shall be carried out in the following manner.

The specified quantity of sand shall be spread out first making a level heap about 150 mm deep on a watertight platform or trough, at least 2.7 m X 3.7 m in size, with three sides of sufficient depth to prevent the materials being shovelled off during the operation of mixing. On the top of the sand the specified quantity of cement, with an addition of 10% to allow for hand mixing, shall be spread. All the dry sand and cement shall be turned over with square ended shovels at least three times until the mixtures is of uniform colour. Each shovelful should leave the shovels with a spreading action as well as turning. The specified quantity of coarse aggregate shall now be added and the whole mixture turned over again at least three times. The specified quantity of water shall then be added slowly through a rose attached to watering can when the process of turning the mixture over is being carried out. The mixing shall be continued until the whole batch has reached an even consistency and the mortar is spread evenly through the batch. The mixing should not take more than 15 minutes after the addition of water. One whole bag of cement with an addition of 10% shall be used in each batch.

20.3 Placing of concrete:

Mortar or concrete which has partially set before having been placed in situ shall not be taken into used again either by itself or after mixing with additional materials or water.

All concrete must be deposited in the forms within ten minutes after leaving the mixer and the concrete must be worked round the various reinforcements carefully by means of rods and small beaters and trowels, care being always taken to see that no reinforcement is disturbed from its position and no voids are left, the sides of the forms being gently tapped by spades, wooden mallets and trowels to ensure proper filling and a uniform smooth outside surface. Approved power vibrators must be used for consolidating concrete in positions as approved by the Engineer's representative.

Curing:

The concrete exposed surfaces should be kept damp or covered with water for at least two weeks to ensure slow and proper setting.

20.4 Concrete Strength Test:

From each day's concreting a set of 6 concrete cubes shall be taken as per IS : 516 for each grade of concrete. However not more than 2 cubes shall be taken from a single batch. Batches for sampling shall be randomly selected by the Engineer's representative. Of these 6 cubes thus made 3 cubes (each cube representing concrete of different batch) shall be tested at 7 days and the remaining 3 cubes at 28 days. The test strength of sample shall be the average of the strength of 3 cubes.

The compressive strengths shall be as under.

Grade of concrete	Minimum 7 days strength in N/mm ²	28 days strength in N/mm ²
M15 / (1:2:4)	10.0	15
M20 / (1:1.5:3)	13.5	20

The testing shall be carried out in any of the Testing Laboratory as directed by the Engineer's representative. The cost of cubes and transportation of the cubes will have to be borne by the contractor. The testing charges shall be reimbursed to the contractor only if the test results are satisfactory.

The code of practice to be referred to shall be the Indian Standard Code of Practice for plain and reinforced concrete for General Building Construction (Revised) No.I.S.456 and IS 516. In the event of unsatisfactory results of the tests, the contractors shall be required to take such measures as will be directed by the Engineer's representative, free of cost to the PORT AUTHORITY.

21. Cement mortar:

The cement mortar for all masonry work whether it be of brick or stone or for plaster shall be as specified in the Schedule of Quantities & Rates / Drawings. The cement and sand to be used for cement mortar shall be carefully gauged in suitable sized boxes thoroughly mixed in a dry state on a clean wooden/ steel platform and mixed again after addition of the requisite quantity of fresh water. It shall be prepared in such quantity as can readily be used up and mortar which has partially set shall under no circumstances be used by mixing additional materials or water.

22. Brick masonry:

Bricks shall be best locally available common burnt clay building bricks having an average crushing strength of not less than 35 kg. per sq.cm. when tested in accordance with IS 3495 (Part I). The bricks shall be conventional FPS bricks of approved dimensions 230 mm x 115 mm x 75 mm (9" x 4½" X 3") with tolerance of upto (+) or (-) 8% on the nominal metric dimensions. The dimensions of the bricks will be tested in accordance with para 5.2.1 of IS 1077-1976. The bricks shall satisfy the requirements in regard to water absorption and efflorescence in accordance with paras 6.2 and 6.3 of IS 1077.

No broken bricks shall be used except as closers. Cement and sand are to be as specified earlier. Cement mortar for brick masonry work shall be as specified above.

The bricks shall be laid with the frogs facing upward. The vertical joints shall break joint with course below and above but they shall be directly over one another in alternate course to prevent the necessity of brick bats. The joints are not to exceed 10mm in thickness and are to be full of mortar, well finished up and neatly struck. The work shall be kept wet while in progress to the entire satisfaction of the Engineer's representative till the mortar is properly set. On Sundays and other Holidays when the work is stopped the top of all unfinished masonry shall be kept flooded with water and labourers shall be employed for the purpose.

23. **Cement Plaster:**

For plastering, all joints in brick masonry work shall be raked out to a depth of at least 20 mm and all R.C.C. and concrete surfaces shall be thoroughly roughened to the entire satisfaction of the Engineer - in - charge and the area to be plastered shall be washed and wetted thoroughly before plastering is commenced. The cement mortar shall be used within 30 minutes after it leaves the mixing board. Internal plaster shall be finished smooth and external sand face or rough cast as directed. Before work is started, patches of plaster 120 mm X 150 mm must be put, approx. 3 m apart as gauges to ensure an even thickness and the cement plaster must be applied in even squares or strips. Care must be taken to keep the whole surface thoroughly wetted for at least a week. The joints between R.C.C. frame work and masonry walls shall be carefully filled in with cement mortar.

Sand faced plaster shall be carried out in one or two coats as specified. Two coats sand faced plaster shall be applied as follows.

The first coat of cement mortar in proportion of (1:3) shall be applied uniformly all over the surface to be plastered to a thickness of 12 mm with a trowel and flat board and in exact plumb. This coat shall be allowed to rest for not less than half an hour. Indentations shall then be made in the form of waves by a broom over the surface to form a key for the second coat. The first coat shall be cured for at least four days.

The second coat of cement mortar shall be applied in the proportion of (1:3) using clean sand screened through a mesh of not less than 1.5 mm and not more than 3 mm equal size to a uniform thickness by trowel and flat board in exact plumb.

The surface shall be tapped with cork piece or rubber sponge to give a desirable uniform sandy granular appearance.

24 **Structural steel work:**

Steel: The steel to be used for the main structural members shall be completely in accordance with the provisions and conditions of the Indian Standard Specification No.226 for 'Structural Steel (Standard quality). The design, fabrication and erection of the structural steel work shall be in accordance with the Indian Standard Specification No.800 for "code of practice for the use of structural steel in general building construction".

24.1 I.S. Sections: All structural work except where otherwise stated shall be of rolled steels and all sections shall be of Indian Standard Specifications unless shown or unless expressly approved by the Engineer's representative.

24.2 Tests: The contractor shall forward to the Engineer's representative the manufactures test certificate for each consignment of steel received by him. The Engineer's representative reserves the right to carry out further test if he considers it necessary in accordance with the provisions of the Indian Standard Specifications. If such test are to be carried out, instructions to do so will be given by the Engineer's representative before the steel arrives on the works to enable the tests to be carried out before fabrication is commenced.

24.3 Fabrication: Unless otherwise directed by the Engineer's representative, all steel work shall be fabricated, assembled and joined by welding in shops before despatch to site to the maximum extent possible and as may be reasonably transported.

All angles, plates, bars etc. shall be straightened or shaped while cold by means of pressure and not by hammering. The ends of the structural members will generally be neatly sawn or cropped to length and whenever specially directed, shall be chipped or filled or planed. Edges of plates cut by shearing or by flame shall be finished in a workmanlike manner.

25 Painting:

The whole of the steel work with the exception of galvanised work shall be scraped to bare metal and thoroughly cleaned of all scales and rust. Before fabricating, all parts in contact or in accessible after assembly will be painted with one coat of zinc chromate primer. After fabrication, all parts and members which are not to be embedded in concrete shall be given one prime coat of zinc chromate primer in the shop. After erection at site all parts and members which are to be embedded in concrete will be given one coat of cement wash. Other parts which are to remain exposed shall be painted with two coats of approved paint. The whole surface of steel work will be thoroughly painted and open spaces in joints and connections etc. will be applied before the previous one is completely dry. No painting will be done in wet weather unless under cover and properly protected.

26 Drainage works:

General:

- (i) The sewer, storm water drains hereafter called 'Drains' in the subsequent clauses shall be to the alignment and gradient shown on the plans and sections.
- (ii) The pipes before being laid shall be thoroughly cleaned specially the inside of the pipes. Cracked pipe shall altogether be rejected.
- (iii) The socket ends of pipes shall always face upstream of effluent flow.
- (iv) The drains shall run in perfect straight lines between manholes as shown on plans and sections.
- (v) When trenches opened for laying the drains, water pipes or any other work are over 1 M in depth or even less than that in low bearing soil ground or near heavy or important building or Railway sidings, their sides shall be closely and securely supported by suitable timbering.
- (vi) The drains, manholes, water gullies, Inspection Chambers and all joints of pipes must be made thoroughly sound and water tight and any joint which may be proved to be leaky at any time during the progress of the works or the contractor's subsequent period of maintenance shall be immediately made sound by the Contractor at his own cost who shall prove all works to be water tight by filling it with water to such height, as the Engineer's representative may determine. Any additional precautionary measures or appliances that may be found necessary to ensure the water tightness of the water gullies, Inspection Chambers, manholes and the joints of pipes shall be adopted by the contractor without extra charge, the responsibility of making them completely water tight resting upon the contractor.
- (vii) Trenches shall be excavated to the following widths according to the size of drain to be laid and for that width and depth alone will the contractor be paid if the

excavation is to be paid separately.

Width of trenches:

Size of pipe	Upto required depth, width of excavation
150 mm	650 mm
230 mm	750 mm
300 mm	835 mm
450 mm	965 mm

Size of Pipe	Widths of foundation concrete Bedding and rubble packing
150 mm	450 mm
230 mm	610 mm
300 mm	690 mm
450 mm	820 mm

If the contractor excavates wider trench, he will do so at his own expenses.

Excavations for manholes, inspection chambers and water gullies will be taken to the required depth and will be the size of concrete bedding on plan.

- (viii) Where excavations made in excess of the limits delineated on the drawings, either by error or by accident, the voids so formed shall be filled in with lime concrete or rubble masonry or otherwise at the discretion and to the satisfaction of the Engineer's representative and at the expense of the contractor.
- (ix) The contractor shall excavate all such work as Engineer's representative may require in order to locate the position of water pipes, drains, sewer, or any other services met with, in or about any excavation, whatever shall, if the Engineer's representative deem it practicable be properly maintained by the contractor, and by means of shoring, strutting, planking over padding or otherwise as the Engineer's representative may direct. They shall be protected by the contractor from damage during the progress of the work, or if damaged, such damage together with all matters and things resulting from the same, shall be made good and effectually remedied by the contractor as the Engineer's representative may decide and at the expenses of contractor. In the event of the failure on the part of the contractor to carry out to the satisfaction of the Engineer's representative any of the above protective provisions, the Engineer's representative may, with or without notice to the contractor to adopt such measure as he may deem necessary at the expense and risk of the contractor. If, however, the Engineer's representative considers it impractical for the contractor to maintain any such services and that the exigencies of the work necessitate the breaking down, removal or diversion of any such services, then the cost of breaking down or removing any such drains or sewers and of providing such chutes, pumps or other appliances for the raising and temporary passage of the water or sewage and the cost of pumping out or otherwise removing, shall be borne by the contractors. The cost of breaking down and removing any such water pipes or gas pipes and of rebuilding, replacing, diverting or reinstating any such services shall be paid to the contractor as provided by the contract. The Engineer's representative's opinion as

to the amount of the charges shall be final and binding upon the contractor.

- (x) Wherever shoring may be deemed necessary by the Engineer's representative the contractor shall provide the same in the best possible manner with best materials and to the satisfaction of the Engineer's representative. The contractor shall employ such kind or kinds of shoring as the Engineer's representative may consider the exigencies of the work to require and it is to be distinctly understood that the work "shoring" is to comprise all classes of such work and all appliances and appurtenances including polling boards, sheet piling and runners (Whether the joints be butt, groove and tongue, feather edge and groove, bird's mouth and double splay, rebated or otherwise), together with waling, struts, props, raking and other shores; blocks, wedges, iron dogs, bolts, screws, nails and every thing that may be required for due execution of the work. The rates for laying pipes, constructing manholes and constructing water gullies shall be held to include the cost of shoring, and no separate allowance shall be made on account of the necessity of shoring.
- (xi) The contractor shall provide and work at his own cost all pumps, engines and machinery required to keep the trenches for the drains of foundations, and all other excavations clear of water, whether subsoil water, storm water, or leakage from tanks, walls drains, sewers or pipes so that there may be no accumulation of such water and that no setting out may be done, no masonry may be laid, no concrete deposited, no joints made and no measurements taken in water. The pumping shall be continued so long after execution of any portion of the work and repeated so often as the Engineer's representative may consider necessary. The pumps and power applied must be such as the Engineer's representative may determine to be sufficient at any particular time, or he may himself supply pumps and power at the contractor's expense, or he may stop the work altogether until he is satisfied.

27 R.C.C. Drainage pipes:

The RCC pipes shall be conforming to IS: 458.

The R.C.C. pipes shall be carefully laid in position at the required level and their abutting faces shall be coated with hot bitumen in liquid condition by means of a brush. The wedge shaped groove in the end of the pipe shall then be filled with a sufficient quantity of a special bituminous plastic compound or bitumen soaked spun yarn. The collar shall then be slipped over the end of the next pipe butted well against the bituminous plastic ring by suitable appliances approved by the Engineer - in - charge so as to thoroughly compress the plastic compound into the grooves, care being taken that the concentricity of the pipes and the levels are not disturbed during this operation.

The collars shall then be placed symmetrically over the end of the two pipes and the space between the inside of the collar and the outside of the pipe filled with a (1:1) mixture of cement and sand tempered with just sufficient water to have a consistency of the semi dry conditions well packed and thoroughly rammed with caulking tools. The joints shall be finished off with a fillet sloping at 45⁰ to the sides of the pipe. The finished joints shall be protected and cured for at least four days or as directed.

28 Man-holes:

1. These shall be constructed on drains in the form and of the dimensions shown on the drawing or as directed.
2. Wherever a pipe enters or leaves a manhole, bricks on edge must be cut to a proper form and laid around the upper half of the pipe so as to form an arch. All round the pipe there shall be of a joint of cement mortar 12mm thick between it and the bricks. The ends of all pipes shall be properly built in and neatly finished off with cement mortar.
3. Cast iron frames are to be bedded in cement mortar on the brick work with splayed fillet all round and in such position that the top may be 12mm above the original surface of the pavement. The covers are to be placed in position and the whole left neat and dry.

29 In case the specifications for any works under this contract is not covered by the above specifications, the relevant IS code shall be applicable for such works.

SECTION-II: Mode of Measurements

30 Method of Measurements:

30.1 General:

The quantities given in the Schedule of Quantities and Rates are approximate. Payment will be made for the actual quantities of work ordered & executed and as jointly measured by the Engineer's representative & the contractor.

The Quantities shall be net as they are finished and fixed in the works. The rates and prices shall include whatever allowance is considered by the Contractor to be necessary for waste, sinkage working area, construction slopes, batters, etc.

30.2 Excavation:

Rates for excavation shall cover excavation in any strata including old foundations etc. as per items provided in the Bill of Quantities & Rates.

Measurements for the excavation shall be for exact width, length and depth shown or figured on the drawings or as specified.

The rates are to be inclusive of excavation for working spaces, shuttering and shoring, bailing/pumping out water, back filling.

30.3 Rubble packing, Sub-base & Water Bound Macadam etc.:

The measurements shall be for consolidated thickness. No extra payment will be made for sinking/settlement into the earth or layer below.

30.4 Concrete work:

The measurement of Concrete works shall be as per the dimensions of the elements cast at site in cubic meter.

All concrete work shall be measured and paid for the net design and unfinished dimensions. Increase in dimensions caused by the plaster finish will not be taken into account. No deductions shall be made nor any extra paid for chamfers provided. Deductions will not be made for pipes and fittings.

In case of junctions of two or more concrete members only one of the members will be measured full and no claims for overlap of other members shall be allowed.

Rates for all concrete items shall be inclusive of necessary scaffolding, moulding, and form work, designing, mixing and placing of concrete, vibrating, finishing, curing and testing of concrete etc.

30.5 Masonry work:

Brick / stone masonry will be paid for the actual cubic contents in cubic meters. No deductions will be made for pipes and fittings.

30.6 Reinforcement:

Reinforcement bars, Dowel bars, Tie Bars fixed in accordance with the drawings and specifications will be measured as the net calculated weight upto two decimals on the basis of standard weight as per I.S.I. Structural Engineers Hand Book No.1 (Revised) and I.S.1786-1966. (Revised). The rates shall include for cutting and wastage, straightening, short and long lengths, rolling margin, bending, fixing, binding wire etc. However, all spacers bars, saddles, etc. shall be provided as per site instructions and shall be separately measured and paid under reinforcement item only. Laps as shown on drawings or as approved at site shall be measured and paid.

Samples pieces of bars from each lot brought at site shall be weighed and the weight per metre jointly recorded. The payment shall be restricted to the actual recorded weight or theoretical weight as per I.S. whichever is less.

30.7 Cement plaster:

Measurement for plaster shall be the actual area of surface to be provided with plaster.

30.8 Painting:

These shall be paid for the actual area painted.

30.9 Structural steel work:

Weights of steel sections calculated on the basis of standard weights will be considered for payment. Lengths of sections will be taken to the nearest centimetres. No deduction will be made for holes of bolts or rivets. All base plates, gusset plates in their cut shape, holding down bolts, nuts will be considered for payment. No payment will be made for washers.

30.10 Part rates:

The Engineer may sanction part rates for partly executed work under any item of the Schedule of Quantities and Rates as may be deemed proper and fit by him. For this purpose, the Contractor shall submit written application for grant of part rates, furnishing calculations in support of the part rates requested.

30.11 Asphaltic macadam and asphaltic concrete:

These items shall be paid on the basis of weight. The contractor shall be permitted free use of PORT AUTHORITY Weigh Bridge for weighment of asphaltic materials which shall be weighed in the presence of the PORT AUTHORITY representative. In case of non-availability of Mumbai Port Authority weigh bridge the materials shall be weighed at a private weigh Bridge in the vicinity at the cost of the contractor and in the presence of the representative of the Mumbai Port Authority.

30.12 For any other item of work for which mode of measurement is not specified above mode of measurement shall be in accordance with IS 1200.

**Chief Engineer
Mumbai Port Authority**

Letter of Application
(On the Letter Head of the Bidder)

To:
The CHIEF ENGINEER,
Mumbai Port Authority, Shoorji Vallabhdas Marg,
Mumbai 400 001

Sub.: TENDER NO. E.09/2024 - **Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.**

Sir,

1. We hereby request to be qualified with the Mumbai Port Authority as a Tenderer for the subject work under TENDER NO. E. 09/2024

2. We authorize Mumbai Port Authority or its authorized representatives to conduct any investigations to verify the statements, documents and information submitted and to clarify the financial and technical aspects of this application. For this purpose, we hereby authorize (any public official, engineer, bank, depository, manufacturer, distributor. etc.) or any other person or firm to furnish pertinent information deemed necessary and requested by Mumbai Port Authority to verify statements and information provided in this application or regarding our competence and standing.

3. The names and positions of persons, who may be contacted for further information, if required, are as follows:

Name : _____
Designation: _____
Telephone : _____
E-mail id : _____

4. We declare that the statements made and the information provided in the duly completed application are complete, true and correct in every detail. On verification at any time in the future if it is found that information furnished with this application and statements made therein are not true, incomplete or incorrect, we hereby authorize Mumbai Port Authority to reject our application.

5. We agree for unconditional acceptance of all the terms and conditions set out in the bid document and also agree to abide by this bid response within the validity period of the subject tender.

6. I/We understand that Mumbai Port Authority reserves the right to reject any application without assigning any reason thereof.

7. It is hereby confirmed that I/We are entitled to act on behalf of our corporation/company/firm/organization and empowered to sign this document as well as such other documents, which may be required in this connection.

Dated this _____ Day of _____ 2024

(Signature) (In the capacity of)

Duly authorized to sign the Bid Response for and on behalf of:

(Name and Address of Company) Seal/Stamp of bidder

MUMBAI PORT AUTHORITY

TENDER NO. E.09/2024

“Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.”

UNDERTAKING BY THE TENDERER

To,
The Board of Port of Mumbai.

I/We, M/s _____ have gone through the tender document carefully and hereby confirm as under.

The complete tender set i.e. First cover and Second cover for the work of **TENDER NO. E.09/2024: “Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.”** sealed as described in Clause No.3 of ‘Instructions for Preparation and Submission of Tender’ is returned **without** any defacement, addition, alternation or interpolation. All such addition or alteration has been indicated separately in our tender covering letter with all the relevant Annexures and Proformas duly filled in.

I/We have submitted our tender with Earnest Money Deposit as described in the Clause No.1 and 3 of ‘Instructions for Preparation and submission of tender’.

I/We have not indicated anywhere in the first cover i.e. Packet-I, the amount of our price bid of work.

I/We have not made any counter stipulation and conditions and I/We agree that in the event of any such counter conditions my/our tender will be summarily rejected and such offer will not be evaluated and considered at all by you.

I/We hereby declare that, all information furnished by me/us with this tender is true to the best of my/our knowledge, belief and in case, if it is found that, the information furnished is not true or partially true or incorrect, I/We agree that my/our tender shall be summarily rejected without prejudice to the right of the Board of Port of Mumbai to take further action into the matter.

I/We hereby declare that we have not been blacklisted, debarred or banned by Govt. or any other Authority for failure to pay any Govt. Dues or from taking part in the tendering process.

I/We have not made any payment or illegal gratification to any person/ authority connected with the bid process so as to influence the bid process and have not committed any offence under the PC Act in connection with the bid.

Witness's	:		Tenderer's	:	
Signature	:	_____	Signature	:	_____
Name	:	_____	Name	:	_____
Designation	:	_____	Designation	:	_____
Address	:	_____	Address	:	_____
	:	_____		:	_____
	:	_____		:	_____
Tel. No.	:	_____	Tel. No.	:	_____
Date	:	_____	Date	:	_____

MUMBAI PORT AUTHORITY
Civil Engineering Department

TENDER NO. E.09/2024

“Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.”

Tenderer’s Particulars

(Ref: Clause Nos.1.2 & 1.4 of the Tender Notice)

1. Name of the Tenderer :
2. Registered Office Address :
3. Telephone Nos. :
4. Fax Nos. :
5. Signatory to the Tender :
(on whose name Power of Attorney
has been issued)
Name :
Position held in the firm :
Mobile No. :
6. Permanent Income Tax Account No. :
(PAN) of the firm
7. GST Registration No. GST :
8. Average Annual Financial Turn-over :
of the Tenderer during last three
years ending 31st March 2023
(Details to be furnished as per
Proforma 1)

9. Experience of similar works executed by the tenderer (Ref. clause No. 2 of Tender Notice).

Name of Three similar works completed during last seven years ending 31.01.2024		Name of Two similar works completed during last seven years ending 31.01.2024		Name of One similar work completed during last seven years ending 31.01.2024
1)	O R	1)	O R	1)
2)		2)		
3)				

Note : "Similar works" shall means construction of cement concrete or asphaltic roads/yards.

Notes : Complete details of the above works to be furnished as per **Proforma-2**.

Signature of Tenderer : _____

Name of the Signatory : _____

Capacity in which the bid is Signed

(Proprietor / Partner / Director / Power of Attorney Holder /

Other _____ (Specify)

Date : _____

Seal of the Tenderer

MUMBAI PORT AUTHORITY
Civil Engineering Department

TENDER NO. E.09/2024

“Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.”

ANNUAL FINANCIAL TURNOVER OF THE TENDERER

During Last Three Years Ending on 31-03-2023

(Ref : Clause No. 2 of the Tender Notice)

Financial Year	Financial Turnover Rs. in Lakhs
2020 – 2021	
2021 – 2022	
2022 – 2023	
Average Annual Turnover	

Note : Seal and Signature of Chartered Accountant is must.

**NAME, SIGNATURE & SEAL OF
CHARTERED ACCOUNTANT alongwith
Unique Document Identification Number
(UDIN)**

**NAME, SIGNATURE
& SEAL OF TENDERER :**

DATE :

DATE :

MUMBAI PORT AUTHORITY
Civil Engineering Department

TENDER NO. E.09/2024

“Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.”

Experience of ‘Similar Works’ executed by the Tenderer

(Ref: Clause No.2 of ‘Tender Notice’)

1. Name of work :
2. Name & Address of the Employer :
3. Name of Contact Person of Employer :
4. Telephone Nos. :
5. Location of work site :
6. Scope of works carried out :
7. Contract Value :
8. Actual Value of work executed by Tenderer
9. Actual Completion Date of such Similar works:

Note :- Tenderers shall fill the above proforma separately for each work. The tenderer has to enclose the employer's certificates to confirm satisfactory performance.

**Signature, Name & Seal of
Tenderer**

Date :

**INTEGRITY PACT
BETWEEN
MUMBAI PORT Authority (MbPA) hereinafter referred to as "The Principal"
AND
.....hereinafter referred to as "The Bidder/Contractor"**

Preamble

The Principal intends to award, under laid down organizational procedures, contract/s for Tender No. **E.09/2024: Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.**

The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources, and of fairness / transparency in its relations with its Bidder(s) and /or Contractor(s).

In order to achieve these goals, the principal will appoint an Independent External Monitor (IEM), who will monitor the tender process and the execution of the contract for compliance with the principal mentioned above.

Section 1 - Commitments of the Principal.

- (1)** The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
 - (a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) The Principal will, during the tender process, treat all BIDDERS with equity and reason. The principal will in particular, before and during the tender process, provide to all bidder(s) the same information and will not provide to any bidder(s) confidential/ additional information through which the bidder(s) could obtain an advantage in the relation to the process or the contract execution.
 - (c) The Principal will exclude from the process all known prejudiced persons.
- (2)** If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s) / Contractor(s)

- (1)** The Bidder (s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- a. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit, which he/she is not legally entitled to, in order to obtain in exchange any advantage or during the execution of the contract.
 - b. The Bidder(s) /Contractor(s) will not enter with other Bidders in to any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids, or any other actions to restrict competitiveness, or to introduce cartelization in the bidding process.
 - c. The Bidder(s)/Contractor(s) will not commit any offence, under the relevant IPC/PC Act; further the Bidder(s)/Contractor(s) will not use improperly, for purposes of competition, or personal gain, or pass on to others, any information or document provided by the Principal, as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d. The bidder(s)/contractor(s) of foreign origin shall disclose the name and address of the agents / representatives in India if any. Similarly, the bidder(s)/contractor(s) of Indian Nationality shall furnish the name and address of the foreign principle if any. Further details as mentioned in the "Guidelines on Indian agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/ Contractor(s). Further, as mentioned in the guidelines all the payments made to the Indian agents/ representative have to be in Indian rupees only. Copy of the "Guidelines on Indian agents of Foreign Suppliers "as Annexed and marked as Annex- "A".
 - e. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries, in connection with the award of the contract.
- (2)** The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section-3 Disqualification from Tender process and exclusion from future contracts.

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression, through a violation of Section-2, above or in any other form, such as to put his reliability or credibility in question, the principal is entitled to disqualify the Bidder(s)/ contractor(s), from the tender process, or take action as per the procedure mentioned in the "Guidelines on Banning of Business dealings". Copy of the "Guidelines on Banning of Business dealings" is annexed and marked as Annexure "B".

Section-4 Compensation for damages.

1. If the Principal has disqualified the Bidder(s), from the tender process prior to the award, according to Section-3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.
2. If the Principal has terminated the contract according to Section-3, or if the Principal is entitled to terminate the contract according to Section-3, the Principal shall be entitled to demand and recover from the Contractor, liquidated damages of the contract value, or the amount equivalent to Performance Bank Guarantee.

Section-5 Previous transgression

1. The Bidder declares that, no previous transgressions occurred in the last 3 years, with any other company, in any country, confirming to the anti-corruption approach or with any other Public Sector Enterprise in India, that could justify his exclusion from the tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process for action can be taken as per the procedure mentioned in "Guidelines on Banning of Business dealings".

Section-6 Equal treatment of all Bidders/Contractors/Subcontractors

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors, a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
2. The Principal will enter into agreements with identical conditions as this one with all Bidders, Contractors and Subcontractors.
3. The Principal will disqualify from the tender process all Bidders, who do not sign this pact or violates its provisions.

Section-7 Criminal charges against violation Bidder(s)/Contractor(s)/Sub-contractor(s)

If the principal obtains knowledge of conduct of a Bidder/Contractor or Subcontractor, or of an employee, or a representative, or an associate of a Bidder, Contractor, or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion, in this regard, the Principal will inform the same to the Chief Vigilance officer.

Section-8 Independent External Monitor/ Monitors

1. The principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor, is to review independently and objectively, whether and to what extent, the parties comply with the obligations under this agreement.

2. The Monitor is not subject to instructions, by the representative of the parties and performs his functions neutrally and independently. He reports to the Chairman, MbPA.
3. The Bidder(s)/Contractor(s) accepts that, the monitor has the right to access, without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access, to the project documentation. The same is applicable to Subcontractors. The monitor is under contractual obligation, to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractor(s) with confidentiality.
4. The Principal will provide to the Monitor, sufficient information about all meetings, among the parties related to the Project, provided such meetings could have an impact, on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
5. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the management to discontinue, or take corrective action, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties, that they act in a specific manner, refrain from action or tolerate action.
6. The Monitor will submit a written report, to the Chairman, MbPA within 8 to 10 weeks, from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
7. Monitor shall entitle to compensation on the same terms as being extended to / provided to Independent Directors on the MBPA Board.
8. If the Monitor has reported to Chairman, MbPA, a substantiate suspension of an offence, under relevant IPC/PC Act, and the Chairman, MbPA has not, within reasonable time, taken visible action to proceed against such offence, or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
9. The word 'Monitor' would include both singular and Plural.

Section-9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the contractor 10 months after the last payment under the contract, and for all other bidders & three months the contract has been awarded.

If any claim is made/lodged during this time, the same shall be binding and continue to be valid, despite the lapse of this Pact, as specified above, unless it is discharged/determined by Chairman, MbPA.

Section-10 Other Provisions

- This agreement is subject to Indian Law, Place of performance and jurisdiction is the Registered Office of the Principal, i.e. Mumbai, Maharashtra.
- Changes and supplements as well as termination notices, need to be made in writing. Side agreements have not been made.
- If the Contractor is a partnership or a consortium, this agreement must be, signed by all partners or consortium members.
- Should one or several provisions of this agreement, turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement, to their original intentions.

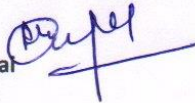

CHIEF ENGINEER

MUMBAI PORT AUTHORITY

(For & on behalf of the Principal)

Place: Mumbai

Date:



Witness-1: (for Principal)

.....
Dy.Chief Engineer,
Mumbai Port Authority

.....
.....
(For & On behalf of Bidder/ Contractor)

Office seal

Place: Mumbai

Date:

Witness-2:(for Bidder/ Contractor)

Name and Address

Annexure A of Integrity Pact

GUIDELINES FOR INDIAN AGENTS OF FOREIGN SUPPLIERS

- 1.0 Valid Authorized Dealership Certificate from the Foreign Principal/O.E.M. should be submitted by the Indian Agent/Dealer and such firm's name shall be added to the Approved List of O.E.M. and Authorized Dealers.
- 2.0 Registered address of the foreign principal and their Indian Agent should appear in the Authorized Dealership Certificate.
 - i) The tenderer shall submit an undertaking along with their tender offer that they have not made any payment or illegal gratification to any person/authority connected with the tender process so as to influence the tender process and have not committed any offense under the Prevention of Corruption Act in connection with the tender.
 - ii) The tenderer shall disclose any payments made or proposed to be made to any intermediaries (agents etc.) in connection with the tender.
- 2.1 MbPA standard payment terms are as per mutually agreed INCO terms.
Agency Commission: MbPA does not agree to pay any agency commission either in Indian or in Foreign Currency.
- 2.2 Failure to furnish correct and detailed information as called for in paragraph 2.0 above may render the concerned tenderer's offer liable for rejection OR in the event of a contract materializing, the same may be liable for termination by MbPA. Besides, a penalty of payment of a named sum OR banning business dealings with MbPA may be levied.

GUIDELINES ON BANNING OF BUSINESS DEALINGS CONTENTS

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12.	Circulation of the names of agencies with whom business dealings have been banned.

1. Introduction

- 1.1 The Board of Port of Mumbai (The Board / MbPA) is an authority within the meaning of article 12 of Constitution of India. MbPA has also to safeguard its commercial interests, MbPA deals with agencies, who have a very high degree of integrity, commitments and sincerity towards the work undertaken. It is not in the interest of MbPA to deal with Agencies who commit deception, fraud or other misconduct in the execution of contracts awarded / orders issued to them. In order to ensure compliance with the constitutional mandate, it is incumbent on MbPA to observe principles of natural justice before banning the business dealings with any Agency.
- 1.2 Since banning of business dealings involves civil consequences for an Agency concerned, it is incumbent that adequate opportunity of hearing is provided and the explanation, if tendered, is considered before passing any order in this regard keeping in view the facts and circumstances of the case.

2. Scope

- 2.1 The General Condition of Contract (GCC) of MbPA generally provide that MbPA reserves the rights to remove from list of approved suppliers/ contractors or to ban business dealings if any Agency has been found to have committed misconduct and also to suspend business dealings pending investigation.
- 2.2 Similarly, in case of sale of material there is a clause to deal with the Agencies / customers / buyers who indulge in lifting of material in unauthorized manner.

- 2.3 However, absence of such a clause does not in any way restrict the right of MbPA to take action / decision under these guidelines in appropriate cases.
- 2.4 The procedure of (i) Removal of Agency from the List of approved suppliers / contractors (ii) Suspension and (iii) Banning of Business Dealing with Agencies has been laid down in these guidelines.
- 2.5 These guidelines apply to all departments of MbPA.
- 2.6 It is clarified that these guidelines do not deal with the decision of the Management not to entertain any particular Agency due to its prior / inadequate performances or for any other reason.
- 2.7 The banning shall be with prospective effect, i.e. future business dealings.

3. Definitions

In these Guidelines, unless the context otherwise requires

- (i) Party/ Contractor/ Supplier/ Purchaser/ Customer shall mean and include a public limited company or a private limited company, a firm whether registered or not, an individual, a co-operative society or an association or a group of persons engaged in any commerce, trade, industry etc. Party/ Contractor / Supplier/ Purchaser / Customer in the context of those guidelines is indicated as 'Agency'
- (ii) 'Inter-connected Agency' shall mean two or more companies having any of the following features:
- (a) If one is a subsidiary of the other.
 - (b) If the Director(s), Partner(s), Manager(s) or Representative(s) are common.
 - (c) If management is common.
 - (d) If one owns or controls the other in any manner.
- (iii) 'Competent Authority' and 'Appellate Authority' shall mean the following:
- a) For MbPA Banning
The Head of the Department shall be "Competent Authority" for the purpose of these guidelines. Chairman, MbPA shall be 'Appellate Authority' in respect of such cases except banning of business dealings with Foreign Suppliers of imported material.
 - b) For banning of business dealings with Foreign Suppliers of imported material, MbPA's HOD Committee (MHC) shall be the 'Competent Authority'. The Appeal against the Order passed by MHC shall lie with Chairman as First Appellate Authority.
 - c) In case the foreign supplier is not satisfied by the decision of the First Appellate Authority, it may approach Chairman as Second Appellate Authority.
 - d) MbPA Board shall have overall power to take *suo-moto* action on any information available or received by him and pass such order(s) as he may think appropriate, including modifying the order(s) passed by any authority under these guidelines.
- iv) 'Investigating Department' shall mean any Department Investigating into the conduct of the Agency and shall include the Vigilance Department, Central Bureau of Investigation, the State

Police or any other department set up by the Central or State Government having powers to investigate.

- v) List of approved Agencies – Parties / Contractors / Suppliers/ Purchasers/ Customers shall mean and include list of approved registered Agencies – Parties/ Contractors / Suppliers / Purchasers / Customers etc.

4. Initiation of Banning / Suspension

Action for banning/ suspension business dealing with any Agency should be initiated by the department having business dealing with them after noticing the irregularities or misconduct on their part. Besides any department, Vigilance Department may also be competent to initiate such action.

5. Suspension of Business Dealings

- 5.1 If the conduct of any Agency dealing with MbPA is under investigation by any department (except Foreign Supplier of imported material), the Competent Authority may consider whether the allegations under investigation are of a serious nature and whether pending investigation, it would be advisable to continue business dealings with the Agency. If the Competent Authority, after consideration of the matter including the recommendation of the Investigating Department, if any, decides that it would not be in the interest to continue business dealings pending investigation, it may suspend business dealings with the Agency. The order to this effect may indicate a brief of the charges under investigation. It is decided that inter-connected Agencies would also come within the ambit of the order of suspension, the some should be specifically stated in the order. The order of suspension would operate for a period not more than Five Months and may be communicated to the Agency as also to the Investigating Department. The Investigating Department may ensure that their investigation is completed and whole process of final order is over within such period.
- 5.2. The order of suspension shall be communicated to all Departmental Heads. During the period of suspension, no business dealing may be held with the Agency.
- 5.3 As far as possible, the existing contract(s) with the Agency may continue unless the Competent Authority, having regards to the circumstances of the case, decided otherwise.
- 5.4 If the gravity of the misconduct under investigation is very serious and it would not be in the interest of MbPA, as a whole, to deal with such an Agency pending investigation, the competent Authority may send his

recommendations to Chief Vigilance Officer (CVO), MbPA Head of Department (HOD) along with the material available. If HOD considers that depending upon the gravity of the misconduct, it would not be desirable to have any dealings with the Agency concerned an order suspending business dealing may be issued by the Competent Authority, copy of which may be endorsed to the Agency concerned. Such an order would operate for a period of Five Months from the date of issue.
- 5.5 For suspension of business dealing with foreign suppliers of imported material, following shall the procedure.

- i) Suspension of the foreign suppliers shall apply throughout MbPA .
- ii) Based on the complaint forwarded or received directly by Vigilance Department, if Gravity of the misconduct under investigation is found serious and it is felt that it would not be in the interest of MbPA to continue to deal with such Agency pending investigations. Vigilance Dept. may send such recommendation on the matter to HOD to place before MHC consisting of the following:
 - 1. Head of Finance Department.
 - 2. Head of Executing Department.
 - 3. Head of User Department.
 - 4. Head of Legal Department.

The Committee shall expeditiously examine the report, give its comments/recommendations within twenty-one days of receipt of the reference by HOD.

- iii) If MHC opines that it is a fit case for suspension, MHC may pass necessary orders which shall be communicated to the foreign supplier by HOD.
- 5.6 If the Agency concerned asks for detailed reasons of suspension, the Agency may be informed that its conduct is under investigation. It is not necessary to enter into correspondence / argument with the Agency at this Stage.
- 5.7 It is not necessary to give any show cause notice or personal hearing to the Agency before issuing the order of suspension. However, if investigations are not complete in Five Months' time, the Competent Authority may extend the period of suspension by another three months, during which period the investigation must be completed.

6 Ground on which Banning of Business Dealing can be initiated

- 6.1 If the security consideration including questions of loyalty of the Agency to the State, so warrants.
- 6.2 If the Director / Owner of the Agency, Proprietor or partner of the firm is convicted by a Court of Law for offences involving moral turpitude in relation to its business dealing with the Government or any other public sector enterprises or MbPA, during the last five years.
- 6.3 If there is strong justification for believing that the Directors Proprietors, Partners, owner of the Agency have been guilty of malpractices such bribery, corruption, fraud, substitution of tenders, interpolations, etc.
- 6.4 If the Agency continuously refuses to return/ refund/ the dues of MbPA without showing adequate reason and this is not due to any reasonable dispute which attract proceeding in arbitration of Court of Law.
- 6.5 If the Agency employs a public servant dismissed / removed or employs person convicted for an offence involving corruption or abetment of such offences.
- 6.6 If business dealing with the Agency have been banned by the Govt. or any other public sector enterprises.

- 6.7 If the Agency has resorted to Corrupt, fraudulent practices including misrepresentation of facts.
- 6.8 If the Agency uses intimidation / threatening or brings under outside pressure on MbPA or its Official in acceptance/ performances of the job under the contract.
- 6.9 If the Agency indulgence in repeated and / or deliberate use of delay tactics in complying with contractual stipulations.
- 6.10 willful indulgence by the Agency in Supplying sub-standard material irrespective of whether pre-dispatch inspection was carried out by MbPA or not.
- 6.11 Based on the findings of the investigation report of CBI/Police against the Agency for malafide/unlawful acts or improper conduct on his part in matters relating to MbPA or even otherwise;
- 6.12 Establishment litigant nature of the Agency to derive under benefit.
- 6.13 Continued poor performance of the Agency in several contracts.
- 6.14 It the Agency missuses the premises of facilities of MbPA forcefully occupies tampers or damages the properties including land, water resources forests/ trees, etc.

(Note: The examples given above are only illustrative and not exhaustive.
The Competent Authority may decide to ban business dealing for any good and sufficient reason).

7. **Banning of Business Dealings.**

- 7.1 Normally, a decision to ban business dealings with any Agency should apply throughout the MbPA. However, the Competent Authority can impose such ban if in the particular case banning of business dealings will serve the purpose and achieve its objective and banning throughout the MbPA is not required in view of the local conditions and impact of the misconduct/ default. Any ban imposed shall be applicable across the MbPA.
- 7.2 For banning, the proposal should be sent by Head of Executing Department to the CVO setting out the facts of the case and the justification of the action proposed along with all the relevant papers and documents except for banning of business dealings with Foreign suppliers of imported material.
The Vigilance Department shall process the proposal for a prima-facie view in the matter by the Competent Authority nominated for MbPA-wide banning.
The CVO shall get feedback about that agency from the HOD, based on this feedback, a prima-facie, decision for banning/ or otherwise shall be taken by the Competent Authority.
If the prima-facie decision for banning has been taken, the Vigilance Department shall issue a show-cause notice to the agency conveying why it should not be banned throughout MbPA. After considering the reply of the Agency and other circumstances and facts of the case, a final decision for banning shall be taken by the Competent Authority.
- 7.3 There will be a Standing Committee to be appointed by HOD for processing the cases of Banning of Business Dealings except for banning of business dealings with foreign suppliers. However, for procurement of items/ award of contracts, to meet the requirement of Department, the

committee shall be consisting of HOD from Executing, Finance, Law & User Department. Member from Executing Department shall be the convener of the Committee. The functions of the Committee shall, inter-alia include.

- i) To study the report of the investigating Agency and decide if a prima-facie case for MbPA-wide / Local unit, wise banning exists, if not, send back the case to the Competent Authority.
- ii) To recommend for issue of show cause notice to the Agency by the concerned department.
- iii) To examine the reply to show cause notice and call the Agency for personal hearing if required.
- iv) To submit final recommendation to the Competent Authority for banning or otherwise.

7.4 If the Competent Authority is prime-facie of view that action for banning business dealings with the Agency is called for, a show cause notice may be issued to the Agency as per paragraph 9.1 and an enquiry held accordingly.

7.5 Procedure for Banning of Business Dealings with Foreign supplier of imported material.

- i) Banning of the agencies shall apply throughout the MbPA including subsidiaries.
- ii) Based on the complaint forwarded by HOD or received directly by Vigilance Department, an investigation shall be carried out by Vigilance Department. After investigation depending upon the gravity of the misconduct Vigilance Department may send their report to HOD to be placed before MHC consisting of the following: -

- (i) Head of Finance Department.
- (ii) Head of Executing Department.
- (iii) Head of User Department.
- (iv) Head of Legal Department.

The committee shall examine the report and give its comments/ recommendations within 21 days of receipt of the reference by HOD.

- iii) If MHC opinion that it is a fit case for initiating banning action, it will direct HOD to issue show-cause notice to the agency for replying within a reasonable period.
- iv) On receipt of the reply or on expiry of the stipulated period, the case shall be submitted by HOD to MHC for consideration & decision.
- v) The decision of the MHC shall be communicated to the agency by HOD.

8. Removal from List of Approved Agencies- Suppliers/ Contractors, etc.

8.1 If the Competent Authority decides that the charge against the Agency is of a minor nature, it may issue a show-cause notice as to why the name of the Agency should not be removed from the list of approved Agencies- Suppliers/ Contractors, etc.

8.2 The effect of such an order would be that the Agency would not be disqualified from competing in Open Tender Enquiries but Limited Tender Enquiry may not be given to the Agency concerned.

8.3 Past performance of the Agency may be taken into account while processing for approval of the Competent Authority for awarding the contract.

9. Show-cause Notice

- 9.1 In case where the Competent Authority decides that action against an Agency is called for, a show-cause, notice has to be issued to the Agency, Statement containing the imputation of misconduct or misbehavior may be appended to the show-cause notice and the Agency should be asked to submit within 15 days a written statement in its defense.
- 9.2 If the Agency requested for inspection of any relevant document in possession of MbPA, necessary facility for inspection of documents may be provided.
- 9.3 The Competent Authority may consider and pass an appropriate speaking order.
 - a) For exonerating the Agency if the charges are not established.
 - b) For removing the Agency from the list of approved Suppliers/Contractors, etc.
 - c) For banning the business dealings with the Agency.
- 9.4 It is to ban business dealing, the period for which the ban would be operative may be mentioned. The order may also mention that the ban would extend to file interconnected Agencies of the Agency.

10. Appeal against the Decision of the Competent Authority

- 10.1 The Agency may file an appeal against the order of the Competent Authority banning business dealings, etc. The appeal shall lie to Appellate Authority. Such an appeal shall lie preferred within one month from the date of receipt of the order banning business dealing etc.
- 10.2 Appellate Authority would consider the appeal and pass appropriate order which shall be communicated to the Agency as well as the Competent Authority.

11. Review of the Decision by the Competent Authority

Any petition/ application filed by the Agency concerning the review of the banning order passed originally by HOD under the existing guidelines either before or after filing of appeal before the Appellate Authority or after disposal of appeal by the Appellate Authority, the review petition can be decided by the HOD upon disclosure of new facts/ circumstances or subsequent development necessitating such review. The Competent Authority may refer the same petition to the Standing Committee for examination and recommendation.

12. Circulation of the names of Agencies with whom Business dealings have been banned.

- 12.1 Depending upon gravity of misconduct established, the Competent Authority of the corporate office, may circulate the names of Agency with whom business dealings have been banned, to the Government Departments, other Public Sector Enterprises, etc. for such action as they deem appropriate.
- 12.2 If Government Departments or a Public Sector Enterprise request for more information about the Agency with whom business dealings have been banned, a copy of the report of Inquiring

Authority together with the copy of the order of the Competent Authority/ Appellate Authority may be supplied.

- 12.3 If Business dealings with any Agency have been banned by the Central of State Government of any other Public Sector Enterprises, MbPA may without any further enquiry or investigation issue an order banning dealing with the Agencies and its inter connected Agencies.

ELECTRONIC CLEARING SERVICE MANDATE FORM

To:

From:

(Firm's Name & Address)

(Name of Department)

Mumbai Port Authority

Sub: Payment through NEFT/RTGS/ECS system

Ref: Tender No. _____

Kindly arrange the payment of our bills/EMD through NEFT/RTGS/ECS system.

The details of our bankers are as under:

1. MBPA Registration No./Tender No./ Party's Bill No. or any other reference in terms of which payment is due : _____
2. Bank's Name : _____
3. Bank's Address & Telephone Number : _____
4. 9 digit MICR Code No. of the Bank Branch : _____
5. IFSC Code : _____
6. Type of Account (Saving/Current/Cash Credit) : _____
7. Ledger Folio No. : _____
8. Account No. alongwith proof (photocopy of blank cheque) : _____
9. Permanent Account Number : _____
10. Mobile Number : _____
11. Landline No. : _____

I/We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all due to reasons of incomplete or incorrect information, I/We would not hold the Mumbai Port Authority responsible.

Date :

AUTHORISED SIGNATORY
COMPANY SEAL AND STAMP

Certified that the particulars furnished above are correct as per our records.

Bank's Stamp

Date :

Signature of the Authorised
Official of the Bank

UNDERTAKING

by the tenderer for DEP
(on Bidder's letter head)

To,

The Chief Engineer

Sub: T.No. E. 09/2024- Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

I/We undertake that we are fully responsible for ensuring good conduct of our employees inside the port premises. We agree that in the event of misuse of Dock Entry Permit in whatsoever manner, Mumbai Port Authority administration is liable to take action as deemed fit including cancellation of our contract/registration summarily. We also confirm that we shall continue to possess all relevant documents related to our firm/ company.

I/We further undertake that in case of any violation, our Tender & registration will be liable for cancellation and we will be held responsible for the cost to the Port Authority and consequences.

We further confirm that we have read & understood the blacklisting policy of Traffic Department displayed on the Port's site & we agree to abide by the same while execution of the subject contract.

Name and signature of Authorized Signatory of Bidder

NON - DISCLOSURE AGREEMENT

THIS NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT ("Agreement") made at Mumbai the _____, day of _____, 2024

By and between:

The Board of Mumbai Port Authority, having its Office at Port House/Vijaydeep, Shoorji Vallabhdas Marg, Ballard Estate, Mumbai - 400001(hereinafter referred to as "PRINCIPAL") which expression shall unless repugnant to the context or meaning hereof, be deemed to include its successors and assigns of the First Part;

And

_____ (hereinafter referred to as "**Bidder/Contractor**") which term shall include its successors and assigns) of the Second Part.

(**PRINCIPAL and Bidder/Contractor** are individually referred to as a "Party" and collectively as "Parties")

WHEREAS:

1. **PRINCIPAL** is engaged in execution of Contract of Civil Engineering and related works of Mumbai Port Authority.
2. **BIDDER/CONTRACTOR** is engaged in implementation of Civil/ Labor intensive/ Housekeeping works at MbPA.
3. **PRINCIPAL** is desirous of execution of Civil/Labor intensive/Housekeeping works at MbPA from BIDDER/CONTRACTOR. In course of discussion, implementation and providing the Services, Parties will have access to the confidential and / or proprietary data / information of each other. In consideration thereof parties undertake to respect the confidentiality of this confidential information under the terms and conditions set out hereunder.
4. The party disclosing the confidential information is hereinafter referred to as the "Furnishing Party" and the party receiving the confidential information is hereinafter referred to as "**Recipient/Receiving Party**".

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED BY & BETWEEN THE PARTIES HERETO AS FOLLOWS:

1. The proprietary and confidential information to be accessed by and received by the parties shall be subject to the terms and conditions set out herein below:

Any and all oral, written, electronic, graphic or machine – readable information including, but not limited to, that which relates to patents, patent applications, research, product plans, products, developments, inventions, processes, designs, drawings, engineering, formulae, markets, software (including source and object code), hardware configuration, computer programs, algorithms, business plans, agreements with third parties, services, customers,

business, financial, and operational and any other information or data, or a combination of any of them accessed by or supplied to the "Receiving Party" by, or at the direction of the "Furnishing Party" including any copies, excerpts, notes, memoranda, summaries, analysis or compilations or a combination of two or more of these generated by the Receiving Party (collectively, the "Information"), will be treated as confidential as provided in this Agreement.

2. For purposes hereof, "Information" shall not include:

(a) Information in the public domain at the time that it was provided by the Furnishing Party or which subsequently came into the public domain other than as a result of breach of this Agreement;

(b) Information obtained from a third party who is authorized to do so;

(c) Information independently developed by the Receiving Party without reference to the Information; or

(d) Information in the possession of the Receiving Party prior to its disclosure by the Furnishing Party to the Receiving Party.

3. All Information:

(a) Shall remain the property of the Furnishing Party;

(b) shall be treated as confidential by the Receiving Party, and the Receiving Party shall take such action as shall be necessary or desirable to preserve and protect the confidentiality of the Information and in any event using means not less than those used to protect its own confidential information;

(c) Shall be used solely for purposes as provided in this Agreement, and for no other purpose; and

(d) shall not be disclosed to any third party other than the Receiving Party and such of its officers, directors, employees, financial advisors, accountants or attorneys necessary on a "need to know" basis (each an "Authorized Person") without the Furnishing Party's prior written consent, and provided that each such employees/personnel/consultants has agreed to maintain the confidentiality of the Information in accordance with the terms hereof;

Provided however, that prior to disclosing the Information, the Receiving Party shall require each person who receives the Information to be cognizant of and to comply with the terms and conditions of this Agreement.

4. In the event that the Receiving Party or any of its Authorized Persons becomes legally compelled (including, without limitation, by law, rule, regulation or governmental regulatory or administrative or similar agency as part of a judicial or administrative proceeding including, without limitation, by deposition, interrogatory, request for information or documents, subpoena, civil or criminal investigative demand or otherwise) to disclose any of the Information, the Receiving Party shall provide the Furnishing Party with immediate written notice of such requirement so that the Furnishing Party may seek a protective order or other appropriate remedy or waive compliance with this paragraph. If Furnishing Party fails to obtain injunction or protective order and the Receiving Party provides information due to statute, regulation, Court directive or order of a statutory authority, Receiving Party shall not be held liable to the Furnishing Party for any loss or damage or otherwise.

5. The Receiving Party will only disclose the Information to the personnel / consultants of the Receiving party who have a need to know the Information for their work in connection with the Transaction, provided that each such employees/personnel/consultants has agreed to maintain the confidentiality of the Information in accordance with the terms hereof.

6. The Receiving Party recognizes that a breach of this Agreement may cause irreparable harm to the Furnishing Party and that actual damages may be difficult to ascertain and in any event may be inadequate. Accordingly, the Receiving Party agrees that in the event of such breach, the Furnishing Party may be entitled to injunctive relief in addition to such other legal including criminal prosecution for such breach or equitable remedies as may be available. Receiving party shall be responsible and liable to the Furnishing party for any unauthorized disclosure or any breach of the terms and conditions herein contained. Receiving party hereby indemnifies and agrees to keeps the Furnishing party saved, defended, harmless and indemnified from and against all costs, charges, expenses and damages whatsoever except exponential or consequential damages.

7. The Receiving Party will not use nor permit the use of the Furnishing Party's names, logos, trademarks or other identifying data, or otherwise discuss or make reference to the Furnishing Party, in any notices to third parties or in any press release or other public announcement or advertisement, however characterized, without the Furnishing Party's prior written consent.

8. This Agreement shall terminate on the earlier occurrence of (a) Parties entering into a definitive agreement for or (b) parties decide not to enter into business relation for the document management solutions services. Upon termination of this Agreement, the Receiving Party shall, as per the direction of the Furnishing Party either, return or destroy all Information, and no Information shall be stored by the Receiving Party in any form. Notwithstanding the return or destruction of the Information or the termination of this Agreement, the Receiving Party shall continue to be bound by its obligations of confidentiality hereunder for two (2) years from the date hereof.

9. This Agreement constitutes the entire agreement between the parties relating to the subject matter hereof, and all prior agreements, understandings, writings, or negotiations, whether written or oral, are hereby superseded. No failure or delay by either party in exercising its rights hereunder shall operate as a waiver thereof. This Agreement may not be waived or amended except by written agreement of both parties.

10. If any provision of this Agreement is held to be invalid, void or unenforceable, all other provisions shall remain valid and be enforced and construed as if such invalid provision were never a part of this Agreement.

11. The parties agree that any dispute, controversy or claim arising out of or relating to this Agreement or any related agreement or other document or the validity, interpretation, breach or termination thereof, including claims seeking redress or asserting rights under applicable law, shall, be governed by and interpreted in accordance with the laws of India and that any action in any way arising out of this Agreement shall be commenced in an appropriate court having jurisdiction in Mumbai. The prevailing party in any suit hereunder shall recover all related costs, expenses and reasonable legal fees

12. The parties warrant that the signatory signing the Agreement on behalf of the respective parties is duly authorized to do so and irrevocably bind the parties.

IN WITNESS WHEREOF,

BIDDER/CONTRACTOR _____

The duly constituted Attorney of and on behalf of **BIDDER/CONTRACTOR** has hereunto subscribed and set their hands and common seal of **BIDDER/CONTRACTOR** and the _____

Of the Board of **Mumbai Port Authority** for and on behalf of the Board has set his hand seal and common seal of the Board hath has been hereunto affixed on the day and year first above written.

SIGNED, SEALED AND DELIVERED

By the above named

Shri _____

In presence of

SIGNED, SEALED AND DELIVERED

By the above named

Shri _____

For and on behalf of the Board of

Port of Mumbai in

The presence of _____

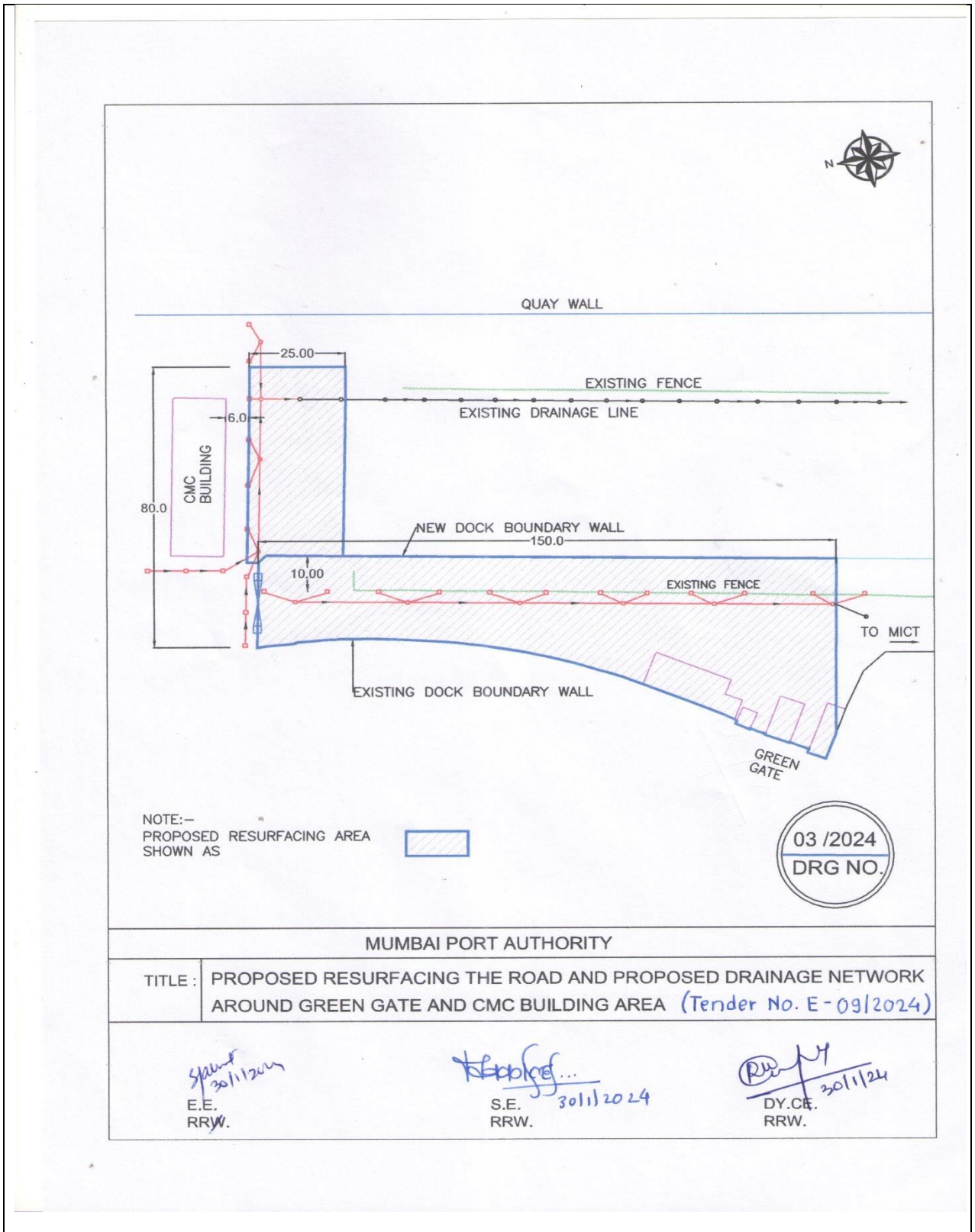
The Common seal of the Board

Of Mumbai Port Authority

Was affixed in the presence of

Shri _____

Secretary MBPA



MUMBAI PORT AUTHORITY

TITLE : PROPOSED RESURFACING THE ROAD AND PROPOSED DRAINAGE NETWORK AROUND GREEN GATE AND CMC BUILDING AREA (Tender No. E-09/2024)

Spand
30/1/2024
E.E.
RRW.

Handwritten signature
S.E.
RRW. 30/1/2024

Handwritten signature
DY.CE.
RRW. 30/1/24

Power of Attorney for signing of Bid

(To be executed On Non-Judicial Stamp Paper of Rs 500/-)

Know all persons by these presents, [We (name of

the company) incorporated under the laws of India and having its registered office at [_____] "**Company**"] do hereby irrevocably constitute, nominate, appoint and authorize Mr. /Ms (name), son/daughter/wife of

..... and presently residing at, who is presently employed with us and holding the position of, as our true and lawful attorney (hereinafter referred to as the "**Attorney**") to do in our name and on our behalf, all such acts, deeds, matters and things as are necessary or required in connection with or incidental to submission of our Tender for **Tender No.E- 09/2024-** Resurfacing with asphaltic materials including improvement to storm water drainage system from Green Gate, I.D. to CMC Building, Indira Dock.

" pursuant to the Tender dated [___] ("Tender") issued by the Employer (the "**Employer**") and for our selection as Successful Bidder including but not limited to signing and submission of all Bids and other documents and writings, participate in pre-bid conferences and other conferences and providing information/responses to the employer, representing us in all matters before the employer, signing and execution of all contracts including the Contract Agreement and undertakings consequent to acceptance of our Tender and generally dealing with the Employer in all matters in connection with or relating to or arising out of our Bid for the said Tender and/or upon award thereof to us and/or till the entering into of the Contract agreement with the Employer

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deed, matters and things lawfully done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

Capitalised terms not defined herein shall have the meaning assigned to them under the Tender.

IN WITNESS WHEREOF,, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF, 2024.....

For

(Signature)

(Name, Title and Address)

Witnesses:

(Notarised) Accepted

..... (Signature) (Name, Title and Address of the Attorney)

Ref: Clause No.6.1 of 'Conditions of Contract'

GENERALISED DRAFT OF CONTRACT AGREEMENT

This Agreement made at Mumbai the _____ day of _____ 2022 between THE BOARD OF Mumbai Port Authority incorporated by Major Port Trusts Act, 1963 as amended by Major Port Authority Act 2021 (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 Port of Mumbai its successors and assigns) of the **ONE PART** And

(Name of Proprietor) of Mumbai carrying on proprietary business in the firm name and style of _____ having his office at _____

(Name of Partners) all of Mumbai carrying on business in partnership in the firm name and style of _____ and having their his office at _____

(Name of Firm) a company registered under the Indian Companies Act, 1956 and having its registered office at _____ & having registered with the Income Tax Department of Govt. of India No. _____ (hereinafter called "the Contractor/s" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the person named his or her heirs executors and administrators and his or her permitted assigns) the person named the survivor or survivors of them, their respective executors, and administrators of such last survivors and their / his or her assigns / the company named its successors and permitted assigns) of the **OTHER PART**.

WHEREAS the Board invited tenders for the work of _____ AND WHEREAS the Contractor/s submitted his/their/its quotations by his/their/its tender dated _____ which tender was subject to the terms and conditions as contained in his/their/ its letters referred to in the Schedule 'A' hereto respectively and which tender subject to the said terms and conditions was accepted by the Board by the letter of (Designation of the HOD) bearing No. _____ dated _____ in respect of _____ only (part of the Schedule of Quantities and Rates to the said Tender)/*

AND WHEREAS THE contractors have/has deposited with the Board a sum of ` _____ (Rupees _____) only by way of _____ being Initial Security for the due performance of this contract

AND WHEREAS at the request of the Contractors, _____ (Name of Bank and Branch), Mumbai has given Bank Guarantee for ` _____ (Rupees _____) only towards further security for the due performance of this contract by the Contractors.

Please strike out which is not required.

AND WHEREAS the contractor and the Board have further agreed that this agreement will remain in force even in case of any extension / renewal of the contract on the same terms and conditions and at the same rates accepted by the Board by the letter of its Chief Engineer dated _____ day of _____ 201____.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 1 In this Agreement the words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
- 2 The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.

FIRST COVER

(Separate Booklet)

- i) Undertaking by the Tenderer
- ii) Tender Notice
- iii) Annexure '1 to 11'
- iv) Proforma
- v) Instructions for preparation and submission of Tender
- vi) Conditions of Contract - Index
- vii) Conditions of Contract with Annexures
- viii) Technical Specifications
- ix) List of Drawings
- x) Schedule of Fair Wages Rates
- xi) Schedule of PORT AUTHORITY Wage Rates

SECOND COVER *

(Separate Booklet)

- i) Directions to Tenderer for filling in the Schedule of Quantities and Rates
- ii) Preamble to Schedule of Quantities and Rates
- iii) Schedule of Quantities and Rates
- iv) Form of Tender.

3 In consideration of the payments to be made by the Board to the Contractor/s as hereinafter mentioned the Contractor/s DOTH / DO HEREBY CONVENANT with the Board to carry out and complete within the stipulated period (time being of the essence of this contract) the work of _____ and all other ancillary work as described in the Drawings, in accordance with the specifications and in conformity in all respects with the provisions of the Contract and to maintain/ guarantee the same as provided in the Conditions of Contract/ Specifications (hereinafter collectively called "the Contract work").

4 The BOARD DOTH HEREBY CONVENANT to pay to the Contractor/s in consideration of the Contractor/s carrying out and completing within the stipulated period (time bearing of the essence of this contract) the contract work to the entire satisfaction of the (Designation of HOD) of the Board in all respects the contract price at the time and in the manner prescribed by the Contract.

IN WITNESS WHEREOF _____, the Contractors
_____ the duly Constituted Attorney of and for and
on behalf of the Contractors has/ have hereunto subscribed and set his/ their hand and seal/s the

Common Seal of the Contractors hath been hereunto affixed and the (Designation of HOD) of the Board of Port of Mumbai for and on behalf of the Board has set his hand and seal and the Common Seal of the Board hath been hereunto affixed the day and year first above written.

* **strike out if there is no rebate.**

THE SCHEDULE 'X' ABOVE REFERRED TO
(The Schedule of letters)

(LETTERS FROM THE Contractor/S)

(LETTERS FROM THE CHIEF ENGINEER OF THE BOARD TO THE Contractor)

SIGNED, SEALED AND DELIVERED BY

the above named _____

_____ for and on behalf of

Signature of Contractor

OR

SIGNED, SEALED AND DELIVERED

by the above named _____

_____ on behalf of themselves and for and on behalf of

in the presence of _____

Signature of Contractors

OR

The Common Seal of _____

affixed pursuant to a resolution of the Board of Directors

dated the _____ day of 20

in the presence of _____

DIRECTOR

Directors of the said Company

SIGNED, SEALED AND DELIVERED BY

(Name & Designation of HOD)

for and on behalf of the Board of Port of Mumbai in the

presence of _____

(Designation of concerned
HOD)

The Common Seal of the Board of Mumbai Port Authority was

affixed in the presence of _____

Secretary
Mumbai Port Authority

Pre-requisites for execution of Contract Agreement:

Initial and Additional Security Deposits have been lodged by the Contractor.

TENDER NO. E.09/2024. FIRST COVER-136

Ref: Clause No.6.2.1 (b) of 'Conditions of Contract'

FORM OF BANK GUARANTEE TOWARDS SECURITY DEPOSIT

G U A R A N T E E B O N D

In consideration of the Board of Mumbai Port Authority incorporated by the Major Port Trust Act, 1963 as amended by Major Port Authorities Act, 2021 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 Mumbai Port Authority, its successors and assigns) having agreed to exempt _____ (Name of the Contractor) (hereinafter called the "contractors") from the demand under the terms and conditions of the contract vide the Board's Chief Engineer's letter No. _____ dated _____ made between the contractors and the Board for execution of the work 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 ` _____ (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 ` _____ (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 _____ (Name of the Bank & Branch) do hereby 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 ` _____ (Rupees _____) only.

3. We _____ (Name of the 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 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 the 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 the 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 Chief Engineer/ Addl. Chief Engineer of the said Board 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 at 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 _____ (Name of the Bank and Branch) further agree with the Board 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 or to extend the time of performance by the said contractors 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 Contractor 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 the 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 change in the constitution of the Bank or the Contractor(s).

7. It is also hereby agreed that the courts in Greater Mumbai would have exclusive jurisdiction in respect of claims, if any, under this guarantee.

8. We, _____ (Name of 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 ` _____ (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 i.e. Five Months from the date of validity of Bank Guarantee).

Dated _____ day of _____ 2022

for (Name of the Bank)

Signature & Name & Designation.

Seal of the bank

NOTES:

1. The Guarantee shall be from the Mumbai branch of a Scheduled/ Nationalised Bank.
2. The Contractor should fill in all the details, get the draft verified by the Bank and submit the draft in duplicate for approval within 7 days from the date of receipt of the tender acceptance letter.
3. After approval of the draft, the Contractor should get the Guarantee executed on Stamp Paper and submit the executed Guarantee along with his Partnership Deed or Memorandum of Articles of Association of the Company etc. within 7 days of receipt of approved draft. The Contractor should also send along with the executed Guarantee, a letter from the Bank certifying the authorisation of the signatory to the Guarantee.

(Ref: Clause No.14.1 of 'Conditions of Contract')

SPECIMEN BILL FORM 1 (For Estimated Bill)

Interim (Estimated) Bill No.: _____

For the period ending: _____

	For the period ending	
Last Measured Bill No.:		
Last Estimated Bill No.:		
This Estimated Bill No.:		

(1) Name of work and Tender No.

(2) Name of the Contractor:

(3) Acceptance letter No. & date:

(4) Contract price: `

(5) Measurement Book No.:

Page No.:

(6) Abstract Book No.:

Page No.:

	Up to Last Certificate	Since Last Certificate	
Gross certified value of work: <u>Less:</u> Cost of materials supplied by the employer and consumed on the work: Total:			
<u>Add:</u> Advances granted: (i) (ii) etc. Total:			
<u>Less:</u> Deductions/ Recoveries: (i) (ii) etc. Net Payment:			

Payment to be made this bill (Rounded off): `

Officer preparing the Certificate:

Signature:

Name:

Designation:

Date:

Contractor:

Signature:

Name:

Date:

Officer making the payment:

Signature:

Name:

Designation:

Date:

Proforma – III(A)

(Ref: Clause 14.1 of 'Conditions of Contract')

SPECIMEN BILL FORM 2 (For Measured / Final Bill)

Interim/Final (Measured Bill):	Deadline for making payment:
Bill No.:	80% by:
For the period ending:	20% by:

	For the period ending	CE's Voucher No. & Date
Last Measured Bill No.:		
Last Estimated Bill No.:		
This Measured Bill No.:		

- 1 Name of Work and Tender No.:
- 2 Name of Contractor:
- 3 Acceptance letter No. & Date:
- 4 Contract Price: `
- 5 Measurement Book No.: Page No.:
- 6 Abstract Book No.: Page No.:

Sr. No.	Description of Item	Quantities executed			Unit	Rate	Amount		
		Upto last Measured Certificate	Since last Measured Certificate	Upto Date			Upto last Measured Certificate	Since last Measured Certificate	Upto Date
Gross certified value of work:									

Payment to be made this bill (Rounded off): `

Officer preparing the Certificate: Signature:
Name:
Designation:
Date:

Contractor:

Signature:

Name:

Date:

Officer making the payment:

Signature:

Name:

Designation:

Date:
