

DEENDAYAL PORT TRUST



TENDER DOCUMENTS FOR

Retrofitting of the Bunder Basin Structure

**EXECUTIVE ENGINEER (C-I)
CONSTRUCTION-I DIVISION
DEENDAYAL PORT TRUST
ROOM NO.302, 2nd FLOOR,
AO BUILDING - ANNEX
GANDHIDHAM KACHCHH-370201
Mobile – 9879514129
E-mail: constdiv1@gmail.com**

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DEENDAYAL PORTTRUST

DC : --

COMPETITIVE BIDDING

AGREEMENT NO:- _____

BID NO: C-I: 03/21

Name of work: "Retrofitting of the Bunder Basin Structure"

PERIOD OF DOWNLOADING OF BID DOCUMENTS

FROM	: DATE 23/09/2021
TO	: DATE 26/10/2021 TIME 12:00 HRS.
LAST DATE AND TIME FOR RECEIPT OF BIDS	: DATE 26/10/2021 TIME 12:00 HRS
TIME AND DATE OF OPENING OF BIDS	: DATE 26/10/2021 TIME 16:00 HRS.
PLACE OF OPENING OF BIDS	: OFFICE OF EXECUTIVE ENGINEER (C-I)
	CONSTRUCTION-I DIVISION
	DEENDAYAL PORT TRUST
	ROOM NO.302, 2 ND FLOOR,
	AO BUILDING, ANNEX,
	GANDHIDHAM KACHCHH-370201

OFFICER INVITING BIDS	:	Executive Engineer (C-I)
		DEENDAYAL PORT TRUST

DEENDAYAL PORT TRUST

NOTICE INVITING TENDER

Tender No. C-I: 03/2021

ONLINE TENDERING (E- Tendering)

NAME OF WORK: Retrofitting of the Bunder Basin Structure

E/Online Tenders are invited by EXECUTIVE ENGINEER (C-I) for the above work as per the details given in the table below.

Work Description	Tender Fee (In Rs.)	Estimated cost (In Rs.)	Bid Securing Declaration	Date of Pre- Bid Meeting	Last Date and time of online Submission of bid documents	Date and time of online opening
Retrofitting of the Bunder Basin Structure	5900/- (INCLUDING GST @ 18 %) (In the form of Demand Draft /BC/PO drawn in favour of FA&CAO, Deendayal Port Trust payable at Gandhidham)	Rs. 7,99,69,988/-	The bid/tender shall be accompanied by Bid Securing Declaration in prescribed format enclosed. The bid/tender not accompanied with this declaration shall not be considered & their technical and price bid will not be opened". A format prepared by Port Trust for Bid Securing Declaration is given under Section-8 of Tender.	NA	Upto 12.00 hours on 26/10/2021	26/10/2021 @16:00 Hrs.

Detailed tender notice along with complete tender documents can be downloaded from website <https://kpt.nprocure.com> from 23/09/2021 to 26/10/2021 @ 12:00 Hrs. Tender Notice is also available on www.deendayalport.gov.in. Technical Bid will be opened on 26/10/2021 @ 16:00 Hrs. Date of opening of price bid shall be notified after scrutiny & evaluation of Technical Bid. For further details and general enquiries prospective bidders may contact **EXECUTIVE ENGINEER (C-I), CONSTRUCTION-I DIVISION DEENDAYAL PORT TRUST, ROOM NO.302, 2nd FLOOR, AO BUILDING-ANNEX, GANDHIDHA KACHCHH-370201** during working hours before the last date and time of downloading of tender documents.

EXECUTIVE ENGINEER (C-I)
Deendayal Port Trust

DEENDAYAL PORT TRUST, KANDLA NOTICE

INVITING ON LINE TENDER

Details about E/Online tender:

Department Name	Civil Engineering Department
Circle/ Division	CONSTRUCTION-I DIVISION
Tender Notice No.	C-I: 03/2021
Name of Work	Retrofitting of the Bunder Basin Structure
Estimated Contract Value (INR)	Rs. 7,99,69,988/-
Period of Completion (in Months)	15 Months
Bidding Type	Open
Bid Call (Nos.)	One
Tender Currency Type	Single
Tender Currency Settings	Indian Rupee (INR)
Minimum Pre-Qualifying / Eligibility Criteria :	<ol style="list-style-type: none">1. Average annual financial turnover during the last three years ending 31st March of the previous financial years, should be at least Rs. 239.91 Lakhs.2. Solvency certificate from any nationalized/scheduled Bank (Except Co-operative Bank) for Rs. 319.88 Lakhs not older than six months as on the date of submission of the bid.3. Experience of having successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following: Three similar completed works, each work costing not less than Rs. 319.88 Lakhs. Or Two similar completed works, each work costing not less than Rs. 399.85 Lakhs. Or One similar completed work, costing not less than Rs. 639.76 Lakhs.

“Similar Works” means Construction / Retrofitting / Rehabilitation / Strengthening of RCC Marine Structures like Berth / Jetty / any RCC marine structure (Separate/Combine) etc. including approaches, fixtures, civil work etc., shall also consider, if executed along with construction of main Berth/Jetty/any RCC marine structure. If the above work executed in perennial river (Having Tidal zone) such works are also considered for pre- qualification.

4. Joint Venture

- i. In case of JV, to qualify experience in similar works, merging of work order value executed by two or more of its member of JV either as a whole or as member of JV shall not be permitted to qualify eligible works in terms of similar completed works. Only No. of work orders completed works by member of JV shall be merged to evaluate the experience
 - ii. Lead partner should have executed at least one similar work coasting Rs. 319.88 as per minimum Eligibility Criteria.
 - iii. The works reckoned for the above purpose are those executed by tenderer as prime contractor or proportionately as member of Joint venture or as a sub-contractor, authorized and approved by the Employer of the work(s) against the tenderer has claimed his experience.
 - iv. In case of Bid submitted by JV/Consortium, the lead partner of the JV shall meet the minimum Eligibility criteria of Financial Turnover.
5. Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated asunder:

Assessed Available Bid capacity= $A \times N \times 2 - B$, Where,
“N” = Number of years prescribed for completion of the subject contract.

“A” = Maximum value of works executed in any one year during last seven years (at current price level)

“B” = Value at current price level of existing commitments and ongoing works to be completed in the next ‘N’ years. The Bidder shall furnish statements

	showing the value of existing commitments and ongoing works as well as the stipulated period of completion remaining for each of the works preferably countersigned by the Nodal Office or his nominee-in-charge.
Joint Venture	Applicable
Rebate	Applicable (Unconditional rebate submitted online before due date of submission of bid)
Bid Document Fee :	Rs. 5900/-(including GST) (In the form of Demand Draft/BC/PO drawn in favour of FA&CAO, Deendayal Port Trust payable at Gandhidham)
BID SECURING DECLARATION	The bid/tender shall be accompanied by Bid Securing Declaration in prescribed format enclosed. The bid/tender not accompanied with this declaration shall not be considered & their technical and price bid will not be opened". A format prepared by Port Trust for Bid Securing Declaration is enclosed herewith under section 8.
Bid Document Downloading Start Date	23/09/2021
Bid Document Downloading End Date	26/10/2021 upto 12:00 Hrs.
Date & Place of Pre Bid Meeting	NA
Last Date & Time for Receipt of Online Bids	26/10/2021@ 12:00 Hrs.
Bid Validity Period	120 Days
Condition	<p>Tender Fees in form of Demand Draft (DD) In favour of FA & CAO, DEENDAYAL PORT TRUST, Payable at Gandhidham.</p> <p>The bid/tender shall be accompanied by Bid Securing Declaration in prescribed format enclosed. The bid/tender not accompanied with this declaration shall not be considered & their technical and price bid will not be opened". A format prepared by Port Trust for Bid Securing Declaration is enclosed herewith as Annexure-I.</p> <p>The above shall be submitted in electronic format only through on line (by scanning) while uploading the bid. This submission shall mean that EMD & Tender Fee are received.</p>

Accordingly offer of only those shall be opened whose Bid Securing Declaration & Tender Fee is received electronically. However, for the purpose of realization, bidder shall send the same in original along with hard copy of tender (sealed & signed of authorized person), and other PQ documents through R.P.A.D./speed post or in person so as to reach to **EXECUTIVE ENGINEER (C-I), CONSTRUCTION-I DIVISION DEENDAYAL PORT TRUST, ROOM NO.302, 2nd FLOOR, AO BUILDING-ANNEX, GANDHIDHA KACHCHH-370201** within (7) seven days from the date of opening.

Remarks	Submission of Bid Securing Declaration. Tender Fee and other Documents during office hours : within (7) seven days from the date of opening by R.P.A.D/Speed post or in person in the chamber of EXECUTIVE ENGINEER (C-I), CONSTRUCTION-I DIVISION DEENDAYAL PORT TRUST, ROOM NO.302, 2nd FLOOR, AO BUILDING-ANNEX, GANDHIDHA KACHCHH-370201.
Bid Opening Date	Technical Bid will be opened on 26/10/2021 @ 16:00 Hrs. Date of opening of Price Bid shall be notified after scrutiny & evaluation of Technical Bid to qualified bidders.
Documents required to be submitted by scanning through online	<ol style="list-style-type: none"> Documents in support of fulfilling qualifying criteria as indicated above. Bid Securing Declaration Tender fee in form of Demand Draft/BC/PO As indicated in clause 1.4 of section 1 – Instructions to bidders.
Officer- Inviting Bids:	EXECUTIVE ENGINEER (C-I), DEENDAYAL PORT TRUST
Bid Opening Authority :	EXECUTIVE ENGINEER (C-I), DEENDAYAL PORT TRUST
Address:	EXECUTIVE ENGINEER (C-I), CONSTRUCTION-I DIVISION DEENDAYAL PORT TRUST, ROOM NO.302, 2nd FLOOR, AO BUILDING- ANNEX, GANDHIDHA KACHCHH- 370201
Contract Details :	Mobile – 9879514129

**EXECUTIVE ENGINEER (C-I),
DEENDAYAL PORT TRUST**

Note:

In case bidders need any clarifications or if training is required to participate in online tenders, they can contact (n) Procure Support team at following address: -

(n) Code Solutions – A division of GNFC Ltd.,
(n) Procure Cell,
403, GNFC Infotower, S.G. Road,
Bodakdev, Ahmedabad – 380054 (Gujarat).

Contact Details :

Airtel : +91-79-40007501, 40007512, 40007516, 40007517, 40007525

BSNL : +91-79-2684511, 26854512, 26854513 (EXT: 501, 512, 516, 517, 525)

Reliance : +91-79-30181689

Fax : +91-79-26857321, 40007533

E-mail : nprocure@gnvfc.net

TOLL FREE NUMBER : 1-800-233-1010 (EXT: 501, 512, 516, 517, 525)

SECTION -1

INSTRUCTIONS TO BIDDERS

A. GENERAL

1.1 Scope of Bid

The Superintending Engineer, Project Division, Deendayal Port Trust, invites bids by E- Tendering for the work of “**Retrofitting of the Bunder Basin Structure**” detailed in the table given in NIT. The bidders shall submit on-line bids for the work detailed in the table given in NIT.

The successful bidder will be expected to complete the works by the intended completion date specified in the contract data.

1.2 Source of Funds

1.2.1 The employer has arranged the funds from internal resources and will have sufficient funds in Indian currency for execution of the works.

1.3 Eligible Bidder

1.3.1 The invitation for Bids is open to all eligible bidders meeting the eligibility criteria as defined in clause no. 1.4.3.

1.3.2. All bidders shall provide in Section-2 form of Bid and Qualification Information, a statement that the Bidder is not associated, nor has been associated in the past, directly or indirectly, with the consultant or any other entity that has prepared the design, specifications, and other documents for the Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.

1.3.3. Government-owned enterprises may only participate if they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the Employer subject to fulfillment of Minimum Qualifying criteria.

1.3.4. Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the employer in accordance with clause 1.36.

1.4 Eligibility Criteria

- 1.4.1. **a.** Experience of similar works executed during the last seven years, and details like monetary value, clients, and proof of satisfactory completion.
- b.** Documentary evidence of adequate financial standing and proof from client for satisfactory completion of works.
- c.** Solvency certificate from any nationalized/scheduled Bank (Except Co-operative Bank) for Rs. 319.88 Lakhs not older than six months as on the date of submission of the bid.
- d.** Equipment requirement/schedule.
- e.** Managerial/Manpower requirement.
- f.** Project Planning and Quality Control procedure to be adopted.
- g.** Information regarding projects in hand, current litigation, orders regarding exclusion, expulsion or black listing, if any.
- h.** Trained & Certified workmen proposed to be employed at the work site of the project. The Contractor must undertake to employ of certified worker to the extent of 20% of total strength. Valid certificates by a recognized University, technical Board, or Ministry of Government of India would only be taken cognizance of.
- 1.4.2. If the Employer has not undertaken pre-qualification of potential bidders, all bidders shall include the following information and documents with their bids.
- a.** Copies of original documents defining the constitution or legal status, place of registration, and principal place of business, written power of attorney of the signatory of the Bid to commit the Bidder.
- b.** Total monetary value of construction work performed for each of the last five years.
- c.** Experience in works of a similar nature and size for each of the last five years, and details of works underway or contractually committed, and Employers who may be contacted for further information on those contracts.
- d.** Major items of construction equipment proposed to carry out to the contract.
- e.** Qualifications and experience of key technical site management and technical personal proposed for the contract
- f.** Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years.
- g.** Evidence of adequacy of working capital for this contract (access to line(s) of credit and availability of other financial resources).

- h. Authority to seek references from the Bidder's bankers.
- i. Information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount.
- j. Proposal for subcontracting components of the works amounting to more than 10 percent of the Bid Price (for each qualification should attached); and
- k. The methodology and program of construction, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures and completion of the work as per technical specifications within the stipulated period of completion as per milestones.
- l. PAN, Registration with Service Tax (GST), VAT, Provident Fund Authorities, etc.
- m. Bid Securing Declaration in approved form as prescribed under Clause No. 1.16.

1.4.3 To qualify for award of the contract, bidders are advised to note the minimum qualification criteria specified below.

- i. Average annual financial turnover during the last three years ending 31st March of the previous financial year should be at least Rs. 239.91 Lakhs.
- ii. Experience of having successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following.
 - a. Three similar completed works each work costing not less than Rs. 319.88 Lakhs.
 - or**
 - b. Two similar completed works each work costing not less than Rs. 399.85 Lakhs.
 - or**
 - c. One similar completed work costing not less than Rs. 639.76 Lakhs.
- iii. **“Similar Works”** means Construction / Retrofitting / Rehabilitation / Strengthening of RCC Marine Structures like Berth / Jetty / any RCC marine structure (Separate/Combine) etc. including approaches, fixtures, civil work etc., shall also consider, if executed along with construction of main Berth/Jetty/any RCC marine structure. If the above work executed in Perennial River (Having Tidal zone) such works are also considered for pre- qualification.
- iv. In addition to above, the criteria regarding satisfactory performance of the work, Personnel, establishment, plant, equipment, etc. may be incorporated according to the requirement of the project.

1.4.4. To qualify for a package of contracts made up of this and other contracts for which bids are invited in the NIT, the bidder must demonstrate having experience and resources sufficient to meet the aggregate of the qualifying criteria for the individual contracts.

1.4.5. Sub-contractors' experience and resources shall not be taken into account in

determining the bidder's compliance with the qualifying criteria. Except to the extent state in 4.4 above.

- 1.4.6 Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:

Assessed Available Bid capacity = $A \times N \times 2 - B$

Where,

“N” = Number of years prescribed for completion of the subject contract.

“A” = Maximum value of works executed in any one year during last seven

years (at current price level)

“B” = Value at current price level of existing commitments and ongoing works to be completed in the next ‘N’ years.

Note: To calculate the value of works to current level, following multiplying factors shall be applicable with reference to escalation based on WPI. This is only for to arriving the Bid Capacity and not for work experience & turnover.

Financial Year	2020-21	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15
Index	123.4	121.8	119.8	114.9	111.6	109.7	113.9
Multiplying factor	1.00	1.01	1.03	1.07	1.11	1.12	1.08

The Bidder shall furnish statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works preferably countersigned by the Nodal Officer or his nominee – in – charge.

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

1.5 One Bid per Bidder

- 1.5.1. Each bidder shall submit only one bid for one package. A bidder who submits or participates in more than one bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

1.5.2 Joint Venture

- i. Companies/Contractors may jointly undertake contract/contracts. Each entity would be jointly and severally responsible for completing the task as per the contract, however declaration of the Lead member to be indicated by bidders, however JV has to designate in their MOU. The firms with at least 26% equity holding each be allowed to jointly meet the eligibility criteria.
- ii. A legally binding Joint venture / Consortium Agreement signed by authorized signatories of all the partners of the JV/Consortium, as per the proforma of joint venture/consortium agreement at section -8.
- iii. Power of attorney duly executed and signed by legally authorized signatories of all the partners, authorizing the Lead Partner (a) to submit bid, negotiate and conclude contract and incur all liabilities therewith on behalf of the partner(s) of the JV/Consortium during the bidding process; and (b) in the event of a successful bid, to incur liabilities and receive instructions for and on behalf of the partner(s) of the JV /Consortium and to carry out the entire execution of the contract including payment, exclusively through Lead Partner, as per the proforma of power- of-attorney for lead member of JV/ consortium at Section -8, which shall be duly authenticated by a notary public or equivalent certifying authority, shall be enclosed with the bid.
- iv. The bid and in the case of the successful bidder, the Agreement, shall be signed and / or executed in such a manner for making it legally binding on all partners (including operative parts of the ensuing Contract in respect of Agreement of Arbitration, etc.). The Contract shall be signed by legally authorized signatories of all partners.
- v. The Lead Partner shall be authorized to receive instructions for and on behalf of the partners of the Joint venture and entire execution of the Contract including payment shall be carried out exclusively through the Lead Partner. A Statement to this effect should be included in the Joint Venture Agreement.
- vi. All partners of the Joint Venture shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms, and a Statement to this effect should be included in the Joint Venture Agreement.
- vii. Bid Security as required shall be furnished by Lead Member of Joint venture.
- viii. Performance Guarantee, as required, will be furnished by Lead Member of Joint venture.
- ix. Participation by a firm in more than one JV /Consortium is not permissible. A firm who submits bid on individual capacity is not eligible to be a partner of a JV /Consortium. In case a firm's name appears in more than one bid then both application may be rejected.

- x. Each partner must submit the complete documentation, or portions applicable thereto, required qualifying the firm for bidding.
- xi. All the partners of the JV/Consortium shall be jointly and severally liable for due performance, recourse/sanctions within the joint venture in the event of default of any partner and arrangements for providing the required indemnities.
- xii. Notwithstanding demarcation or allotment of work among the partners, each partner shall be liable for non-performance of the whole contract irrespective of their demarcation or share of work.
- xiii. The Lead Partner shall be authorized to act on behalf of the JV/Consortium.
- xiv. All the correspondences between the Employer and the contractor shall be routed through the Lead Partner.
- xv. In the event of default by the Lead Partner, it shall be construed as default of the Contractor; and Employer will take action under relevant clause(s) of the Bid Document and/or General Terms and Conditions of Contract.
- xvi. An undertaking that all the partners are jointly and severally liable to the Employer for the performance of the contract shall be enclosed with the bid.
- xvii. In the event of any partner leaving the JV, it shall be intimated to the Employer within 30 days by other partner(s). Failure to do so shall be construed as default of the contractor and the Employer may take action under relevant clause(s) of the Bid Document and/or General Terms and Conditions of Contract.
- xviii. The contractor shall not alter its composition or legal status without the prior written permission of the Employer. Failure to do so shall be construed as default of the contractor and the Employer may take action under relevant clause(s) of the Bid Document and/or General Terms and Conditions of Contract.
- xix. One of the partners of JV/Consortium should have downloaded the bid documents.

Note: JVs/ Consortia be allowed in all contracts of estimated cost of more than Rs. 5 crores. However, there shall be no limit on the number of partners.

1.6 Cost of Bidding

- 1.6.1. The bidder shall bear all costs associated with preparation and submission of his bid, and the Employers will in no case be responsible and liable for those costs.

1.7 Site Visit

- 1.7.1 The bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidders' own expense.

B. Bidding Documents

1.8 Content of Bidding Documents

1.8.1 These of bidding documents comprises the documents listed in the table below and addenda issued in accordance with Clause 1.10:

- DC 1 : Bid Reference
- NIT : Invitation for Bids
- SECTION 1 : Instruction to Bidders
- SECTION 2 : Forms of Bid, Qualification Information
- SECTION 3 : Conditions of Contract
- SECTION 4 : Contract Data
- SECTION 5 : Specifications and Special Conditions
- SECTION 6 : Drawing
- SECTION 7 : Bill of Quantities
- SECTION 8 : Forms of Securities

1.8.2 One set of the bidding documents will be issued to the bidder. The document should be completed and returned with the bid.

1.8.2.1 Bidding documents shall be downloaded. The documents should be complied filled and submitted through on-line tendering process on website <http://DPT.nprocure.com>

1.8.3 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, technical specifications, bill of quantities, forms, drawings, annexure in the bid document. Failure to comply with the requirements of the bid document shall be at the bidder's own risk. Pursuant to clause 1.26 hereof, bids which are not substantially responsive to the requirements of the bid documents shall be rejected.

1.9 Clarifications of the Bidding Documents

1.9.1 A prospective bidder requiring any clarification of the bidding documents may notify the employer in writing or by electronic form and be confirmed by hard copy at the Employer's address indicated in the invitation to bid. The employer will respond to any request for clarification which he received earlier than days (Suggested 7 days) prior to the deadline for submission of bids. Copies of the Employer's response will be

forwarded to all purchasers of the bidding documents, including's a description of the enquiry but without identifying its source.

1.9.2 Pre – bid meeting

1.9.2.1 The bidder or his official representative is invited to attend a pre-bid meeting, which will take place on ---- at Old Board Room, A.O. Building, Deendayal Port Trust, Gandhidham - Kutch, Gujarat.

1.9.2.2 The purpose of the meeting will be to clarify issues and to answer question on any matter that may be clarified at that stage. But written comments/ reply is prevail. Quarries raised after Pre-Bid meeting shall not be entertained.

1.9.2.3 The bidder is requested to submit any questions in writing or by cable to reach the Employer on or before the meeting.

1.9.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be uploaded on website <http://DPT.nprocure.com> without delay. Any modification of the bidding documents listed in Sub-Clause 1.8.1 which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 1.10 and not through the minutes of the pre-bid meeting.

1.9.2.5 Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

1.10. Amendment of Bidding Documents

1.10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by using addendum.

1.10.2 Any addendum thus issued shall be part of the bidding documents and shall be communicated by uploading online on <http://DPT.nprocure.com>. Prospective bidders shall acknowledge receipt of each addendum by cable to the Employer.

1.10.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend as necessary the deadline for submission of bids, in accordance with Sub- Clause 1.20.2 below.

C. Preparation of Bid

1.11 Language of the Bid

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

1.12 Documents comprising the Bid

1.12.1 The bid submitted by the bidder shall comprise the following:

A) Technical Bid

- i) Bid Security and tender fee.
- ii) Qualification Information Form and Document (Pursuant to clause 1.4 hereof) and any other materials required to be furnished and submitted by the bidder in accordance with these instructions. The documents listed under Sections 2, 4 and 7 of Sub-Clause 1.8.1 shall be filled in without exception.

B) Financial Bid

- i) Contractor's Bid
- ii) Bill of Quantity duly filled and digitally signed by the Bidder.

1.13 Bid Prices

1.13.1 The contract shall be for the whole works as described in Sub-Clause 1.1 based on the priced Bill of Quantities submitted by the Bidder.

1.13.2 The bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.

1.13.3 All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid price submitted by the Bidder.

1.13.4 The rates and prices quoted by the bidder are subject to adjustment during the performance of the contract. In accordance with the provisions of clause 3.47 of the conditions of contract.

1.14 Currencies of Bid and payment

The Unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

1.15 Bid Validity

1.15.1 Bids shall remain valid for a period not less than 120 days after the deadline date for bid submission specified in clauses 1.20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

1.15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer

may request that the bidders may extend the period of bid validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be permitted to modify his bid.

1.16 Bid Securing Declaration

1.16.1 The bid/tender shall be accompanied by Bid Securing Declaration in prescribed format enclosed. The bid/tender not accompanied with this declaration shall not be considered & their technical and price bid will not be opened". A format prepared by Port Trust for Bid Securing Declaration is enclosed herewith under section 8..

1.17 Alternative proposals by bidders

1.17.1 Conditional offer or Alternative offers will not be considered further in the process of tender evaluation.

1.18 Format and signing of bid

1.18.1 The Price Bid to be submitted on-line shall be signed digitally by a person or persons duly authorized to sign on behalf of the Bidder.

1.18.2 The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder in which case such corrections shall be initialed by the person or persons signing the bid.

D Submission of bids

1.19 Sealing and marking of bids.

1.19.1 The bidder shall put Bid security document as per clause No. 1.16, hereof in one envelope and properly seal and mark as "Bid Security". The bidder shall put documents mentioned in clause No: 1.12.1.A (ii) in separate envelope and properly seal and mark as "Technical Bid".

The bidder shall seal "Financial Bid" as per Clause No: 1.12.1. (B) Here of, in separate envelope duly marking the envelope as "Financial Bid".

These envelopes than be put inside one outer envelope and sealed, duly marking the outer envelope as "Technical Bid and Financial Bid".

1.19.2 The envelopes shall

(a) **Be addressed to Nodal Officer/Employer at the following address.**

{Insert address of office for bid submission}, and

(b) **bear the following identification:**

Bid for **“Retrofitting of the Bunder Basin Structure”**

Bid reference no C-I: 03/2021

DO NOT OPEN BEFORE (time and date for opening, per Clause 1.23)

Name and address of the bidder.

The tender complete in all respect should be put in the tender box (marked tender No C-I: 02/2021) in the office of The Executive Engineer (C-I) up to-__p.m. On due date and open at_____on the same date in presence of such of the tenderers who may wish to be present.

1.19.3 In addition to the identification required in Sub-Clause 1.19.2, the inner envelopes shall indicate the name and address of the bidder of to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 1.21, or the bid is declared non-responsive. If the outer envelopes are not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the technical bid and financial bid.

1.20 Deadline for submission of the Bids

1.20.1 Bids must be received by the Employer at the address specified above not later than in the event of the specified date for the submission of bids being declared a holiday by the Employer. The bids will be received upto the appointed time on the next working day.

1.20.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 1.10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

1.20.3 In case of tender document being downloaded from the web site, at the time of

submission of (the hard copy of) the tender document. The tenderer shall give an undertaking that no change have been made in document. He shall be issued a printed set of document under acknowledgment with a condition that the printed version of the port tender document will be treated as authentic tender and if any discrepancy is noticed at any stage between the Port's tender document and the one submitted by the tenderer, the conditions mentioned in the Port's printed document insert time and date; this should be the same as those given in the invitation for Bids Clause No. 1.20.

1.21 Late Bids

- 1.21.1 Any bid received by the Employer after the deadline prescribed in Clause 1.20 will be considered as non-responsive.

1.22 Modification and Withdrawal of Bids

- 1.22.1 Bidders may modify or withdraw their bids before the deadline prescribed in Clause 1.20.
- 1.22.2 Each Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with Clauses 1.18 & 1.19, with the outer and inner envelopes additionally marked "MODIFICATION" or "WITHDRAWAL" as appropriate.
- 1.22.3 No bid may be modified after the deadline for submission of bids.
- 1.22.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity in Clause 1.15.1 above or as extended pursuant to Clause 1.15.2 may result in the forfeiture of the Bid security pursuant to Clause 1.16.
- 1.22.5 Tenders with any condition, including conditional rebate shall be rejected. However, tenders with unconditional rebate will be accepted.

E. BID OPENING AND EVALUATION

1.23 Bid opening

- 1.23.1 On the due date and appointed time as specified in clause 1.20, the Employer will first open Technical bids of all bids received (except those received late) including modifications made pursuant to clause 1.22 in presence of the bidders or their representative who choose to attend. In the event of the specified date for Bid opening being declared a holiday by the Employer, the bids will be opened at the

appointed time and location on the next working day.

- 1.23.2 Envelopes marked "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 1.22 shall not be opened. Bidder's name, withdrawals, modifications of technical bid, the presence of bid security and such other details, as the Employer may consider appropriate will be announced by the Employer at the opening.
- 1.23.3 If all Bidders have submitted unconditional Bids together with requisite bid security, then all bidders will be so informed then and there. If any Bid contains any deviation from the Bids documents and/or if the same does not contain Bid security in the manner prescribed in the Bid documents, then that Bid will be rejected and the Bidder informed accordingly. The sealed financial bid containing priced BOQ will be returned to him without opening. All valid financial bids whose technical bids have been determined to be substantially responsive in accordance with Clause 1.26 hereof, shall be opened on the specified date from declaring the results of the Technical Bid, in presence of the bidders or their representatives who choose to attend. The Bidder's name, the Bid prices, the total amount of each Bid and of any alternative Bid (if alternatives have been requested or permitted), any discounts, Bid modifications and withdrawals, and such other details as the Employer at the opening. Any bid price, discount, or alternative Bid price which is not read out and recorded at Bid opening, will not be taken into account in Bid evaluation.
- 1.23.4 The Employer shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with sub clause 23.3 and the minutes shall form part of the contract.

1.24 Process to be confidential

Information relating to the examination, clarification, evaluation and comparison of the bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful bidder has been announced.

1.25 Clarification of Bids

To assist in the examination and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdown of unit

rates. The request for clarification and the response shall be writing or by cable, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to conform the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids in accordance with Clause 1.27.

Subject to above para, no Bidder shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, he should do so in writing.

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

1.26 Examination of Bids and Determination of Responsiveness

1.26.1 Prior to detailed evaluation of Bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 1.4 (b) has been properly signed by an authorized signatory (accredited representative) holding power of Attorney in his favor. The Power of Attorney shall inter alia include a provision to bind the Bidder to settlement of disputes clause; (c) is accompanied by the required Bid security and; (d) is responsive to the requirements of the Bidding documents.

1.26.2 A substantially responsive Technical and Financial Bid is one which conforms to all the terms, conditions and specification of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality or performance of the works; (b) which limits in any substantial way, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting responsive Bids.

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

1.26.4 The envelop marked as financial bid of those bidders whose technical bid has been determined to be non-responsive shall not be opened and will be returned unopened.

1.27 Correction of Errors

1.27.1 Bids determined to be responsive will be checked by the Employer for any

arithmetic errors. Errors will be corrected by the Employer as follows:

- (a) Where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
- (b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

1.27.2 The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding up on the bidder. If the bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub- Clause 1. 16. F.(B).

1.28 NIL

1.29 Evaluation and Comparison of Bids

1.29.1 The Employer will evaluate and compare only the bids determined to be responsive in accordance with Clause 1.26.

1.29.2 In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:

- (a) Making any correction for errors pursuant to Clause 1.27;
- (b) Making appropriate adjustments to reflect discounts or other price modification offered in accordance with Sub Clause 1.22.5

1.29.3 The estimated effect of the price adjustment conditions under Clause 3.47 of the conditions of contract, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.

1.29.4 If the Bid of the successful Bidder is seriously unbalanced in relation to the Nodal Officer or his nominee's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities.

F. AWARD OF CONTRACT

1.30 Award Criteria

1.30.1 The Employer will award the Contract to the Bidder whose Bid has been determined to be responsive to the Bidding documents and who has offered the lowest evaluated

Bid Price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 1.3, and (b) qualified in accordance with the provisions of Clause 1.4. The second bidder (i.e. L2) shall be kept in reserve and may be invited to match the bid submitted by the (L1) bidder in case such bidder withdraws or is not selected for any reason.

1.31 Employer's Right to accept any Bid and to reject any or all.

Not with standing clause 1.30, the Employer reserve the right to accept or reject any bid and to cancel the bidding process and reject all bids, at any time prior to the award of contract, without thereby incurring any liability to the affected bidder or bidders of the grounds for Employer's action.

1.32 Notification of Award and Signing of Agreement

- 1.32.1 The Bidder whose bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by registered letter. This letter (here in after and in the Conditions of Contract called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion and maintenance of the works by the Contractor as prescribed by the Contract (here in after and in the Contract called the "Contract Price").
- 1.32.2 The notification of award will constitute the formation of the Contract subject only to the furnishing of a performance security in accordance with the provision of Clause 1.33.
- 1.32.3 The Agreement will incorporate all correspondence between the Employer and the successful bidder. It will be signed by the employer and sent to the successful Bidder (within 28 days of award of work for global tender and within 14 days for domestic tender) following the notification of award along with the Letter of Acceptance. Within (28 days for global tender and within 21 days for domestic tender) of receipt, the successful Bidder will furnish the performance security and sign the Agreement with the Employer.
- 1.32.4 Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

1.33. Performance Security

Security Deposit shall consist of Performance Guarantee to be submitted at award of the work. Performance Guarantee should be 3 % of the contract price which should be submitted in the form of Bank Guarantee of Nationalized/Schedule Bank having its Branch of Gandhidham, or Demand Draft within (21 days in case of domestic bids and within 28 days in case of global bids) of receipt of Letter of Acceptance/Intent which will be refunded immediately not later than 14 days from completion of defect liability period.

Failure of the Successful Bidder to comply with the requirements as mentioned above shall constitute sufficient grounds for cancellation of the award of work and the bidder can be disqualified from bidding for any contract with DPT for a period of three years from the date of notification.

1.34. Advance Payment

- 134.1 The Employer will provide an Advance payment on the Contract Price as stipulated in the Conditions of Contract, subject to maximum amount, as stated in the Contract Clause 3.51.

1.35 Conciliator

- 1.35.1 The Employer proposes that CIDC – SIAC Arbitration Centre be appointed as Conciliator under the contract as provided in sub-clause 3.24.1 of condition of contract. If the bidder disagrees with this proposal, the bidder should so state in the bid.

1.36 Corrupt or Fraudulent Practices

- 1.36.1 The Employer requires that Bidders/Suppliers/Contractors under this contract, observe the highest standard of ethics during the procurement and execution of this contract. In pursuance of this policy, the Employer:

- (a) Defines, for the purpose of these provisions, the terms set forth below as follows:
 - (I) “Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and
 - (II) “Fraudulent practice” means a misrepresentation of facts in order to

influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

- (b) Will reject a proposal for award of work if he determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
- (c) Will declare a Bidder ineligible, either indefinitely for a stated period of time, to be awarded a contract/contracts if he at any time determines that the Bidder has engaged in corrupt or fraudulent practices in competing for or in executing, the contract.

1.36.2 Further more, Bidders shall be aware of the provision stated in sub-clause 3.59.2 of the conditions of Contract.

Contractor

**Executive Engineer (C-I)
Deendayal Port Trust**

SECTION: 2

FORMS OF BID, QUALIFICATION INFORMATION

TABLE OF FORMS

- 1. FORM OF BID**
- 2. CONTRACTOR'S BID**
- 3. PRE-QUALIFICATION OF BIDDERS**
- 4. LETTER OF ACCEPTANCE**
- 5. NOTICE TO PROCEED WITH THE WORK**
- 6. AGREEMENT FORM**

SPECIMEN FOR FORM OF BID
(To be executed on bidder's letter head)

Name of Work: "Retrofitting of the Bunder Basin Structure"

To

The EXECUTIVE ENGINEER (C-I),
CONSTRUCTION-I DIVISION
DEENDAYAL PORT TRUST,
ROOM NO.302, 2nd FLOOR
AO BUILDING-ANNEX,
GANDHIDHAM KACHCHH
PIN CODE:370201

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the tender documents, including addenda and clarifications issued
- (b) We offer to execute the work in conformity with the tendering documents and in accordance with the delivery schedules specified in the schedule of requirements in accordance with the tender document
- (c) The total price of our tender, excluding any discounts offered in item(d) below, is [insert the total tender price in words and figures, indicating the various amounts and the respective currencies];[in case of techno-commercial offer it shall be mentioned that 'as filled in the price bid']
- (d) The discounts offered and the methodologies for their application are: **Discounts.** If our tender is accepted, the following discounts shall apply. **Methodology of application of the discounts.** The discounts shall be applied using the following method:
- (e) our tender shall be valid for the period of time specified in [ITB Sub-clause **1.15.1**], from the date fixed for the tender submission deadline in accordance with [ITB Sub- clause **1.20.1**], and it shall remain binding upon us and may be accepted at any time before the expiration of that period or any extended period accordance with [ITB Sub-clause **1.15.2**];
- (f) If our tender is accepted, we commit to submit a performance guarantee in accordance with [insert relevant clause no., ITB Sub-clause 1.33] for the due performance of the contract, as specified in specimen form for the purpose.

- (g) We, including any subcontractors or contractors for any part of the contract,
- (h) We have no conflict of interest in accordance with **[ITB Sub-clause 1.3.2]**.
- (i) Our firm, its affiliates or subsidiaries- including any subcontractors or contractors for any part of the contract – has not been declared ineligible by the port, under laws of India or official regulations in accordance with **[ITB Sub-clause no. 1.3.4]**
- (j) We understand that this tender, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract agreement is prepared and executed in accordance with **[ITB Sub-clause 1.32]** and as per specimen from the purpose;
- (k) We understand that you are not bound to accept the lowest evaluated tender or any other tender that you may receive.
- (l) We also make specific note clauses of [ITB, NIT] under which the contract is governed.
- (m) In case of out station firms, having a branch in India for liaison purposes, please mention the name of the contact person and Tel. no., Fax. No. and mail-Id and also the complete postal address of the firm.
- (n) We understand that the communication made with the firm at (m), by the port shall be deemed to have been done with us.

Signed: [insert signature of person whose name and capacity are shown]

In the capacity of [insert legal capacity of person signing the form of tender]

Name: [insert complete name of person signing the form of tender]

Duly authorized to sign the tender for and on behalf of: [insert complete name of tenderer]

Dated on ____ day of _____, _____ (insert date of signing)

CONTRACTOR'S BID

Description of the works: - **"Retrofitting of the Bunder Basin Structure"**

BID

TO

----- (The employer)

Address

GENTLEMEN,

We offer to execute the works described above in accordance above with the conditions of Contract accompanying this bid for the contract price of _____ (in figures) _____ (in letters). The advance payment required / not required as per rule. We accept appointment of _____ as the conciliator's letter.

Or

We do not accept the appointment of _____ as the conciliator and proposed instruct that _____ be appointed as conciliator whose daily fees and biographical data are attached.

This bid and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any bid you receive. We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force In India namely "prevention of corruption act 1988"

We hereby confirm that this bid complies with the bid validity and security required by the bidding documents.

We attach herewith our copy of permanent account number (PAN)

Yours faithfully,

Authorized Signature:

Name& title of signatory

Name of Bidder

Address

Notes:

To be filled in by the bidder, together with his particulars and date of submission at the bottom of the form of bid.

PRE-QUALIFICATION OF BIDDERS

The information to be filled in by the bidder in the following pages will be used for purposes of pre-qualification as provided for in the instructions to tenderers.

1. Only for individual bidders

Constitution or legal status of bidder (attach copy)

- Place of registration
- Principal place of business
- Power of attorney of signatory of bid (Attach)

2. Turnover of the firm/JV

YEAR	TURN OVER
2018-19	
2019-20	
2020-21	
Average	

Attachments: Financial reports for the last three years; balance sheets, profit and loss statement, auditors reports etc., list them below and attach copies.

3. Similar works

Particulars	Year	No. of works	Value
Total value completed similar work as defined in the tender document during last 7 years	2014-15		
	2015-16		
	2016-17		
	2017-18		
	2018-19		
	2019-20		
	2020-21		

Attachments: Supporting documents, viz., successful completion certificates from clients, other documentations to substantiate the similarity of work as per definition of “similar work” employers reserves the right to verify the information;

4. Information on bid capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A) Existing commitments and on-going works.

Description of work	Place & state	Contract no. & date	Name & address of port or Dept.	Value of contract Rs	Stipulated Period of completion	Value of remaining to be completed	Anticipated date of completion
1	2	3	4	5	6	7	8

(B) Works for which bids already submitted

Description of work	Place & state	Name & address of port or Dept.	Value of contract Rs	Stipulated Period of completion	Date when decision is expected	Remarks if any
1	2	3	4	5	6	7

Attach certificates from the nodal officer or his nominee(s)-in-charge.

5. The following contractor's equipment is essential for carrying out the works. The bidder should list all information requested below.

Item of equipment	Requirement no. capacity	Owned/leased/ to be procured	Nos./ capacity	Age/condition	Remarks
1	2	3	4	5	6

6. Qualification and experience of key personnel proposed for administration and execution of the contract. Attach biographical data. Refer also to sub. Clause 1.4.2(e) of instructions to bidders and sub. Clause 1.9.1 of the condition of contract.

Position	Name	Qualification	Years of experience (general)	Years of experience in the proposed position
Project manager				
Discipline specialist etc.,				

7. Proposed sub-contracts and firms involved.

Sections of the works	Value of sub-contract	Sub- contractor (name and address)	Experience in similar work

8. Information on litigation history in which the bidder is involved.

Other party(ies)	Port / Dept.	Cause of dispute	amount	Remarks involved showing presentstatus

9. Additional information bidder may like to submit.

Duly authorized to sign this authorization on behalf of (insert complete name of tenderer)

Dated on _____ day of _____ [insert date of signing]

LETTER OF ACCEPTANCE
(On letterhead paper of the port)

_____(date)

TO: _____
(Name and address of the contractor)

Dear Sirs,

Sub: Tender no. C-I: 03/2021
“Retrofitting of the Bunder Basin Structure”

Ref: Your biddated and [list the correspondence with the bidder]

This is to notify you that your bid dated _____ for execution of the _____ (name of the contract and identification number, as given in the instructions to bidders) for the contract price of rupees _____ (amount in words and figures as corrected and modified) in accordance with the tender document is here by accepted by the employer/Board.

You are hereby requested to furnish performance security, in the form detailed in tender document for an amount of Rs. _____ Within {_____} days of the receipt of this letter of acceptance valid upto 28 days from the date of completion obligations expiry of taking over certificate subject to removal of defects period i.e up to and also sign the contract agreement within {_____} days of the receipt of this letter of acceptance, failing which action as stated in the tender document will be taken.

Detailed letter of acceptance will follow. Please acknowledge receipt.

Yours faithfully

Authorized signature

ISSUE OF NOTICE TO PROCEED WITH THE WORKS
(Letterhead of the Port)

_____Dated

To
(Name and address of the contractors)

Dear Sirs,

Sub.: Tender for **“Retrofitting of the Bunder Basin Structure”**

Ref: Letter of acceptance no. dated

Pursuant to your furnishing the requisite security as stipulated in [clause of general conditions of contract] and signing of the contract for execution of the _____ you are hereby instructed to precede with the execution of the said works in accordance with the contract documents. It is hereby notified that the [site] is being handed over to you for execution of work in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of
Signatory authorized to sign on
Behalf of employer/board)

SPECIMEN CONTRACT AGREEMENT

(To be executed on Rs. 300 non-judicial stamp paper)

[The successful tenders shall fill in this form in Accordance with the instructions indicated]

THIS CONTRACT AGREEMENT is made

The [insert: number] day of [insert: month], [insert: year]

Between

(1) The trustees of Deendayal port of Kandla, an autonomous body of the Ministry of Shipping of the Government of INDIA, incorporated under the major port trust Act, 1963 as amended thereafter, under the laws of India and having its principal place of business at A.O. Building, Post Box No. 50, Gandhidham-(Kutch), Gujarat State, India (here in after called " the port"), and

(2) [insert name of the contractor], [incorporated under] the laws of [country of contractor] and having its place of business at [insert: address of contractor] (here after called "the contractor")

WHEREAS the employer board invited tenders against tender no. [number] for execution of [tender title and brief description] and has accepted a tender by the contractor in accordance with the supply/delivery schedules, in the sum of [insert contract price in words and figures, expressed in the contract currency (ies)] (here after called "contract price")

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this agreement words and expressions shall have the same meanings as per respectively assigned to them in the conditions of contract refer to.
2. the following documents shall constitute the contract between the employer/ board and the contractor, and each shall be read and construed as an integral part of the contract:

- (a) This contract agreement;
- (b) Special conditions of contract;
- (c) General conditions of contract;
- (d) Technical requirements (including schedule of requirements and technical specifications, drawings);
- (e) Notice inviting tender;
- (f) Replies issued to the pre-bid queries, addenda if any issued [numbers and date];
- (g) The contractor's bid and original price and delivery schedules;
- (h) The employer/ board's notification of award;
- (i) [correspondence the employer/board has exchanged with the bidder till and after award of contract [specific letters and dates]
- (j) And [add here any other documents] AND

WHERE AS EMPLOYER/BOARD accepted the bid of CONTRACTOR for the provision and the execution of WORK at the CONTRACT PRICE as indicated in CONTRACT upon the terms and subject to the conditions of contract. Now this CONTRACT AGREEMENT witness and it is hereby agreed and declared as follows:

3. In consideration of the payment to be made to CONTRACTOR for work to be executed by him. CONTRACTOR hereby covenants with EMPLOYER/BOARD what CONTRACTOR shall and will duly provide, execute and complete work and things in CONTRACT, mentioned or described or which are to be implied there from or may be reasonably necessary for completion of work and the times and in the manner and subject to the terms and conditions or stipulations mentioned in CONTRACT.
4. In consideration of the due provision, execution and completion of work by the contractor in accordance with the terms of the contract, the employer/board does hereby agree with contractor that employer /board will pay to contractor the respective amounts for the work actually done by him ad approved by employer/board as per payment terms accepted in contract and payable to contractor under provision of contract at such manner as provided for in the contract.

5. In consideration of the due provision, execution and completion of work, contractor done hereby agree to pay such sums as may be due to employer/ board for the services rendered by employer/ board to contractor as set forth in contract and such other sums as may become payable to employer/ board towards loss, damage to the employer/ board's equipment, materials etc. and such payments to be made at such time and in such manner as is provided in the contract.

IN WITNESS where of the parties hereto have caused this agreement to be executed in accordance with the laws of [insert name of the contract governing law country] on the day, month and year indicated above.

For and behalf of the employer/ board

Signed: [insert signature]

In the capacity of [insert title or other appropriate designation]

In the presence of [insert identification of official witness]

For any behalf of the contractor

Signed: [insert signature of authorized representatives of the contractor]

In the capacity of [insert title or other appropriate designation]

In the presence of [insert identification of official witness]

SECTION 3

CONDITIONS OF CONTRACT

CONDITIONS OF CONTRACT

A. General

3.1 Definitions

- 3.1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings capital initials are used to identify defined terms.

Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.

Compensation Events are those defined in Clause 3.44

The Completion Date is the date of Completion of the Works as certified by the Nodal Officer or his nominee in accordance with Sub Clause 3.55.1

The Contract is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 3.2.2 below.

The Contract Data defines the documents and other information which comprise the Contract.

The Contractor is a person or corporate body who's Bid to carry out the Works has been accepted by Employer.

The Contractor's Bid is the completed Bidding documents submitted by the Contractor to the Employer.

The Contract Price is the stated in the letter of acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days, months are calendar months.

A Defect is any part of the Works not completed in accordance with the Contract.

The Defects Liability Period is the Period named in the Contract Data and calculated from the Completion Date.

The Employer is the party who will employ the contractor to carry out the Works.

The Nodal Officer or his nominee is the person named in the Contract Data (or any other Competent person appointed and notified to the contractor to act in replacement of the Nodal Officer or his nominee) who is responsible for supervising the Contractor, Administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the contract, awarding extensions of time and valuing the Compensation Events.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The Initial Contract Price is the Contract Price listed in the employer's Letter of Acceptance.

The Intended completion Date is the date on which it is intended that the Contractor shall complete the works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Nodal Officer or his nominee by issuing an extension of time.

Materials are all supplies, including consumables, used by the contractor for incorporation in the Works.

Plant is any integral part of the Works which is to have mechanical, electrical, electronic or chemical or biological function.

The Site is the area defined as such in the Contract Data.

Site Investigation Reports are those which were included in the Bidding documents and are factual interpretative reports about the surface and subsurface conditions at the site.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Nodal Officer or his nominee.

The Start Date is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Date.

A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the site.

Temporary Works are works designed, constructed, installed and removed by the Contractor which are needed for construction or installation of the Works.

A Variation is an instruction given by the Nodal Officer or his nominee which varies the Works.

The Works are what the Contract requires the Contractor to construct, install and turn over to the Employer as defined in the Contract Data.

The Trained Work Person are those employed/proposed to be employed by the Contractor at the Project Site, who have participated and are in possession of a valid

Competency Certificate through a program run under the auspices of a University, State Technical Board, Ministry of Government of India.

Board – Board of Trustees of the Deendayal Port, a body corporate under the Major Port Act, 1963 as amended from time to time.

Chairman means the Chairman of the Board of Trustees of Deendayal Port.

“Engineer-in-Charge” means the Chief Engineer of the Deendayal Port Trust.

3.2 Interpretation

In interpreting this Condition of Contract, singular also means plural, male also means female or neuter and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract instructions clarifying queries about the Conditions of Contract.

- 3.2.1 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).
- 3.2.2 The documents forming the Contract shall be interpreted in the following order of priority:
1. Agreement
 2. Letter of Acceptance and notice to proceed with Works Contractor’s Bid.
 3. Contract Data
 4. Conditions of Contract including Special Conditions of Contract
 5. Specifications
 6. Drawings
 7. Bill of quantities
 8. Any other documents listed in the Contract Data as forming part of the Contract.

3.3 Language and Law

- 3.3.1 The language of the Contract and the law governing the Contract are stated in the Contract Data.

3.4 Nodal Officer or his nominee's Decisions

- 3.4.1 Except where otherwise specifically stated, the nodal officer or his nominee will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

3.5 Delegation

- 3.5.1 The Nodal officer or his nominee may delegate any of the duties and responsibilities to other people except to the Conciliator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

3.6 Communications

- 3.6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act 1872).

3.7 Joint Venture

Companies/Contractors may jointly undertake contract/contracts. Each only would be jointly and severally responsible for completing the task as per the contract, however declaration of the Lead member to be indicated by bidders, however JV has to designate in their MOU. The firms with at least 26% equity holding each be allowed to jointly meet the eligibility criteria.

- i. A legally binding Joint venture / Consortium Agreement signed by authorized signatories of all the partners of the JV/Consortium, as per the proforma of joint venture/consortium agreement at section -8.
- ii. Power of attorney duly executed and signed by legally authorized signatories of all the partners, authorizing the Lead Partner (a) to submit bid, negotiate and conclude contract and incur all liabilities therewith on behalf of the partner(s) of the JV/Consortium during the bidding process; and (b) in the event of a successful bid, to incur liabilities and receive instructions for and on behalf of the partner(s) of the JV /Consortium and to carry out the entire execution of the contract including payment, exclusively through Lead Partner, as per the proforma of power- of-attorney for lead member of JV/ consortium at Section-8, which shall be duly authenticated by a notary public or equivalent certifying authority, shall be enclosed with the bid.
- iii. The bid and in the case of the successful bidder, the Agreement, shall be signed and / or executed in such a manner for making it legally binding on all partners (including operative parts of the ensuing Contract in respect of

Agreement of Arbitration, etc.). The Contract shall be signed by legally authorized signatories of all partners.

- iv. The Lead Partner shall be authorized to receive instructions for and on behalf of the partners of the Joint venture and entire execution of the Contract including payment shall be carried out exclusively through the Lead Partner. A Statement to this effect should be included in the Joint Venture Agreement.
- v. All partners of the Joint Venture shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms, and a Statement to this effect should be included in the Joint Venture Agreement.
- vi. Bid Security as required shall be furnished by Lead Member of Joint venture.
- vii. Performance Guarantee, as required, will be furnished by Lead Member of Joint venture.
- viii. Participation by a firm in more than one JV /Consortium is not permissible. A firm who submits bid on individual capacity is not eligible to be a partner of a JV /Consortium. In case a firm's name appears in more than one bid then both application may be rejected.
- ix. Each partner must submit the complete documentation, or portions applicable thereto, required qualifying the firm for bidding.
- x. All the partners of the JV/Consortium shall be jointly and severally liable for due performance, recourse/sanctions within the joint venture in the event of default of any partner and arrangements for providing the required indemnities.
- xi. Notwithstanding demarcation or allotment of work among the partners, each partner shall be liable for non-performance of the whole contract irrespective of their demarcation or share of work.
- xii. The Lead Partner shall be authorized to act on behalf of the JV/Consortium.
- xiii. All the correspondences between the Employer and the contractor shall be routed through the Lead Partner.
- xiv. In the event of default by the Lead Partner, it shall be construed as default of the Contractor; and Employer will take action under relevant clause(s) of the Bid Document and/or General Terms and Conditions of Contract.
- xv. An undertaking that all the partners are jointly and severally liable to the Employer for the performance of the contract shall be enclosed with the bid.
- xvi. In the event of any partner leaving the JV, it shall be intimated to the Employer within 30 days by other partner(s). Failure to do so shall be construed as default of the contractor and the Employer may take action under relevant clause(s) of the Bid Document and/or General Terms and Conditions of Contract.
- xvii. The contractor shall not alter its composition or legal status without the prior written permission of the Employer. Failure to do so shall be construed as

default of the contractor and the Employer may take action under relevant clause(s) of the Bid Document and/or General Terms and Conditions of Contract.

- xviii. One of the partners of JV/Consortium should have downloaded the bid documents.

Note: JVs/ Consortia be allowed in all contracts of estimated cost of more than Rs. 5 crores. However, there shall be no limit on the number of partners.

3.8 Sub-contracting

- 3.8.1 The Contractor may subcontract with the approval of the Nodal Officer or his nominee but may not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

3.8.2 Other Contractor

The Contractor shall co-operate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of other contractors. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

3.9 Personnel

- 3.9.1 The contractor shall employ the key personnel named in the schedule of key personnel as referred to in the contract Data to carry out the functions stated in the schedule or other personnel approved by the Nodal officer or his nominee. The Nodal Officer or his nominee will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal or better than those of the personnel listed in the schedule.
- 3.9.2. If the Nodal Officer or his nominee asks the Contractor to remove a person who is a member of the Contractor's staff of his work force stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connections with the work in the Contract.

3.10 Employer's and Contractor's Risks

- 3.10.1 The Employer carries the risks which this contract states are Employer's risks and the Contractor carries the risks which this Contract states are Contractor's risks.

3.11 Employers Risks

- 3.11.1 The Employers risks are

(a) In so far as they directly affect the execution of the Works in the country where the Permanent Works are to be executed:

- (i) War and hostilities (whether war be declared or not), invasion, act of foreign enemies:
 - (ii) Rebellion, revolution, insurrection, or military or usurped power, or civil war,
 - (iii) Ionizing radiations, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste, from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof:
 - (iv) Pressure waves caused by air craft or other aerial device traveling at sonic or upper sonic speeds; and
 - (v) riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors and arising from the conduct of the Works;
 - (vi) floods, tornadoes, earthquakes and landslides
- (b) Loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;
- (c) Loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and
- (d) Any operation of the forces of nature (in so far as it occurs on the Site) which an experienced contractor:
- (i) could not have reasonably for seen, or
 - (ii) Could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures.
 - A. Prevent loss or damage to physical property from occurring by taking appropriate measures, or
 - B. Insure against.

3.12 Contractor's risks

3.12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

3.13 Insurance

3.13.1 The Contractor shall provide in the joint names of the employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles state in the Contract Data for the following events which are due to the Contractors risks.

- (a) Loss of or damage to the Contractors risks.
- (b) Loss of or damage to Equipment;
- (c) Loss of or damage property (except the Works, Plant, Materials and Equipment in connection with the Contract, and
- (d) Personal injury of death.

3.13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Nodal Officer or his nominee for the Nodal Officer or his nominee's approval before Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

3.13.3. If the Contractor does not provide any of the policies and certificates required, the Employer may affect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment of the premiums shall be a debt due.

3.13.4. Alternate to the terms of insurance shall not be made without the approval of the Nodal Officer or his nominee.

3.13.5. Both parties shall comply with all conditions of the insurance policies.

3.14. Site Investigation Reports

3.14.1 The Contractor, in preparing the Bid, shall rely on the Investigation Report referred to in the Contract Data, supplemented by any information available to the Bidder.

3.15. Queries about the Contract Data

3.15.1 The Nodal Officer or his nominee will clarify queries on the Contract Data.

3.16. Contractor to construct the Works

3.16.1. The Contractor shall construct and install the Works in accordance with the Specification and Drawings.

3.17. The Works to Be Completed by the Intended Completion Date

3.17.1. The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor as updated with the approval of the Nodal Officer or his nominee, and complete them by the Intended Completion Date.

3.18. Approval by the Nodal Officer or his nominee

3.18.1. The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Nodal Officer or his nominee, who is to approve them if they comply with the specifications and Drawings.

3.18.2. The Contractor shall be responsible for design of Temporary Works.

3.18.3. The Nodal Officer or his nominee's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

3.18.4. NIL

3.18.5. All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Nodal Officer or his nominee before their use.

3.19. Safety

3.19.1 The Contractor shall be responsible for the safety of all activities on the Site.

3.20 Discoveries

3.20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The contractor is to notify the Nodal Officer or his nominee of such discoveries and carry out the Nodal Officer or his nominee's instructions for dealing with them.

3.21 Possession of the Site

3.21.1 The Employer shall give possession of all parts of the Site to the Contractor, free from encumbrances. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be a Compensation Event.

3.22. Access to the Site

3.22.1. The Contractor shall allow the Nodal Officer or his nominee and any person authorized by the Nodal Officer or his nominee access to the Site to any place where work in connection with the Contract is being carried out or is intended to be carried

out and to any place where materials or plant are being manufactured, fabricated and/or assembled for the works.

3.23. Instructions

3.23.1. The Contractor shall carry out all instructions of the Nodal Officer or his nominees who comply with the applicable laws where the Site is located.

3.24. Disputes

3.24.1. If the Contractor believes that a decision taken by the Nodal Officer or his nominee was either outside the authority given to the Nodal Officer or his nominee by the Contract or that the decision was wrongly taken, the decision shall be referred to the conciliator within 28 days of the notification of the Nodal Officer or his nominee's decision.

3.25. Settlement of Disputes

3.25.1. If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or after termination of the Contract, including any disagreement by either party with any action, inaction, opinion, instruction, determination, certificate or valuation of the Nodal Officer or his nominee, the matter in dispute shall, in the first place be referred to the Disputes Review Board [DRD] in case of contracts valuing more than Rs.5 crores and above, and for contracts valuing less than Rs. 5 crores, the disputes will firstly be settled by the Conciliator, failing which any party may invoke arbitration clause.

Unless the Contract has already been repudiated or terminated or frustrated the Contractor shall in every case, continue to proceed with the Works with all due diligence and the Contractor and the Employer shall give effect forthwith to every decision of the Nodal Officer or his nominee unless and until the same shall be revised, as hereinafter provided, by the conciliator or in a Dispute Review Board recommendation / Arbitral Award.

3.25.2. Decision by Conciliator

- (i) The Conciliator shall give a decision in writing within 28 days receipt of a notification of a dispute.
- (ii) Conciliator shall be paid daily at the rate specified in the contract data together with reimbursable expenses of the types specified in the contract data and the cost shall be divided equally between the Employer and the contractor, whatever decision is reached by the conciliator, either party may refer a decision of the conciliator within 28 days of the conciliator's written decision. If neither party refers the disputes to arbitration within 28 days, the conciliator's decision will be final and binding.

3.25.3 Arbitration

Any dispute in respect of contracts where party is dissatisfied by the Conciliator's decision shall be decided by arbitration as set forth below:

- (i) A dispute with Dispute review expert shall be finally settled by arbitration in accordance with the Indian Arbitration and Conciliation Act, 1996, or any statutory amendment thereof. The arbitral tribunal shall consist of 3 arbitrators, one each to be appointed by the Employer and the Contractor, and the third to be appointed by the mutual consent of both the arbitrators, failing which by making a reference to CIDC-SIAC Arbitration Centre from their panel.
- (ii) Neither party shall be limited in the proceeding before such arbitrations to the evidence nor did arguments already put before the Nodal Officer or his nominee or the Board, as the case may be, for the purpose of obtaining said recommendations/decision. No such recommendations/decision shall disqualify the Nodal Officer or his nominee or any of the members of the Board, as the case may be, from being called as a witness and giving evidence before the arbitrators or any matter whatsoever relevant to the dispute.
- (iii) The reference to arbitration shall proceed notwithstanding that the works shall not then be or be alleged to be complete, provided always that the obligations of the Employer, the Nodal Officer or his nominee and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the works. Neither party shall be entitled to suspend the works to which the dispute relates, and payment to the contractor shall be continued to be made as provided

by the contract.

- (iv) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause [i], within 14 days after receipt of the notice of the appointment of its arbitrator by the other party, then chairman of the nominated Institution shall appoint arbitrator within 14 days of the receipt of the request by the nominated institution. A certified copy of the chairman's order, making such an appointment shall be furnished to both the parties.
- (v) Arbitration proceedings shall be held at, and the language of the arbitration proceeding and that of all documents and communications between the parties shall be 'English'
- (vi) The decision of the majority of arbitrators shall be final and binding upon both parties. The expenses of the arbitrators as determined by the arbitrators shall be shared equally by the Employer and the Contractor. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its case prior to, during and after the arbitration proceedings shall be borne by each party itself.
- (vii) All arbitration awards shall be in writing and shall state the reasons for the award.
- (viii) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the employer shall not be withheld, unless they are subject matter of the arbitration proceedings.

3.26. Replacement of Conciliator

- 3.26.1 Should the Conciliator resign or die, or should the Employer and the Contractor agree that the conciliator is not fulfilling his functions in accordance with the provisions of the Contract; a new Conciliator will be jointly appointed by the Employer and the Contractor.

In case of disagreement between the Employer and the Contractor, within 30 days the Conciliator shall be appointed by the Appointing Authorities designated in the Contract Data at the request of either party within 14 days of receipt of such request.

B. TIME CONTROL

3.27 Program

- 3.27.1 Within the time stated in the contact data the contractor shall submit to the Nodal officer or his nominee for approval a program showing the general methods arrangements, order, and timing for all the activities in the works along with monthly cash flow fore cast.
- 3.27.2. An update of the program shall be a program showing the actual progress achieved on the timing of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 3.27.3. The contractor shall submit to the Nodal Officer or his nominees, for approval an updated program at intervals no longer than the period stated in the contract data. If the contractor does not submit an updates program within this period, the Nodal Officer or his nominee may withhold the amount stated in the contract data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted.
- 3.27.4 The nodal officer or his nominee's approval of the program shall not alter the contractor's obligations. The contractor may revise the program and submit it to the nodal officer or his nominee again at any time. A revise program is to show the effect of variations and compensation events.

3.28 Extension of the intended completion date

The nodal officer or his nominee shall extend the intended completion date if a compensation event occurs or a variation is issued which makes it impossible for completion to be achieved by the intended completion date without the contractor taking steps to accelerate the remaining work and which would cause the contractor to incur additional cost. The nodal officer or his nominee shall decide whether and by how much to extend the intended completion dates within 21 days of the contractor asking the Nodal Officer or his nominee for a decision up on the effect of a compensation event or variation and submitting full supporting information. If the contractor has failed to give early warning of a delay or has failed to cooperate in assessing the new intended completion date.

3.29 The Early Warning Provisions shall be as per clause 3.32

3.30 Delays Ordered by the Nodal Officer or his nominee

3.30.1 The Nodal Officer or his nominee may instruct the contractor to the start or Progress of any activity within the works.

3.31. Management Meeting

3.31.1. Either the Nodal Officer or his nominee or the contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

3.31.2. The Nodal Officer or his nominee shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the employer. The responsibility of the parties for actions to be taken is to be decided by the Nodal Officer or his nominee either at the management meeting or after the management meeting and state in writing to all attended the meeting.

3.32. Early warning

3.32.1. The contractor is to warn the Nodal Officer or his nominee at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the contract price or delay the execution of works. The Nodal Officer or his nominee may require the contractor to provide an estimate of the expected effect of the event or circumstances on the contract price and completion date. The estimates are to be provided by the contractor as soon as reasonably possible.

3.32.2. The contractor shall cooperate with the Nodal Officer or his nominee in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Nodal Officer or his nominee.

3.32.3. The Defect Liability period for the contract shall be **12 months** from the date issue of completion certificate.

C. QUALITY CONTROL

3.33. Identify Defects

3.33.1. The Nodal Officer or his nominee shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the

Contractor's responsibilities. The Nodal Officer or his nominee may instruct the Contractor to search for a Defect and to uncover and test any work that the Nodal Officer or his nominee considers may have a Defect.

3.34. Tests

3.34.1. If the Nodal Officer or his nominee instructs the Contractor to carry out a test not specified in the specification to check whether any work has a Defect and the test shows that it does the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

3.35. Correction of Defects

3.35.1 The Nodal Officer or his nominee shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

3.35.2. Every time notice of a Defect is given the Contractor shall correct the notified Defect within the length of time specified by the Nodal Officer or his nominee's notice.

3.36. Uncorrected Defects

3.36.1. If the Contractor has not corrected a Defect within the time specified in the Nodal Officer or his nominee's notice the Nodal Officer or his nominee will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

D. COST CONTROL

3.37. Bill of Quantities

3.37.1. The Bill of Quantities shall contain items for the construction, supply, installation, testing and commissioning work to be done by the Contractor.

3.37.2. The bill of quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item as jointly measured by both the representatives.

3.38. Changes in the Quantities

- 3.38.1. If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than + 25 percent provided the change exceeds + 10% of initial Contract Price, the Nodal Officer or his nominee shall adjust the rate (s), to allow for the change, in accordance with Clause 3.40.
- 3.38.2. The Nodal Officer or his nominee shall not adjust rates from changes in quantities if thereby the initial Contract Price is exceeded by more than 15 percent except with prior approval of the Employer.
- 3.38.3. If requested by the Nodal Officer or his nominee where the quoted rate (s) of any item(s) is/are abnormally high, the Contractor shall provide the Nodal Officer or his nominee with a detailed cost breakdown of such rate in the Bill of Quantities.

3.39. Variations

- 3.39.1. All Variations shall be included in updated programs produced by the Contractor.

3.40. Payment for Variations

- 3.40.1. Variation permitted shall not exceed +25% in quantity of each individual item, and +10% of the total contract price, within 14 days of the date of instruction for executing varied work, extra work or substitution, and before the commencement of such work, notice shall be given either (a) by the contractor to the Employer of his intention to claim the extra payment or a varied rate or price, or (b) by the Employer to the contractor of his intention to vary rate or price.
- 3.40.2. For items not existing in the Bill of Quantities or substitution to items in the Bill of Quantities, rate payable should be determined by methods given below and in the order given below:
- 1) Rates and prices in Contract, if applicable plus escalation as per contract.
 - 2) Rates and prices in the schedule of rates applicable to the contract plus ruling percentage.
 - 3) Market rates of materials and labour, hire charges of plant and machinery used, plus 10% for overheads and profits of Contractors.
- 3.40.3. For items in the Bill of quantities but where quantities have increased beyond the variation limits, the rate payable for quantity in excess of the quantity in the Bill of Quantity plus the permissible variation should be:

- 1) Rates and prices in contract, if reasonable plus escalation, failing which (ii) and (iii) below will apply?
- 2) Rates and prices in the schedule of Rates applicable to the contract plus ruling percentage,
- 3) Market rates of material and labour, hire charges of plant and machinery used plus 15% for overheads and profits of contractor.

3.40.4 If there is delay in the Employer and the contractor coming to an agreement on the rate of an extra item, rates as proposed by the employer shall be payable provisionally till such time as the rates are finally determined or till date mutually agreed.

3.40.5. If the Nodal officer or his nominee decides that the urgency of varying the work prevent a quotation being given and considers not delaying the work, no quotation shall be given and the variation shall be treated as a Compensation Event.

3.41 Cash flow forecasts

3.41.1 When the program is updated, the contractor is to provide the Nodal Officer or his nominee with an updated cash flow forecast.

3.42 Payment Certificates

3.42.1 The contractors shall submit to the Nodal Officer or his nominee monthly statements of the estimated value of the work completed less the cumulative amount certified previously.

3.42.2 The Nodal Officer or his nominee shall check the Contractors' monthly statement within 14 days and certify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amount and under conditions set forth in sub clause 3.51.6 of the Contract Data (Secured Advance).

3.42.3 The value of work executed shall be determined by the Nodal Officer or his nominee.

3.42.4 The value of work executed shall comprise the value of quantities of the items in the Bill of quantities completed.

3.42.5 The value of work executed shall include the valuation of variations and Compensation Events.

3.42.6 The Nodal Officer or his nominee may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

3.43. Payments

- 3.43.1 Bills shall be prepared and submitted by the Contractor, joint measurements shall be taken continuously and need to be connected with billing stage. System of 4 copies of measurements, one each for Contractor, Employer and Nodal Officer or his nominee, and signed by both Contractor and Employer shall be followed.
- 3.43.2. 75% of bill amount shall be paid within 14days of submission of the bill. Balance amount of the verified bill should be paid within 28 days of the submission.
- 3.43.3 For delay in payment beyond the periods specified in 3.43.2 above, interest at a pre-specified rate (suggested rate **SBI PLR + 2%**) p.a as on due date of payment) should be paid.
- 3.43.4. Contractor shall submit final Bill within 60 days of issue of defects liability certificate. Client's Nodal Officer or his nominee shall check the bill within 60 days after its receipt and return the bill to Contractor for corrections, if any 50% of undisputed amount shall be paid to the contractor at the stage of returning the bill.
- 3.43.5 The Contractor should re-submit the bill, with corrections within 30 days of its return by the Nodal Officer or his nominee. The re-submitted bill shall be checked and paid within 60 days of its receipt.
- 3.43.6 Interest at a pre-specified rate (suggested rate SBI PLR+ 2% p.a. as on due date of payment) shall be paid if the bills is not paid within the time limit specified above.
- 3.43.7 If an amount certified is increased in later certificates as a result of an award by the Conciliator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.
- 3.43.8 Items of the Works for which no rate or price has been entered in will not be paid for by the employer and shall be deemed covered by other rates and prices in the Contract.

3.44. Compensation Events

- 3.44.1 The following mutually agreed Compensation Events unless they are caused by the Contractor would be applicable.
- (a) The Employer does not give access to a part of the Site by the site.Possession Date stated in the Contract Date.

- (b) The Employer modifies the schedule of other contractors in a way which affects the work of the contractor under the contract.
- (c) The Nodal Officer or his nominee orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.
- (d) The Nodal Officer or his nominee instructs the Contractor to uncover to carry out additional tests work which is then found to have no Defects.
- (e) The Nodal Officer or his nominee unreasonably does not approve for a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the site.
- (g) The Nodal Officer or his nominee gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities or the Employer does not work within the dates and other constraints stated in the Contract that cause delay or extra cost to the Contractor.
- (i) The advance payment is delayed.
- (j) The effect on the Contractor of any of the Employer's Risks.
- (k) The Nodal Officer or his nominee unreasonably delays issuing a Certificate of Completion.
- (l) Other Compensation Events listed in the Contract Data or mentioned in the contract.
- (m) Whenever any compensation event occurs, the contractor will notify the employer, within 14 days and provide a forecast cost of the compensation event.

3.44.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the intended Completion Date, the Contract Price shall be increased and/or the intended Completion Date shall be extended. The Nodal Officer or his nominee shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

3.44.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast has been provided by Contractor, it is to be assessed by the Nodal Officer or his nominee and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable the Nodal officer or his nominee shall adjust the Contract Price based on Nodal Officer or his nominee's own forecast. The Nodal Officer or his nominee will assume that the Contractor will react competently and promptly to the event.

3.45. Tax

3.45.1. The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at sources as per applicable law. Any new Taxes, levies, duties imposed after signing the Contract shall be reimbursed by the employer on production of documentary evidence.

3.46. Currencies

3.46.1. All payments shall be made in Indian Rupees unless specifically mentioned.

3.47. Price Adjustment

3.47.1. Contract price shall be adjusted for increase or decrease in rates and prices of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formula given. The price adjustment shall apply for the work done from the start date given in the Contract data upto end of the initial intended completion date or extensions granted by the Nodal Officer or his nominee and shall not apply to the work carried beyond the stipulated time for reason attributable to the contractor.

(i) Price adjustment for increase or decrease in the cost shall be paid in accordance with the following formula:

$$V = 0.85 \times Q \times R \times [(P - P_o) / P_o]$$

Where,

V = Variation in price on account of Labour/ Diesel/ Cement/ Steel/ All Commodities during the month under consideration.

Po = Market rate of Diesel/ Cement/ Steel/ All Commodities on the date of opening of Technical bid. (Consumer Price Index for Labour).

P = Market rate of Diesel/ Cement/ Steel/ All Commodities during the month under consideration. (Consumer Price Index for Labour).

Q= Percentage of Labour/ Diesel/ Cement/ Steel/ All Commodities.

R=Value of work done during the month under consideration.

Note: i) Escalation to be computed for relevant items. Percentage that shall govern the escalation under Q shall be predetermined and indicated in tender document for each component i.e. Labour, Fuel, Cement, Steel, All commodities etc.

	Labour	Diesel	Cement	Steel	All Commodities
Q (%)	25%	10%	25%	5%	35%
P	All India Consumer Price Index for Industrial Workers for the month under consideration as published in the RBI Bulletin /Indian Labour Journal. Base 2016=100 or Latest	Retail Price of HSD received at Kandla by M/s. IOCL for the month under consideration	Wholesale Price Index for Cement for the month under consideration as published in RBI Bulletin/Indian Labour Journal (Base 2011-12 = 100/latest)	Wholesale Price Index for Steel for the month under consideration as published in RBI Bulletin/Indian Labour Journal (Base 2011-12 = 100/latest)	Wholesale Price Index for All Commodities for the month under consideration as published in RBI Bulletin/Indian Labour Journal (Base 2011-12 = 100/latest)
Po	All India Consumer Price Index for Industrial Workers as prevalent in the month in which bids are opened & as published in the RBI Bulletin/ Indian Labour Journal.	Retail Price of HSD received at Kandla by M/s. IOCL as on the date of opening of Bids.	Wholesale Price Index for Cement ruling in the month in which the Bids are opened and as published in RBI Bulletin/Indian Labour Journal (Base 2011-12 = 100)	Wholesale Price Index for Steel ruling in the month in which the Bids are opened and as published in RBI Bulletin/Indian Labour Journal (Base 2011-12 = 100)	Wholesale Price Index for All Commodities ruling in the month in which the Bids are opened and as published in RBI Bulletin/Indian Labour Journal (Base 2011-12 = 100)

3.47.2. NIL

3.47.3. To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amount to cover the contingency of such other rise or fall incosts.

SUBSEQUENT LEGISLATION

If, after the date 28 (Twenty eight) prior to the date for submission of tenders for the contract there occur changes to any National or Statute Stature, Ordinance or Decree or other law or any regulation or bye law of any local or other duly constituted authority or introduction of any such statute, ordinance, decree, law, regulation or bye law which causes additional or reduced cost to the contractor in execution of the contract, such additional or reduced cost shall, after due consultation with the employer and the contractor be determined by the nodal officer or his nominee and shall be added to or deducted from the contract price and the nodal officer or his nominee shall notify the contractor accordingly with a copy to the employer.

3.48. Nill

3.49. Liquidated damages

(A) In case of delay in completion of the contract, liquidated damages (L.D) may be levied at the rate of $\frac{1}{2}$ % of the contract value per week of delay or part thereof, subject to a maximum of 10 percent of the contract price.

(i) The owner if satisfied, that the works can be completed by the contractor within a reasonable time after the specified time for completion, may allow further extension of time at its discretion with or without the levy of L.D. In the event of extension of time at its discretion with L.D, the owner will be entitled without prejudice to any other right or remedy available in that behalf per cent (1/2%) of the contract value of the works for each week or part of the week subject to the ceiling defined in sub-clause 3.49.A.

(ii) The owner ,if not satisfied that the works can be completed by the contractor, and in the event of failure on the part of the contractor to complete work with in further extension of time allowed as aforesaid, shall be entitled, without prejudice to any other right, or remedy available in that behalf, to rescind the contract.

(iii) The owner, if not satisfied with the progress of the contract and in the event of failure of the contractor to recoup the delays in the mutually agreed time frame, shall be entitled to terminate the contract. In the event of such termination of the contract as described in clauses 3.49A(ii) or 3.49A(iii) or both the owner shall be entitled to recover L.D. up to ten per cent (10%) of the contract value and forfeit the security deposit made by the contractor besides getting the work completed by other means at the risk and cost of the contractor.

(iv) The ceiling of LD shall be 10% of the cost of work.

(v) In case part / portions of the work can be commissioned and port operates the portion for commercial purpose, the rate of LD will be restricted to the uncompleted value of work, the maximum LD being on the entire contract value.

Note: Contract price for LD shall be inclusive of tender price plus taxes and duties.

3.50. Incentives or Bonus

For early completion of the contract before the stipulated date of completion of work an incentive amount at the rate of 0.25 % contract price may be paid to the Contractor for every fortnight of early completion, subject to a maximum of cap of 5% of the contract price.

The Port, if satisfied, that the works can be completed by the contractor within a reasonable time after the specified time for completion, may allow extension of time at its discretion, by virtue of which the contractor make himself eligible for incentive, the extension shall be considered only till the actual date of completion and no incentive shall be payable. For calculation of incentive payment, contract price shall be exclusive of tender price plus taxes and duties.

3.51. Advance payment Mobilization Advance

(a) The Mobilization advance shall not be sanctioned in less than two installments.

The second installment is sanctioned only after proper utilization of advance disbursed in first phase and a certification to this effect by E-I-C.

(b) The advance shall be limited to 10% of tendered amount.

(c) Interest free advance shall not be granted. Rate of Interest shall be SBI Lending Rate+2%.

(d) The mobilization advance shall be released only after obtaining a bank Guarantee bond from a nationalized bank for 110% (as per latest CVC directions) of amount

of advance to be released and valid for the contract period. This shall be kept renewed time to time to cover the balance amount and likely period to complete recovery together with interest.

- (e) The original bank guarantee should be received by DPT directly from the issuing authority by Registered Post [AD]. However, in exceptional cases, where the guarantee is handed over to the customer for any genuine reasons, the branch should immediately send by Registered Post [AD] an unstamped by the E-I-C.
- (f) The interest on the advance shall be calculated from the date of payment to the date of recovery, both days inclusive.
- (g) It shall be ensured that at any point of time, Bank Guarantee is available for the amount of outstanding advance.
- (h) The recovery should be commenced after 10% of work is completed and the entire amount together with interest shall be recovered by the time 80% of the work is completed. However, the interest recovery shall be effected immediately from the 1st release of payments towards execution of the work.
- (i) If the contractor fails to achieve the targeted progress at the end of 50% of time period the mobilization advance may be recovered by encashing the bank guarantee, provided no hindrance/delay was caused by the department.

3.52. Performance Securities

“Security Deposit shall consist of Performance Guarantee to be submitted at award of work. Performance guarantee should be 3% of the contract price which should be submitted in the form of Bank Guarantee of Nationalized/Scheduled bank having its branch at Gandhidham, or Demand Draft within (21 days in case of domestic bids and within 28 days in case of global bids) of receipt of Letter of Acceptance/Intent which will be refunded immediately not later than 14 days from completion of defect liability period.

Failure of the Successful Bidder to comply with the requirements as mentioned above shall constitute sufficient grounds for cancellation of the award of work and the bidder can be disqualified from bidding for any contract with DPT for a period of three years from the date of notification.”

3.53. NIL

3.54. Cost of Repairs

- 3.54.1 Loss or damage to the works or materials to be incorporated in the works between the start date and the end of the defects correction period shall be remedied by the Contractor at the Contractors cost if the loss or damage arises from the Contractors acts or omissions.

E. FINISHING THE CONTRACT

3.55. Completion

- 3.55.1. After completion of the work, the contractor will serve a written notice to the Nodal Officer or his Nominee/Employer to this effect. The Nodal officer or his Nominee/Employer upon receipt of this notice shall conduct a complete joint survey of the work within 7 days and prepare a defects list jointly. The defects pointed out by the Nodal Officer or his nominee/Employer would be rectified by the contractor within 14 days and thereafter acceptance report be signed jointly by the contractor and the employer. This joint acceptance report shall be treated as "Completion Certificate".

3.56 Taking over

- 3.56.1 The employer shall take over the site and the works within seven days of the Nodal Officer or his nominee issuing a certificate of completion.

3.57 Final Account

- 3.57.1 The Contractor shall supply to the Nodal Officer or his nominee a detailed account of the total amount that the Contractor considers payable under the contract before the end of the Defects Liability period. The Nodal Officer or his nominee shall issue a defects liability certificate and certify any final payment that is due to the contractor within 60 days of receiving the contractor's account if it is correct and complete. If it is not, the Nodal Officer or his nominee shall issue within 15 days a schedule that states the scope of the corrections or additions that are necessary for the correction and certify payment of 50% of the undisputed amount to the contractor.

If the final account is still unsatisfactory after it has been resubmitted the Nodal Officer or his nominee shall decide on the amount payable to the contractor and issue a payment certificate, within 60 days of receiving the contractor's revised account.

3.58 Operating and Maintenance Manuals

- 3.58.1 If “as built” Drawings and /or operating and maintenance manuals are required the contractor shall supply them by the dates stated in the Contract Data.
- 3.58.2 If the contractor does not supply the drawings and /or manuals by the dates stated in the contract data, or they do not receive the Nodal Officer or his nominee’s approval, the Nodal Officer or his nominee shall withhold the amount stated in the contract data from payments due to the contractor.

3.59 Termination

- 3.59.1 The employer or the Contractor may terminate the contract if the other party causes a fundamental breach of the contract.
- 3.59.2 Fundamental breaches of contract include, but shall not be limited to the following:
- (a) The contractor stops work for 28 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Nodal Officer or his nominee.
 - (b) The Nodal Officer or his nominee instructs the contractor to delay the progress of the work and the instruction is not withdrawn within 28 days.
 - (c) The employer or the contractor becomes bankrupt or goes into liquidation other than for a reconstruction restructure or amalgamation.
 - (d) A payment certified by the Nodal Officer or his nominee is not paid by the employer to the contractor within 50 days of the date of the Nodal Officer or his nominee’s certificate.
 - (e) The Nodal Officer or his nominee gives Notice the failure to correct a particular defect is a fundamental breach of contract and the contractor fails to correct it within a reasonable period of time determined by the Nodal Officer or his nominee.
 - (f) The contractor does not maintain a security which is required.
 - (g) The contractor has delayed the completion of works by the number days for which the maximum amount of liquidated damages can be paid as defined in the contract data and
 - (h) If the contractor, in the judgment of the employer has engaged in corrupt or fraudulent practices in competing for or in the executing the contract.

(i) If the contractor has contravened clause 1.37 and clause 3.9 of condition of contract. For the purpose of this paragraph: “corrupt practice” means the offering, giving receiving or soliciting of anything of value to influence the action of public officials in the procurement process or in contract execution. “Fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the employer, and includes collusive practice. Bidders (prior to or after bid submission) designed to establish bid prices at artificial non- competitive levels and to deprive the employer of the benefits of free and open competition”.

3.59.3 When either party to the contract gives notice of a breach of contract to the Nodal Officer or his nominee for a cause other than those listed under sub Clause. 3.59.2 Above, the Nodal Officer or his nominee shall decide whether the breach is fundamental or not.

3.59.4 Notwithstanding the above, the employer may terminate the contract for convenience subject to payment of compensation to the contractor including loss of profit on uncompleted works. Loss of profit shall be calculated on the same basis as adopted for calculation of extra/additional items.

3.59.5 If the contract is terminated the Contractor shall stop work immediately, make the site safe and secure and leave the site as soon as reasonably possible.

3.60. Payment upon Termination

3.60.1 If the contract is terminated because of a fundamental breach of contract by the contractor, the Nodal Officer or his nominee shall issue a certificate for the value of the work done less advance payments received upto the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the contract data. Additional liquidated damage shall not apply if the total amount due to the employers exceeds any payment due to the contractor, the difference shall be payable to the employer.

3.60.2 If the contract is terminated at the employer’s convenience or because of a fundamental breach of contract by the employer, the Nodal Officer or his nominee shall issue a certificate for the value of the work done, the reasonable employed solely on the works, and the contractor’s costs of protecting and securing the works and loss

of profit on uncompleted works less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

3.61. Property

3.61.1 All materials on the Site, Plant, Equipment, Temporary Works and Works for which payment has been made to the contractor by the Employer, are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

3.62 Release from Performance

3.62.1 If the Contract is frustrated by the outbreak of war or by other event entirely outside the control of either the Employer or the Contractor, the Nodal Officer or his nominee shall certify that Contract has been frustrated. The Contractor shall leave the Site and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

3.63 NIL

F. SPECIAL CONDITIONS OF CONTRACT

1. LABOUR

The contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Nodal Officer or his nominee, deliver to the Nodal Officer or his nominee a return in detail, in such form and at such intervals as the Nodal Officer or his nominee may prescribe, showing the staff and numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Nodal Officer or his nominee may require.

2. COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactment and rules made there under, regulations, Notifications and by laws of the State or Central Government or local authority and any other labour law (including rules) regulations, bye laws that may be passed or

notification that may be issued under any labour law in future either by the State or Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below.

The Contractor shall keep the Employer indemnified in case any action is taken against the employer by competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications / bye laws / Acts/ Rules / regulations including amendments, if any, on the part of the Contractor the Nodal Officer or his nominee/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Nodal Officer or his nominee shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

SALIENT FEATURES OF SOME MAJOR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.

- (a) Workmen Compensation Act 1923:- The act provides for compensation in case of injury by accident arising out of and during the course of employment.
- (b) Payment of Gratuity Act 1972:- Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more on death at the rate of 15 days wages for every completed year of service. Act is applicable to all establishments employing 10 or more employees.
- (c) Employees P.F and Miscellaneous Provision Act 1952:- The Act Provides for monthly contribution by the employer plus workers @ 12%/8.33%. the benefits payable under the Act are:
 - Pension to family pension retirement or death, as the case may be. (ii) Deposit linked insurance on the death in harness of the worker, (iii) payment of P.F accumulation on retirement/death etc.

- (d) Maternity Benefit Act 1951:- The Act provides for leave and some other benefits to workmen/ employees in case of confinement or miscarriage etc.
- (e) Contract Labour (Regulation & Abolition) Act 1970:- The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- (f) Minimum Wages Act 1948:- The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment Construction of Buildings, Roads, Runways are scheduled employment.
- (g) Payment of Wages Act 1936:- It lays down as to by what date the wages are to be paid when it will be paid and what deductions can be made from the wages of the workers.
- (h) Equal Remuneration Act 1979:- The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- (i) Payment of Bonus Act 1965:- The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs. 3500/- per month or less. The bonus to be paid to employees getting Rs. 2500/- per month or above upto 3500/- per month shall be worked out by taking wages as Rs. 2500/- per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- (j) Industrial Disputes Act 1947:- The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lockout becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

- (k) Industrial Employment's (Standing Orders) Act 1946:- It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get same certified by the designated Authority.
- (l) Trade Unions Act 1926:- The Act lays down the procedure for registration of trade union of workmen and employers. The Trade Union registered under the Act have been certain immunities from civil and criminally abilities.
- (m) Child Labour (Prohibition & Regulation) Act 1986:-The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of Children in all other occupations and processes. Employment of Child Labor is prohibited in Building and Construction Industry.
- (n) Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979:-
The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home upon the establishment and back, etc.
- (o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service Act 1996 and the Cess Act of 1996:- All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or Construction work and other welfare measures, such as Canteens, First-Aid facilities. Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

(p) Factories Act 1948:- The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrence to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 more persons without the aid of power engaged in manufacturing process.

Contractor

Executive Engineer (C-I)
Deendayal Port Trust

SECTION 4

CONTRACT DATA

CONTRACT DATA

Items marked "N/A does not apply in this contract.

The above insertions should correspond to the information provided in the invitation of bids.

The employer is
Chairman,
Deendayal Port Trust, Kandla

Address: A.O. Building, P.O. Box No. 50, Gandhidham - 370201, Gujarat State, India

Employer's authorized representative is Chief Engineer Deendayal Port Trust.

The nodal officer or his nominee is
EXECUTIVE ENGINEER (C-I),
CONSTRUCTION-I DIVISION
DEENDAYAL PORT TRUST,
ROOM NO. 302, 2nd FLOOR,
AO BUILDING-ANNEX,
GANDHIDHAM KACHCHH-370201
GUJARAT STATE, INDIA,

Nodal officer's authorized representative is AXEN / AE

The conciliator appointed jointly by the employer and contractor is: **(Not Applicable)**

Name: - **Not Applicable**

Address:- **Not Applicable**

The name and identification number of the contract is **"Retrofitting of the Bunder Basin Structure"**

The works consist of **"Retrofitting of the Bunder Basin Structure"**

The start date shall be _____

The intended completion date for the whole of the work is **15 (Fifteen) Months.**

The following documents also form part of the contract

The contractor shall submit a program for the works immediately after delivery of the letter of acceptance.

The site possession dates shall be given after the award of work. The defect liability period is 12 Months (3.35). The minimum insurance cover for physical property, injury and death is **Rs.20.00 lakhs** per occurrence with the number of occurrences limited to four. After each occurrence, contractor will pay additional premium necessary to make insurance valid for four occurrences always.

Appointing authority for the Arbitrator is Chairman, DPT.

The following events shall also be Compensation Events. (3.44)

1. The Employer terminates the Contract from his convenience.
2. _____.
3. _____.
4. _____.

The period between programme updates shall be 15 days. (3.27)

The language of the contract documents is English (3.3)

The law, which applies to the contract, is law of Union of India (3.3)

The currency of the contract is Indian rupees (3.46)

Fees and types of reimbursable expenses to be paid to the
Dispute Review Expert (3.25)

Appointing authority for the Arbitrator is Chairman, DPT.

Escalation is Payable for contracts as per clause no. 47 of section – 3, subjected

to Special condition provision.

SECTION 5

SPECIFICATIONS AND SPECIAL CONDITIONS

5.0 Special Condition

The conditions of contract of Section 1 to 4 (hereinafter called as the General conditions) modified or added to by the following part i.e. Section-5, conditions of particular application which shall be read and construed with the General Conditions as if they were incorporated there with.

In so far as any of the conditions of particular application may conflict or be inconsistent with any of the General Conditions, particular Section-5 shall prevail.

5.01 The following clauses of the INSTRUCTION TO THE BIDDERS (Section- I) will not be applicable, which is superseded the earlier.

- (a) Clause 1.4.1 (h), 1.4.2 (j)
- (b) Clause 1.4.4
- (c) Clause 1.4.5 (Sub-contractor Experience & Resources)
- (d) Clause 1.8.2 (Bidding documents)
- (e) Clause 1.19.1, 1.19.2, 1.19.3 (sealing and marking of bids)
- (f) Clause 1.22.2 & 1.22.5 (Modification of withdrawal of Bid)
- (g) Clause 1.23.2, 1.23.3, 1.23.4 (Withdrawal)
- (h) Clause 1.26.4
- (i) Clause 1.27.1, 1.27.2 (Correction of errors)
- (j) Clause 1.34 (Advance payment)
- (k) Clause 1.35.1 (Conciliator)

5.02 The following clauses of Section-II will not be applicable, which is superseded the earlier.

- (a) The clauses c, d, g of the SPECIMEN FOR FORM OF BID.
- (b) Table at Sr. No. 7 of Information required by the employer (Section-2)

5.03 The following clauses of the CONDITION OF CONTRACT (Section-III) will not be applicable, which is superseded the earlier.

- (a) Clause 3.8.1 (Sub-contracting)
- (b) Clause 3.21.1 (Possession of site)
- (c) Clause 3.24.1 (Disputes)
- (d) Clause 3.25.1, 3.25.2, 3.25.3 (Settlement of disputes, decision by Conciliation, Arbitration)

- (e) Clause 3.26.1 (Replacement of Conciliator)
- (f) Clause 3.43.2, 3.43.3, 3.43.4, 3.43.5, 3.43.6, 3.43.7
- (g) Clause 3.44.1, 3.44.2, 3.44.3 (Compensation events)
- (h) Clause 3.45 (Tax)
- (i) Clause 3.50 (Incentive or Bonus)
- (j) Clause 3.51 (Advance Payment)
- (k) The Schedule of other contractors (3.8)
- (l) The schedule of key personnel (3.9)

5.03.1 The following clauses (Section-4 to 8) will not be applicable, which is superseded.

- (a) Conciliator is not applicable under contract data of (section-4)
- (b) The form for Dispute Review Board Agreement (section-8) & Exception & Deviations (Section-8).
- (c) The form for specimen Bank Guarantee for advance payment (Section -8).
- (d) The form for specimen Bank guarantee for stage payment (Section-8).

5.04 The following Existing clauses are Modified as under;

5.04.1 Section-I; Clause No. 1.4.1d; Details of Equipment's available with the bidder

5.04.1.1 Section-I; Clause No. 1.4.1e; Managerial/ Manpower Available with the Bidder.

5.04.1.2 Section-I; Clause No. 1.4.2d; Major items of construction equipment available with the bidder

5.04.1.3 Section-2; Table; 5 -The List of Equipment available with bidder.

5.04.1.4 Section-2; Table;6-Qualification and experience of key personnel available with the bidder. Attach biographical data.

5.05 Bidders are advised to consider the below points while submitting the offer :

- i) If multiple bidders submit work experience showing the same/particular work, then such experience will be considered of Main Contractor.
- ii) If tendered/bidder completed the works in private organization as stipulated in Minimum qualification Criteria (work experience) shall be considered only if CA certifying value of work done with TDS certificates (where applicable) / Bank statement will be required with respect to referred work is issued by Competent Authority needs to be enclosed by the tenderer along with the offer.
- iii) The completed works only is considered for qualification. Partly completed works or works are in progress shall not be considered for qualification.

- iv) If the work is completed successfully and contract is under maintenance period, such works are considered as a completed works for evaluation purposes.
- v) In case of any contract having material and labour components are controlled at different heads, in such cases the value of work indicated in work order and respective completion certificates only considered for experience.
- vi) If the tenderer have successfully completed the work (date of completion of work i.e. physically/actually completion irrespective of maintenance period) during last 7 years ending last day of month previous to the one in which applications are invited irrespective of date of commencement / start of work. Such experience of work is also considered for evaluation in work experience.
- vii) If the tenderer has executed "Similar works" in any Contract/Project/BOT Project/Turnkey Project etc. In those particular Projects/Contracts, if the cost of marine structure works (separately or combined) meets the requirement of MQC, such experience shall also be considered for evaluation.

5.06. Scope of work:

The work to be performed under the scope of this specification shall broadly include:

- i. Retrofitting of Bunder Basin Structure consisting
 - Replace the Mooring Facilities like Fender, Bollards, Ladder etc.
 - Jacketing the primary and secondary beams at berthing face, pile cap and other ancillary structures with additional reinforcement with M40 Grade of concrete wherever required to supplement the capacity. Treatment to arrest corrosion of reinforcement as well spalling of concrete.
 - Wearing Coat on Deck area as per specification.
- ii. Development/Upgradation of Stacking area of Bunder Basin.

The above work will be carried-out under the contract scope. Further, if required, the items mentioned in the BOQ shall also be executed in the Port area at any location as per the directions of the EIC during the entire contract period.

The Contractor has to carry out the site inspection and get acquainted with the work needs to be carried out before quoting. Available data in enclosed however, Contractor has to study in detail independently to assess the quantum and scope of work etc. if required.

Some indication of nature and extent of the works have been given on the drawings and those are preliminary only. Drawings showing complete nature and extent of the works will be furnished to the Contractor progressively during the execution of the work. Quantities indicated in the Schedule of Items are tentative and are subject to change. All items of work shall be executed in accordance with the relevant specification annexed thereto and the provisions of the contract.

- (a) Board: Board of trustees of Deendayal Port of Kandla. A body corporate under the Major Port Act, 1963 as amended from time to time.

(b) Chairman: means the Chairman of the Board of trustees of Deendayal Port of Kandla.

5.07. Drawings and Its Approval

- 5.07.1** The drawings enclosed with the tender documents to provide some idea of the job are preliminary for tender purpose only and are by no means complete and final, and do not show the full range of the work under the scope of the contract. Work shall be carried out only on the basis of drawings marked "Released for Construction" with addition, alteration and modifications made to aforesaid drawings from time to time and also according to other drawings that would be supplied to the Contractor from time to time.
- 5.07.2** For the departmental design all drawings which are reasonably required for execution of the work except erection drawings, shop drawings and drawings for temporary works will be supplied by the Engineer from time to time during execution of work and no dispute of this account shall be entertained.
- 5.07.3** Any further detailed working drawings which the contractor may prepare for a particular part of the work shall be submitted in duplicate for approval of the Nodal Officer or his nominee before the particular part of the work is taken in hand.
- 5.07.4** The contractor shall at the time of submitting such drawings call to the attention of the Nodal Officer to any alternative detail or modification of the contract drawings which the contractor may wish to make at least 7 days prior to the commencement of the work or part of the work to which such drawings relate.
- 5.07.5** The Nodal Officer will record on the copies as amended his approval, if he requires any of the alterations submitted by the Contractor and will return one copy to the Contractor who shall carry out the work in accordance therewith. The Contractor shall forward to the Nodal Officer three additional copies of the working, drawings as approved.
- 5.07.6** In addition to the aforesaid working drawings, working drawings are also to be submitted. (The same procedure being followed as described above) in respect of any, work proposed. The approval of the Nodal Officer of all or any of the drawings shall not relieve the Contractor of any liability of obligation under the contract in respect of the execution of the work.
- 5.07.7** In all cases where drawings are specified or required to be supplied by the Contractor for the approval of the Engineer for any work included in his contract any alteration to such drawings to satisfy the Engineer's requirement shall be made by the Contractor at no extra cost.
- 5.07.8 Drawings of Temporary Works**
At least one month before the date when the Contractor intends to start erecting, any part of the Temporary works and staging required for carrying out the work, he shall furnish to the Engineer complete drawings of that part of the temporary works and staging for reference. The Contractor shall at the same time, if so required by the Nodal Officer, furnish calculation in respect of such temporary works. The Contractor shall also furnish to the Nodal Officer drawings showing the method proposed for the

erection of the various parts of the works.

- 5.07.9** The furnishing to the Nodal Officer of any design for any of the temporary works and staging shall not relieve the contractor of any liability or obligation under the contract in respect of such temporary works and staging. "Approved" means, approved by the Nodal Officer in writing including subsequent confirmation of previous verbal approval.
- 5.07.10** Though the drawings to be supplied will be exhaustive the decision of the Nodal Officer or his nominee regarding any change in the drawings shall be final and binding to contractor and no dispute / claim regarding extra payment shall be allowed on account of such changes.
- 5.07.11** The Contractor shall at his own costs and expenses supply five complete sets of "As Made" drawings on polyester tracing film, three prints and soft copy (Compact Disc) showing details of all the works executed. The drawings and prints shall be delivered to the Employer within one month of completion of various sections of the work or at such other times as directed by the Employer. The drawings shall be fully dimensioned with the Employer's standard title block or as approved by the Employer.
- 5.08.** Workmanship shall be the best possible quality and all work shall be carried out by skilled workmen except for those which normally require unskilled persons. If the laws of the local Government/Municipal of other authority require the employment of licensed or registered workmen for various trades, the contractor shall arrange to have the work done by such licensed/registered personnel.
- 5.09.** All materials to be used in the works shall be subjected to inspection and test. Samples of all materials, proposed to be used, and in the permanent works shall be submitted to the Nodal officer or his nominee for approval before those are brought to site. Samples provided to the Nodal officer or his nominee for their retention is to be in labeled boxes suitable for storage. Materials or workmanship not corresponding in character & quality with approved samples will be rejected by Nodal officer or his nominee.

Samples required for approval and testing must be supplied allowing sufficient time for testing and approval, due allowance being made for the fact that if the first samples are rejected further samples shall be required. Delay in the execution of work due to late submission of samples will not be acceptable as -a reason for delay in the completion of the works. Materials shall be tested before dispatching to the site, where possible. Materials shall also be tested on the site and those may be rejected if found not suitable or not in accordance with the specifications notwithstanding the results of tests at the contractor's work or elsewhere or of test certificates or of any approval given earlier.

- 5.10.** The Contractor shall develop a well-equipped laboratory at the site, so that necessary testing of concrete materials shall be done at site of work in presence of DPT Officials.
- 5.11.** All materials required to be used in the work shall be got tested from Port Laboratory or government approved lab under supervision of Nodal Officer, Nominee or Technical Advisor and the charges there of shall be borne by the Contractor.
- 5.12.** Before commencement of work the Nodal officer or his nominee and the Contractor shall jointly survey and record all ground levels on the site if required. The Contractor shall supply all necessary equipment and attendance for carrying out such surveys. The contractor shall prepare record drawings showing the agreed levels which shall be signed by the Nodal Officer or his nominee and the Contractor.
- 5.13.** As the work progresses, inspection of cement, aggregate, reinforcing steel and testing of the concrete strength will be done by the Contractor in the presence of the Nodal officer or his nominee. The Contractor's concrete plant and materials stores shall be made accessible to the Nodal officer or his nominee at all times for inspection and for taking samples. The Contractor shall facilitate in all possible ways the inspection and testing of samples by the Nodal officer or his nominee, Labour shall be provided by the Contractor for carrying out the testing's.

5.14. SUPPLY OF WATER

- {i} The contractor shall have to make his own arrangements for the water required for execution of work and for labours etc.
- {ii} Water used for mixing and curing shall be clean and free from injurious amounts of oil, acids, alkalis, salts, sugar, organic materials or other substances that may be deleterious to concrete or steel.
- {iii} Unfiltered potable water is generally considered suitable for mixing and curing. Mixing and curing with sea water shall not be permitted in any case.
- {iv} Periodically samples of water shall be tested as per IS-3025 and as a guide, the following concentrations represent the maximum permissible values:
 - (a) To neutralize 200 ml sample of water using Phenolphthalein as an indicator, it should not require more than 2 ml of 0.1 normal NaOH.
 - (b) To neutralize 200 ml sample of water using Methyl Orange as an indicator, it should not require more than 10ml. of 0.1 normal HCL.

5.15. Permission for Port Entry

- 5.15.1** As the work has to be carried out in Custom bound area, Contractor has to fulfil all the formalities of Customs, CISF wherever required. Contractor has to coordinate with other department officials of DPT, Customs, CISF and other related departments to avoid disturbance of day to day operation of the Port and smooth execution of the proposed work.
- 5.15.2** Only vehicles permitted by the Board will be allowed inside the Port premises.

Admission to the Port premises of men and vehicles is regulated by rules and regulations of the Port Trust in force from time to time and any passes, tokens, permits or licenses for his workmen vehicles or plant will have to be obtained by the Contractor from the Security Officer/C.I.S.F. of the Port Trust directly by making necessary deposits or payments for the same if any.

5.16. Secured Advance:

- 5.16.1** Secured advance on the security of materials brought to site and to be consumed within a period of 3 months may be made to the contractor for items which are to be used on work.
- 5.16.2** Secured Advance shall be granted only for non- perishable / non- breakable items like steel/ aluminum or steel frame works / doors/ windows etc.
- 5.16.3** The Superintending Engineer / Executive Engineer can sanction the secured advance up to an amount not exceeding 75 % of the value of the materials as assessed by the Engineer in charge considering the bill invoice, or an amount not exceeding 75% of the material element cost in the tender rate of the finished item of work, whichever is lower.
- 5.16.4** The formal agreement should be drawn up with the contractor under which Port Trust secures a lien on the materials and is safeguard against losses due to the Contractor postponing the execution of the work or due to shortage or misuse of the materials, and against the expenses entailed for their proper watch and safe custody.
- 5.16.5** However, no secured advance shall be payable on crushed stone metal, aggregates, sand, murrum etc.
- 5.17.** The contractor shall arrange to supply samples of coarse aggregate and fine aggregate etc. to the Port Laboratory for mix design for concreting works. Mixing of cement concrete works shall be on weigh batching basis as per IS. Requirement. The charges shall be borne by the contractor.
- 5.18. Force Major** - This will be restricted to natural calamities and acts of God only.
- 5.19.** The flooring works are to be finished with neeru (cement slurry) without any extra cost.
- 5.20.** All the royalties of the materials, quarry fees, octroi, charges, sales tax etc. are payable by the contractor directly to the authorities concerned and the rates tendered shall be deemed to be inclusive of all such charges.
- 5.21.** All the royalties of the materials, quarry fees etc. payable by the contractor directly to the authorities concerned and the rates tendered shall be deemed to be inclusive of all such charges. Before claiming security deposit, contractor shall produce “No Duce certificate” from the Geologist And Mining Department, Bhuj.
- 5.22.** The tenderers are expected to have full knowledge of the site of work and local

working condition in the Port before submitting the tenders. The Port is basically an operational area dealing mainly with handling dry/liquid products at Old Kandla. The Nodal Officer or his nominee will give to the Contractor possession of so much of the site as in the opinion of Nodal Officer or his nominee may be required to enable the Contractor to proceed with the construction without interruption of the work in accordance with the requirement. However, all efforts will be made to handover entire clear site at the starting of work.

No claim / disputes what-so-ever for handing over the site of work late, for starting the work shall be entertained. If the contractor suffers any delay the Nodal Officer or his nominee may grant at his discretion an extension of time for completion of work. However, no claim / disputes etc. arising out of extension of time so granted shall be entertained. The contractor while filling up their rates in the tender should consider the above aspects unfailingly.

5.23. POST TENDER MODIFICATION

The Tenderers are not expected to make any post tender modification. Hence, the tenderers should not make any correspondence regarding the tender after submission of the same on due date and time. No cognizance of any correspondence shall be taken and if Tenderers persists with the same necessary action will be initiated against him. All the tenders received on or before the due date and time shall be opened, if otherwise found in order.

- 5.24.** To the limited extent and availability that can conveniently be spared by the Board from time to time electric power for lighting and operation of the plant of the contractor can be had from the Board as per Rules & Regulations in force from time to time. The contractor shall draw his needs thereafter at own expenses in the manner approved by the Nodal Officer or his nominee. The Board will recover charges of electricity current consumed by the contraction supplied through Port together with meter rents at the rates fixed by the Board from time to time. The electricity to be paid on this charge shall be borne by the Contractor. Nothing extra shall be account. The electric supply is subject to Board's rules and regulations and convenience as regards shut down for repairs and overhauls of Board's electric system. The contractor shall not claim any damages for stoppages or shortages in current supply for any reasons whatsoever. The contractor has also to install his own generator etc. at his own cost and risk to meet with his full requirement of electric power.
- 5.25.** The contractor shall have to make good all damages done by him to structure nearby while executing the work and no extra payment shall be made to him on that account.
- 5.26.** A Site Order book is to be maintained by the contractor at the site of work. Order and instructions written in the order book shall be deemed to have been legally issued to the contractor and the contractor shall sign each port promptly in the order book as a

token of having seen the same. The order book shall be the property of the board and shall be handed over to the Nodal Officer or his nominee of the work in good condition on the completion of the work or whenever required by the Nodal Officer or his nominee.

- 5.27.** The Contractor shall deposit / store any materials in such a way so as not to cause inconvenience to the employees / workers engaged on the Port activities and to nearby activities.
- 5.28.** The stamp paper of requisite value shall be furnished by the contractor within 10 days from the date of issue of letter of acceptance, failing which he will not be permitted to start the work.
- 5.29.** The value of the stamps to be affixed on the agreement shall be of appropriate value prescribed for bond as per latest provision of law enforced on the date of execution contract same shall be borne by the Contractor. However, if the contractor furnishes G.P. Notes or approved guarantees in respect of part of security deposit, the stamp duty chargeable for the amount shall be as prescribed for agreements and payable in accordance with latest provision by law in force at the time of execution of the contract. All the cost of the stamp duty shall be borne by the Contractor.
- 5.29.1** For execution of work, contractor may be permitted to construct temporary offices, store, labour room toilet etc. at his own cost along with necessary letter / drawing for the permission in written. Nothing will be paid for these purpose and before handing over the site on completion of the work, the contractor has to dismantle all these temporary structure erected by him. Completion certificate will be issued only after compliance of above aspects.
- 5.29.2** If necessary the services of fire watch for carrying out any hot works, as required by the Port Authority, shall be made free of cost by the Department. However, all the necessary arrangements like obtaining a fire watch permit from the concerned authority, transportation of man and materials, if any, for fire prevention etc. shall have to be done by the Contractor at his own cost. No claim whatsoever on account of delay in arrangements or arrival of fire watch services shall be entertained.
- 5.29.3** The contractor shall take necessary precautions and prevent the falling of sparks in the seawater while carrying out the work of cutting / welding. In case of any leakages / escape of gas from vessel / flexible line etc. all the work shall be stopped immediately and co-operate the Fire Brigade personnel. It is further clarified that the suitable extension of time shall be granted to Contractor for completion of work on account of such stoppage without any compensation and idle charges. No claims / disputes shall be entertained on that account.
- 5.30.** All the works until handed over to the Nodal Officer or his nominee shall stand at the risk of the contractor who shall be responsible to make good at his own cost all the losses and damage caused by or due to fires, weather, tides or any other reasons. The

contractor shall hand over at the time of completion of work the work in good order and conditions and in conformity in every respect with the requirements of the contract and instructions of the Nodal Officer or his nominee.

5.31. GST REGISTRATION

The GST Registration No. should be invariably mentioned in the bid tender quotation failing which bid/ tender quotation will be considered as non – responsive and be liable for discharge.

5.32. GOODS & SERVICE (GST) CLAUSE

The contractor shall quote the price exclusive of GST.

The applicable GST shall be paid extra to the contractor after producing GST Invoice as per the certified Bill by the department as per Goods & Service Tax 2017. However, element of GST shall not consider for evaluation of bid.

5.32.1 TDS ON GST

TDS provision under GST Acts, 2017 are in force from 01.10.2018 and accordingly TDS under GST Act will be deducted @ 2 % (1% CGST and 1 % SGST or 2 % IGST) from payment / credit give to contractor/ professional and other for work order / contract exceeding Rs. 2,50,000/-

5.33. INCOME TAX DEDUCTIONS FROM BILLS

Income Tax deduction @ prevalent rate and surcharge/GST as applicable on the payments to the contractor will be deducted from the bills as directed by the central board of director taxes, Ministry of finance, Government of India.

5.34. During the execution of work, if dewatering is required the same is to be done by the contractor at his own cost and no claim on this account shall be entertained.

5.35. Contractor shall provide 1 nos. of four wheeler tourist vehicle (Innova/Tata sumo / or equivalent) with driver during contract period for the use of employer. This vehicle will be used only for duties related to the works of this contract. Vehicle must be in very good condition and to the satisfaction of Engineer- In-charges. Necessary fuel/ oil / driver / maintenance etc., will have to be born by the contractor. During the currency of contract in case the contractor does not provide the vehicle the employer will engage the other tourist vehicle and actual charges incurred will be recovered from their due payments or Rs.3000/- per day will be recovered.

5.36. ARBITRATION

(i) Except where otherwise provided in the contract all questions and disputes

relating to the meaning of the specifications, designs, drawings and instructions here in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim right, matter or any other thing what so ever, in any way arising out of or relating to the contract, design, drawings, specifications, estimates, instructions, order or to the condition or otherwise concerning the work or regarding the execution or failure to execute the same whether arising during the progress of work or after the completion thereof as described here in after shall be referred to the Chairman for sole arbitration by himself or by any Office appointed by him.

- (ii) It will be no objection to any such appointment that the arbitrator is an employee of the Board or the Government, that he had to deal with the matter to which the contract relates and that in course of his duties as an employee of the Board or the Government, he had expressed views on all or any of the matters in dispute or of different.

The arbitrator, who has been dealing with the arbitration case, being transferred or vacating his office or in the event of his death or being unable to act for any reason, the Chairman then holding the office shall arbitrate himself or appoint any officer to act as arbitrator.

- (iii) It is also a term of the contract that no person other than the Chairman himself or any officer appointed by him shall act as arbitrator.
- (iv) It is a term of the contract that only such question and disputes as were raised during progress of work till its completion and not thereafter shall be referred to arbitration. However, this would not apply to the questions and disputes relating to liabilities of parties during the guarantee period after completion of the work.
- (v) It is a term of the contract that the party invoking arbitration shall give a list of disputes with amounts of claim in respect of each said disputes along with the notice seeking appointment of arbitrator.
- (vi) It is also a term of the contract that if the contractor does not make any demand for appointment of arbitrator in respect of any claims/disputes in writing, as aforesaid, within 120 days of receiving the intimation from the Nodal officer or his nominee that the final bill is ready for payment, the claim of the contractor shall be deemed to have been waived and absolutely barred and the Port Trust shall be discharged and released of all liabilities under the contract in respect of these claims.
- (vii) It is also a term of the contract that the arbitrator shall adjudicate only such disputes/claims as referred to him by the appointing authority and give separate award against each dispute/claim referred to him. The arbitrator will be bound to give claim wise detail and speaking award and it should be supported by reasoning.

- (viii) The award of the arbitrator shall be final, conclusive and binding on all the parties to the contract.

- (ix) The arbitrator from time to time, with the consent of both the parties, enlarges

the time for making and publishing the award.

- (x) Arbitration shall be conducted in accordance with the provision of Indian Arbitration Act, 1996 or any statutory modifications or re-enactment thereof and rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause.
- (xi) It is also a term of the contract that if any fees are payable to the arbitrator, this shall be paid equally by both the parties.
- (xii) It is also a term of the contract that the arbitration shall be deemed to have been entered on the reference on the date he issued the first notice to both the parties calling them to submit their statement of claims and counter statement of claims.
- (xiii) Venue of the arbitration shall be such place as may be fixed by the arbitrator at his sole discretion”.

5.37 SPECIAL CONDITION IN RESPECT OF CEMENT

- a) Ordinary Portland Cement of 53 grade complying with the requirements of IS 269 shall be used in all works. The cement which has set or partially set shall not be used. The cement shall be used in the works only after approval of the engineer in charge.
- b) The contractor shall procure the cement confirming to relevant Indian Standard holding license to use ISI Certification mark for their product.
- c) For verification of such purchase all the bills of manufacturer/supplier/dealer will have to be furnished to the Nodal officer or his nominee.
- d) Supply of cement shall be taken in 50 Kg bags bearing manufacture's name, him registered trade mark, date of manufacture, batch number and ISI marking.
- e) Every consignment of cement must have identification marks on packages indicating date of manufacture and grade and type of cement, cement brought to works shall not be more than 6 weeks old from the date of manufacture.
- f) Every delivery of cement shall be accompanied by a manufacturers test certificate confirming that the supplied cement conforms to relevant specifications.
- g) Nodal officer or his nominee shall be at his liberty to carry out testing of cement at his discretion from Port laboratory or Government approved laboratory as per relevant before / during use. The contractor shall make all the necessary arrangements for the same and all the charges to be borne by the contractor.
- h) Each consignment shall be stored separately so that it can be readily identified and inspected. The arrangement of cement shall be such as to ensure the utilization of cement in the order of its arrival at the stores.
- i) In order to ensure due progress, the contractor shall at all times maintain on the site at least such stock of cement as the Engineer-in-charge may from time to time consider necessary.

- j) Cement in bulk shall be transported to the site in properly designed and approved bulk carriers. The contractor shall provide suitable unloading and storage facilities. The contractor shall submit full details of unloading, handling and storage facilities for the approval of the Engineer-in-charge before any cement in bulk is received by the Contractor.
- k) Cement brought to site and cement remaining unused shall not be removed from site without the permission of the Nodal officer or his nominee.
- l) In case concrete mixings with Batching Plant, Nodal Officer may allow cement to be used in bags/ silos/ Bulk etc.
 - (i) The batching plant shall be capable of separately proportioning each type of material by weight. The batching and mixing shall be carried out preferably in a forced action central batching and mixing plant having necessary automatic controls to ensure accurate proportioning and mixing. Calibration of the batching and mixing plant shall be carried out at regular intervals, as per IS.
 - (ii) The contractor shall also maintain a daily production record for that plant, including details of which mixes were supplied and which delivery dockets were dispatched.
 - (iii) There should be a record of what materials were used for that day's production including water and admixtures.
 - (iv) The production of concrete at each plant shall be systematically controlled. This is to ensure that all the concrete supplied shall be in accordance with these requirements and with the specification.
 - (v) Contractor to make a quality manual and keep authenticated copy of all relevant Indian Standards. Work instructions, process control chart, applicable forms/ formats, shall be made and maintained. Contractor shall also follow all applicable regulations like environmental laws, weight and measure department etc. Records shall be maintained by the contractor to provide confirmation of the quality and quantity of concrete produced.
- m) The cement may be purchased from the reputed manufacturer like Ultratech, Sanghi, ACC, Birla or equivalent after approval of Engineer-In-Charge.

5.38 SPECIAL CONDITION IN RESPECT OF ASPHALT

- i) The contractor shall procure the asphalt of required grade confirming to relevant Indian Standards. Asphalt shall be procured from the IOCL, HPCL and BPCL refinery.
- ii) For Verification of such purchase all the bills issued by manufacturer will have to be furnished to the Engineer-in-charge.
- iii) Asphalt shall be purchased by the contractor after only start of the work.
- iv) Engineer in-charge shall be at liberty to carry out independent testing of asphalt from any of Government Approved laboratory as per relevant I.S. Specifications

before use. The contractor shall make all the necessary arrangements for same and all the charges to be borne by the contractor.

- v) Asphalt brought to site and Asphalt remaining unused shall not be removed from site without prior permission of the Engineer-in-charge.

5.39 SPECIAL CONDITION IN RESPECT OF STEEL REINFORCEMENT

- a) The contractor shall procure the steel reinforcement confirming relevant Indian standard of various diameters holding license to use ISI Certification for their product from Primary Manufacturer/Supplier/Dealer. In any circumstances, steel reinforcement produced by re-rolling mills shall not be allowed to use in the work.
- b) Every delivery of Steel reinforcement shall be accompanied by a manufacturer's test certificate conforming that the supplied Steel reinforcement conforms to relevant specifications.
- c) The Reinforcement Bars shall be procured from primary producers like SAIL, TATA, VIZAG, RINL, ESSAR etc.. If the reinforcement bars of these manufactures are not available in market, the equivalent product may be allowed with prior approval of engineer in-charge.
- d) The reinforcement binding wire shall conform to IS: 280 "Mild Steel Wire for General Engineering Purpose", with size 1 mm or more.
- e) Each consignment of Reinforcement brought at site shall be accompanied by a Manufacturer's Batch test certificate.
- f) Reinforcement bars shall be stored on site on timber or concrete supports, suitable space and of sufficient height to keep steel clear of the ground. The reinforcement shall be stored separately size wise.
- g) The testing shall be carried out as per Approved Quality Assurance Plan. The cost of all above tests on Reinforcement shall be deemed to be included in the rates entered in the Bill of Quantities of related items of the work.
- h) For verifications of such purchase all the bills of manufacturer / supplier / dealer will have to be furnished to the Nodal officer or his nominee.
- i) The contractor shall have to procure the steel reinforcement of various sizes/diameters as per the working drawings, which shall be supplied only during execution of the work. No claims/disputes arising about details of steel reinforcement so provided shall be entertained.
- j) In case, if particular size(s) of steel reinforcement is not available with the approved manufacturers, the contractors shall have to intimate the Nodal officer or his nominee in writing along with documentary proof in this regard. Nodal officer or his nominee, at his discretion, may allow to use alternate diameter of reinforcement bars provided that no claims/disputes arising out in respect of payment for difference in rate of steel shall be entertained.
- k) Nodal officer or his nominee shall be at liberty to carry out independent testing of steel reinforcement at his discretion from any of Government

Approved laboratory as per relevant I.S. specifications before use. The contractor shall make all the necessary arrangements for same and all the charges to be borne by the contractor.

- l) The contractor shall procure the steel reinforcement bars of standard length as per relevant I.S.
- m) Steel reinforcement which remaining unused shall not be removed from site without the permission of the Nodal officer or his nominee.
- n) Payment for steel reinforcement shall be made on the basis of lengths of bars actually placed & measured in the work multiplied by the standard weight per unit length as given in the relevant IS code. The rates shall include for cutting & wastage, straightening, short & long length, & weight tolerance as per relevant IS codes & placing in position. Authorized laps, chair /separators, lifting hooks stiffening ring shall be measured and paid.

5.40 SPECIAL CONDITION IN RESPECT OF WORK CARRIED OUT BELOW + 4.0 m LEVEL

Any Sacrificial Shuttering / Cofferdam etc. as per site requirement in to be provided for the works to be execute below + 4.0 m EL. The cost for the same shall be considered which quoting the rates. Nothing anther shall be paid for on this account. The type/ size of cofferdam or sacrificial shuttering to be provided shall have to be get pre-approval by DPT & Consultant. All the changes for making such designs & fabrications etc. shall have to be considered in the quoted rates of concrete item itself.

5.41 SETTING OUT

The Contractor shall be responsible for the true and proper setting out of the "Works" and the correctness of the positions, levels, dimensions and alignment of all parts of the works and for the provision of all necessary instruments, appliances and labour in connection herewith. If at any time during the progress of the works any error shall appear or arise in the position levels, dimensions or alignment of any part of the works, the Contractor shall immediately notify the Nodal Officer or his nominee who will direct the Contractor in what way the work shall be carried out and the Contractor, on being required to do so by the Nodal Officer shall at his own expense rectify such error to the satisfaction of the Nodal Officer or his nominee at any stage of the work or the checking of any setting out or any line or level by the Nodal Officer or his nominee shall not in any way relieve the Contractor of his obligations under the contract.

The Contractor shall carefully protect and preserve all benchmarks, site rails, pegs and other things used in setting out the works.

5.42 PATENT RIGHTS & ROYALTIES

The Contractor shall hold the Board, its officers, agents and employees absolved (or

blameless) from liabilities of any other nature of kind on account of copyright or copyright composition, secret process, patented or unpatented inventions, article or appliances manufactured or used in the performance of this contract including their use by the Board unless otherwise specifically stipulated in this contract.

5.43 WORKING HOURS

Each Tendered shall submit with his tender a programmed for execution of the work. The contractor has to carried-out the work as per general working hours except for declared closed holidays by the Port. However, based on progress of work, if required, round the clock work can be allowed after approval of Engineer-In-Charge.

5.44 NOTICE OF ADDRESS

The Contractor shall notify in writing to the Nodal Officer an address at Kandla/Gandhidham/Adipur for the service on the Contractor any communication or any notice to be given to him under the Contract and any such notice/communication to the Contractor shall be deemed to be duly served if sent by registered post to or left at such address or if delivered to the agent or representative of the Contractor. Any notice/communication to the Contractors shall also be deemed to be duly served if sent by registered Post to or left at the principal place of business or if the Contractor be a company the registered office of the Contractor or at the contractors last known address.

5.45 SALVAGE OF LOST/FALLEN/OBSTRUCTION MATERIAL SET C

If any pile, structural of the staging and of works or dismantled / filling materials fall down into the creek during the execution and guarantee period, which are likely to create any obstruction (the decision of the "Nodal Officer shall be final to the safe navigation of the ships and/or port craft), the Contractor shall remove such obstacles at his own costs.

5.46 MOORING PRECAUTIONS

- a. The barges and floating crafts, if employed by the contractor, shall be provided with adequate mooring at the site of work. All necessary precautions shall be observed to protect the works and the existing structures from being damaged by such floating craft.
- b. The floating crafts like tugs, barges, launches, etc. brought by contractor be exempted from any port charges. However, the contractor is required to comply with all statutory regulations and instructions issued by the Deputy Conservator/Harbour master, KPT at his own cost.
- c. The contractor has to arrange for required crafts like floating tank, jolly boat etc. at his cost for carrying out the work at underneath portion as directed by Nodal Officer or his nominee.

- d. Concrete cover block with binding wire shall be used in all RCC works of standard size as directed by the Nodal Officer or his nominee c.c. cover block should be well cured for at least seven days before use- No stones or kapchi has to be used instead of cover blocks.
- e. The welding of structural member Reinforcement shall be done with the best standard of workmanship and strictly in conformity with the requirement laid down in the relevant I.S. code.
- f. Since the work is required to be carried out under tidal condition in jetty and it will be necessary for the contractor to provide insurance cover to his workers and his staff.

5.47 SITE INFORMATION:

5.47.1 Contractor's Responsibility

The information given hereunder and provided elsewhere is given in good faith but the Contractor shall satisfy himself regarding all aspects of weather, wind, waves, tides, currents, geological, sub-seabed and other site conditions and no claim will be entertained on the plea that the information supplied by the Engineer-in-charge is erroneous or insufficient.

All the works until handed over to the Nodal Officer or his nominee shall stand at the risk of the contractor who shall be responsible to make good at his own cost all the losses and damage caused by or due to fires, weather, tides or any other reasons. The contractor shall hand over at the time of completion of work the work in good order and conditions and in conformity in every respect with the requirements of the contract and instructions of the Nodal Officer or his nominee.

5.47.2 Site

Deendayal port is situated on the West Coast of India, in the Gulf of Kutch and along the West Bank of Kandla Creek at 70° 13" E longitude and 23° 01" N Latitude. The location and extent of the Site is shown on the Drawing. The work site falls within the notified limits of the Deendayal Port.

5.47.3 Datum

The datum to which all levels shall be referred for the purpose of the works is the jetty Top deck level. Top deck level of jetty/wharf is +9.14 m RL.

5.47.4 Tidal Information

The following are the particulars of tidal levels related to the chart datum at Kandla Tidal Station.

Highest High water (HHW)	: (+)9.50m
Mean High water Springs (MHWS)	: (+)6.60m
Mean High Water Neaps (MHWN)	: (+) 5.70m
Mean Sea Level (MSL)	: (+)3.88m

Mean Low Water Neaps (MLWN) : (+) 1.81m
Mean Low Water Springs (MLWS) : (+) 0.78m
Lowest Low Water (LLW) : (-) 0.90m

The actual water level at the site may be slightly different from the figures given above. The contractor shall not be entitled to any extra payment, should the levels indicated above proves, during the execution of the works, to be either too high or too low or for delay or damage due to specially high tides or floods.

5.47.5 Sub-Soil Data

In the area covered by the Deendayal Port, the nature of sub-soil is indicated in relevant tender drawing for guidance only. The tenderer shall satisfy him of the character and volume of work under the items and expected surface and/or sub-soil water to be encountered. Contractor must satisfy himself about the general conditions of the site and ascertain the existing and future obstruction likely to come up during the execution of the contract to carry out the work.

5.48 PLANT

The contractor shall be responsible for the supply, use and maintenance of all construction plant and equipment and he shall ensure that it is suitable for the work and is maintained in such a manner as to ensure its efficient working. The Nodal Officer or his nominee may direct that plant which is not efficient and is prejudicial to the quality of the work be removed from the site and replaced by plant to his satisfaction.

5.49 QUALIFIED PERSONNEL

Fully qualified and experienced concrete quality control Engineers shall be employed by the Contractor and shall be available on site at all times when important work is taking place. Operators for mechanical vibrators, mixers and foreman in charge of placing of concrete shall be fully trained and experienced in their classes of work.

5.50 CLASS OF CONCRETE

All the requirements of each Class of concrete for all RCC works shall be as per IS-2911 & 4651 & 456

However, the minimum cement content considered is @ 360 kg/cum. However, based on the actual mix design concrete shall be carried out considering above minimum cement content no any extra claim shall be entertained for cement if more is required.

5.50.1 DECLARED ACCEPTED PROPORTIONS

The proportions finally accepted and approved by the Nodal Officer or his nominee which 'he considers will produce concrete having the properties required by the foregoing clause and elsewhere in the specifications, shall be known as declared

proportions but no agreement by the Nodal Officer or his nominee to such declared proportions shall be the Contractor's responsibility to use in the works at all times, only concrete having properties as laid down the foregoing clause, and elsewhere in the specifications, and in all respects satisfactory to the Nodal Officer or his nominee.

5.50.2 NO DEVIATION FROM DECLATRED PROPORTIONS

No deviation from declared proportions will be allowed unless and until the Nodal Officer or his nominee shall give his written authorization for the adoption of revised proportions for any class of concrete.

5.50.3 MEASUREMENT OF INGREDIENTS

The proportioning of ingredients of concrete for each batch of concrete shall be performed by an Automatic weight batching plant / or an approved weight batching machine. Water shall be fed into the mixer from a tank provided with means of adjusting the flow of water so that water supplied may be as determined for each class of concrete. Due allowance shall be made for the weight of water carried by the aggregates and the amount of water added to the mixer may be reduced as required. For this purpose, the moisture content of coarse and fine aggregate shall be ascertained (as per IS 2386 Pt. III) daily and at any other times when alteration of the moisture content may be expected for fresh deliveries of aggregates/inclement weather or any other reason.

5.50.4 MIXING

The ingredients and water shall be thoroughly mixed to uniform consistency in approved type pan or drum mixer. The use of continuous mixer will not be allowed. If the Contractor should find it expedient to use small type mixers for special or outlying portions of the work rather than to supply from the main batching plant, he may subject to the approval of the Nodal Officer or his nominee, use smaller approved concrete producing units of the weigh batch type. In such cases the mix shall be adjusted to whole bags of cement and no splitting of bags will be allowed. The "time period" allowed for the mixing shall be as laid down in the foregoing table of relevant IS or as directed by the Nodal Officer or his nominee.

5.50.5 DISCHARGE FROM MIXER

The concrete shall be discharged from the mixer on to a level, clean and water-tight platform or fed into water-tight containers. The areas surrounding the mixer shall be paved and kept clean.

5.50.6 TRANSPORTATION OF CONCRETE

The concrete shall be transported from the mixer to its place of the works as rapidly as possible and in such a manner that there shall be no separation or loss of its ingredients. In no circumstances shall more than half an hour elapse between the time water is added to the mix and the time when the concrete shall be permitted to be used in the works after initial set has taken place. The use of concrete distributing chutes at an angle of more than 45 degrees from the horizontal will not be permitted

without the approval of the Nodal Officer or his nominee.

5.50.7 POURING

Authorization to pour concrete shall be obtained from the Nodal Officer or his nominee at least one day in advance of each pour. The arrangements for placing concrete shall be subject to the approval of the Nodal Officer or his nominee. In no case shall the concrete be dropped or thrown from a height of more than 2 meters. Concreting of beams, slabs and similar members shall be carried out in one continuous operation to the full depth of the member and the sequence of placing shall be so arranged as to avoid disturbance to partially set concrete.

Freshly laid concrete shall not be wheeled over or otherwise disturbed when placing concrete adjacent to a construction joint, special care shall be taken not to disturb the dowels or other reinforcing bars projecting from the existing concrete. Concreting shall proceed continuously over the area between the construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed.

5.50.8 COMPACTION OF CONCRETE

The contractor shall compact the placed concrete thoroughly by means of sufficient number of approved mechanical vibrators of adequate power and having a frequency of not less than 6000 impulses per minute. The vibrator shall be allowed to sink freely under its own weight until it enters the previous lift.

It shall be withdrawn immediately at the same rate and used at a new location. Concrete once vibrated shall not be vibrated again. The Contractor shall ensure that the concrete is thoroughly worked around the reinforcement and against external shutters and the shuttering suitably tamped so that all entrained air is expelled and the concrete surface when exposed is found good and free from air pockets, honey-combing or other defects.

5.50.9 CONCRETING IN INCLEMENT WEATHER

In the event of rain, storm or any other severe condition concreting shall be stopped and appropriate temporary stop ends, vee grooves, etc. placed as may be necessary. During wet weather, the concrete shall be adequately protected as soon as it is placed in position. The contractor shall always have in readiness approved framed sheeting, tarpaulins etc. for the protection of green concrete from damage due to rain, storms or other weather-conditions. The Nodal Officer or his nominee may order the cutting out and replacement of the damaged concrete, all at the expenses of the Contractor.

5.50.10 CONSTRUCTION JOINTS

The joints shall be in the position as shown on the drawings or as approved and ordered by the Nodal Officer or his nominee. The cost of all shuttering for such joints shall be deemed to be included in the rates named in the bill of quantities.

The work of joints, vertical or horizontal, shall be carried out in a suitable manner as approved by the Nodal Officer or his nominee. Any skin or laitance shall be thoroughly removed and the surface roughened by hammering, brushing and washing so as to

accomplish exposure of the surface of aggregate. The joints shall be thoroughly washed with clean fresh water and blown off with compressed air. The moist surface shall be covered by neat cement slurry or with a layer not less than 4 mm thick of 1:1 cement mortar of medium consistency, while placing of fresh concrete.

5.50.11 JOINTS BETWEEN PRECAST DECK UNITS

For all surfaces of precast units which will eventually be jointed to other precast units or in-situ concrete cement mortar to be used shall be of 1:1 ratio.

5.50.12 CURING

All concrete shall be protected during hardening from the harmful effects of sunshine, and drying winds. All exposed faces of concrete shall be kept continuously moist with clean fresh water for a period as laid down in Indian Standard Specifications. However, in lieu thereof the contractor may use curing compound of approved quality free of cost in conformity to IS 9103 with prior approval of the Nodal Officer or his nominee. The contractor shall remain extremely vigilant and employ proper equipment and workmen for curing.

The decision of the Nodal Officer or his nominee regarding the adequacy of curing is final. In case any lapse on the part of the Contractor is noticed by the Nodal Officer or his nominee, he will inform the Contractor or his supervisor verbally, or in writing to correct the deficiency in curing. If no satisfactory action is taken by the Contractor, the Nodal Officer or his nominee will be at liberty either to employ sufficient means through any agency to make good the deficiency and recover the cost thereof from the Contractor.

5.51 SCREENING

All the surfaces of slabs or other members not requiring to shuttering are to be screened with cement sand mortar approved by the Nodal Officer and to be laid in an approved manner and within a tolerance of plus minus 3 mm of true level and grade.

5.52 CONCRETE BELOW SPECIFIED CRUSHING STRENGTHS

Should the test cubes fail to meet the minimum specified crushing strength for each class of concrete, the Nodal Officer may take one of the following decisions.

- (a) Instruct the contractor to carry out additional tests at his own cost.
- (b) Accept the work at his discretion and in such a case may make a reduction in the rate of the appropriate item.
- (c) Reject the work in which case the contractor shall pull down and rebuild at his own cost the relevant section of work.

5.53 FAULTY WORK

Faulty work due to any reason shall be demolished and re-constructed by the Contractor at his own cost.

5.54 PROGRESS REPORTS

Daily and weekly progress reports on concreting shall be submitted to the Nodal Officer in an approved Performa.

5.55 MORTAR AND GROUT

5.55.1 CEMENT MORTAR

The proportions by weight of cement to fine aggregate in mortar shall be as shown on the Drawings or as otherwise directed. The mortar shall be thoroughly mixed with just sufficient water to make a homogeneous and Workable mix.

The use of plasticizers or other additives will not be permitted without the prior approval of the Nodal Officer or his nominee and the Contractor shall carry out at his own cost such tests on additive as the Nodal Officer or his nominee may direct. Mortar shall be used within half an hour of adding the water to the dry ingredients. Precast members shall be jointed to each other with cement mortar 1:1 ratio at contact surface.

5.55.2 GROUT

Except where otherwise specified or directed by the Nodal Officer or his nominee, grout shall be colloidal grout produced in plant approved by the Nodal Officer or his nominee. Neat cement shall be used unless otherwise shown on the drawings or directed by the Nodal Officer or his nominee, where the proportion by weight of cement to fine aggregate will be specified.

5.55.3 GROUTING UNDERBASE PLATES

Grouting shall be done after erection of the structural steel, unless otherwise approved by the Nodal Officer or his nominee. The contractor shall furnish all shims and level all base plates to the proper elevations before grouting.

The pedestal surfaces which are to receive the grout shall be thoroughly cleaned immediately prior to the grouting operation. The grout shall be carefully worked under the base plates. And shall completely fill the space between the underside of the base plates and the concrete pedestal including voids around anchor bolts. After the grout had its initial set, the grout shall be cut back flush with the base plates and the surplus grout shall be removed. Before leaving the site, the contractor shall retighten the nuts of anchor bolts.

5.55.4 SHUTTERING AND FORMWORK

i. GENERAL

All shuttering and support required for construction of concrete works shall be designed by the contractor and relevant drawings together with calculations for strengths and deflection shall be submitted to the Nodal Officer or his nominee for approval before commencement of the work. Shuttering shall be of steel plates or plywood.

ii. **FIXING**

The contractor shall fix all the form work in perfect alignment. The form work shall be securely braced so as to be able to withstand without appreciable displacement, deflection or movement of any kind, weight of the constitution or movement of persons, material and plant. All the joints should be watertight to prevent leakage of cement slurry from the concrete. Wedges and clamps are to be used wherever practicable. Side and bottom shuttering will have to be provided for casting of precast units.

iii. **REMOVING**

Forms or shuttering shall not be disturbed until the concrete has sufficiently hardened. The proper time for removal of form work shall be in accordance with IS-456-2000 or as directed by Nodal Officer or his nominee.

iv. **FINISH /ALIGNMENT**

Shuttering shall be such as to produce a first class fair face on the concrete free from board marks or any other disfigurements, and shall be used for all surfaces exposed and unexposed. All shuttering is to be aligned with in a tolerance of 3mm.

v. **SPECIAL PROVISION**

Wherever concreting of narrow members is required to be carried out within shuttering of considerable depth, temporary openings in the sides of the shuttering shall, if so directed by the Nodal Officer, be provided to facilitate the pouring and consolidation of the concrete. Small temporary openings shall be provided as necessary at the bottom of shuttering of columns, walls and deep beams to permit the expulsion of rubbish, etc. All corners of beams, columns and slabs shall unless otherwise shown on the drawings, be provided with chamfers of 20 x 20 mm or as directed by the Nodal Officer or his nominee.

vi. **PREPARATION FOR CONCRETING**

Before any concreting is commenced, shuttering and centering shall be carefully examined and the space to be occupied by the pour, thoroughly be cleaned out. The inside of shuttering shall be treated with a coating of an approved substance to obviate adhesion and where necessary to prevent absorption from the concrete, the shuttering shall be thoroughly wetted shortly before concreting is commenced.

vii. **CONTRACTOR'S RESPONSIBILITY**

Any, damage resulting from premature removal of shuttering or from any other cause shall be made good by the Contractor at his own expense.

viii. **CLEANING AND TREATMENT OF FORMS**

All parts of the forms shall be thoroughly cleaned of old concrete, wood shavings, saw dust, dirt and dust sticking to them before they are fixed in position. All rubbish, loose concrete, chippings, shavings, saw dust etc., shall be scrupulously removed from the

interior of the forms before concrete is poured. Compressed air jet and/ or water jet along with wire brushes, brooms etc., and shall be used for cleaning. The inside surface of the form work shall be treated with approved non- staining oil or other compound before it is placed in position.

Care shall be taken that oil or other compound does not come in contact with reinforcing steel or construction joint surfaces. They shall not be allowed to accumulate at the bottom of the form work. The oiling of the form work will be inspected just prior to placement of concrete and redone wherever necessary.

ix. **RE-USE OF FORM**

Before re-use, all forms shall be thoroughly scraped, cleaned, joints and planes examined and when necessary repaired, and inside surface treated as specified herein before. Form work shall not be used/ re-used if declared unfit or unserviceable by the Nodal Officer or his nominee.

5.56 REINFORCED CONCRETE

5.56.1 GENERAL

The following clauses shall be read in conjunction with the section relating to Concrete.

5.56.2 STORAGE

The reinforcement bars shall be stored on the site on timber or concrete supports suitably spaced and of sufficient height to keep the steel clear off the ground. It shall be protected from rusting, oil, grease and distortions. The stacks shall be easily measurable. Steel needed for immediate use shall only be removed from storage.

5.56.3 BAR BENDING SCHEDULES

The Contractor shall submit to the Nodal Officer or his nominee for approval Bar Bending Schedules with working drawings, showing clearly the arrangement proposed by the Contractor to match available stock of reinforcing steel. Upon receipt of the Nodal Officer or his nominee final approval of the Bar Bending, Schedule and drawings, the Contractor shall submit requisite copies of the drawings after incorporating necessary modifications or corrections, for final record and distribution. Approval of such detailed drawings by the Nodal Officer or his nominee shall not relieve the Contractor of his responsibility for correctness nor of any of his obligations to meet the other requirements of the Contract.

5.56.4 BENDING A REINFORCEMENT

Bending of reinforcement shall strictly be in accordance with the approved drawings, or IS: 2502 or as ordered by the Nodal Officer or his nominee. No reinforcement bar shall be bent when in position without the approval of the Nodal Officer or his nominee, whether or not it is partly embedded in the hard concrete.

5.56.5 BINDING WIRE

All bars shall be bound tightly together where they cross, with annealed steel wire 1.5

mm in diameter. The free ends of the binding wire shall be bent inwards.

5.56.6 PLACING AND FIXING

All types of reinforcement shall be correctly placed and fixed in position entirely to the satisfaction of the Nodal Officer or his nominee. The cost of providing tying wire as well as space blocks rods shall be deemed to be covered in the rate for reinforcement steel.

5.56.7 SPLICING REINFORCEMENT

Where splicing and/ or overlapping in reinforcement are required, the bars shall be provided with such splices or overlaps as are shown on the drawings or as directed by the Nodal Officer or his nominee.

5.56.8 WELDING OF REINFORCEMENT

Welding of reinforcement shall be in accordance with the approved drawings or as desired/ordered by the Nodal Officer or his nominee and in accordance with IS: 2751 and IS: 456

5.56.9 COVER OF REINFORCEMENT

Cover to reinforcement shall not be less than that specified or shown on the drawing. Where two bars cross, the outer shall have the minimum cover.

5.56.10 REINFORCEMENT TO BE CLEAN

All steel reinforcement before the concrete is deposited, shall be clean, free from dust, loose scales, oil, rusts, grease or any other deleterious materials. Particular care shall be taken to avoid contamination with oil.

5.56.11 DEPOSITING, CONCRETE

No concrete shall be deposited until all shuttering, concrete and reinforcement have been inspected and approved by the Nodal Officer or his nominee. On each concreting gang, a competent steel fitter shall be available who shall ensure that the reinforcement and other embedded fittings are kept in position during placing and compaction of the concrete.

5.57 WATCHING & LIGHTING

The contractor shall in connection with the works, provide and maintain at his own expenses, all lights, guards, fencing and watching whether on shore or afloat when and where necessary or as required by the Nodal Officer or his nominee or by any Competent Statutory or other authority for preparation of works or for the safety and convenience of the public or others.

5.58 ALLOTMENT OF SITE

The Nodal Officer will, after the issue of written order to Contractor to commence the work, give to the contractor possession of so much of the site as in the opinion of the Nodal Officer may be required to enable the contractor to commence and proceed with the construction of the works in accordance with the programme submitted by the contractor and stated from time to time as the proceed, give to the Contractor

possession of such portions of the site as may, in the opinion of the Nodal Officer or his nominee, be required to enable the contractor to proceed with the construction of the works without interruption if the work is in accordance with the said programme. Nodal Officer reserves the right to take back from the contractor the portions of "Site" which, in the Nodal Officer's opinion, is considered unnecessary for the purpose of the "Works".

If the contractor suffers any delay from failure in accordance with the terms of this Clause, the Nodal Officer shall grant an extension of the time for completion of the work without financial repercussions on either side.

5.59 ALLOTMENT OF WORK SITE

1. SITE OF WORK

The allotment of the site is immediately hand over to contractor after the work order for the work is issued. The sites shall be hand over to contractor as per the availability of the Panels of the berth.

Necessary permission for above said area shall be granted by the Traffic Department of DPT in consultation of Engineer-in charge. No claim / disputes what-so-ever for any reason if site is not handing over for starting the work at time. If the contractor suffers any delay the Nodal Officer or his nominee may grant at his discretion an extension of time for completion of work. However, no claim / disputes etc. arising out of extension of time so granted shall be entertained. No claim regarding extra payment/ escalation shall be allowed on account of such Extension. Hence, the contractor while filling up their rates in the tender should consider the above aspects unflinching.

2. WORKING AREA

Area for setting up batching plant, pre-cast yard, laboratory, office, storage of steel and cement, reinforcement yard, stacking of query materials etc. shall be provided if available with DPT. The area to be used with due care that no damage to be done to the existing structure. If any damage is done the contractor shall repair the portion in its original shape at his own cost.

Necessary permission for above said area shall be granted by the Traffic Department of DPT in consultation of Engineer-in charge/C.E. Contractor has to make suitable platforms for stacking of materials and setting up of equipment. The necessary barricading, lights, sign boards and flags etc., wherever necessary has to be provided by the contractor.

3. HUTMENT AREA FOR LABOURS

Area for temporary hutments, canteens, crèche, etc. for labour shall be allotted outside Cargo Jetty area as per the prevailing rules & Charges laid by DPT. However, if any leveling/dressing as well as filling required in the said area, contractor has to carried-out the same at his own cost. The necessary barricading, lights, sign boards and flags etc., wherever necessary has to be provided by the contractor.

5.60 PROGRESS PHOTOGRAPHS

The contractor at his own cost shall supply to the Nodal Officer or his nominee two copies of color photographs of works in progress as directed by the Nodal Officer or his nominee from time to time. The negatives of the photographs shall become the property of the Port Trust. The photographs shall be half plate size. The photographs shall be mounted in albums and shall be suitably inscribed. Two albums shall be handed over to the Nodal Officer or his nominee. No prints of the negatives may be supplied to any person or persons without the permission of the Nodal Officer or his nominee.

5.61 AMENDMENTS

The Board may, from time to time, add to or amend the regulation and on any question regarding the application, interpretation or effect of these regulation the decision of the Chief Labour Commissioner or Deputy Chief Labour commissioner of the Government of India or any other person authorized by the Board in that behalf shall be final.

5.62 INFLAMMABLE STORES

The contractor is to comply with all local regulation in respect of safe storage of all inflammable stores, explosive or other materials involving risk with third parties and is to take all precautions required in the transport and use of such materials. The contractor is to submit to the Nodal Officer or his nominee for approval all drawings and documents required for the sanctioning of storage sheds or other accommodation and is to build all such storage to the proper requirement at his cost.

5.63 FIRE HAZARDS

The contractor shall be required to comply with the petroleum act 1934 and petroleum rules 1976 during progress of the construction work. Fire watch services as required shall be given free of cost but arrangement from Marine / Concerned Department shall have to be made by the Contractor.

5.64 ADMIXTURES FOR CONCRETE

Admixtures shall be added to concrete, if required at no extra cost. Admixtures like BASF (plasticizers / super plasticizers) of approved quality for improving workability of concrete if required shall be obtained only from the manufactures approved by the Nodal Officer or his nominee. The contractor shall obtain full details from the manufactures and shall carry out such field test as the Nodal Officer shall require before any admixture is used in the works at the cost of the contractor. The admixture shall conform to IS9103. For achieving required strength, micro silica (silica fume) is to be added; the same shall be done at no extra cost. The test for the admixture shall be conducted at IIT/NABL/Government/Govt. approved laboratory at the cost of contractor.

5.65 PAINTS

All synthetic paints and distempers used on the works shall be approved by the Nodal Officer or his nominee. Test certificates on, covering capacity dry film thickness and viscosity and drying time may be required.

5.66 CEMENT CONCRETE (PLAIN AND REINFORCED) AND MISCELLANEOUS FIXTURES SCOPE

The specification covers all the requirements, described hereinafter for general use of plain and reinforced cement concrete work in structure and location, cast- in-situ of pre-cast and shall include all incidental items of work not shown or specified by reasonably implied or necessary for the completion of the work. This specification shall also to the extent it has been referred to or applicable with the special requirements of structures covered in scope of IS 456-2000.

IS 456 shall form a part of these specification and shall be complied with unless permitted otherwise. For any particular aspect not covered by this code appropriate IS Code specification and / or replacement by any International Code of practice as may be specified by the Nodal Officer shall be followed. All codes and standards shall conform to its latest versions.

The maximum slump for the different structural members is given below: -

- | | |
|-----------------------------------|---------------|
| 1. Pile | -140 to 160mm |
| 2. Precast Beam & Slab | - 40mm |
| 3. Cast-in-situ Beams & Slabs | - 40mm |
| 4. Pourable concrete cast-in-site | - 120mm |
| 5. Footing foundation | - 50mm |
| 6. Columns, pillars, post etc. | - 50mm |
| 7. Walls, pilaster, railing etc. | - 60mm |

The cubes casted at site shall be tested at Port Laboratory or Government approved laboratory and test results shall conform to IS 456: 2000 (latest edition). Testing charges of the cubes shall be borne by the contractor. If the result is not satisfactory the concrete work will have to be dismantled and redone by the contractor at his own cost.

For casting of cement concrete cubes, the contractor has to arrange his own moulds. The Nodal Officer reserves the right to ask contractor to cast additional cement concrete cubes at the different stages and works for testing, if required at 3/7 days period. No separate payment shall be made to the contractor on account of the cost of the labour and materials required for casting of the cubes required for 3/7 days testing. The testing charges for these cubes shall be borne by contractor. The contractor may setup cube testing facilities at site of work for testing 3/7 days cube. Test cubes shall be casted, cured and stored as per relevant IS.

5.67 Galvanizing standard: -

- Hot dip galvanizing shall be done in accordance with B.S. 729. All components before galvanizing shall be grit blasted to give a clean roughened surface as a pre-treatment to galvanizing. The minimum thickness of coating shall be 150 microns.
- Barricading, including proper lighting arrangement in the night at the required places shall have to be provided by the contractor at his own cost, including

necessary arrangements for proper movement of traffic by carefully maintained approaches and road diversions with suitable sign boards for indications of road signs etc. as directed by the Engineer-in-Charge.

- c. All the grass, shrubs, plants and foreign matter etc. in the alignment of the site and within the site of work shall have to be cleared, if required without any extra cost.
- d. The Engineer-in-charge may delete any number of items included in his tender (contract) without assigning any reasons and without any financial liability.
- e. All the tools, plants, scaffolding, ladder etc. and other machinery etc. required temporary for the purpose of execution of work will have to be arranged by the contractor at his own cost, and storing of such tools, plants etc. will have to be made by him.
- f. Unless otherwise specifically mentioned the rates quoted for all items includes for all lead and lift and no extra claims shall be entertained on this account.
- g. The contractor shall have to obtain quarry permits from the office of the Geologist, Department of Geology and Mines, Bhuj-Kutch before quarrying any secondary materials like Quarry spall, crushed metal, sand, earth, murrum, rubble etc.
- h. Nothing extra shall be paid for change of quarry against lead etc.
- i. Contractor has to execute the work without disturbing the operation on berth no 1 TO 6 and 8 to 10, Contractor has to take proper safety precautions and hot permissions for the activities such as welding, gas cutting etc., from the competent authorities/bodies before execution of work.
- j. During execution of work the contractor has to arrange one small boat for inspection of the work to the employer. The berthing of this boat at landing jetty shall be at free of cost. However, Contractor has to take prior approval of DPT's Marine Department before deployment of boat by producing required documents of boat.
- k. Contractor has to coordinate with other department officials of DPT, Customs, CISF and other related departments to avoid disturbance of day to day operation of the Port and smooth execution of the proposed work.
- l. Contractor has to take full responsibility of safety, security and formalities of custom bound area etc. for all the shifts during execution of work.

5.68 SPECIFICATIONS FOR RESTORATIVE REPAIRS

The specifications provided under this clause are applicable for all the items of the work to be executed under this tender where the nature of work calls for the same even if the same is not specifically mentioned in the specifications of the respective items.

5.68.1 Propping & Supporting Structural Members

- i. Purpose:** - To provide relief in stress and strains of structural members, which are deteriorated, overstressed, required to be repaired or strengthened by transfer of dead and live loads safely through an alternate system to the founding medium, wherever feasible.
- ii.** The Propping & Supporting arrangements shall be submitted to the Engineer's Representative for the approval of DPT. The contractor will not be relieved of his responsibilities for the safety & design matter of the Propping & Supporting

arrangements even though the DPT has approved the design & method. No timber ballies shall be used.

5.68.2 Working Platform

- i. **Purpose:** - To provide safe access & working space for the workmen/ supervisors/ Engineer's representative/ DPT employees, etc.
- ii. The Working platform arrangements shall be strong enough to withstand all the dead and live loads and forces caused by dismantling, chipping, vibration of concrete and other incidental loads imposed over it including that of materials and personnel during and after repair work. It shall be made sufficiently rigid by using adequate number of ties and braces, wherever required to ensure transfer of the load through props, supports to structurally sound structural members of the existing structure. Ladders, platforms, guardrails for providing access to the workmen/ supervisors/ Engineer's representative/ DPT employees shall be well secured with the other members. No timber ballies shall be used. After the removal of the working platform, all the holes etc. done in the permanent structure shall be filled / repaired by Micro Concrete / Epoxy Mortar as directed by the Engineer's representative. This quantity of repair material will not be recorded and shall not be considered for payment.
- iii. The working platform arrangements shall be submitted to the Engineer's Representative for the approval of DPT. The contractor will not be relieved of his responsibilities for the safety & design matter of the working platform arrangements even though the DPT has approved the design & method.

5.68.3 Specifications for various items of Schedule of Quantities & Rates – Notes –

- (i) The headings/ title shown against the various sub-clauses of this clause are the brief / indicative description of items of Schedule of Quantities and Rates and shall be read as complete item for the purpose of heading of the respective sub-clause and the specification provided under the sub-clause shall be accordingly used for execution of the item.
- (ii) The specifications shall be followed for the respective item of work but the same shall not be treated as limiting one for complete execution of the item.
- (iii) Whenever the specifications for any material, workmanship, etc. is not provided in the relevant item, then specifications to be adopted for the same shall be as per following order (a) manufacture's specifications (b) specifications covered elsewhere in "Specifications" of the tender (c) Relevant IS Code.
- (iv) All Manufactured materials shall be received at site in factory sealed containers with labels legible and intact.

5.68.4 Chipping & Removal of Dilapidated Concrete

- i. **Purpose:** - To remove weak / loose / dilapidated concrete from RCC structural members by chiseling, chipping, etc.

ii. **Materials and Tools & Plant (T&P):** - Electrically operated low impact chipper tools, complete with accessories, hand-tools like chisels, hammer, etc.

iii. **Procedure:** -

Step-1: Prop and support: Provide props & other suitable arrangements to relieve the structural member of stress and strains wherever feasible.

Step-2: Scaffolding: Suspended or suitable type of scaffolding to be provided. The same should be safe and adequate for executing all repair operations.

Step-3: Working Platforms shall be erected suitably, if necessary.

Step-4: Provide Protective Screen or suitable arrangements to minimize falling of debris in sea.

Step-5: Mark off the area to be repaired.

Step-6: Chipping to remove all the weak / loose / dilapidated concrete from RCC structural members shall be done carefully from the damaged portions by adopting electrically operated low impact chipper tools or manual means up to the required depth till sound concrete substrate, without causing excessive vibrations or damaging the structure. All the edges and cavities shall be square shouldered. Care must be taken to avoid contact with the reinforcing steel, as both the reinforcement and the cutter could be damaged.

Step-7: Removing the excessively corroded reinforcement wherever directed by the Engineer's Representative. The reinforcement steel shall be cut / shear manually or by electrically operated cutter or any other method as approved by the Engineer's Representative. The operation shall be without causing excessive vibrations or damage to the structure.

Step-8: Cleaning the chipped surface with wire brush or buffing machine.

Step-9: Inspection, after concrete chipping & cleaning, for weaknesses and delaminating of exposed surfaces shall be visually carried out. If required, additional chipping will be required to be done.

Step-10: Transporting the concrete debris and other unserviceable material outside DPT, 5 km away from the site.

5.68.5 Hacking the RCC structural members

i. **Purpose:** - To make dents on the unchipped surface of the concrete elements for good bonding between old concrete and the repair material.

ii. **Materials and Tools & Plant (T&P):-** Electrically operated low impact chipper tools, complete with accessories, hand-tools like chisels, hammer, etc.

iii. **Procedure:** -

Step-1: Prop and support: Provide props & other suitable arrangements to relieve the structural member of stress and strains wherever feasible.

Step-2: Scaffolding: Suspended or suitable type of scaffolding to be provided. The same should be safe and adequate for executing all repair operations.

Step-3: Working Platforms shall be erected suitably, if necessary.

Step-4: Provide Protective Screen or suitable arrangements to minimize falling of debris in sea.

Step-5: Cleaning the surface of any deposit over the surface.

Step-6: Making dents using electrically operated low impact chipper tools, complete with accessories, hand-tools like chisels, hammer, etc.

Step-7: Cleaning the surface with wire brush or buffing machine.

5.68.6 Providing and fixing of Galvanised mesh size 50 X 50 mm minimum 3mm of thick

- i. **Purpose:** - Providing Galvanised wire mesh will help to hold the material together when they do occur.
- ii. **Materials and T&P:** - Galvanised Mesh, Nails and binding wire etc.
- iii. **Procedure:** - Cut the appropriate size of mesh and fixed in clean concrete surface or hacked concrete surface with nails and binding wire.

5.68.7 Providing & applying of “alkaline rust converting primer” on the existing rebars

- i. **Purpose:** - To remove corrosion from the existing steel reinforcement of the RCC members.
- ii. **Materials and T&P:** -
 - a) Rotary wire brush machine, wire brushes, paint brush, abrading cloth, etc.
 - b) Alkaline passivating materials: MBT Rustkleen of BASF, FeoVert of Krishna Conchem, Kem Ruscon of Chembond Chemicals Ltd. or equivalent as approved by the Engineer’s Representative.
 - c) Manufactured materials shall be received at site in factory sealed containers with labels legible and intact.

iii. **Procedure:** -

Step-1: Remove the rust manually/ mechanically from all round the surface along the length of reinforcement, using hand tools like chisels, hammers, wire brushes, Rotary wire brush machine, abrasion cloth/ paper, etc. till such time that the steel surface is cleared of all rust that could be removed.

Step-2: Chemical rust passivate shall be brush applied over the reinforcement surface thoroughly all around the circumference and along the full length of rusted reinforcement. After the coating has cured, the surface shall be cleaned with wire brush and all loose particles removed. The second coat, if required, the same shall be applied as per manufacturer’s recommendation after the first coat is touch dry.

5.68.8 Providing and fixing of 25mm dia HYSD shear connectors of 32 mm dia hole

- i. **Purpose:** - Shear Connectors are used for providing a structural connection of the applied repair materials with the substrate/ parent surface for transfer of forces occurring at the interface.
- ii. **Materials and T&P:** -
 - a) Steel reinforcement of specified lengths and diameters.
 - b) Epoxy – HIT-RE 10 injection mortar with MD 2000/ MD 2500 dispenser of HILTI, or equivalent as approved by the Engineer's Representative.
 - c) Standard Power driven drilling equipment
 - d) Hand operated blow out pump, brushes, epoxy dispenser, epoxy cartridge holder and any other incidental accessories and T&P items.
- iii. **Procedure:** -
 - Step-1: Mark the locations of Shear connectors as directed.
 - Step-2: Drill holes to specified depth and diameter in concrete at marked locations for the specified dia of shear Connectors.
 - Step-3: The drilled hole in dry state shall be cleaned with round brushes and by blowing air through a tube inserted in the hole and connected to hand operated blow out pump or by compressed air.
 - Step-4: Inject epoxy from the foil pack with the help of epoxy dispenser, epoxy cartridge holder arrangement inserted inside the drilled hole to fill it from bottom of the hole and upwards.
 - Step-5: Placing the shear connectors in position and allowing it to remain undisturbed till epoxy is set.

5.68.9 Providing & applying of two component epoxy zinc rich anti-corrosive coating

- i. **Purpose:** - To protect new & exposed rebars from corrosion with an Anti-Corrosive Coating.
- ii. **Materials and T&P:** -
 - a) Rotary wire brush machine, wire brushes, paint brush, abrasion cloth / paper, mechanical mixer, mechanical stirrer, etc.
 - b) Two Component Epoxy Zinc Rich Anti-Corrosive Coating such as MasterEmaco P 130 of BASF or equivalent.
- iii. **Procedure:** -
 - Step-1: Remove the rust manually/ mechanically from all around the surface of new / exposed reinforcement bars along the length of reinforcement, using tools like wire brushes, Rotary wire brush machine, abrasion cloth/ paper, etc. till such time that the steel surface is cleared of all rust.
 - Step-2: The components of the approved Epoxy Zinc Rich Primer shall be thoroughly blended with a mechanical mixer to a uniform and homogeneous mixture.

Small batches (up to 1 litre) may however be allowed by manual mixing using spatulas, palette, knives, etc.

Step-3: Anti-Corrosive Coating shall be applied to cleaned new reinforcement before placing it in the structure. The Anti-Corrosive Coating shall be brush applied or spray applied to the existing reinforcement wherever feasible, over the reinforcement surface thoroughly all around the circumference and along the full length of reinforcement and at the cut ends, ensuring that no pinholes are remaining. After the coating has cured, the surface shall be cleaned with soft wire brush and all loose particles removed.

5.68.10 Providing and Fixing of HYSD Reinforcement

- i. **Purpose:-** Providing additional reinforcement to the existing RCC Structure for the reinforcement lost due to corrosion or providing reinforcement in new RCC members.
- ii. **Materials and T&P:-** HYSD reinforcement of 500D grade, conforming to IS 1786 and already coated at site with Epoxy Zinc Rich Primer, Galvanized / PVC coated binding wire, welding machine, generator and other incidental tools, etc.

iii. **Procedure:-**

Step-1: The additional reinforcement shall be provided as directed by the Engineer's Representative.

Step-2: While carrying out the repairs to the existing RCC members, new rebars shall be fixed to the shear / rebar connectors (already driven into the concrete) by welding. The new rebars shall also be welded with the old rebars. In case, welding is not feasible, binding wire will be permitted, at the discretion of the Engineer's Representative. The new rebars shall be secured rigidly so that the vibration resulting from the deposition of repair material shall not impair or displace them. Minimum requirement of lap length of bars and Minimum cover to the reinforcement shall be as specified in I.S. 456.

Step-3: The rebars shall be provided for new RCC members as per the direction of the Engineer's representative.

5.68.11 Providing and fixing of Sacrificial Anode

- iv. **Purpose: -** Providing Galvashield XPI Embedded galvanic anodes are used in concrete rehabilitation to prevent the formation of new corrosion sites on adjacent rebar
- v. **Materials and T&P: -**
Galvashield XPI or equivalent Sacrificial Anode, tie wire and Digital Multimeter

Procedure: -

- Step-1: Select a location for the Galvashield XPI as close as practical to the edge of the broken out repair zone and excavate a rebate as required. Galvashielded XPI units should be positioned around/along the repair boundary.
- Step-2: In Addition to standard substrate preparation, the galvashielded XPI anodes(S) shall be thoroughly pre-soaked in clean water for a minimum of 10 and a maximum of 20 minutes, prior to the application of the repair mortar.
- Step-3: Attach the galvashielded XPI anodes immediate following preparation and cleaning of steel reinforcement. The anode spacing shall be in accordance with the drawing specification.
- Step-4: Tighten tie wire using Galvashielded fixing tool so that no free movement is possible, thus ensuring good electrical continuity. To test digital multimeter electrical continuity between tie wires and reinforcement bar a continuity meter should be used. A value between 0.1 – 1.0 Ohm shall be achieved.

5.68.12 Providing and applying of Epoxy Bonding Agent

- i. **Purpose:** - To provide adequately strong adhesion of parent concrete with applied repair M 40 grade of concrete / polymer mortar.
- ii. **Materials and T&P:** -
 - a) Chemical adhesive: MasterBrace 1414 of BASF or equivalent as approved by the Engineer's Representative. Manufactured materials shall be received at site in factory sealed containers with labels legible and intact.
 - b) Spray equipment / brush for application of polymer modified bonding cement slurry.
- iii. **Procedure:** -

Step-1: Wash the concrete surface with water jet/wire brushing/ air blower for remove the dust, debris concrete.

Step-2: Bond Coat Mixing: Components of the bonding coat mix shall be weigh-batched and mixed in proportions as specified by the manufacturer, in a clear container free from harmful residue or foreign particles. The components Part A & Part B shall be thoroughly blended with a mechanical stirrer to a uniform and homogeneous mixture. Small batches (up to 1 litre) may however be allowed by manual mixing using spatulas, palette, knives, etc.

Step-3: Bond coat application: Bonding coat shall be applied by spray equipment or stiff nylon bristle brush as approved by Engineer's Representative. The bonding material shall be worked well into the surface of the parent body ensuring that no pinholes are visible.

5.68.13 Providing and Laying of M40 grade of Concrete

- i. **Purpose:** - For restoration of the damaged portions of RCC structural elements,

where the thickness of the section to be rebuild is more than 50 mm or whichever directed by the Engineer's representative.

ii. **Materials and T&P: -**

- a) M40 Grade of Concrete: A manufactured cementitious concrete mix of M40 grade, like Ultratech, ACC, Birla or equivalent purchased from reputed manufacturer. When mixed with specified quantity of Materials as per approved design mix.
- b) Superplasticizer admixture such as MasterRheobuild 1126 of BASF or equivalent.
- c) Water: Water shall conform to clause 5.4 of IS 456 – 2000.
- d) Mechanical mixer, transportation and handling equipment, all other necessary tools.
- e) Props & supports, appropriate waterproof shuttering,
- f) Weighing Balance with necessary weights or Electronic Weigh Machine.

iii. **Procedure: -**

Step-1: Testing of Material: M40 grade of concrete shall be tested for conformance to the specified requirements of 7-day and 28-day cube compressive strength, surface absorption of water, permissible limits of shrinkage, etc before use on the work. The M40 grade of Concrete shall be tested from each supply received if any sample from the same batch of manufacture is not previously tested. The cubes shall be tested at port laboratory the charges for testing of 28 days cubes shall be born by contractor.

Step-2: Erect pre-fabricated watertight shuttering, while the bond coat is still tacky to receive the M40 grade of concrete.

Step-3: Prepare self-compacting, free flowing M40 grade of concrete simultaneously so as to have a uniform consistency and texture in a mechanical concrete mixer by adding specified proportion of water in the dry mix of pre-packaged, single component M40 grade of concrete.

Step-4: Pour the fresh M40 grade of concrete in the shuttering mould or over the surface prepared to receive it, while the bond coat is still tacky.

Step-5: Remove the shuttering after the period as directed by the Engineer's Representative.

Step-6: Any honeycombing or damage to the repaired surface observed after removal of the shuttering shall be repaired by Polymer Mortar at the cost of the contractor.

Step-7: Wet cure the M40 grade of concrete after the shuttering has been removed.

5.68.14 Providing and Laying of M40 grade of Concrete C C Wearing Course at 100 mm thickness on Deck slab

- i. **Purpose: -** To Protect the Structural Concrete of the Deck Slab from the damage caused by the moving heavy vehicles/Cranes/ by rain water. The structural concrete cannot be repaired or replaced easily. This is possible in case of wearing course.

ii. **Materials and T&P: -**

- g) M40 Grade of Concrete: A manufactured cementitious concrete mix of M40 grade, like Ultratech, ACC, Birla or equivalent purchased from reputed manufacturer. When mixed with specified quantity of Materials as per approved design mix.
- h) Superplasticizer admixture such as MasterRheobuild 1126 of BASF or equivalent.
- i) Non Metallic Floor hardener (such as Mastertop 100 of BASF or equivalent) at 7 Kg per Sq.m.
- j) Water: Water shall conform to clause 5.4 of IS 456 – 2000.
- k) Mechanical mixer, transportation and handling equipment, floater machine all other necessary tools.
- l) Bitumen (such as IOCL, HPCL, BPCL or equivalent)
- m) Props & supports, appropriate waterproof shuttering, forming of panels by channels etc.
- n) Weighing Balance with necessary weights or Electronic Weigh Machine.

iii. **Procedure: -**

- Step-1: Testing of Material: M40 grade of concrete shall be tested for conformance to the specified requirements of 7-day and 28-day cube compressive strength, surface absorption of water, permissible limits of shrinkage, etc before use on the work. The M40 grade of Concrete shall be tested from each supply received if any sample from the same batch of manufacture is not previously tested. The cubes shall be tested at port laboratory the charges for testing of 28 days cubes shall be born by contractor.
- Step-2: Erect pre-fabricated watertight shuttering and forming of panels& construction joints using channels as directed by the Engineer's Representative, while the bond coat is still tacky to receive the M40 grade of concrete.
- Step-3: Prepare self-compacting, free flowing M40 grade of concrete simultaneously so as to have a uniform consistency and texture in a mechanical concrete mixer by adding specified proportion of water in the dry mix of pre-packaged, single component M40 grade of concrete.
- Step-4: Pour the fresh M40 grade of concrete in the shuttering mould or over the surface prepared to receive by applying floor hardener (7 Kg/Sq.m) finishing using floater machine as directed by engineer's representative, while the bond coat is still tacky.
- Step-5: Remove the shuttering after the period as directed by the Engineer's Representative and applying bitumen in panel/construction joints.
- Step-6: Any honeycombing or damage to the repaired surface observed after removal of the shuttering shall be repaired by Polymer Mortar at the cost of the contractor.
- Step-7: Wet cure the M40 grade of concrete after the shuttering has been removed.

5.68.15 Providing and applying of pre-packed two component system polymer modified cement mortar

- i. **Purpose:** - For restoration of the damaged portions of RCC structural elements where the thickness of the section to be rebuild is less than 50 mm or wherever directed by the Engineer's representative.

- ii. **Materials and T&P:** -

Material:

(A) Pre-packed two component system polymer modified cement mortar

(B) Polymer modified cementitious bond coat:

- (1) Polymer MasterEmaco S 348 of BASFor equivalent as approved by the Engineer's Representative.
- (2) Cement OPC 43 grade, confirming to IS 8112 or OPC 53 grade confirming to IS 12269.
- (3) Water shall conform to clause 5.4 of IS 456 – 2000.

Tools & Plant:

- a. Mechanical mixer / blender for mixing mortar components.
- b. Compressor to blow air mixed with water.
- c. Spatulas, trowels, Mortar Spray Machine (Optional) and other necessary tools, etc.
- d. Nylon brush, spray gun, etc.

- iii. **Procedure:** -

Step-1: Testing of Materials: Polymer modified cement mortar shall be tested for conformance to the specified requirements of 7 day and 28-day cube crushing strength, surface absorption of water, permissible limits of shrinkage, etc before use of the work. The Polymer modified cement mortar shall be tested from each supply received if any sample from the same batch of manufacture is not previously tested.

Step-2: Surface Preparation: Cleaning of lightly sticking materials and foreign matter from the exposed concrete surface and steel reinforcement by suitable means shall be done.

Step-3: Clean the dust and saturate the prepared surface of concrete and reinforcement with a clean oil free air blast and water.

Step-4: Mix and apply Polymer Modified Cementitious Bonding Coat as per manufacturer's mixing and application procedure.

Step-5: Mix and prepare Polymer Modified Mortar to have a uniform consistency and texture as per manufacturer's mixing procedure. Application of cement based polymer modified mortar shall be done immediately after applying the bonding coat to the prepared surfaces. The mortar shall be applied in layers of approximately 20mm to 30mm thickness by troweling as greater thickness may lead to delamination/ collapse. Further layers shall be applied after application of Bonding Coat, to attain the desired thickness. After applications of mortar the final surface shall be finished using a wooden / steel float.

Step-6: Moist cure the polymer modified mortar surface after the setting of the mortar.

5.68.16 Providing and applying of Epoxy Bonding Agent

i. **Purpose:** - To provide adequately strong adhesion of parent concrete with applied repair epoxy mortar.

ii. **Materials and T&P:** -

Material

Epoxy: MasterBrace 1414 or equivalent as approved by the Engineer's Representative

Tools & Plant:

Spatulas, Nylon brush & other necessary tools, etc.

iii. **Procedure:** -

Step-1: Clean the surface by using hard wire brush and then by air water mixture under pressure.

Step-2: Bond Coat Mixing: Components of the bonding coat mix shall be weigh-batched and mixed in proportions as specified by the manufacturer, in a clear container free from harmful residue or foreign particles. The components Part A & Part B shall be thoroughly blended with a mechanical stirrer to a uniform and homogeneous mixture. Small batches (up to 1 litre) may however be allowed by manual mixing using spatulas, palette, knives, etc.

Step-3: Bond coat application: Bonding coat shall be applied by stiff nylon bristle brush, only when the surface is completely dry. The bonding material shall be worked well into the surface of the parent body ensuring that no pinholes are visible.

5.68.17 Providing and applying of Curing Membrane

i. **Purpose:** - To provide a membrane suitable for curing newly placed or freshly de-shuttered Micro-Concrete, Polymer mortar, spray mortar. To assist in the retention of water during hydration. The resultant film shall retain sufficient moisture in the concrete to ensure full hydration of the cement, essential for optimum strength development.

ii. **Materials and T&P:** -

Manufactured material such as MasterKure 185 or equivalent shall be received at site in factory sealed containers with labels legible and intact.

(1) Water (for cleaning purpose) shall conform to clause 5.4 of IS 456 – 2000.

(2) Spray equipment / brush / Roller for application of Curing Compound.

iii. **Procedure:** -

Step-1: Wet the surface with water but shall be free of excess surface water.

Step-2: Apply Curing Compound in a continuous, uniform film without pinholes by low-pressure spray, roller or brush, in the manner as specified by the manufacturer.

Step-3: If the product exhibits capability as primer for protective coating or does not hinder in the bonding of the subsequent protective coating as per the manufacturer's specifications, then the membrane of curing compound may not be removed.

But if the specifications of the manufacturer specify removal of the curing compound membrane for the application of a subsequent Protective Coating to ensure a good bond of the coating material to the concrete/ repair mortar/ micro concrete, the layer of curing compound must be removed from a concrete surface in the manner as specified by the manufacturer.

5.68.18 Providing and applying of Protective Coating System on the concrete surface

i. **Purpose:** - To protect atmospherically exposed reinforced concrete structures from attack by acids, gases, chloride ions, sulphates, oxygen and water in aggressive marine and coastal environments.

ii. **Materials and T&P:** -

Materials:

Protective Coating System:

Masterseal 399 Primer & MasterProtect 300H of BASF or equivalent system as approved by the Engineer's Representative.

Tools & Plants: -

- a. Compressor to blow air mixed with water.
- b. All necessary tools required for the application of the coating as per the manufacturer's specifications.

iii. **Procedure:** -

Step-1: Surface Preparation: Cleaning of oil, loose particle, algae, decayed matter, etc. from the exposed concrete surface by wire brush, buffing machine or any other suitable means.

Step-2: Wash the cleaned surface of concrete with an oil free air blast and water.

Step-3: Mixing & application of the protective coating, thickness of the coating, the number of coats of the Primer and Protective Coating shall be strictly as per the manufacturer's specifications. The colour of the coating shall be other than cement colour and shall be approved by the Engineer's representative.

5.68.19 Providing and fixing of Square Fender System 300 x 300 x 7500 L

5.68.19.1 Fixing

Fixing of Square Fender of size DSQ-C 300 x 300 x 7500 L with UHMW PE Facia Pad, with necessarily SS 304 nuts & bolts fixing with resin fastener RE500V3 or equivalent of required size and specification as specified by manufacturer's specification & drawing etc. complete as directed by EIC.

5.68.19.2 Specification of Materials of Square Fendering System (300H)

Fenders shall be manufactured from single piece by Compression Moulding process.

- SPECIFICATION OF VARIOUS PARTS OF FENDERING SYSTEM

i) **Specification for rubber for fender.**

Property	Test Standards	Condition	Requirement
Tensile Strength	ASTM D-412	Before Aging	160 Kg/Sq cm
	ASTM D-573	After Aging	Not less than 80% of original value
Elongation at Break	ASTM D-412	Before Aging	350% (Min)
	ASTM D-573	After Aging.	Not less than 80% of original value
Hardness	ASTM D-2240	Before Aging	77 (Max) Shore A
	ASTM D- 2240	After Aging.	Original Value + 8% (Max)
Compression Test	ASTM D 395	Aged for 20 hours at 70 Deg Cent	30% (Max)
Ozone Resistance	ASTM D-1171	Exposure Method B	70 H
Outdoor Ageing Resistance	ASTM D 1171		85% (Min)
Compression load	D 575	Method A	200 to 380 psi
Sea water Resistance	ASTM D 471	70 hrs. at 100 Deg.	Vol. Change Max 10%
Heat Resistance	ASTM D-573	24 hrs. 25 Deg.	Vol. Change Max. Pass +/- 20%
Water Absorption	ASTM D 471	70 hrs. 100 Deg.	Vol change Max 10% at 40 Deg.

ii) UHMW PE Synthetic Resin Anti-Friction & Anti-Sparking Pads (Fender Front/Facia Pads) shall be fixed on fender shall have the following Characteristics

Fender front shall be made from very high abrasion resistant and very low friction

coefficient Ultra High-Density Synthetic Resin material. Its function is to protect surface of the Berthing Vessel and decrease the longitudinal force between the fender and vessel's hull during berthing and to eliminate SPARKING due to Metal to Metal contact to avoid FIRE HAZARDS.

Special Characteristics of Facia Pads

- High abrasion resistance & Anti-Sparking Properties.
- Ability to withstand Sub-Zero temperature
- Excellent impact strength.
- Slippery surface.
- Self-lubricating.
- Antistick properties.
- Good chemical resistance.
- No water absorption.
- Non-Toxic.
- Good Machinability.

Physical Properties of Pads

Physical Property	Unit	Test Method	Value
Density	g/cm ³	DIN 53749	0.93 +/- 0.03
Coefficient of friction	Max	---	0.20
Melt Index MFI 190/15	g/10 min	DIN 53735	NIL or 0.001
MECHANICAL PROPERTIES			
Yield stress	N/mm ²	ISO 527	40
Elongation at Yield	%	Testing rate	<20
Elongation at Break	%	--	350 +/- 3
Tensile modules	N / mm ²	DIN 534457	720
Ball indentation Hardness (30 sec. Value)	N/mm ²	DIN ISO 53456	38
Shore hardness D scale	---	DIN 53506	68 deg. + /-
Notched Impact Strength (IZODIC)	MJ/mm ²	DIN 53453	No failure
Wear by the sand-slurry method (based on HOECHST)	Mg	Internal test method (24hr at 1200 RPM quartz sand of particle size 0.2-1.0mm)	100 (max)

- iii) Material of bolts with washers for fixing the resin pads on frame shall be SS-304. Material of bolts for fixing each rubber fender with frame shall be SS- 304. All bolts and washers shall be suitably painted with anti-corrosive paint. Material of wedge bolts for fixing each rubber fender with dock will be SS-304.

5.68.19.3 The rubber fenders shall be subject to inspection by Indian Register of Shipping or Lloyds Register of Industrial services, RITES, M/s. BVIS (Bureau

Veritas Industrial Services) or any other agency approved by Deendayal Port Trust at the cost of Contractor. The Contractor has to arrange at his own cost all such arrangements for testing and re-testing as required by the Engineer. Those fenders which are finally found satisfactory in all respect shall be accepted and used in the work.

5.68.19.4 Contractor has furnished detailed calculations justifying the proposed fendering system as per the supplier approved and selected for the project. Further, such supplier should visit the site & familiarise themselves with the duty conditions prevailing at the port. This would comprise of but not limited to the following:

- i. Existing Site/ surface of fender block Condition
- ii. Fixing and Line and level arrangement of adjacent Mooring Facilities
- iii. Tidal variations
- iv. Type of vessel calling,
- v. Berthing velocity,
- vi. Angle of approach etc.

Approved supplier should further, supervise the installation at random and certify them as correct at the time of completion of installation but before handing over the port to the user by the contractor. The Contractor has to arrange at his own cost all such arrangements as required by the Engineer.

5.68.20 Providing and fixing of Super Arch Type L Corner Fender System 300H x 750 x 750

5.68.20.1 Fixing

Fixing of 10 Nos. of Super Arch fender 'L' Corner fender 300H x 750 x 750 for each fender Column with necessarily SS 304 nuts & bolts fixing with resin fastener RE500V3 or equivalent of required size and specification as specified by manufacturers specification & drawing etc. complete as directed by EIC. (Each One Set Consist 10 Nos. of Super Arch fender 'L' Corner fender)

5.68.20.2 Specification of Materials of Super Arch Type L Corner Fendering System (300H)

Fenders shall be manufactured from single piece by Compression Moulding process.

- SPECIFICATION OF VARIOUS PARTS OF FENDERING SYSTEM

i) Specification for rubber for fender.

Property	Test Standards	Condition	Requirement
Tensile Strength	ASTM D-412	Before Aging	160 Kg/Sq cm

	ASTM D-573	After Aging	Not less than 80% of original value
Elongation at Break	ASTM D-412	Before Aging	350% (Min)
	ASTM D-573	After Aging.	Not less than 80% of original value
Hardness	ASTM D-2240	Before Aging	77 (Max) Shore A
	ASTM D- 2240	After Aging.	Original Value + 8% (Max)
Compression Test	ASTM D 395	Aged for 20 hours at 70 Deg Cent	30% (Max)
Ozone Resistance	ASTM D-1171	Exposure Method B	70 H
Outdoor Ageing Resistance	ASTM D 1171		85% (Min)
Compression load	D 575	Method A	200 to 380 psi
Sea water Resistance	ASTM D 471	70 hrs. at 100 Deg.	Vol. Change Max 10%
Heat Resistance	ASTM D-573	24 hrs. 25 Deg.	Vol. Change Max. Pass +/- 20%
Water Absorption	ASTM D 471	70 hrs. 100 Deg.	Vol change Max 10% at 40 Deg.

ii) Material of bolts with washers for fixing the resin pads on frame shall be SS-304. Material of bolts for fixing each rubber fender shall be SS-304. All bolts and washers shall be suitably painted with anti-corrosive paint. Material of wedge bolts for fixing each rubber fender with dock will be SS-304.

5.68.20.3 The rubber fenders shall be subject to inspection by Indian Register of Shipping or Lloyds Register of Industrial services, RITES, M/s. BVIS (Bureau Veritas Industrial Services) or any other agency approved by Deendayal Port Trust at the cost of Contractor. The Contractor has to arrange at his own cost all such arrangements for testing and re-testing as required by the Engineer. Those fenders which are finally found satisfactory in all respect shall be accepted and used in the work.

5.68.20.4 Contractor has furnished detailed calculations justifying the proposed fendering system as per the supplier approved and selected for the project. Further, such supplier should visit the site & familiarise themselves with the duty conditions prevailing at the port. This would comprise of but not limited to the following:

- i. Existing Site/ surface of fender block Condition
- ii. Fixing and Line and level arrangement of adjacent Mooring Facilities

- iii. Tidal variations
- iv. Type of vessel calling,
- v. Berthing velocity,
- vi. Angle of approach etc.

Approved supplier should further, supervise the installation at random and certify them as correct at the time of completion of installation but before handing over the port to the user by the contractor. The Contractor has to arrange at his own cost all such arrangements as required by the Engineer.

5.68.21 Providing and fixing of UHMW PE Pad 1000mm x 1000mm x 30mm thickness

5.68.21.1 Fixing

Fixing of New UHMW PE Pad of size 1000mm x 1000mm x 30mm thickness, with fixtures of SS 316 minimum 9 nos of M20 x 250 mm L, stud, nuts, washer & bolts per sq.m and fixing with resin fastener RE500V3 or equivalent of specification as specified by manufacturers specification & drawing etc. complete as directed by EIC.

- i) UHMW PE Synthetic Resin Anti-Friction & Anti-Sparking Pads (Fender Front/Facia Pads) shall be fixed on front/berthing face of deck slab & Beam shall have the following Characteristics

Fender front/pad shall be made from very high abrasion resistant and very low friction coefficient Ultra High-Density Synthetic Resin material. Its function is to protect surface of the structure/Berthing Vessel and decrease the longitudinal force between the structure and vessel's hull during berthing/reliving and to eliminate the damage of structure due berthing, reliving, and loading/unloading materials.

Special Characteristics of UHMW PE Pads

- High abrasion resistance & Anti-Sparking Properties.
- Ability to withstand Sub-Zero temperature
- Excellent impact strength.
- Slippery surface.
- Self-lubricating.
- Antistick properties.
- Good chemical resistance.
- No water absorption.
- Non-Toxic.
- Good Machinability.

Physical Properties of Pads

Physical Property	Unit	Test Method	Value
Density	g/cm ³	DIN 53749	0.93 +/- 0.03

Coefficient of friction	Max	---	0.20
Melt Index MFI 190/15	g/10 min	DIN 53735	NIL or 0.001
MECHANICAL PROPERTIES			
Yield stress	N/mm2	ISO 527	40
Elongation at Yield	%	Testing rate	<20
Elongation at Break	%	--	350 +/- 3
Tensile modules	N / mm2	DIN 534457	720
Ball indentation Hardness (30 sec. Value)	N/mm2	DIN ISO 53456	38
Shore hardness D scale	---	DIN 53506	68 deg. + /-
Notched Impact Strength (IZODIC)	MJ/mm2	DIN 53453	No failure
Wear by the sand-slurry method (based on HOECHST)	Mg	Internal test method (24hr at 1200 RPM quartz sand of particle size 0.2-1.0mm)	100 (max)

- ii) Material of bolts with washers for fixing the UHMW PE pads on concrete surface shall be SS-316 minimum 9 nos of M20 x 250 mm L stud, nuts, washer & bolts per sq.m.

5.68.21.2 The rubber for pads shall be subject to inspection by Indian Register of Shipping or Lloyds Register of Industrial services, RITES, M/s. BVIS (Bureau Veritas Industrial Services) or any other agency approved by Deendayal Port Trust at the cost of Contractor. The Contractor has to arrange at his own cost all such arrangements for testing and re-testing as required by the Engineer. Those pads which are finally found satisfactory in all respect shall be accepted and used in the work.

Approved supplier should further, supervise the installation at random and certify them as correct at the time of completion of installation but before handing over the port to the user by the contractor. The Contractor has to arrange at his own cost all such arrangements as required by the Engineer.

5.68.22 Supply & fixing of Galvanized M.S. ladder

- i. The structural steel to be used for fabrication of ladder shall comply with IS 2062 (standard quality). Stringer, Bracket & Rung as per ASTM A36 or Equivalent. All fixture will be of SS 316. The design (if required to be done), fabrication and erection of structural steel shall be in accordance with IS 800 code of practice for use of structural steel in general building. Ladder will be supplied in two pieces. Hand grip shall be of 25mm diameter, Resin anchor bolt for bracket of M24, mounting bracket shall be of 250x150x16 thick x 150 L, stringer shall be of 7500L x 100W x 16thick, rung (solid bar) shall be of 25mm

diameter.

- ii. Hot dip galvanizing shall be done in accordance with B.S. 729. All components before galvanizing shall be grit blasted to give a clean roughened surface as a pre-treatment to galvanizing. The minimum thickness of coating shall be 150 microns.

5.68.23 Providing and fixing of cast steel T-head bollards of 30 tonne each capacity

5.68.23.1 General

Bollards shall be cast from cast steel Grade 230-450N to I.S. 1030.

5.68.23.2 Design

Bollards should be obtained only from manufacturers possessing adequate testing equipment and employing competent staff for detailed examination. The manufacturer's test certificate for the bollards will be required.

Bollard shall be subject to inspection by Indian Register of Shipping or Lloyds Register of Industrial services, RITES, M/s. BVIS (Bureau Veritas Industrial Services) or any other agency approved by Deendayal Port Trust at the cost of Contractor. The Contractor has to arrange at his own cost all such arrangements for testing and re-testing as required by the Engineer. Those bollards which are finally found satisfactory in all respect shall be accepted and used in the work.

5.68.23.3 Specification and Procedure of Inspection of Bollards

- i. Surface Finish As per IS : 3381
- ii. Tolerances As per IS 2102
- iii. NDT for Flaw & Wall Thickness
 - a) Ultrasonic Flaw Detection as per IS 9565 Acceptable Level - 3 at designated 2 places.
 - b) IS : 3664 - 1981 to be followed for the procedure.
 - c) Testing facilities & procedures ; All casting to be poured with detachable integral pieces - 3 sets per heat - 1 set Foundry internal check, 1 set for visiting Engineer's check, 1 set extra (only if necessary)

i. Manufacturing & Testing Steps

- (1) Foundry will pour casting and carry out.
- (2) Knock out.
- (3) Gas cutting (Riser removals)
- (4) Heat Treatment
- (5) Final Finish

- (6) Chemical composition check permitted on spectrometer.
- (7) Mechanical properties.
- (8) Ultrasonic flow detection at two detection at two locations.
- (9) Call to surveyor. Surveyor can ask removal of second set in his presence & carry out (6), (7) & (8) independently and approve the casting.

ii. Inspection Procedure

- 1. Integral test piece casting.
- 2. No repairs are to be carried out without permission of surveyor.
- 3. Repairs not permissible as per IS will not be permitted. Such bollards shall be rejected.
- 4. Details of testing machines from the manufacturers.
- 5. Test pieces to be removed in the presence of surveyor and stamped. Physical test pieces are to be tested in the presence of Surveyor.
- 6. Surveyor to be kept informed of every heat.
- 7. The ultrasonic test will be witnessed by Surveyor and it will be performed by a competent operator.
- 8. Level 3 of IS 9565-(latest) ultrasonic testing will be accepted.
- 9. Final examination including dimensional check, workman-ship, etc. to be done along with stamping of the bollard.
- 10. Witnessing of pouring can be done at any time. The advance intimations as desired will be given to all concerned officers. However, the production schedule will not be disturbed for such witnessing.
- 11. All dimension Data and other inspection results will be entered into the inspection format to be approved by Surveyor.

5.68.23.4 Painting

All bollards shall be painted after installation with one coat of primer of Red Oxide / Zinc Chrome paint conforming to IS 2074 "Ready Mixed Paint Red Oxide / Zinc Chrome Painting", and two coats of anti-corrosive black paint of approved quality. All Bollard shall also be letter writing with black japan or other approved brand and manufacturer paint on bollard surface as per requirement of Engineer-In-charge. Such costs are included in the quoted bid. Approved supplier should further, supervise the installation at random and certify them as correct at the time of completion of installation but before handing over the port to the user by the contractor. The Contractor has to arrange at his own cost all such arrangements as required by the Engineer.

5.68.24 Filling Work

5.68.24.1 The work to be performed under the scope of this specification shall broadly include. -

- i. Filling the area with quarry spall with settlement of ground. Some indications of nature and extent of the works have been given on the drawings and those

are preliminary only. Complete nature and extent of the works will be furnished to the Contractor progressively during the execution of the work. Quantities indicated in the Schedule of Items are tentative and are subject to change. All items of work shall be executed in accordance with the relevant specification annexed thereto and the provisions of the contract.

- ii. The layout and levels of all structures etc. shall be made by the Contractor at his own cost from the nearby existing structures/facilities and bench mark reference pillar, as directed by the Engineer-in-Charge. He shall give all help with instruments, materials, and men to the engineer-in-Charge for checking the detailed layout and correctness of the layout and level. The approval of the Engineer-in-Charge shall not be deemed to imply any warranty and shall not relieve the contractor of his sole responsibility in carrying out the work correctly.
- iii. All materials to be used in the works (i.e. Road work/filling) shall be subjected to inspection and test. Samples of all materials, proposed to be used, and in the permanent works shall be submitted to the Engineer-in-Charge for approval before those are brought to site. Samples required for approval and testing must be supplied allowing sufficient time for testing and approval, due allowance being made for the fact that if the first samples are rejected further samples shall be required. Delay in the execution of work due to late submission of samples will not be acceptable as a reason for delay in the completion of the works. Materials shall be tested before dispatching to the site, where possible. Materials shall also be tested on the site and those may be rejected if found not suitable or not in accordance with the specifications notwithstanding the results of tests at the contractor's work or elsewhere or of test certificates or of any approval given earlier.
- iv. Nothing extra shall be paid for change of quarry against lead etc.
- v. No claim what so ever extra use of quarry spall/metal due to settlement or slippage of original ground etc shall be considered. This aspect may be kept in the mind before filling the rates.
- vi. During the execution of works dewatering manually or by pumping is to be done by the contractor at his own cost, if found necessary and no claim on this account shall be entertained.
- vii. The contractor shall arrange to supply periodically samples of Granular material, aggregates required for FILLING WORK etc. to the Port Laboratory/Govt. approved lab for testing as per relevant I.S. and as per MOST specifications. However, all the materials shall be arranged by the contractor free of cost for testing, testing charges will be born by the contractor for testing of materials in Port Laboratory/Govt. approved lab.
- viii. The contractor shall carry out the work maintaining proper camber, slope and gradient to the road, plot or berm as directed by the Engineer-in- charge.
- ix. If deemed fit by Engineer-in-charge the contractor shall be not allowed to use settled seawater only for watering of layers of G.S.B/quarry spall

- x. As per site condition the approach etc. will be required which the contractor shall provide & maintain at his own cost. Contractor shall consider these aspects while quoting the rates in tender. Nothing extra will be paid for the same.
- xi. All the dismantled materials will be the property of DPT & shall have to be deposited in DPT store without any extra cost.

5.68.25 Construction of sub-base (Quarry Spall) by Providing, Laying, Spreading and Compacting

➤ GRANULAR SUB-BASE

1. SCOPE:

This work shall consist of supplying, laying and compacting well graded materials on prepared sub-grade or side shoulders in accordance with the requirement of these specifications as mentioned in the items of Bill of quantities. Material shall be laid in one or more layer in side shoulder according to adjacent layers in line, grade and cross section shown on the drawing or as directed by Engineer In-Charge. Each layer consolidated up to 200 mm compacted thicknesses.

2. Materials:

- 2.1.** Materials to be used for the work shall be quarry spalls having C.B.R. value not less than 30 %. Materials shall be free from organic or other deleterious construction and confirm to grading given below:
Grading for Course Graded (Granular sub-base Materials)

<u>I. S. Sieve</u>	<u>Present by weight passing the I.S. Sieve Grading - I</u>
75.00mm	100%
53.00mm	---
26.50mm	55-75%
9.50mm	----
4.75mm	10-30%
2.36mm	---
0.425mm	---
0.075mm	< 10%
(Minimum CBR Value)	30%

Note: The material passing 425 micron (0.425mm) sieve shall be tested according to IS 2720 (Part - V) shall have liquid limit and P.I. Value not more than 25% and 6% respectively.

2.2 PHYSICAL REQUIREMENTS

The fraction of material passing 22.4mm sieve shall give CBR Value as specified when tested in accordance with IS 2720 (Part - XVI) after preparing the samples at maximum dry density and optimum moisture content responding to Is 2720 (part - VII) and soaking the same in water for 4 days.

3. CONSTRUCTION OPERATION:

3.1 Immediately prior to the laying of sub-base, the sub-grade already finished to MOST specification for roads and Bridges works IV Revision as applicable shall be prepared by removing all vegetation and other extraneous matter, lightly sprinkled with water if necessary and rolled with one pass of 80-100 KN smooth wheeled roller.

3.2 SPREADING, COMPACTING, AND WATERING:

- i. The sub base materials of grading specified in the item shall be spread on a prepared sub-grade from the stack along the side of roadway. In no case shall be the materials be dumped in heaps directly on the surface prepared to receive the materials nor shall handing over un-compacted or partially compacted sub-grade be permitted.
- ii. If the sub base material specified in clause 2.1 above is not meeting the requirement the contractor shall make arrangement for mixing mechanically by the mix in place method.
- iii. The thickness of loose layers shall be so regulated that the maximum thickness of the layer after consolidation does not exceed 200mm.
- iv. Moisture content of the loose material shall be checked accordance with IS 2720(Part-II) and suitable adjusted by sprinkling additional water by trailer mounted water tank or other approved means so that at the time of compaction it is from 1 % above 2% below the optimum moisture content corresponding to IS 2720 (Part - VIII) 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 if so directed by the Engineer-in-charge until the layer is uniformly wet.
- v. Immediately thereafter, rolling shall be started with Vibratory roller of 80-100 KN. Static Weight. The rolling shall be commenced at the edge and progress towards the centered longitudinally, except that on super - elevated portions it shall progress from the lower to the upper edge parallel to the centered line of pavement or on shoulders. During rolling, the grade and camber shall be checked and any high spots or depressions, which become apparent, corrected by removing or adding fresh materials. The speed of roller shall not exceed 5 Km. Per hour. The rolling shall be continued till the density achieved is at least 98 % of the maximum dry density for the materials determined as per IS 2720 (Part -VIII). The surface of any layer of materials on compaction shall be well closed; free from movement under compaction shall be closed free from movement under compaction equipment and from compaction planes, ridges, cracks, or loose materials. All loose segregated or other defective area shall be made from good to the full thickness or layer and re-completed.

4. SURFACE FINISH AND QUALITY CONTROL OF WORK:

The surface finish of construction shall confirm to the requirements of clause-902 of MOST specifications for Roads and Bridges works IV Revision, Control on the quality of material and work shall be exercised by the Engineer-in-charge in accordance, with section 900 of MOST specifications for Road and Bridge works, IV Revision.

5. ARRANGEMENTS FOR TRAFFIC:

During the period of construction, arrangement of traffic shall be maintained as directed by Engineer – in – charge.

6. MEASUREMENT FOR PAYMENT:

Granular sub-base (Quarry Spalls) shall be measured as finished work in position of cubic meter. For ascertaining the compacted thickness, the required initial working levels shall be taken at interval of every 10 meters before spreading of Granular materials and final levels shall be taken after compaction and compaction of laid surface in accordance to the initial working levels. The average thickness of any area shall be the arithmetical mean of the different of levels before and after construction. Provided that the thickness of the finished work shall be limited to the specified thickness of the said course, the quantity shall be worked out by the average and area method.

The initial and final levels for sub-base course shall be taken separately in presence of authorized representative of the contractor.

5.68.26 Providing, laying, spreading and compacting graded stone aggregate to WET MIX MACADAM etc. complete

1. SCOPE :

This work consisting of laying and compacting clean, black stone crushed graded aggregate and granular material, premixed with water to a dense mass on a prepared sub grade/ sub base / base or existing pavement/ side shoulders as the case may be in accordance with the requirement of these specifications. The material shall be laid in layers as necessary to lines, grades and cross section shown on the approved drawings or as directed by the Engineer in charge.

The thickness of single compacted Wet Mix Macadam layer shall not be more than 150 mm thickness.

2. MATERIALS :

(I) Aggregates

- Physical requirements: Coarse aggregate shall be machine crushed black stone aggregates. The aggregates shall confirm to the physical requirement as of Table No -1

TABLE NO -1 : PHYSICAL REQUIREMENTS OF COARSE AGGREGATES FOR WET MIX MACADAM FOR SUB BASE / BASE COURSES.

TEST	TEST METHOD	IS CODE	REQUIREMENT
01	Los Angeles Abrasion value	IS 2386 (Part- 4)	40 % Maximum

	or	IS 2386(Part- 4) Or IS- 5640	
	Aggregate. Impact value		30 % Maximum
02	Combined Flakiness and Elongation indices (Total)	IS 2386 (Part- 1)	30 % Maximum

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

If the water absorption value of the coarse aggregate is greater than 2 present, the soundness test shall be carried out on the material delivered to site as per IS- 2386 (Part- 5)

(ii) Grading requirement : The aggregate shall confirm to the grading given in table No- 2

Table No- 2: GRADDDING REQUIREMENT OF AGGREGATE FOR WET MIX MACADAM

IS Sieve Designation	Percentage by weight passing the IS sieve
53.0 mm	100 %
45.0 mm	95-100 %
26.5 mm	---
22.4 mm	60- 80 %
11.2mm	40 – 60 %
4.75mm	25 - 40 %
2.36mm	15 – 30 %
600 micron	8 – 22 %
75 micron	0 – 8 %

The nominal size of aggregate to be used in a given test would depend on availability. Materials finer than 425 micron shall have plasticity index (PI) not exceeding 6.

3. Construction operation

(I) 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 arrangements like pug mill or pan type mixer of concrete batching plant.

For small quantity of work, the Engineer in charge may permit the mixing to be done in concrete mixers.

- ii. 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 materials 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 0.50 % . The mixed material should be uniformly wet and no segregation should be permitted.

(II) Spreading of mix :

- i. Immediately after mixing , the aggregates shall be spread uniformly and evenly upon the prepared sub- grade/ sub- base/ base in required quantities by paver finisher or motor grader (mechanical) as directed by the Engineer in charge.
- ii. 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 larger and fine particle should be allowed. The aggregates spread should be of uniform gradation with no pockets of the materials.

(III) Compaction :

- i. After the mix has been laid to the required thickness, grade and cross fall / camber . The same shall be uniformly compacted, to the full depth with the vibratory roller of approved type. The speed of the roller shall not exceed 5 km/ hr.
- ii. Rolling shall commence from the lower edge and progress gradually towards the upper edge, uniformly overlapping each preceding track by at least 1/3rd with until the entire surface has been rolled. Alternate trips of the roller shall be terminated in stops at least 1.00 m away from any preceding stop.
- iii. Rolling should not be done when the sub-grade is soft or yielding or when it cause a wave like motion in the sub base/ base course sub grade. If irregularities developed during rolling which exceed 12 mm when tested with a 3 meter straight edge, the surface should be loosened and premixed material added or removed as required before rolling again so as to achieve uniform surface confirming to the desired grade and cross fall. In no case should the use of unmixed material be permitted to make up the depressions.
- iv. Rolling shall be continued till the density achieved is at least 98 % of the maximum dry density for the materials as determined by the method outline in IS -2720 (Part -8)
- v. After completion, the surface of any finished layer shall be well closed , free from movement under compaction equipment or any compaction plants, ridges, cracks and loose materials. All loose, segregated or otherwise defective area shall be

made good to the full thickness of the layer and recomputed.

(IV) Setting And Drying :

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

4. Opening to traffic :

Preferable 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. In exceptional cases construction traffic may be allowed with approval of Engineer for short duration once the course is completely dried provided vehicles move over the full width avoiding any roughing or uneven compaction.

5. Rectification of surface Irregularity.

Where the surface irregularity of the wet mix macadam course exceeds the permissible tolerances or where the course is otherwise defective due to sub base soil getting mixed with the aggregates, the full thickness of the layer shall be rectified over the full affected area, reshaped with added premixed material or removed and replaced with fresh premixed materials as applicable and re-compacted in accordance with MOST specifications fourth revision. 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 materials or fines.

6. Surface finish and quality control of work

- (a) Surface evenness: The surface finish of construction shall conform to the requirements of Clause 902 of MOST.
- (b) Quality Control: Control on the quality of materials and works shall be exercised by the Engineer in accordance with section 900 of MOST.

7. Arrangement for Traffic: During the period of construction, arrangement of traffic shall be done as directed by Engineer in charge.

8. Measurements for payment

Wet mix macadam shall be measured as finished work in position in cubic meters as per book of specification for road and bridges work (fourth revision).

5.68.27 TACK COAT

- 1. Scope;** The work shall consist of application of a single coat of low viscosity liquid bituminous material to an existing road surface preparatory to the superimposition of bituminous mix. When specified in the contract or instructed by the Engineer in charge.
- 2. Materials :**

Binder: The binder used for tack coat shall be bituminous emulsion complying with IS 8887 of a type and grade as specified in the contract as directed by the Engineer in charge.

3. Construction operation :

- i. **Equipment :** The tack coat distributor shall be a self propelled or towed bitumen pressure sprayer, equipped for spraying the material uniformly as specified rate.
- ii. **Preparation of the Base :** The surface on which the tack coat is to be applied shall be cleaned and free from dust, and any extraneous material before the application of the binder. Immediately before the application of Tack Coat, the surface shall be swept clean with a mechanical broom, and high pressure air jet, or by other means as directed by Engineer.
- iii. **Application of Binder :** The application of tack coat shall be at the rate specified in the Contract, and shall be applied uniformly. Bitumen at 7.5 Kg/10 Sq.m. is to be applied on the WMM surface treated with Primer.

The normal range of spraying temperature for a bituminous emulsion shall be 20°C-70°C and for a cutback 50°C-80°C if RC-70/MC is used. Where geo synthetic is proposed for use, the provision of clause 703.3.2 and 703.4.4. Apply. The method of application of tack coat will depend on the type of equipment to be used, size of nozzles, pressure at the spray bar, and speed of forward movement. The contractor shall demonstrate at a spraying trial, that the equipment and method to be used is capable of producing a uniform spray, within tolerance specified.

Where the material to receive an overlay is a freshly laid bituminous layer that has not been subjected to traffic or contaminated by dust, a tack coat is not mandatory where the overlay is completed within two days.

4. Curing of Tack Coat :-

The Tack Coat shall be left to cure until all the volatiles have evaporated before any subsequent construction is started. No plant or vehicles shall be allowed on the Tack Coat other than those essential for the construction.

5. Quality Control work :-

Control on the quality of materials and works shall be exercised by the Engineer in accordance with Section 900.

6. Arrangement for Traffic :-

During the period of construction, arrangement of traffic shall be done as directed by Engineer in Charge.

7. Measurement of Payment :-

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

5.68.28 Providing & laying of Dense Bituminous Macadam etc. complete

5.68.28.1 Scope: This work shall consist of construction of layers of 50mm thick (compacted) on a previously prepared base/sub base

5.68.28.2 Materials

i. Bitumen:

The bitumen (binder) shall be straight run bitumen (60/70) or VG-30 of penetration grade as per Indian Standard Specifications for "Paving Bitumen" IS: 73.

ii. Coarse Aggregates

The coarse aggregates shall consist of crushed stone, crushed gravel/single or other stones. They shall be clean, strong, durable, of cubical shape and free from disintegrated pieces, organic or other deleterious matter and adherent coating. The aggregates shall preferably be hydrophobic and of low porosity. If hydrophilic aggregates are to be used, the bitumen shall be treated with anti-stripping agents of approved quality in suitable doses. The aggregates shall satisfy the physical requirement of set for the in Table given below.

If crushed gravel/shingle is used, not less than 90 percent by weight of the gravel/shingle pieces retained on 4.75mm sieve shall have at least two fractured faces. The portion of the total aggregate passing 4.75mm sieve shall have a sand equivalent value of not less than 50 when tested in accordance with the requirement of IS:2720 (Part-37).

PHYSICAL REQUIREMENTS OF AGGREGATES FOR DENSE BITUMINOUS MACADAM

* Aggregates may satisfy requirements of test mentioned below

Sr. No.	Test	Test method	Requirement
1.	Los angles Abrasion valve*	IS-2386(Part-4)	35% maximum
2.	Aggregate Impact Valve*	IS-2386(Part-4)	30% maximum
3.	Flakiness and Elongation Indices(Total)	IS-2386(Part-1)	30% maximum
4.	Coating & Stripping of Bitumen Aggregate Mixture	AASHTO T 182	Minimum retained Coating 95%
5.	Soundness: 1. Loss with sodium sulphate 2. Loss with Magnesium sulphate	IS-2386(Part-5) 5 cycles 5 cycles	12% maximum 18% maximum

6.	Water absorption	IS:2386(Part-3)	2% maximum
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iii. Fine Aggregate:

Fine aggregates shall be the fraction passing 2.36mm sieve and retained on 75-micron sieve, consisting of crusher-run screening, gravel sand or a mixture of both. These shall be clean, hard, durable, uncoated, dry and free from any injurious, soft or flaky pieces and organic or other deleterious substances.

iv. Aggregate gradations:

The combined coarse and fine aggregates shall produce a mixture to conform to the grading set forth in Table below.

Table Aggregates Gradation for Dense Bituminous Macadam

IS Sieve Designation	Per cent passing the sieve by weight
37.5mm	100
26.5mm	90-100
19 mm	71-95
13.2mm	56-80
4.75mm	38-54
2.36mm	28-42
300 micron	7-21
75 micron	2-8

The aggregate mix, as used in work, shall not vary from the low limit on one sieve to the high limit on the adjacent sieve but shall be well graded.

v. Mix Design

A. Requirement for the mix:

Apart from conformity with grading and quality requirements of individual ingredients, the mix shall meet the requirements set out in the table given below:

REQUIREMENTS FOR DENSE BITUMINOUS MACADAM

Sr. No.	Description	Requirements
1	Minimum stability	9-0
2	Minimum flow (mm)	2
3	Per cent air voids	3-6
4	minimum voids in mineral aggregate (VMA)	10-12 percent
5	Per cent voids in mineral aggregates filled by bitumen (VFB)	65-75
6	Binder content, percent by weight of total mix	4.5 %

- B. Job Mix Formula:** Binder Content for DBM for premixing shall be 4.5% by weight of total mix. The Contractor shall get the job mix formula for the mix derived at DPT laboratory before starting the work. For which sample of all ingredients of the mix shall be furnished by the contractor as required. The mix design shall be worked out

based on a correct and truly representative sample of the material that will actually be used in the specific work.

- C. Permissible variations from the job mix formula:** The Contractor shall have the responsibility for ensuring proper proportioning of materials in accordance with the approved job mix formula and producing a uniform mix. The permissible variations of individual percentages of various ingredients in the actual mix from the job mix formula may be within the limits as specified in Table given below. These variations are intended to apply to individual specimens taken for quality control tests.

5.68.28.3 Construction Operations

- i. Weather and seasonal limitations:** DBM shall not be take up during rainy or foggy weather or when the base course is damp or wet, or during dust storm or when the atmospheric temperature in shade is 10 degree C or less.
- ii. Preparation of the base:** The base on which Dense bituminous Macadam is to be laid shall be prepared, shaped and conditioned to the specified levels, lines, grades and cross Section as directed by the Engineer.

The surface shall be thoroughly swept clean free from dust and foreign matter using mechanical broom and dust removed by mechanical means or blown off by compressed air shall be used. In portion where mechanical means cannot reach other approved methods shall be used.

- iii. Tack coat:** A tack coat shall be applied as per description of item.

iv. Preparation of mix:

(A) General:

Dense Bituminous macadam mix shall be prepared in a drum mix plant of adequate capacity and capable of yielding a mix of proper and uniform quality mix shall be used for preparing the mix.

The plant shall be having uniform quality mix shall be used for preparing the mix. The Plant shall be having coordinate set of essential units such as dryer for heating the aggregates device for feeding by weight of volume, the required quantities of aggregates for binder heating and control unit for metering out the correct quantity of heater binder capable of producing a homogenous mix with uniform coating of all particles of mineral aggregates with binder. For details relating the drum mix plant the technical requirements of drum mix plant given at and may be required.

(B) TEMPERATURE

- i. The temperature of the binder at the time of mixing at plant shall be in the range of 150 degree to 177 degree and that of the aggregate in the range of 155 degree to 163 degree, provided that the difference in the temperature between the binder and the aggregate at no time exceeds 14 degree centigrade.
- ii. Mixing shall be through to endure that the homogenous mixture is obtained in which all the particles of the mineral aggregate are coated uniformly and the discharge temperature of the mix shall be between 130 degree centigrade to 160 degree centigrade at plant.
- iii. The Mix shall be transported from the mixing plant to the point of use in suitable tipper vehicles. The vehicles employed for the transport shall be cleaned and be covered in transit if required and directed by Engineer In charge. Any tipper causing the excessive segregation of materials by its spring suspension or other contributing factors or that which shows undue delay shall be removed from the work until such condition are corrected.

v. Spreading:

The mix transported from the drum mix plant to the site shall be spread immediately by means of self-propelled mechanical paver with suitable screeds capable of spreading, tamping, and finishing the mix true to the specified lines, grades and cross-sections. The temperature of the mix at the time of laying shall be in the range of 120 degree centigrade to 160 degree centigrade.

Mix with a temperature less than 120 degree centigrade shall not be put in to paver spreader longitudinal joints and edges shall be constructed true to the delineating line parallel to the center line of the road. Longitudinal and transverse joints shall be offset by at least 250mm from those in the binder lower courses and the joint of the top-most layer shall not be allowed to fall within the wheel path. All transverse joints shall be cut vertically to the full thickness of the previously laid mix with asphalt cutter/pavement breaker and surface painted with hot bitumen before placing fresh

Description of ingredients	Permissible variation by weight of total mix in percentage.
Aggregate passing 19mm sieve and largest sieve	Plus/minus 8
Aggregate passing 13.2mm sieve	Plus/minus 7
Aggregate passing 4.75mm sieve	Plus/minus 6
Aggregate passing 2.36mm sieve	Plus/minus 5
Aggregate passing 300micron sieve	Plus/minus 4
Aggregate passing 75 micron sieve	Plus/minus 2
Binder Content	Plus/minus 0.3
Mixing Temperature	Plus/minus 10 C

ongitudinal joints shall be preferably hot joints. Cold longitudinal joints shall be properly heated with joint heater to attain a suitable temperature of about 80 degree C before laying of adjacent material.

vi. Rolling and Compaction:

- i. After the spreading of the mix by paver it shall be thoroughly compacted by rolling immediately with a set of vibratory rollers moving at the speed of not more than 5 km per hour immediately following close to the paver. Generally, the initial or break down rolling shall be done with 80 to 100 kN static weight smooth wheeled roller. The intermediate rolling shall be done with 80 to 100 kN static weight vibratory roller. The finish rolling shall be done with 60 to 80 KN weight smooth wheeled tandem roller. All the compaction operation i.e., Break down rolling can be accomplished by using vibratory tandem roller of 80 to 100 kN static weight. During initial breakdown rolling and finishing rolling, no vibratory compaction shall be restored to. The exact pattern of rolling shall be established after trial compaction as approved by Engineer. Any displacement occurring as a result of reversing of the direction of roller or from any other causes shall be corrected at once as specified and/or removed and made good. The roller shall not be permitted to stand on pavement which is not been fully compacted and where temperature is still more than 70-degree C. Necessary precautions shall be taken to prevent dropping of oil, grease, petrol or other foreign matter on the pavement either when the roller are operating or standing.
- ii. The wheels of roller shall be kept moist to prevent the mix from adhering to them. But in no case shall fuel/ lubrication oil be used for this purpose nor did excessive water pour on wheels. Rolling shall commence longitudinally from edges and proceed toward the center except that on super elevated in unidirectional camber portions, it shall progress from the lower to upper edge parallel to centerline of the road pavement. The roller shall proceed of the fresh material with rear or fixed wheel leading so as to minimize the pushing of the mix and each pass of the roller shall overlap the preceding one by half the width of the rear wheel.
- iii. Rolling shall be continued till the density achieved is at least 98 percent of that of laboratory Marshal specimen and all roller marks are eliminated. Skin patching an area that has been rolled will not be permitted. Rolling operation shall be completed in all respects before the temperature of the mix falls below 100 degree C.

5.68.28.4 Opening to traffic:

Traffic may be allowed after completion of final rolling when the mix has cooled down to the surrounding temperature. The Dense Bituminous Macadam shall be provided with an appropriate wearing course as early as possible prior to regular opening the normal traffic and/or impending rain.

5.68.28.5 Surface finish and Quality control of work

The surface finish of construction shall conform to the requirements of MOST specifications Book.

5.68.28.6 Arrangements of Traffic

During the period of construction, arrangement of traffic shall be done as directed by Engineer in charge.

5.68.28.7 Measurements for payment

- i. The payment shall be made on cubic meter for confirming the quantity (tonnage basis of the weight of mix of aggregate and bitumen for this purpose the contractor shall have to install a weigh bridge of suitable capacity as required by the Engineer in charge for the purpose of weighing of dumpers at suitable place at his own cost. Weight of each and every empty dumper and weight of each and every loaded dumper for each trip will be taken and recorded in bound and numbered register on plant site and on site of work before put in to use. Weigh Bridge installed by the contractor will be periodically got calibrated and verified from weigh and measure authority. If there will be difference lesser weight will be paid to the contractor which will also apply while weighing of dumpers of private/KPT Weigh Bridge during cross checking of empty and loaded weight, during changing the usual adopted directed of dumper on Weigh Bridge at plant, etc.
- ii. Weight of mixed materials will be done in presence of responsible person, not less than the rank of sub-Engineer/Junior Engineer (Civil) OF THE Kandla Port Trust. Record of each dumper will be maintained separately in bound and numbered register will be maintained by the departmental representatives and signed by the contractor or his representative and proper gate system shall be established for the vehicles/dumpers coming to the plant site and outgoing from the plant site as well as coming at work site and outgoing from the work site. The location of KM and meter in which individual dumpers are unloaded is to be recorded carefully at site of work.
- iii. In case of asphalt base coat of thickness 50mm and above, the initial level before commencement and final level after completion of the work may be taken, for working out the average thickness of pavement laid, also the actual area of work done will be measured and the quantity of the work actually done shall be computed in cubical content basis. Theoretical tonnage of the mix shall then be worked out on the basis of designed density, for broad cross check on actual tonnage of total mix used in the work. The cross profile may be taken at closed length up to 3.00m length. The decision of Engineer-in-charge is binding in such case.

5.68.29 Providing and laying of Bituminous Concrete (BC)

5.68.29.1 Scope

This work shall consist of construction in a single course of 40mm thick (compacted) bituminous concrete on previously prepared bituminous bound surface.

5.68.29.2 Materials

- i. **Bitumen:** Bitumen shall be paving bitumen of suitable penetration grade of 60/70 or VG-10.

- ii. **Coarse Aggregates:** Coarse aggregate shall be crushed material retained on 2.36mm sieve and shall be crushed stone. It shall be clean, strong, and durable, of fairly cubical shape.
- iii. **Fine aggregate:** Fine aggregate shall be fraction passing 2.36mm sieve and retained on 75 Micron sieve consisting of crusher run screening. It shall be clean, hard, durable, uncoated, dry and free from injurious, soft or flaky pieces and organic or other deleterious substances.
- iv. **Filler:** stone dust shall be used as a filler. It shall be graded within the limit indicated in table 500-9 of MOST specification (fourth revision).
- v. **Aggregate gradations for Bituminous Concrete:** The combined coarse and fine aggregate and filler when used shall produce a mixture to conform to the grading set forth in table.

Aggregates Gradation for Bituminous Concrete

IS Sieve Designation	Per cent passing the sieve by weight
19mm	100
13.2mm	79-100
9.5mm	70-88
4.75mm	53-71
2.36mm	42-58
1.18mm	34-48
600 micron	26-38
300 micron	18-28
150 micron	12-20
75 micron	4-10

The aggregate mix as used in work shall not vary from the lower limit on one sieve to the high limit on adjacent sieve but shall be well graded.

5.68.29.3 Mix Design

- i. **Requirement of mix:** Apart from conformity with the gravity and quality requirements of individual ingredients, the mix shall meet the requirements set out as per specifications for road and bridges work (fourth revision)
- ii. **Job mix formula:** The binder content for Bituminous Concrete mix for premixing shall be 5.4% by weight of total mix. Remaining as per item of DBM.
- iii. **Permissible variations from the job mix formula:** As per item of DBM and MOST specification for road and bridges work (fourth revision).

5.68.29.4 Construction Operations Methods:

- i. **Weather and seasonal limitations:** The work of laying shall not be take up during rainy or foggy weather or when the base course is damp or wet, or during dust storm or when the atmospheric temperature in shade is 10 degree C or less.

- ii. **Preparation of the base:** As per item of DBM and MOST specification for road and bridges work (fourth revision).

5.68.29.5 MIXING AND TRANSPORTATION OF THE MIXTURE:

As per item of DBM and MOST specification for road and bridges work (fourth revision).

- **Spreading:** As per item of DBM and MOST specification for road and bridges work (fourth revision).
- **Rolling:** As per item of DBM and MOST specification for road and bridges work (fourth revision).
- **Opening to Traffic:** The newly laid surface shall not be opened to traffic for at least 24hrs. After laying and the completion of compaction.
- **Surface Finish and Quality Control of Work**
As per Clause 902 of MOST specifications
- **Measurements for payment:** As per item of DBM and MOST specification for road and bridges work (fourth revision).

5.68.29.6 TECHNICAL REQUIREMENT OF DRUM MIX PLANT

❖ GENERAL

The drum mix plant shall be of reputed make and proven design, study and structure and capable of producing desired quality of mix as per specified for laying bituminous road surface and have following essential arrangements:

01. COLD STORAGE FEEDER

The cold aggregate feeder arrangement should have bins of sufficient capacity capable of storing difference size of aggregate and fines to ensure continuous un- interrupted supply of aggregate matching the capacity of the plant. Each bins should have independent bolt feeders driven by a variable speed motor and a control gate to ensure accurate aggregate feed to meet design mix formula. It is pre-requisite that only properly screened and graded materials are fed to the bins.

There should be gathering conveyor to receive and transport materials discharge from bins with separate drive arrangements.

There should be suitable arrangements like baffle plant at the discharge and of gathering conveyor for rejection of any oversize metal above the permissible limit. The conveyor should be fitted with suitable electronic weigh bridge device for weighing quantity of cold aggregate being for to dryer drum.

The plant should have a mineral filler arrangement with suitable control device to accurately proportion the flow of filler material in to dryer drum at appropriate stage.

02. DRTER DRUM

It should be the drum type with smooth rotation arrangement to give rated output and capable of reducing the moisture content of the aggregate to desirable limit of 2 % to 6

% and achieving the Hot Mix Temperature (up to 1600 C as per requirement) with such design that no blue smoke is omitted from the exhaust.

The drum may have optional for feeding reclaimed materials. There should be arrangement to restrict burner flame up to certain length in the drum bitumen is injected.

It should be fitted with positive displacement bitumen pump driven by variable speed motor automatically controlled from control cabin, capable of feeding desired quantity of oil circulation system should be in built feature to keep bitumen pump and pipes sufficiently hot to avoid clogging of pipes.

03. BURNER

The burner used should be capable of burning the fuel efficiency and develop the requirement temperature. It should be fitted with remote control system, to detect flames fail and also electric spark igniting system or some other suitable arrangement. Burner operation should have thermostatic control off flame within the specified temperature range.

04. BITUMEN HEATER

It should consist of an insulated tank of adequate capacity fitted with effective and positive control of temperature, for allowing continuous circulation of bitumen between bitumen heater and proportion units. Suitable arrangements should be provided for recording the temperature at the tank and in circulation system.

05. FUEL SYSTEM

Fuel tanks should be of sufficient capacity and fitted with suitable type of fuel pump to receive the fuel from storage tank supply to line heater and burner.

06. CYCLONE SYSTEM

Cyclone unit is required to control dust discharge within the admissible standard of pollution level.

07. OPERATION CONTROL UNIT

The drum mix plant must have centralized system with operation from a control cabin located adjacent to the drum mix plant. The control system should be capable of following.

- 1) Automatic control of speed of each bin feeder conveyor and gate, so as to control and regulate the flow of various grades of materials to ensure content and accurate proportion of aggregate.
- 2) Pre-set and control the percentage of flow of aggregate and asphalt required as per design mix.
- 3) Automatic detection of plant operation failure, display of aggregate temperature,

asphalt and mix temperature, aggregate, flow etc., fully automatic aggregate blending flow etc. fully automatic aggregates blending bitumen/ aggregate ration control system.

- 4) Control for pre-setting the moisture content of aggregate displayed digitally.
- 5) Entire control system should be such that if desired it would be operated manually also.

08.SURGE SILO

1. The plant may have optional arrangement to store hot mix material for at least equipment to 30 % of rate capacity to cater for any delay in loading the tippers. Temporary storage silo should have adequate automatic Hydraulic unloading arrangements operated either from the control cabin or manually with necessary safety control.
2. The contractor shall arrange to supply periodically samples of course aggregates, fine aggregate, Granular material, aggregates required for, DBM, BC etc. to the Port Laboratory for testing as per relevant I.S. and as per MOST specifications. However all the materials shall be arranged by the contractor free of cost for testing However, testing charges will be recovered from the contractor for testing of materials in Port Laboratory.
3. The mix design for the, D.B.M. and B.C. shall be as suggested by the Port Laboratory. For this purpose, the contractor shall supply the requisite quantity of aggregates, bitumen etc. to the laboratory free of cost. However, no other charges will be recovered from the contractor for this purpose.
4. The department shall be at liberty to collect the samples from mixes of bitumen material and mixed aggregate from D.B.M. and B.C. by core etc. and get them tested at the plant/at the Port Laboratory to ascertain bitumen content and density therein. For this purpose the samples will be taken at random during the execution of work. The bitumen content of the samples will be arrived at by the "EXTRACTION METHOD" / "STRIPPING METHOD". The department will take as many samples as it decides. The quantity of asphalt used in the work shall be cross checked by averaging bitumen content in all the samples of the respective cases and applying the same for full quantity of work without prejudice to the right of department to reject the work at any stage.
5. The aggregate and bitumen are to be as per Mix Design to be given by Port Laboratory the aggregate gradation shall be as per Port stipulation and in work proportion of difference sizes of aggregates which should be stored in bins separately and should be mixed with asphalt regulated as per Port stipulation and bottom doors of bins will be regulated as per requirement of aggregates. Moreover, while laying the asphalt mix at site of work, it should be ensured that uniform job mix is to be laid throughout the length of the road. If above stipulations are not met - with during execution of work, the work will not be allowed to be further continued by Engineer - in - charge.

6. Bitumen content for Bitumen mixes will be regulated by mechanical means and Contractor shall have to install asphalt content reading instrument at plant site. In addition to above, the bitumen content in the job mix at plant site and site of work will be determined by the standard laboratory test (Extraction method/Stripping Method). All the facilities, for checking bitumen content in job mix plant at plant/paver site and sieve analysis of aggregates, has to be provided by the Contractor without any extra cost.
7. All the arrangements regarding continuous display of reading/measurement of temperature of bitumen, aggregates and job mix etc. at drum mix plant as well as at site of work are required to be made by the Contractor at his own cost.
8. The contractor has to give an undertaking that the distance between drum mix plant site and the paver finisher site will not be more than 30 Km. Accordingly the contractor has to install the drum mix plant at site before filling the tender. The contractor has to arrange all the testing equipment at drum mix plant site as well as paver finisher site as per the instructions of the Engineer-in-charge.
9. If during progress of work movement of traffic is allowed on completed surface, the contractor will have to repair the said damage caused to road surface at his own cost for which no claim shall be entertained.
10. For checking asphalt content of mix at plant, petrol for washing should be readily available. Also an automatic weighing scale is to be used for determining the bitumen content of samples taken from dumper being loaded with mix.
11. While loading the different size of aggregates in the bins it should be ensured that these aggregates don't get mixed with each other i.e. not spill in other aggregates bin.
12. The contractor should ensure that the required temperature of Bitumen and aggregates is always maintained at Plant, and see that they are not over-heated at any stage. The plant will be allowed to start/restart only when the required temperature is attained.
13. Contractor has to comply all the motor vehicle act, rules and regulations. Deendayal Port Trust will not be responsible for any violation of rules.
14. After loading of mix in the dumper at plant till the dumper reach at the site and unload, if there is breakdown of dumper. (i.e. gets punctured or out of order etc.) The contractor should then ensure that suitable steps are taken immediately so that temperature of mix is not affected, otherwise the Engineer - in - charge is at liberty to reject such trip.
15. The storage tank of asphalt at Paver Plant, should be in good condition, leak proof, suitable covered, having proper ladder/approach etc. The tank should be calibrated duly certified with required measuring/Dip Rods and must have adequate capacity for storage of at least one Bitumen tanker.
16. The taking of Initial Dip and Final Dip of Asphalt in tank daily before start of work and after closing of work is to be arranged by contractor for maintaining account of

- asphalt. Further, the department is at liberty to take intermediate dips as and when required during progress of work and during unloading of asphalt tanker.
17. The Gate Pass issued at plant for each trip of mix being an important document is to be maintained / handled carefully by staff of contractor. Any misplacement, etc. of Gate Pass shall result in cancellation of trip.
 18. Density test of compacted layer shall be carried out as per MOST specifications or as directed by Engineer-in-Charge. The cost on the arrangement for the test at site of work shall be borne by the contractor. All the testing charges for test shall be borne by the contractor.

5.68.30 ACTION WHERE NO SPECIFICATIONS ARE SPECIFIED

In the case of any class of work for which there are no such specifications, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there is no such specification in Bureau of Indian Standards, the work shall be carried out as per manufacturer's specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer or his nominee.

5.69 DEFECTLIABILITY:

The defect liability period for the work is 12 months from the date of completion of work as per completion certificate issued by the Engineer in charge. The contractor will be responsible to rectify all the defects observed during defect liability period at his own cost, failing which same will be rectified by the Engineer in charge and amount will be recovered from the bids security.

- 5.70 All the labour acts, rules and regulations in force from time to time are to be followed by the contractor and the contractor has to obtain license/ Registration from the Assistant Labour Commissioner (C), as per rules, during the course of execution of work.
- 5.71 The prospective bidders may raise query relating to bidding conditions, bidding process, and / or rejection of bid. The reason for rejecting the tender or non-issue a tender to prospective bidder will be disclosed where written enquires are made by the concerned bidder.
- 5.72 The Bank Guarantee towards EMD / Security Deposit shall be from any Nationalized Bank having its branch at Gandhidham (Kachchh).
- 5.73 The bidder has to execute Integrity pact arrangements with Deendayal Port Trust,

Kandla (as per agreement form enclosed). Smt Meenakshi Mishra, IA&AS (Retd.) has been appointed as Independent External Monitor for Integrity, whose address is as under:

Smt. Meenakshi Mishra, IA & AS (Retd.) 198/1 Neb Valley, Neb Sarai,
IGNOU road,
New Delhi -110 068
Mobil No 9869039055 / 9869439055
Fax No 011 – 29533457
E-mail: - pcmishra@hotmail.com

- 5.74** The bidder have to sign and seal and upload the scanned copy of Integrity Pact form (as per agreement form enclosed) along with the technical proposal as a token of acceptance. Original hard copy of the same along with the tender documents shall have to forwarded subsequently so as to reach the office of Superintending Engineer (P) within 7 days of opening of the tenders failing which tender shall be considered irrelevant, However, the agreement is to be executed during the issuance of Pre-Acceptance letter.
- 5.75** While evaluating tenders, regards would be paid to National Defense Security consideration.
- 5.76** Removal of rejected / substandard materials
- i. Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the site order book under the signature of Assistant Engineer, giving the approximate quantity of such materials.
 - ii. As soon as the material is removed, a certificate to that effect shall be recorded by the JE/AE against the original entry, giving the date of removal and mode of removal, including the registration No of the truck and a copy of gate pass wherever applicable.

5.77 EXTRA SUBSTITUTED AND DEVIATED ITEMS OF WORK

1. Any changes in the contract are broadly classified as deviations. While No changes should be done with an intention to cause any undue benefit to the contractor but in the interest of the work for valid reasons or when situation so demands quantities of agreement items can be increased or decreased, extra items can be executed , agreement items can be substituted materials/ T & P which was not stipulated can be issued and period of completion can be extended for which necessary provisions and unambiguous procedure should be incorporated in the contract to regulate rates/ payments for such deviations.
- 5.78** The contractor has to carry out the plantation at least 100 saplings with proper tree guard (Metal Tree Guard, with Anti-corrosive paint) and maintain them till the completion of maintenance/ defect liability period including providing arrangements for trimming the plantations, watering, temporary guarding etc. and number of tress shall be same till defect liability period. The cost of the same has to be borne by the

contractor. In the event of failure of carrying out such work the department has to done the same at the risk and cost of the contractor.

- 5.79** On award of the contract, the contractor to whom the contract has been awarded has to provide at least 10 (Ten) bonded copies of Agreement including the Technical bid, Price bid and the correspondence exchange between the parties till the award of the work. One full set including indexing, insertion of page nos. certification with index will be provided by the Department. The cost of above ten sets is to be borne by the contractor.
- 5.80** Contractor/service provider/supplier etc. has to ensure timely and proper filling of GSTR 1 so that Deendayal Port Trust can avail input tax credit in timely manner. In case DPT not allowed input tax credit due to failure on part of the contractor/service provider/supplier etc., it will be a financial loss to the DPT and therefore same shall be recovered from the payment/deposit of the contractor/service provider/supplier.
- 5.81** The material like fender, bollards, rails and ladders or any other items recovered from dismantling shall be handed over to the maintenance division if required or otherwise deposited to the Main Store by contractor without any extra cost as directed by EIC.

5.82 SPECIAL CONDITIONS FOR ENVIRONMENTAL PROTECTION

1. The Contractor shall strictly follow-up the Environmental rules as per the Environmental Protection Act 1986. While execution of work and as directed by Engineer in Charge.
2. All the Construction materials e.g. Cement, Aggregates, sand & fill materials which are to be used in construction work shall be covered with Tarpaulin or other fabric material as directed by Engineer in Charge.
3. The contractor should stack and dispose the waste material in such a manner which is not destroying the environment.
4. The contractor shall sprinkle the water to minimize the dust emission.
5. Machine mixers, vibrators, way batcher's plant, diesel generator sets and other vehicles engines shall not be left running when not in use.
6. Emission of NO₂ and SO₂ shall be maintained within the work site area as per the International Regulations (MARPOL).
7. To prevent the minimize vibration and noise from machineries / vehicles during construction activities the contractor shall take the remedial action to minimize noise pollution as under: -
 - (i) Provide adequate silencers attached with all vehicles and machineries.
 - (ii) Install suitable mufflers on engine exhaust and compressor component.
 - (iii) The diesel generators set shall be used of noise less.
8. The contractor (s) shall stacked/stored the construction materials at adequate distance from coastal area.
9. The contractor shall provide the barrier to prevent the construction material from mixing up with surface / ground water.
10. The contractor (s) should discharge Waste water generated during Construction work as per CPCB/GPCB regulations.

5.83 SPECIAL CONDITION FOR TENDER DOCUMENTS

The all required documents for preliminary & Technical bids as per tender and other documents which are going to be submitted in physical form should be upload on (n)procure site while bidding in same sequence with index.

Contractor

Executive Engineer (C-I)

DEENDAYAL PORT TRUST

SECTION 6

DRAWING

SECTION 7

BILL OF QUANTITIES

SECTION 8

FORMS OF SECURITIES AND OTHER FORMATS

FORMS OF SECURITIES AND OTHER FORMATS

Acceptable forms of securities are annexed. Bidders should not complete the performance and advance payment security forms at this time. Only the successful bidder will be required to provide performance and advance payment securities in accordance with one of the forms, or in a similar form acceptable to the employer.

Bid Securing Declaration Form

Date: _____

Tender No. _____

To (insert complete name and address of the Employer/Purchaser)

I/We, the undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of **three** years from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the _____ employer/purchaser during the period of bid validity (i) fail or refuse to execute the contract, if required, or (ii) fail to refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)

in the capacity of _____ (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for and on behalf of (insert complete name of bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

**SPECIMEN BANK GUARANTEE PERFORMANCE
GUARANTEE / SECURITY DEPOSIT**

(To be executed on Rs. 300/- non-judicial Stamp Paper)

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

In consideration of the Board of Trustees of the Port of [insert name of port] incorporated by the Major Port Trusts Act, 1963 as amended by Major Port Trust (Amendment) Act 1974 (hereinafter called "The Board" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Trustees of the port of [insert name of port], its successors and assigns) having agreed to release Performance Guarantee / Security Deposit to (hereinafter called the "contractor")

(Name of the contractor/s)

from the demand under the terms and condition of the contract, vide from the demand under the condition of the contract, vide _____'s letter No _____

(Name of the Department)

Date _____ made between the contractors and the Board for execute on of

_____ Covered under Tender No. _____
_____ dated _____ (hereinafter called "the said contract") for the payment of Security Deposit in cash or Lodgment of Government Promissory Loan Notes for the due fulfillment by the said contractors of the terms and condition of the said contract, on production of a bank Guarantee for Rs. _____ (Rupees _____) only we, the (Name of the Bank and Address) _____ (hereinafter Referred to as "the Bank") at the request of the contractors do here by undertake to pay to the Board an amount not exceeding Rs. _____ (Rupees _____) only against any loss or damage 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.

1. We, _____, do here by (Name of Bank) (Name of Branch)

Undertake to pay the amount 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 the contractor's failure to perform the said contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to any amount not exceeding Rs.

_____ (Rupees _____) only.

2. We, _____, undertake to pay to the
(Name of Bank and Branch)
Board any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.
3. We, _____ further agree with the Board that the (Name of Bank and Branch)
guarantee herein contained shall remain in full force and effect during the period that would be taken for performance of the said contract and that it shall continue to be enforceable till all the dues of the Board under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the _____
(Name of the user department)
of the said certifies that the terms and conditions of the said contract have been fully and properly carried out by the said Contractors and accordingly discharge this guarantee. PROVIDED HOWEVER that the Bank shall be the request of the Board but at the cost of the Contractors, renew or extend this guarantee for such further period or periods as the Board may require from time to time.
4. We, _____ further agree with the Board that the (Name of Bank and Branch)
Board shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend the time of performance by the said contract or to extend the time of performance by the said Contractors from time to time or to postpone for any time or from time to time any of the powers exercisable by the board against the said Contractors and to forebear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extensions being granted to 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.
5. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).
6. It is also hereby agreed that the Courts in **Gandhidham** would have exclusive jurisdiction in respect of claims, if any, under this Guarantee.
7. We, _____ Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Board in writing.
8. Notwithstanding anything contained herein:
(a) Our liability under this Bank Guarantee shall not exceed Rs. _____
(Rupees _____ only);
(b) This Bank Guarantee shall be valid up to _____; and
(c) We are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or

before _____ (date of expiry of Guarantee).”

Date _____ day of _____ 20

For (Name of Bank)

(Name)

Signature

SPECIMEN BANK GUARANTEE FOR ADVANCE PAYMENT

(To be executed on Rs.100/- non-judicial Stamp Paper)

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

In consideration of the Board of Trustees of the Port of [insert name of port] incorporated by the Major Port Trusts Act, 1963 as amended by Major Port Trust (Amendment) Act 1974 (hereinafter called "The Board" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Trustees of the port of [insert name of port], its successors and assigns) having agreed to release advance payment to (hereinafter called the "contractor")

(Name of the contractor/s)

from the demand under the terms and condition of the contract, vide from the demand under the condition of the contract, vide _____'s letter No _____

(Name of the Department)

Date _____ made between the contractors and the Board for execution of _____ covered under Tender No. _____ dated _____ (hereinafter called "the said contract") for the payment of Advance Payment in cash or Lodgment of Government Promissory Loan Notes for the due fulfillment by the said contractors of the terms and condition of the said contract, on production of a _____ bank Guarantee for Rs. _____ (Rupees _____) only we, the (Name of the Bank and Address)

_____ (here in after Referred to as "the Bank") at the request of the contractors do here by undertake to pay to the Board an amount not exceeding Rs. _____ (Rupees _____) only against any loss or damage 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.

1. We, _____, do hereby
(Name of Bank) (Name of Branch)

Undertake to pay the amount 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 the contractor's failure to perform the said contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to any amount not exceeding Rs.

_____ (Rupees _____) only.

2. We, _____, undertake to pay to the (Name of Bank and Branch)

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

3. We, _____ further agree with the Board that the
(Name of Bank and Branch)
guarantee herein contained shall remain in full force and effect during the period that
would be taken for performance of the said contract and that it shall continue to be
enforceable till all the dues of the Board under or by virtue of the said contract have
been fully paid and its claims satisfied or discharged or till he _____
(Name of the user department)
of the said certifies that the terms and conditions of the said contract have been fully
and properly carried out by the said Contractors and accordingly discharge this
guarantee. PROVIDED HOWEVER that the Bank shall be the request of the Board but
at the cost of the Contractors, renew or extend this guarantee for such further period
or periods as the Board may require from time to time.
4. We, _____ further agree with the Board that the (Name of Bank and Branch)
Board shall have the fullest liberty without our consent and without affecting in any
manner our obligations hereunder to vary any of the terms and conditions of the said
contract or to extend the time of performance by the said contract or to extend the
time of performance by the said Contractors from time to time or to postpone for any
time or from time to time any of the powers exercisable by the board against the said
Contractors and to forebear or enforce any of the terms and conditions relating to the
said contract and we shall not be relieved from our liability by reason of any such
variation or extensions being granted to 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.
5. This guarantee will not be discharged due to the change in the constitution of the
Bank or the Contractor(s).
6. It is also hereby agreed that the Courts in [insert city] would have exclusive
jurisdiction in respect of claims, if any, under this Guarantee.
7. We, _____ Bank lastly undertake not to revoke
this guarantee during its currency except with the previous consent of the Board in
writing.
8. Notwithstanding anything contained herein:
 - a) Our liability under this Bank Guarantee shall not exceed Rs. _____
(Rupees _____ only);
 - b) This Bank Guarantee shall be valid up to _____; and
 - c) We are liable to pay the guarantee amount or any part thereof under this Bank
Guarantee only and only if you serve upon us a written claim or demand on or
before _____ (date of expiry of Guarantee)."

Date _____ day of _____ 20

For (Name of Bank)

(Name)

Signature

SPECIMEN BANK GUARANTEE FOR STAGE PAYMENT

(To be executed on Rs.300/- non-judicial Stamp Paper)

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

In consideration of the Board of Trustees of the Port of [insert name of port] incorporated by the Major Port Trusts Act, 1963 as amended by Major Port Trust (Amendment) Act 1974 (hereinafter called "The Board" which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include the Board of Trustees of the port of [insert name of port], its successors and assigns) having agreed to release advance payment to (hereinafter called the "contractor")

(Name of the contractor/s)

from the demand under the terms and condition of the contract, vide from the demand under the condition of the contract, vide _____'s letter No _____

(Name of the Department)

Date _____ made between the contractors and the Board for execution of _____ covered under Tender No. _____ dated _____ (hereinafter called "the said contract") for the payment of Advance Payment in cash or Lodgment of Government Promissory Loan Notes for the due fulfillment by the said contractors of the terms and condition of the said contract, on production of a bank Guarantee for Rs. _____ (Rupees _____) only we, the (Name of the Bank and Address) _____ (here in after

Referred to as "the Bank") at the request of the contractors do here by undertake to pay to the Board an amount not exceeding Rs. _____ (Rupees _____) only against any loss or damage 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.

1. We, _____, do hereby
(Name of Bank) (Name of Branch)

Undertake to pay the amount 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 the contractor's failure to perform the said contract. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to any amount not exceeding Rs.

_____ (Rupees
_____) only.

2. We, _____, undertake
to pay to the (Name of Bank and Branch)

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

3. We, _____ further

(Name of Bank and Branch)

agree with the Board that the guarantee herein contained shall remain in full force and effect during the period that would be taken for performance of the said contract and that it shall continue to be enforceable till all the dues of the Board under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till he

(Name of the user department)

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

4. We, _____ further agree with the Board that the (Name of Bank and Branch)

Board shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend the time of performance by the said contract or to extend the time of performance by the said Contractors from time to time or to postpone for any time or from time to time any of the powers exercisable by the board against the said Contractors and to forebear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variation or extensions being granted to 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.

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

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

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

8. Not with standing anything contained here in:

a) Our liability under this Bank Guarantee shall not exceed Rs. _____
(Rupees only);

b) This Bank Guarantee shall be valid up to _____;and

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

Date _____ day of _____ 20

For (Name of Bank)

(Name)

Signature

DISPUTES REVIEW BOARD AGREEMENT

(To be executed on Rs100/- non-judicial Stamp Paper)

THIS AGREEMENT, made and entered in to this..... Day of.....20
.....Between..... (“The Employer/Board”) and.....
 (“The contractor”), and the Disputes Review Board (“the DR Board”) consisting of
 one/three DR Board Members, (Members from either party,
 I.e. contractor and Employer/Board)

(1)

.....(2)

.....(3)

..... [Note: Delete whatever is not applicable]

WITNESSETH, that

WHEREAS, the Employer/Board and the contractor have contracted for the execution
 of Project name).....(the
 “Contract”) and WHEREAS, the contract provides for the establishment and operation
 of the DR Board NOW THEREFORE, the parties hereto agree as follows:

1. The parties agree to the establishment and operation of the DR Board in accordance with this DR Board Agreement.
2. Expect for providing the services required hereunder, the DR Board Members should not give any advice to either party or to the Nodal Officer or his nominee concerning conduct of the works.

The DR Board Members:

- (a) Shall have no financial interest in any party to the contract or the Nodal Officer or his nominee, or a financial interest in the contract, except for payment for services on the DR Board.
- (b) Shall have had no previous employment by, or financial ties to, any party to the contract, or the Nodal Officer or his nominee, expect for fee based consulting services on other projects, all of which must be disclosed prior to appointment to

the DR Board.

- (c) Shall have disclosed in writing to the parties prior to signature of this Agreement any all recent or close professional or personal relationships with any director, officer, or employee of any party to the Nodal Officer or his nominee, and any and all prior involvement in the project to which the contract relates;
 - (d) Shall not, while a DR Board Member be employed whether as a consultant or otherwise by either party to the contract, or the Nodal Officer or his nominee, expect as a DR Board Member.
 - (e) Shall not, while a DR Board Member, engage in discussion or make any agreement with any party to the contract, or with the Nodal Officer or his nominee, regarding employment whether as a consultant or otherwise either after the contract is completed or after services as a DR Board Members.
 - (f) Shall be and remain impartial and independent of the parties and shall disclose in writing to the Employer/Board, the contractor, the Nodal Officer or his nominee, and one another any fact or circumstances which might be such to cause either the Port or the contractor to question the continued existing of the impartiality and independence required of DR Board Members.
3. Except for its participation in the DR Board activities as provided in the contract and in this Agreement none of the Employer / Board, the contractor, the Nodal Officer or his nominee, and one another any fact or circumstances which might be such to cause either the Employer/Board or the contractor to question the continued existence of the impartiality and independence required of DR Board Members.
4. The contractor shall:
- a) Furnish to each DR Board Member one copy of all document which the DR Board may request including contract document, progress report, variation orders, and other document, pertinent to the performance of the contract.
 - b) In co-operation with the Employer/Board, co-ordinate the site visits of the DR Board, including conference facilities and secretarial and copying services.
5. The DR Board shall serve throughout the operation of the contract. It shall begin operation following execution of this Agreement, and shall terminate its activities after issuance of the taking over certificate and the DR Board's issuance of its Recommendation on all disputes referred to it.
6. DR Board Member, shall not assign or subcontract any of their work under this Agreement.
7. The DR Board Members are independent and not employees or agents of either the

Employer/Board or the Contractor.

8. The DR Board Members are absolved of any personal or professional liability arising from the activities and the Recommendations of the DR Board.
9. Fees and expenses of the DR Board Member[s] shall be agreed to and shared equally by the Employer/Board and the Contractor. If the DR Board requires special services, such as accounting, data research and the like, both the parties must agree and cost shall be shared by them as mutually agreed.
10. DR Board's site visit:
 - a. The DR Board shall visit the site and meet with representative of the Employer/Both and the contractor and the nodal officer or his nominee at regular intervals, at times of critical construction events, and at the request of either party. The timing of site visit shall be fixed by the DR Board.
 - b. Site meeting shall consist of an informal discussion of the status of construction of the works followed by an inspection of the work, both attended by personnel from the employer/Board, the contractor and the nodal officer or his nominee.
 - c. If requested by either party or the DR Board, the employer/Board will prepare minutes of the meeting and circulate them for comments of the parties and the nodal officer or his nominee.
11. Procedure for disputes referred to the DR Board:
 - a) If either party objects to any action or inaction of the other party or the Nodal Officer or his nominee, the objecting party may file a written Notice of Dispute to the other party with a copy to the Nodal Officer or his nominee stating that it is given pursuant to clause [number] and stating clearly and in detail the basis of the dispute.
 - b) The party receiving the Notice of Dispute will consider it and respond in writing within 7 days after receipt.
 - c) This response shall be final and conclusive on the subject, unless a written appeal to the response is filed with the responding party within 7 days of receiving the response. Both parties are encouraged to pursue the matter further to attempt to settle the dispute. When it appears that the dispute cannot be resolved without the assistance of the DR Board either party may refer the dispute to the DR Board by written Request for Recommendation to the Board, the other party & the Nodal Officer or his nominee stating that it is made pursuant to [insert relevant clause

no.]

- d) The Request for recommendation shall state clearly and detail the specific issues of the dispute to be considered by the DR Board.
- e) When a dispute is referred to the DR Board, and the DR Board is satisfied that the dispute requires the DR Board's assistance, the DR Board shall decide when to conduct a hearing on dispute. The DR Board may request that written documentation and arguments from both parties be submitted to each DR Board Members before the hearing begins. The parties shall submit insofar as possible agreed statements of the relevant facts.
- f) During the hearing, the contractor, the Employer/ Board, the Nodal Officer or his nominee shall each have ample opportunity to be heard and to offer evidence.

The DR Board's Recommendation for resolution of the dispute will be given in writing, to the Employer/ Board, the contractor and the Nodal Officer or his nominee as soon as possible, and in any event not more than 28 days after the DR Board's final hearing on the dispute.

12. Conduct of Hearing:

- a) Normally hearing will be conducted at the sites, but any location that would be more convenient and still provide all required facilities and access to necessary documentation may be utilized by the DR Board. Private sessions of the DR Board may be held at any location convenient to the DR Board.
- b) The Employer/ Board, the Nodal Officer or his nominee and contractor shall have representatives at all hearing.
- c) During the hearing, no DR Board Member shall express any opinion concerning the merit of any facet of the case.
- d) After the hearing is concluded, the DR Board shall meet privately to formulate its Recommendation. All DR Board deliberation shall be conducted in private, with all individual views kept strictly confidential. The DR Board's Recommendations, together with an explanation of its reasoning shall be submitted in writing to both parties and to the Nodal Officer or his nominee. The pertinent contract provision, applicable laws and regulations, and the facts and circumstances involved in the dispute.

The DR Board shall make every effort to reach a unanimous Recommendation. If this proves impossible, the majority shall decide, and the dissenting member may prepare a written minority report for submission to both parties.

[Notes: Delete if it is one member DR Board]

13. If during the contract period, the Employer/ Board and the contractor are of the opinion that the Disputes Review Board is not performing its function properly, the Employer/ Board and the contractor may together disband the Disputes Review Board. In such an event, the disputes shall be referred to Arbitration straight away.

The Employer/Board and the contractor shall jointly sign a notice specifying that the DR Board shall stand disbanded with effect from the date specified in the notice. The notice shall be posted by a registered letter with AD or delivery of the letter, even if he refuses to do so.-

SPECIMEN FORMAT FOR DECLARATION

(To be executed on bidder's letter head)

To _____

(Project Title)

Ref: _____

The undersigned, having studied the pre-qualification submission for the above mentioned project, hereby states:

- (a) The information furnished in our bid is true and accurate to the best of my knowledge.
- (b) That in case of being pre-qualified, we acknowledge that the Employer may invite us to participate in due time for the submission of tender on the basis of provisions made in the tender documents to follow.
- (c) When the call for tenders is issued, if the legal, technical or financial conditions, or the contractual capacity of the firm or joint venture changes, we commit ourselves to inform you and acknowledge your sole right to review the pre-qualification made.
- (d) We enclose the entire required pre-qualification data format and all other evaluation.
- (e) We also state that no changes have been made by us in the downloaded tender document and also understand that in the event of any discrepancies observed, the printed tender document No.____is full and final for all legal/contractual obligations (delete if not required).

Date:

Place:

Name of the Applicant:

Represented by (Name & Capacity)_____

**SPECIMEN LETTER OF AUTHORITY FROM BANK
FOR ALL BGs**
(To be executed on Bank's Letter Head)

Date:

To,
The Board of Trustees of Port [insert port],

Dear Sir,

Sub: Our Bank Guarantee No. _____
dated _____ For Rs. _____ favouring yourselves
issued on a/c of M/s. _____
(Name of contractor)

.....

We confirm having issued the above mentioned guarantee favouring
yourselves, issued on account of M/s. _____ validity for
expiry up to date _____ and claim expiry date up to _____

We also confirm 1) _____ 2) _____ is/are
empowered to sign such Bank Guarantee on behalf of the Bank and his/their
signatures is/are binding on the Bank.

Name of signature of Bank Officer

**SPECIMEN LETTER OF AUTHORITY FOR
SUBMISSION OF BID**
(To be executed on Rs.100/- non Judicial Stamp Paper)

To
The (PORT Address)

Dear Sir,

We-----
----- do hereby confirm that Shri..... (Name, designation
and Address) is/are authorized to represent us to bid, negotiate and conclude the
agreement on our behalf with you against tender no. ----- and his specimen
signature is appended here to..

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

We understand that the communication made with him by the Employer/Board
shall be deemed to have been done with us in respect of this Tender.

[specimen signature]

Yours faithfully,

Signature:

Name & Designation:

For & on behalf of:

PROFORMA OF JOINT VENTURE/CONSORTIUM AGREEMENT

(To be submitted on Non-Judicial Stamp Paper of appropriate value)

This Joint Venture /Consortium Agreement is made and entered into on this
..... day of2019 by and between (i) M/s. (**Name of the firm to be filled-in**).....,(ii) M/s.....(**Name of the firm to be filled-in**) ,
....., primarily for the work under the Deendayal Port Trust.

All the partners of the Joint Venture /Consortium hereinafter individually referred to as

the parties and collectively as the Joint Venture/Consortium.

1. Formation of Joint Venture/Consortium

(i) M/s. (**Name of the firm to be filled in**) is engaged in.....(Details of the works undertaken by the party)

(ii) M/s. (**Name of the firm to be filled in**) is engaged in.....(Details of the works undertaken by the party)

(iii)

1.1. On behalf of Board of Trustees of Deendayal Port (hereinafter referred to as-Employer[]), the Chief Engineer, DEENDAYAL Port Trust has invited bids from the experienced, resourceful and bona fid Developers with proven technical and financial capabilities of executing the work **Retrofitting of the Bunder Basin Structure.**

1.2. The parties have been exploring together the ways and means of collaboration for the purpose of an offer to be made for the said project of the Deendayal Port Trust and have mutually agreed to enter into a Joint Venture/Consortium Agreement to submit a common bid for the project and to carry out the project works in the event of award of the contract, in association with each other and (**.....Name of Partner to be filled in.....**) shall be the Lead Partner and (i) (**.....Name of Partner to be filled in.....**), (ii) (**.....Name of Partner to be filled in.....**),..... shall be the other partner(s).

NOW THEREFORE IT HAS BEEN AGREED TO BETWEEN THE PARTIES AS FOLLOWS

1.3. The Joint Venture/Consortium will be known as...(b>Name of JV to be filled in.....)and shall consist of (i) (b>Name of the firm to be filled in.....), (ii) (b>Name of the firm to be filled-in.....),

parties to the present agreement.

- 1.4. The recitals are true and correct and form an integral part of this agreement and are representations of the parties to which they relate and have been relied upon by the parties to enter into the present agreement.
- 1.5. Notwithstanding the date of signature of this agreement, its effective date will be the date of submission of bid.
- 1.6. All costs incurred by the parties before the date of award of contract will be borne by the parties concerned. All costs in implementation of this Joint Venture/Consortium Agreement after award of contract till the expiry of this agreement will be borne by the parties as herein after provided.
- 1.7. The Joint Venture/Consortium will be dissolved and this agreement will cease to have effect on completion of this project, maintenance and fulfillment of all other conditions under the contract, upon receipt of payment of all amounts from the Employer and on settlement of accounts between the parties as hereinafter provided.
- 1.8. The contract, if awarded by the Employer, Letter of Acceptance shall be issued in the name of (**....Name of JV/Consortium to be filled in....**) and the Contract shall be signed by legally authorized signatories of all the parties.
- 1.9. All the parties of the JV/Consortium shall be jointly and severally liable during the bidding process and the bid document shall be signed by legally authorized signatory of all the parties.
- 1.10. The financial contribution of each partner to the JV/Consortium operation shall be:
 - (i) M/s..... (**Name of the partner to be filled-in**) -
 - (ii) M/s..... (**Name of the partner to be filled-in**) -
 - (iii)
- 1.11. All the parties of the JV/Consortium shall be jointly and severally liable for the execution of the project in accordance with the Contract terms, in the event of award of contract. The delineation of duties, responsibilities and scope of work shall be:
 - a) The Lead Partner shall provide suitable experienced personnel at site, for general planning, site management and equipment operations, during entire period of contract execution.
 - b) (**.....Name of Partner to be filled-in**) shall carry out the following works-----
 - c) (**.....Name of Partner to be filled-in**) shall carryout the following works
 - d)
- 1.12. The parties hereto agreed that each of them shall duly and properly perform all the functions and all costs related to their respective works.

- 1.13. The parties hereto shall be at liberty to enter into liaison work/correspondence with statutory and local authorities as the circumstances warrant individually or collectively.
- 1.14. It is hereby agreed and undertaken that, all the parties are jointly and severally liable to the -Board of Port of Deendayal for the performance of the contract.
- 1.15. Notwithstanding demarcation or allotment of work between JV/Consortium partners, JV/Consortium each partner shall be liable for non performance of the whole contract irrespective of their demarcation or share of work.
- 1.16. The Lead Partner shall be authorized to act on behalf of the JV/Consortium.
- 1.17. All the correspondences between the Employer and the JV /Consortium shall be routed through the Lead Partner.
- 1.18. The Lead Partner is authorized: (a) to submit bid, negotiate and conclude contract and incur all liabilities therewith on behalf of the partner(s) of the JV /Consortium during the bidding process; and (b) in the event of a successful bid, to incur liabilities and receive instructions for and on behalf of the partner(s) of the JV/Consortium and to carry out the entire execution of the contract including payment, exclusively through Lead Partner.
- 1.19. In the event of default of the Lead Partner, it shall be construed as default of the Developer/Contractor; and Employer shall be entitled to take action under relevant clause(s) of the Department Bid Document and/or Conditions of Contract.
- 1.20. All the parties of the JV/Consortium shall be jointly and severally liable for due performance, recourse/sanctions within the joint venture in the event of default of any partner and arrangements for providing the required indemnities.
- 1.21. The JV/ Consortium shall have a separate JV/Consortium Bank account (distinct from the Bank account of the individual partners) to which individual partners shall contribute their share capital / or working capital. The financial obligation of the consortium shall be discharged through the said JV/ Consortium Bank account only and also all payment received by consortium from the Deendayal Port Trust shall be through that account only.

The parties hereto have mutually agreed to the terms and conditions set forth herein above and have assured each other to duly perform the reciprocal promises and obligations on either side for effective implementation of the JV/Consortium for proper and due completion of the works envisaged, in the event of award of contract to the JV/Consortium and have affixed their signature in this indenture on this the day of.....20...

(i) Signature Name Designation seal & Common seal of the firm

(ii) Signature Name Designation seal & Common seal of the firm

Witness 1

Witness 2

**PROFORMA OF POWER- OF-ATTORNEY FOR LEAD
MEMBER OF JV/ CONSORTIUM**

((To be submitted on Non-Judicial Stamp Paper of appropriate value))

By this Power-of-Attorney **executed** on **this** day of(month) of 2021, we,

(i) (.....*Name of legally authorized signatory of first partner to be filled in*.....), (ii) (.....*Name of legally authorized signatory of second partner to be filled in*),

..... hereby jointly authorize and

Agree the Lead Partner, M/s (... *Name of the lead partner to be filled in*.....), (a) to submit bid, negotiate and conclude contract and incur all liabilities therewith on behalf of the partner(s) of the JV /Consortium during the bidding process; and (b) in the event of a successful bid, to incur liabilities and receive instructions for and on behalf of the partner(s) of the JV /Consortium and to carry out the entire execution of the contract including payment for the work of **Retrofitting of the Bunder Basin Structure** exclusively through Lead Partner.

(i) Signature Name
Designation seal &
Common seal of the firm

(ii) Signature Name
Designation seal &
Common seal of the firm

.....

.....

Signature, name and seal of the certifying authority/Notary Public

**INTEGRITY PACT
BETWEEN
DEENDAYAL PORT TRUST (DPT) hereinafter referred to as "The Principal"
AND**

(Name of The bidders and consortium members)here in after referred to as "The Bidder/Contractor

Preamble: The Principal intends to award, under laid down organizational procedures, contract/concession for Tender No. The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidders. The Central Vigilance Commission (CVC) has been promoting Integrity, transparency, equity and competitiveness in Government / PSU transactions and as a part of Vigilance administration and superintendence, CVC has, recommended adoption of Integrity Pact and provided basic guidelines for its implementation in respect of major procurements in the Government Organizations in pursuance of the same, the Principal agrees to appoint an external independent Monitor who will monitor the execution of the contract for compliance with the principles 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 execution of a contract, demand, take a promise for or accept, for him/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.
 - (b) The Principal will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
 - (c) The Principal will exclude from the process all known prejudicial persons.
- (2)** If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions. In such a case, while an enquiry is being conducted by the Principal, the proceedings under the contract would not be stalled.

Section 2 - Commitments of the Bidder / Contractor

- (1)** The Bidder/Contractor commits themselves to take all measures necessary to prevent corrupt practices, unfair means and illegal activities, during pre-contract as well as post-contract stages. He commits himself to observe the following principles during the contract execution.
 - a. The Bidder/Contractor will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the

execution of the contract or to any third person any material of immaterial benefit, which he/she is not legally entitled to, in order to obtain in exchange of advance of any kind, whatsoever during the execution of the contract.

- b. The Bidder/Contractor will not enter with other Bidders into 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/Contractor will not commit any offence, under the relevant Anticorruption Laws of India; further the Bidder/Contractor 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 will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- e. The Bidder/Contractor 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.
- f. The Bidder commits to refrain from giving any compliant directly or through any other manner without supporting it with full and verifiable facts.
- g. The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the Principal.

- (2) The Bidder/Contractor will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section-3 Disqualification from or exclusion from future contracts.

If the Bidder, before award of contract, has committed a transgression, through a violation of Section-2 of in any other form, such as to put his reliability as Bidder, into question, the principal is entitled to disqualify the Bidder, from the tender process, or to terminate the contract, if already signed, for such reason.

1. If the Bidder/Contractor has committed a transgression, through a violation of Section-2, such as to put his reliability, or credibility into question, the Principal is entitled to disqualify the Bidder/Contractor from the tender process, terminate the contract if already awarded and also, to exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined, by the circumstances of the case, in particular the number of transgressions, the position of the transgressions, within the company hierarchy of the Bidder and the amount of the damage. The execution will be imposed for a minimum of 6 months and maximum of 3 years.

Note: A transgression is considered to have occurred, if in the light of available evidence, no reasonable doubt is possible.

2. The Bidder accepts and undertakes to respect and uphold, the principal's Absolute right to resort to and impose such exclusion and further accepts and undertakes,

not to challenge or question such exclusion, on any ground, including the lack of any hearing before the decision, to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

3. If the Bidder/Contractor can prove that, he has restored/recouped the Damage caused by him and has installed a suitable corruption prevention system, the Principal may revoke the exclusion prematurely.

Section-4 Compensation for Damages

1. If the Principal has disqualified the Bidder, 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 equivalent to 5% of the contract value, or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.
3. The Bidder agrees and undertakes to pay the said amounts, without protest or demur, subject only to condition that, if the Bidder/Contractor can prove and establish that the termination of the contract, after the contract award has caused no damage or less damage than the amount of the liquidated damages, the Bidder/Contractor shall compensate the principal, only to the extent of the damage in the amount proved.

Section-5 Previous transgression

1. The Bidder declares that, no previous transgression has occurred in the last 3 years, with any other company, in any country, or with any other Public Sector Enterprises in India, that could justify his exclusion from the award of the contract.
2. If the Bidder makes incorrect statement on this subject, it can be declared disqualified for the purpose of the contract and the same can be terminated for such reason.

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

1. The Bidder/Contractor undertakes 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 which all Bidders, Contractors and Subcontractors.
3. The Principal will disqualify from the tender process all Bidders, who do not sign this part or violates its provisions.

Section-7 Criminal charges against violating Bidders / Contractors / Subcontractors

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 Vigilance office.

Section-8 External Independent Monitor

1. Pursuant to the need to implement and operate this Integrity Pact the Principal has appointed Smt. Meenakshi Mishra, IA&AS (Rtd) independent 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 to the Chairperson of the Board of the Principal.
3. The Bidder/Contractor 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 Bidder/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/Contractor/Subcontractor 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 Bidder/Contractor. The parties offer to the Monitor the option to participate in such meetings.
5. As soon as the Monitor notices a violation of this agreement, he will so inform the Management of the Principal and request the management to discontinue, or heal the violation. 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 Chairperson of the Board of the Principal, within 8 to 10 weeks, from the date of reference of intimation to him by the 'Principal' and, should the occasion arise, submit proposals for correcting problematic situations.
7. If the Monitor has reported to the Chairperson of the Board, a substantiate suspension of an offence, under relevant Anti-Corruption Laws of India, and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence, or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

Section-9 Pact Duration

This Pact begins when both parties have signed it. It expires 12 months after the last payment under the contract Agreement is made.

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

The Pact duration in respect of unsuccessful Bidders shall expire after 3 months of the award of the contract.

Section-10 Other Provisions

1. This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. Gandhidham, Gujarat.
2. Changes and supplements as well as termination notices, need to be made in writing, before they become effective and binding on the both parties.
3. If the Bidder / Contractor is a partnership or a consortium, this agreement must be, signed by all partners or consortium members.
3. 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.

For the Principal
Place: Gandhidham

for the Bidder/Contractor

Witness-1:

Witness-2:

Date: ____/____/20__