#### CPM VADODARA UNIT

#### TENDER DOCUMENT

Name of Work: Office Interior by repair of flooring, partitioning, false ceiling providing furniture, electrification, air conditioning, cabling for networking and telecommunication facility for CPM/Vadodara office in office premises of Sardar Sarovar Narmada Nigam Ltd, Vadodara (SSNNL).

(Tender No.: BRC/EN/Tender/Office Interior/2013-14/03)

JUNE, 2013

Dedicated Freight Corridor Corporation of India Ltd.
4th floor, Block "A", Narmada Naher Bhawan,
(SSNNLs' office), Chhani Jakat Naka, Vadodara (Gujarat) – 390 002

#### Dedicated Freight Corridor Corporation of India Ltd 4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka, Vadodara (Gujarat) – 390 002

	TABLE OF CONTENTS
	Description
Section I.	(i) Tondon Notice O Commissed dum
Section 1.	(i) Tender Notice & Corrigendum
	(ii) Invitation For Tenders (IFT)
Section II.	(i) Format for Covering letter of Tender
	(ii) Checklist for documents to be submitted
Section III.	General Instructions to Tenderers
Section IV.	General Conditions of the Contract
Section V.	Special Conditions of Contract
Section VI.	Schedule of Items, Rates & Quantities
Annexure	I to VIII

#### NOTICE FOR INVITING BIDS

#### No. BRC/EN/Tender/Office Interior/2013-14/03

Dt: 04.06.2013

CHIEF PROJECT MANAGER, DFCCIL, Vadodara, for and on behalf of DFCCIL invites sealed open tenders for the following work:

BRC/EN/Tender/Office Interior/2013-14/3		
Office Interior by repair of flooring, partitioning, false ceiling		
providing furniture, electrication, air conditioning, cabling for		
networking and telecommunication facility for CPM/Vadodara		
office in office premises of Sardar Sarovar Narmada Nigam Ltd,		
Vadodara (SSNNL).		
Rs.58,63,308/-		
3 (Three) Months		
Open Tender		
Rs.5000/-		
Rs. 1,17,270/-		
From 10.00hrs on 18.06.13 and on all working days between		
10.00 hrs to 17.00 hrs.		
Up to 12.00 hrs on 18.07.13		
Up to 15:00 Hrs on 18.07.13		
15:30 Hrs of 18.07.13		
Dedicated Freight Corridor Corporation of India Ltd.,		
4 <sup>th</sup> floor, Block "A", Narmada Naher Bhawan,		
(SSNNLs' office), Chhani Jakat Naka, Vadodara		
(Gujarat) - 390 002		
Ph No. 0265-2760229, Fax No. 0265-2760327		
Office of Chief Project Manager,		
Dedicated Freight Corridor Corporation of India Ltd.,		
4 <sup>th</sup> floor, Block "A", Narmada Naher Bhawan,		
(SSNNLs' office), Chhani Jakat Naka, Vadodara		
(Gujarat) - 390 002		
Ph No. 0265-2760229, Fax No. 0265-2760327		

#### Cost of tender Document :- Rs 5,000/-

**Eligibility Criteria:** The tenderer should fulfill following eligibility criteria with Government/ Semi Government/ Private limited company.

As a proof of technical experience/ competence, the tenderer should have physically completed successfully at least similar nature of single work for a minimum value of 35% of advertised tender value with Government/Semi Government/ Private limited company during last three years and up to date of opening in the current year in (i.e current year and three previous year).

- The tenderer should have received total of the tender and payment contract amount for works with Government/ Semi Government/ Private limited company during last three financial years and up to date of opening in the current year should be minimum 150% of advertised tender value as per attested copies of authentic documents / certificates issued by the Organisation / client or audited balance sheet certified by Chartered Accountant.
  - \* Similar work means Interior work of office or Residence including Civil, Electrical, air conditioning work.

Tender form can be purchased from the office of CPM/Vadodara at 4th floor, Block "A", Narmada Naher Bhawan,(SSNNLs' office), Chhani Jakat Naka, Vadodara, (Gujarat) – 390 002 on any working day on **or** after **18.06.2013 and up to 18.07.2013 (12.00 Hrs)** on payment (not refundable) in the form of Demand Draft/Bankers Cheque issued by any nationalized bank of India or any scheduled bank of India, in favour of DFCCIL, payable at Vadodara. The tender document can be downloaded from the website www.dfccil.org.

Earnest money and cost of bid document should be submitted separately. In absence of earnest money and cost of bid document the offer will be summarily rejected.

In case of date of opening of tender happens to be a holiday, the tender shall be opened on next working day at same time and place.

#### Dedicated Freight Corridor Corporation of India Ltd

4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka, Vadodara (Gujarat) – 390 002

#### Section I

Dear	SIF,
Chief	Project Manager, DFCCIL, Vadodara, 4th floor, Block "A", Narmada Naher Bhawan,
(SSNI	NLs' office), Chhani Jakat Naka, Vadodara (Gujarat) – 390 002 for and on behalf of DFCCIL
invite	s sealed open tenders from tenderers for undertaking the following work:

Tender No.	Name of work
No. BRC/EN/Tender/Office Interior/2013-14/03	Office Interior by repair of flooring partitioning false

#### 2.0 DETAILS OF TENDER DOCUMENTS

#### 2.1 Tender Documents:

The interested tenderers may collect the tender documents from the address given below between 10.00 hrs and 17.00 hrs on any working day on or after 18.06.2013 & up to 18.07.2013 and bet. 10.00 hrs to 12.00 hrs on 18.07.2013 on payment of Rs. 5,000/- in the form of Demand Draft/Bankers Cheque issued by any nationalized bank of India or any scheduled bank of India, in favour of DFCCIL, payable at VADODARA. Tender Documents can be downloaded from <a href="www.dfccil.org">www.dfccil.org</a>. All such tender documents must accompany with the cost of tender forms amounting to Rs. 5,000/-payable in the form described above.

#### 2.2 Tenders must be accompanied by Bid Security (Earnest Money Deposit) of

**Rs.1,17,270/- (Rs One Lakh Seventeen Thousand Two Hundred Seventy only)** in the form of Bankers cheque/ Demand drafts/ FDR from Nationalized/Indian scheduled commercial banks drawn in favour of DFCCIL payable at VADODARA. Tenders received without Bid Security (Earnest Money) shall be summarily rejected.

- 1.3 Date of Receipt and opening of Tenders: The completed Tenders addressed to CPM/DFCCIL/VADODARA and superscribed the name of work must be delivered in the tender box at the address given below up to & not later than 15.00 hrs on 18.07.2013 and the same shall be opened at 15.30 hrs on the same day in the presence of Tenderers who choose to remain present. DFCCIL will not be responsible for any delays in receiving the Tendering documents by the Tenderer or receipt of Tenders by DFCCIL. Tender received after the opening shall not be considered for evaluation and will be dealt with as per extent policy.
- **2.4 Address for Communication:** Interested Tenderers may obtain further information from the address given below:

"Chief Project Manager, DFCCIL, Dedicated Freight Corridor Corporation of India Ltd.,

4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka, Vadodara (Gujarat) – 390 002, Ph No. 0265-2760229, Fax No. 0265-2760327.

**2.5** Tenderers are requested to give unconditional offers only. A conditional offer, having financial implication, will be summarily rejected.

#### 3.0 Completion Period

The total time for completion of work shall be **3 months** from the date of issue of Letter of Acceptance by DFCCIL. Time is the essence of the Contract.

#### 4.0 General

- **4.1** Tender document is non-transferable. Tenders received from Tenderers in whose name Tender Document has been issued from DFCCIL shall only be considered. Tender Documents can be downloaded from web site also.
- **4.2** No extension in the Tender Due Date shall be considered on account of delay in receipt of Tender document by post.
- 4.3 The offer should be **valid for 90 days** from the date of opening of the tender, being extended further if required by mutual agreement from time to time. The Tenderers cannot withdraw their offer within the period of validity/extended validity lest liable for forfeiture of Bid Security (Earnest money).
- **4.4** The tenderer shall submit following certificate –

"I/We declare that we have submitted all the relevant documents required for the work like turnover details, credentials, ITCC, certificate for various related work etc and has nothing more to submit."

Thanking you,

Yours faithfully,

CPM/ DFCCIL/VADODARA

#### Dedicated Freight Corridor Corporation of India Ltd. Section II

(i) Format for covering letter of Tender. (On letter head of firm/company)

Chief Project Manager, DFCCIL, 4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka, Vadodara (Gujarat) – 390 002

Sub: - Office Interior by repair of flooring, partitioning, false ceiling providing furniture, electrication, air conditioning, cabling for networking and telecommunication facility for CPM/Vadodara office in office premises of Sardar Sarovar Narmada Nigam Ltd, Vadodara (SSNNL).

Ref: Tender Notice No. BRC/EN/Tender/Office Interior/2013-14/03 Dt. 04.06.13

- - i) I/We do not execute the contract agreement within 7 (seven) days of receipt of notice by the DFCC administration that such documents are ready:
  - ii) I /We do not submit a Performance Security in the form of Bank Guarantee equal to 5(Five)% of contract value as per the Performa prescribed by DFCC, within 15 days of issue of Letter of Acceptance.
  - iii) I/We do not commence the work within 7 days after receipt of Letter to proceed.

3.Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to the modifications, as may be mutually agreed to, between us and indicated in the letter of acceptance or my/our offer for the work.

Signature of Witness Name & Address of Witness

Signature of Tenderer/Contractor Contractor's Address

#### ii) Check List for Documents to be submitted

Documents to be Attached	Tick appropriate
Bid Security (Earnest Money Deposit) of requisite amount in the prescribed form	Yes/No
Tender document cost of requisite amount in the Prescribed form, in the case of Tender Document downloaded from web site.	Yes/No
The Covering Letter as per format given in the Section II(i).	Yes/No
i)Details of completed works in last 3 years and current financial year in the form prescribed in Annexure – I ii) The relevant documents and certificates from the client.	Yes/No
Power of Attorney of the person signing the tender documents in original if specific to this work or photocopy of the General Power of Attorney of the Company in favour of the person signing the tender, duly attested by Notary Public.	
Complete Tender document including corrigendum duly stamped and signed by the Tenderer on each page	Yes/No
Schedule of Items, Rates & Quantities (Sec- VII) duly filled in, stamped and signed on each page by the Tenderer.	Yes/No
Annual turnover of the company/firm for the last three financial years and current financial year with supporting documents Annexure II	Yes/No
Certified Copy of Sales Tax/Works Contact Tax Registration Certificate (as applicable)	Yes/No
Certified Copy of Registration of Company, Partnership deed /Memorandum and Articles of Association of the firm.	Yes/No
Constitution of the firm in the form prescribed in Annexure –III	Yes/No

# Dedicated Freight Corridor Corporation of India Ltd. Section III General Instructions to Tenderers

Important contract conditions have been compiled for information of the Tenderer as under: **Name of Work-** Office Interior by repair of flooring, partitioning, false ceiling providing furniture, electrification, air conditioning, cabling for networking and telecommunication facility for CPM/Vadodara office in office premises of Sardar Sarovar Narmada Nigam Ltd, Vadodara (SSNNL).

#### **GENERAL**

Conditions	Clause	Details in brief
Employer Name & Address	Section-I Clause 2.4	Chief Project Manager,Vadodara 4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka,
Employers Representative	Sec.VI/ GCC Clause 3	DFCC nominated engineer
Address for communication	Section – 1 Clause 2.4	Chief Project Manager,Vadodara 4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka,
Tender details:- a. Date & Time for sale of Tenders	Section – 1, Clause - 2.1	10.00 hrs to 17.00 hrs on any working day from 18.06.2013 up to 18.07. 2013 <b>and</b> 10.00 hrs to 12.00 hrs on 14.07.2013
b. Cost of Tender documents	Section – 1, Clause 2.1	Rs.5,000/-
c. Address	Section – 1, Clause - 2.4	Chief Project Manager,Vadodara 4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka
Estimated Cost of Work	Section-VI	Rs. 58,63,308/-
Total time of Completion	Section – I Clause 3	3 months from the date of Issue of Letter of Acceptance.
Earnest Money Deposit/ Bid Security	Section -I, Clause 2.2	Rs. 1,17,270/-
Last Date & time of Receipt of Tenders	Section – I , Clause 2.3	15.00 Hrs on 18.07.2013
Date & time of opening of Tenders	Section – I, Clause 2.3	15.30 Hrs on 18.07.2013

Minimum Eligibility Criteria	Section – III, Clause -22	Should have completed one similar work in Govt.Dept / Semi Govt / Pvt. Ltd. Company of 35% of total cost of work and total turnover of 150% of cost of work in current year and last three financial years etc.
Validity of offer	Section – III, Clause -14	90 days from date of opening of tender
1.Performance security 2.Retention money (Security Deposit)	Section -III Clause 16-17	Prescribed amount on approved format
Defect Liability Period	Section-III Clause 21	Nil

#### 2. SUBMISSION OF TENDERS:-

The tenders shall be submitted as per the format of DFCC enclosed herewith before

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- 2.1 The tender shall be addressed to: "Chief Project Manager, Vadodara 4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka " and Name of Work clearly indicated on top.

  Tenders submitted by the post shall be sent as "REGISTERED POST ACKNOWLEDGEMENT DUE" and shall be posted with allowance for any postal delay. The tenders received after the due date and times of opening are liable to be rejected. Telegraphic offers and offers received by telex or e-mail shall not be considered.
- 3. Tenders shall be opened at the date and time (15.30 hr on 18.07.2013) as specified in the tender notice and any amendments thereof in the presence of such of those Tenderers or their authorized representatives who may be present in the Office of Chief Project Manager, DFCCIL, 4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka
- 4. The Tenderer shall closely peruse all the clauses, specifications indicated in the Tender Documents before quoting. Should the Tenderer have any doubt about the meaning of any portion of the Tender specifications or find discrepancies/omissions in the tender documents issued or shall require clarification on any of the technical aspects, Scope of Work etc., he shall at once contact the authority inviting the tender for clarification at least seven days before the due date of submission of the tender.
- 5. After award of contract to the successful Tenderer, if it is observed that there is any discrepancy or confusion about any specifications or interpretation of any item, the Interpretation of specifications shall be finalized by the Engineer in charge based on the functional and aesthetic requirements.
- **6.** Before Tendering, the Tenderers are advised to inspect the site of work and the environments and be acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour. No claim will be entertained later on grounds of lack of knowledge.

- 7. The Tenderers should quote one rate i.e. block percentage rate % above or below for all the items in the Tender schedule. The rates should be quoted in English Language in figures as well as in words. In case of difference in rates between words and figures, rates mentioned in words shall be treated as valid rate. For the purpose of tender, the metric system of units shall be used. In case of absence of rates in figure or words, the tender will be rejected. Multiple rates or rates not given in desired format shall not be evaluated.
- 8. All entries in the tender shall be written in ink. Erasers and over writing are not permitted. All cancellations and insertions shall be duly attested and signed by the Tenderers.
- 9. Lay out plans & other key plans are available in the office of CPM/VADODARA for the guidance of the Tenderers.

#### 10. BID SECURITY (EARNEST MONEY DEPOSIT)

Every tender must be accompanied by the prescribed amount of Bid Security/Earnest Money Deposit of **Rs.1,17,270/-** in the form Bankers cheque/ Demand drafts/ FDR from Nationalised/Indian scheduled commercial banks drawn in favour of DFCCIL payable at VADODARA.

- 11. Tenders received **without Bid Security/Earnest Money in full** in the manner prescribed above shall be summarily rejected.
- 11.1 The Bid Security/Earnest Money Deposit of the successful Tenderer, will be retained towards part of Retention Money/Security Deposit.
- 1. In case of unsuccessful Tenderers, the Bid Security/Earnest Money will be refunded to them after finalization / award of the tender.
- Dedicated Freight Corridor Corporation of India Ltd. reserves the right of **forfeiture of Bid Security (Earnest Money Deposit)** in case the successful Tenderers:
  - a) After opening of Tender, revoke/withdraws his tender within the validity period or revises/alters his earlier quoted rates/conditions.
  - b) Fails to submit the Performance Security (Contract Performance Guarantee) as specified in General Conditions of Contract.
  - c) Fails to start work as may be indicated in the Letter of Acceptance.

    The forfeiture of Bid Security/Earnest Money Deposit shall also be applicable if the work is terminated at any stage as per the General Conditions of Contract.

#### 13. AUTHORISATION AND ATTESTATION:

Tenders shall be signed by the person duly authorized /empowered to do so. Certified copies of such authority (Power of Attorney) and relevant documents shall be submitted along with the tenders.

#### 14. VALIDITY OF OFFER

The offer shall be kept open for acceptance for a minimum period of **90 days from the date of opening of tenders.** In case Dedicated Freight Corridor Corporation of India Ltd. calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the Original offer which shall be binding on the Tenderers.

#### 15. EXECUTION OF CONTRACT

The successful Tenderers' responsibility under this contract commences from the date of issue of Letter to Proceed/Letter of Acceptance by Dedicated Freight Corridor Corporation of India Ltd. The successful Tenderer shall be required to execute an agreement in the prescribed Proforma enclosed herewith with the Dedicated Freight Corridor Corporation of India Ltd. within two weeks of acceptance of his tender.

#### 16. PERFORMANCE SECURITY

The procedure for obtaining Performance Guarantee is outlined below:

- (a)The successful bidder shall have to submit a Performance Guarantee (PG) within 15 (Fifteen) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 15 (fifteen) days and up to 30 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 15% per annum shall be charged for the delay beyond 30 (thirty) days i.e. from 31<sup>st</sup> day after the date of issue of LOA. In case the contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract shall be terminated duly forfeiting EMD and other dues, if any payable against that contract. The failed contractor shall be debarred from participating in re-tender for that work.
- (b) The successful bidder shall submit the Performance Guarantee (PG) in the form of irrevocable bank guarantee from any Nationalised/Indian scheduled commercial Bank, amounting to 5% of the contract value in favour of DFCCIL. In case of Joint venture(JV), the Bank guarantee towards Performance security shall be provided by JV. Alternatively the Performance Guarantee may be submitted in the form of FDR in favour of DFCCIL payable at VADODARA.
- (c)The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.
- (d) The value of PG to be submitted by the contractor will not change for variation up to 25% (either increase or decrease). In case during the course of execution, value of the contract increased by more than 25% of the original contract value, an additional Performance Guarantee amounting to 5% (five percent) for the excess value over the original contract value shall be deposited by the contractor."
- (e) The Performance Guarantee (PG) shall be released after physical completion of the work based on "Completion Certificate" issued by the competent authority stating that the contractor has completed the work in all respects satisfactorily. The Security Deposit shall, however, be released only after expiry of the maintenance period if specified and after passing the final bill based on "No Claim Certificate" from the contractor.
- (f) Whenever the contract is rescinded, the Security Deposit shall be forfeited and the Performance Guarantee shall be encashed. The balance work shall be got done

independently without risk & cost of the failed contractor. The failed contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a JV or a Partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV/partnership firm.

- (g)The engineer shall not make a claim under the Performance Guarantee except for amounts to which the DFCCIL is entitled under the contract (not withstanding and/or without prejudice to any other provision in the contract agreement) in the event of:
- (i) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.
- (ii) Failure by the contractor to pay DFCCIL any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the Agreement, within 10 working days of the service of notice to this effect by Engineer.
- (iii) The Contract being determined for rescinded under provision of the GCC, the Performance Guarantee shall be forfeited in full and shall be absolutely at the disposal of the DFCCIL.

#### 17. SECURITY DEPOSIT

The Bid security(EMD) deposited by the successful contractor with the tender will be retained by employer as part of security of the due and faithful fulfillment of the contract by the contractor and in addition, 10% will be deducted from On-Account bills progressively so that overall retained security deposit is 5% of the contract value including Bid security(EMD).

#### 18. REJECTION OF TENDER AND OTHER CONDITIONS:-

- **18.1** The acceptance of tender will rest with Dedicated Freight Corridor Corporation of India Ltd. which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights to reject any or all the tenders without assigning any reason whatsoever.
- **18.2** Conditional tenders, incomplete tenders or otherwise considered defective and not in accordance with the tender conditions, specifications etc. are liable to be rejected.
- 18.3 If the Tenderer deliberately gives wrong information in his tender DFCC reserves the right to reject such tender at any stage or to cancel the contract, if awarded and forfeit the Bid Security (Earnest Money)/Security Deposit/ Performance Security/any other moneys due.
- **18.4** Canvassing in any form in connection with the tender is strictly prohibited and the tenders submitted by the Contractor who resorts to canvassing are liable to be rejected.
- 18.5 Should a Tenderer or Contractor or in the case of a firm or Company of Contractors/one or more of its Partners /Share holders/ Directors have a relation or relations employed in DFCC, the authority inviting the tender shall be informed to the fact along with the offer, failing this, DFCC may at its sole discretion reject the tender or cancel the contract and forfeit the Bid security(Earnest Money)/Security Deposit.
- 19.0 **Scope of works:** The successful tenderer has to carry out the following works so that

the office running is not disturbed, work should be resumed in part by part segregating remaining area in such a way that the office of CPM/BRC runs without disturbance.

- i) Tiling of floor including repair
- ii) Adequate treatment to existing wall
- iii) Providing false ceiling as per schedule
- iv) Partitioning of Office with laminated plywood and/or Glass
- v) Providing office table, credenza, backfile storage, conference table with ply, MDF with laminates and/or vineers as advised by architect and as per enclosed drawing
- vi) Furniture of pantry, reception, conference hall
- vii) Wiring and cabling for electrification, Networking and Telecommunication
- viii) Providing Light, Fan, Air conditioning as advised by architect and EIC
- 19.1 nil

#### 20.0 ON ACCOUNT PAYMENT.

The contractor shall be entitled to be paid from time to time by way of "On Account" bills, only for such Works, as in the opinion of the Engineer, the contractor has executed in terms of the Contract.

The Contractor shall submit the On-Account bills, by the date stipulated by the Engineer, in the prescribed proforma, supported with measurements.

After preliminary scrutiny and certification by the Engineer, payment of the certified amount shall be made by the Employer. The amount certified shall account for all deductions, including statutory deductions, recoveries for advances and any amounts due from the contractor.

Such payments made by the Employer, shall not constitute any acceptance of the measurements or bill of quantities by the Employer and the Employer shall have the right to alter, modify, reduce or diminish the quantities or classification entered in the Measurement Books or Bills. The Employer shall have the right to recover any amount paid in the earlier bill from any subsequent bill and should the amount to be recovered be more than the amount of the subsequent bill, the Contractor shall on demand from the Engineer or Employer immediately refund the extra amount to the Employer within 3 days, failing which he shall have to pay interest @ 12% per annum till the said extra amount is paid back by him.

#### 21.0 Defect Liability Period

Defect liability period will be 180 days from date of completion.

#### 22.0 Minimum eligibility criteria for the work is as under:

- 1) The tenderer should have **physically** completed successfully at least **one similar single work for a minimum value of 35 % of advertised tender value** with Government/ Semi Government/ Pvt. Ltd. Company during last three financial years and up to date of opening in the current year in (i.e current year and three previous years) up to the date of opening of the tender."
- 2) The tenderer should have received total contract amount for works with Government/ Semi Government/ Pvt. Ltd. Company during last three financial years and up to date of opening in the current year should be minimum 150% of advertised tender value as per as per attested copies of authentic documents / certificates issued by employer / client or audited balance sheet certified by Chartered Accountant.

<sup>\* &</sup>quot;Similar work means Interior work of office or Residence including Civil, Electrical, air-conditioning work"

### (3) No JV firms are allowed to participate in the tenders of value less than Rs 10 crores.

(4) Tenderers must submit the documents/certificates in support of information submitted against para 22.0 (1,2) failing which his/their offer may be rejected without any correspondence with the tenderers at the sole discretion of DFCCIL. All the documents/certificates of the completed works should be from Govt. organization/ Indian Railways /PSUs /Public/ Private Ltd. Companies. The completed work should be available for inspection by DFCC. DFCC may hold discussion with senior management of the undertakings for whom the work has been undertaken.

The certificates from private individuals for whom such works are executed/being executed shall not be accepted.

#### NOTE:

The Tenderers using tender documents purchased from office / downloaded from the DFCC website <a href="www.dfcc.in">www.dfcc.in</a> or <a href="www.dfccil.org">www.dfccil.org</a> are required to keep visiting the website to download corrigendum, which may be issued from time to time. The final offer shall include all corrigendum otherwise the offer shall be liable to be rejected. No separate communication will be made with the tenderers who download tender documents from website.

## DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD.

**Section IV** 

**GENERAL CONDITIONS OF CONTRACT (GCC)** 

#### **TABLE OF CONTENTS**

Clause	Description	Page No.
1	GENERAL PROVISIONS	
1.1	Definitions	
1.2	Interpretation	
1.3	Communications And Language Of Contract	
1.3.1	Communication To Be In Writing	
1.3.2	Language of Contract	
1.4	Governing Law and priority of documents	
1.4.1	Governing Law	
1.4.2	Jurisdiction of Court	
1.4.3	Priorities of documents	
1.5	Joint and Several Liability	
2	EMPLOYER	
2.1	General Obligations	
2.2	Permits, License or Approvals	
2.3	Assignment by the Employer	
3	ENGINEER AND ENGINEER'S REPRESENTATIVE	
3.1	Duties and Authority of Engineer	
3.2	Delegation by the Engineer	
3.3	Assistants to Engineer and Engineer's Representative	
3.4	Instructions of the Engineer	
4	CONTRACTOR	
4.1	Contractor's General Obligations	
4.2	Contractor's Warranty of Designs	
4.3	Compliance With Regulations And Bylaws	
4.4	Representation On Works	
4.5	Provision Of Efficient And Competent Staff	
4.6	Securities	
4.6.1	Tender Security	
4.6.2	Performance Security	
4.6.2.1	Amount of Performance Security	
4.6.2.2	Security Deposit	
4.6.2.3	Release of Performance Security and Security Deposit.	
4.7	Assignment of Contract	
4.8	Subcontracting	
4.9	Assignment of Subcontractor's Obligations	
4.1	Compensation for Breach	
4.11	Specifications And Drawings	

Clause	Description	Page No.
4.11.1	Ownership	
4.11.2	Adherence to Specifications and Drawings	
4.11.3	Compliance with Contractor's Request for Details	
4.12	Temporary work	
4.13	Safety Works	
4.14	Security of Site and Works	
4.15	Site Data And Inspection of Site	
4.16	Sufficiency of Accepted Contract Amount	
4.17	Unforeseeable Physical Conditions	
4.18	Right of way and facilities	
4.18.1	Avoidance of Interference And Safety of Public	
4.19	Electricity, Water and Gas	
4.2	Contractor's Equipment	
4.21	Protection of Environment	
4.22	Tools, Plants And Equipment Supplied By the Employer	
4.23	Sheds, Stores, Yards	
4.24	Use of Explosive	
4.25	Employer's Material	
4.25.1	Materials to be supplied by the Employer	
4.26	Discoveries	
4.27	Excavated Materials	
4.28	Housekeeping at the site of works	
4.29	Extraordinary Traffic	
4.29.1	Avoidance of Damage to Roads	
4.29.2	Special Loads	
4.29.3	Settlement of Extraordinary Traffic Claims	
4.3	Disclosure of Relationship	
4.31	Opportunity For Other Contractors	
4.31.1	Reasonable opportunity	
4.31.2	Inspection of work of other Contractors	
4.32	Progress report	
5	CORRUPT OR FRAUDULENT PRACTICES	
5.1	Definition of Fraudulent Practice	
5.2	Action against Contractor on termination of Contract under this clause.	
6	FACILITIES FOR LABOUR	
6.1	Provision of Accommodation	
6.2	Compliance with Rules for Employment of Labour	
6.3	Labour to be Contractor's employee	
6.4	Preservation of Peace	
6.5	Health and Safety	
6.6	Use of Intoxicants	
7	STAFF AND LABOUR	
7.1	Engagement	

Clause	Description	Page No.
7.2	Labour Laws	
7.3	Rates of Wages and Conditions of Labour	
7.4	Working hours	
7.5	Persons in the service/retired of Employer/Engineer	
7.6	Claim on account of violation of Labour Laws	
7.7	Report Of Accidents To Labour	
8	QUALITY CONTROL	
8.1	Manner of Execution	
8.2	Covering up of work	
8.2.1	Examination of work before covering up	
8.2.2	Cost of uncovering the work already covered up	
9	TIME MANAGEMENT	
9.1.1	Signing of Agreement	
9.1.2	Commencement of Work	
9.2	Programme of Work	
9.3	Handing Over, Possession and Use of Site	
9.4	Access To Site Of Work	
9.4.1	Access for Engineer	
9.4.2	Access Road and Way Leaves	
9.5	Time for Completion	
9.5.1	Time to continue to be the essence of the contract inspite of extension of time	
9.6	Delay	
9.7	Extension of Time for Completion not on Contractor's fault	
9.7.1	Contractor to Apply for extension of time	
9.8	Extension of Time for Delays due to Contractor and liquidated damages	
9.8.1	Extension of time for delay due to contractor	
9.8.2	Liquidated Damages	
9.8.2.1	Consequences of Objection by the contractor for grant of extension with LD	
9.9	Rate of Progress	
9.1	Suspension	
9.10.1	Suspension of Work	
10	TERMINATION OF CONTRACT	
10.1	Termination for Employer's Convenience	
10.2	Termination for Default of Employer	
10.3	Rescission of Contract Due to Death of Contractor/Partner	
10.4	Termination of Contract Due to Contractor's Default	
10.4.1	Notice to Correct	
10.4.2	Conditions Leading To termination Of Contract	
10.4.3	Non-exercise of power not to constitute waiver	
10.4.4	Execution of Balance work by another agency	
11	VARIATIONS	
11.1	Authority to order modifications	
11.2	Variations to be authorized in writing	

Clause	Description	Page No.
11.3	Value Engineering or Innovation	
11.3.1	Value Engineering Proposals	
11.3.2	Value Engineering Proposals – Contents	
11.3.3	Value Engineering Proposals – Employer Review	
11.3.4	Amendments - Employer Issuance	
11.3.5	Contractor's Acceptance and Payment	
11.4	Variation In The Bill Of Quantities	
12	PRICE VARIATION	
13	CONTRACT PRICE AND PAYMENTS	
13.1	Rates For Items of Work	
13.1.1	Rates accepted for BOQ are for complete item of work	
13.1.2	Nothing extra payable over the accepted rates	
13.1.3	Changes in cost due to subsequent legislation	
13.2	Payment on actual measurements	
13.3	Payment Currency	
13.4	On Account Payment	
13.4.1	Procedure for On-Account Payment	
13.4.2	On-Account Payment without prejudice	
13.5	Final Measurements And Payments	
13.6	Round Off	
13.7	Payment By Cheque	
13.8	Tax Deduction at Source	
13.9	Production of Vouchers	
13.1	Withholding And Lien For Sums Claimed	
13.11	Signature on Receipt of Payments	
13.12	Post Payment Audit	
14	CLAIMS & LIENS IN RESPECT OF CLAIMS IN OTHER CONTRACTS	
14.1	Claims	
14.2	Lien In Respect Of Claims In Other Contracts	
15	COMPLETION AND MAINTENANCE CERTIFICATE	
15.1	Completion and Completion Certificate	
15.2	Completion Certificate not to Absolve	
15.3	Cessation of Employer's Liability	
15.4	Unfulfilled obligations	
16	RISK & RESPONSIBILITY	
16.1	Contractor's Care of Work	
16.2	Urgent Repairs	
16.3	Damage To Employer's Property, Private Property And Life	
16.4	Indemnity By Contractor	
16.4.1	Indemnity Against All Actions of Contractor	
16.4.2	Indemnity Against All Claims Of Patent Rights And Royalties	
16.5	Indemnity By Employer	
17	FORCE MAJEURE	

Clause	Description	Page No.
18	SETTLEMENT OF DISPUTES AND ARBITRATION	
18.1	Dispute To Be Referred To And Settled By Engineer-In- Charge	
18.2	Referring Of Dispute For Arbitration	
18.3	Dispute Due For Arbitration	
18.4	Settlement of Disputes	
18.5	Nomination of Arbitrators/Sole Arbitrator	
18.6	No Suspension of Work	
18.7	Award To Be Binding On All Parties	
18.8	Rules Governing The Arbitration Proceedings	
18.9	Limitation of Time	
18.1	Interest on Awarded Amount	
18.11	Fee to Arbitrator/s	
19	NOTICES	
19.1	Notice to Contractor	
19.2	Notice to Employer and Engineer	
19.3	Change of Address	
19.4	Change in Constitution of Firm	

#### GENERAL CONDITIONS OF CONTRACT FOR

#### 1. GENERAL PROVISIONS

#### 1.1 Definitions

In the contract (defined below) the following works and expressions shall have the meanings assigned to them, except where the context requires otherwise. Works indicating persons or parties include corporations and other legal entities except where the context requires otherwise.

- a. **"Employer**" means Dedicated Freight Corridor Corporation of India Ltd. (DFCC), its legal successors and assignees.
- b. **"Engineer in Charge"means EIC** means any person nominated or appointed from time to time by the Employer to act as the Engineer for the purpose of the Contract and notified to the Contractor by the Employer.
- c. **"Enginee r's Representative**" means any assistant of the Engineer, appointed from time to time by the Engineer.
- d. i). "Contractor" or "Successful Tenderer" means the person whose tender has been accepted by the Employer and the legal successors in title to such person. In this condition the two words are used interchangeably.
- ii). "Contractor's Representative" shall mean a person named by the Contractor or appointed from time to time by the Contractor to act on behalf of Contractor.
- e. **"Sub Contractor**" means any person named in the contract as a sub contractor or any person appointed *by the contractor* with the approval of employer as a sub contractor for a part of the work and the legal successors in title to each of these persons.
- f. **"Other Contractor"** means a person employed by or having a Contract directly or indirectly with the employer otherwise than through the Contractor.
- g. "Tenderer or Bidder" means the person submitting a bid/Tender.
- h. **"Scheduled bank"** means a bank included in the second schedule to the Reserve Bank of India Act, 1934, or modifications thereto.
- i. **"Contract"** means the Contract agreement, the Letter of Acceptance, the Letter of Tender, these conditions, the specifications, the drawings, the schedules and the further documents (if any) which are listed in the Contract agreement or in the Letter of Acceptance..
- j. **"Tender or Bid"** means the offer made by the Tenderer to the Employer for the execution of the Works.
- k. **"Specification"** means the specification referred to in the Contract and any modification thereof or addition thereto, as may from time to time be furnished or approved in writing by the Engineer.
- l. "**Drawings**" means the Drawings of the works, as included in the contract and any additional/modified Drawings approved by the Engineer from time to time.
- m. "Bill of Quantities" means the priced and completed bill of quantities forming part of the tender.
- n. **"Contract Price"** or **"Contract Value"** means the sum stated in the letter of Acceptance, subject to such additions thereto or deductions there from as may be made under the provisions of the Contract.
- o. (i). "Works" means the Permanent Works or Temporary works, or either of them as appropriate.
  - (ii) "Permanent Works" means the permanent works to be executed, completed and maintained in accordance with the Contract.
  - (iii) "Temporary Works" means all temporary and enabling works of every kind required for the execution and completion of the works and the remedying of any defects therein.
- p. "Contractor's Documents" means the calculations, computer programs and other softwares, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.
- q. **"Constructional Plant"** means all machinery, appliances or things of whatsoever nature, required for the execution, completion or maintenance of the works, but does not include material or other things, intended to form a forming part of the Permanent Works.
- "Site" means the places provided by the employer where the works are to be executed and to which plant, and materials are to be delivered, and any other places as designated in the Contract as forming part of the site.
- s. "Materials" means things of all kinds (other than Plant) to be provided and incorporated in the permanent Works by the Contractor, including the supply only items (if any) as specified in the

contract.

- t. **"Test"** means such tests as are prescribed in the Specifications or by the Engineer or Engineer's Representative, whether performed by the Contractor or by the Engineer or his Representative or any agency under the direction of the Engineer.
- u. "Approval or Approved" means Approval in writing including subsequent written confirmation of previous verbal approval.
- v. "Defects Liability Period" means the period for remedy of defects (if any) specified in the contract w. "Construction of date of any define of about the Engineer.
- w. "Letter of Acceptance" means the formal acceptance letter from the Employer of the Tender.
- x. i."Day" means a calendar day.
- ii. "Month" means a calendar month"
- iii. "Year" means 365 days.
- **y. "Terms and expressions not herein defined"** shall have the meanings assigned to them in the "Indian General Clauses Act, 1897" orthe Indian Contract Act or the Indian Sale of Goods Act or any other applicable Indian law, as the case may be.

#### 1.2 Interpretation

In the Contract except where the context requires otherwise:

- a. words indicating one gender include all genders:
- b. works indicating the singular also include the plural and words indicating the plural also include the singular and
- c. "written" or "in writing" means hand-written, typ e written, printed or electronically made and resulting in a permanent record.

The marginal words and other headings shall not be taken into consideration in the interpretation of these conditions.

#### 1.3 Communications and Language of Contract

#### 1.3.1 Communications to be in writing

Communications between parties will be effective only when in writing. Verbal communication if any must be confirmed in writing later on. A notice will be effective only when delivered/dispatched.

#### 1.3.2 Language of Contract

The contract document shall be in English.

#### 1.4 Governing Law and Priority of Documents

#### 1.4.1 Governing Law

The Contract shall be governed by the Acts and Laws of India, the rules, regulations and byelaws of the concerned public bodies and authorities.

#### 1.4.2 Jurisdiction of Courts

*This is a condition of contract that* the courts at VADODARA shall have the exclusive Jurisdiction to try all disputes between the parties arising out of the agreement.

#### 1.4.3 Priorities of documents

The several documents forming the contract are to be taken as mutually explanatory of one another. If any inconsistency or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction. For the purpose of interpretation, the priority of documents shall be in accordance with the following sequence:

- a) The letter of Acceptance.
- b) The Contract Agreement (if completed).
- c) The notice inviting Tender/Instructions to Tenderers.
- d) Special conditions of Contract.
- e) General conditions of Contract.
- f) Bill of Quantities

- g) Drawings.
- h) The specifications
- i) The schedules and any other document forming part of Contract.

#### 1.5. Joint and Several Liability

If the contractor is (under applicable Laws) a joint venture, consortium, or other incorporated grouping of two or more persons:

- a. These Persons shall be deemed to be jointly and severally liable to the Employer for the performance of the Contract.
- b. These Persons shall notify the Employer of their leader who shall have authority to bind the Contractor and each of these persons: and
- c. The Contractor shall not alter its composition or legal status without the prior consent of the Employer.

#### 2. EMPLOYER

#### 2.1 General Obligations

The Employer shall provide the site and pay the Contractor in accordance with the Contract. The Employer shall give the Contractor right of access to and possession of the Site progressively to enable the Contractor to complete the Works as per schedule. The right and possession may not be exclusive to the Contractor.

#### 2.2. Permits, License or approvals

It shall be contractor's responsibility to get approvals, permits or license required for the contract. However, the Employer shall (where he is in position to do so) provide reasonable assistance to Contractor at the request and cost of the Contractor in getting Permits, License or Approvals required during the Contract.

#### 2.3 Assignment by the Employer

The Employer shall be entitled without the consent of the Contractor to fully assign the benefit of the Contract or any part thereof and interest therein or there under to any third party.

#### 3. ENGINEER AND ENGINEER'S REPRESENTATIVE

#### 3.1 Duties and Authority of Engineer

The Engineer shall carry out the duties specified or implied in the Contract. If the Engineer is required to obtain the Approval of the Employer before exercising a specified authority, as per the requirement in accordance with the contract. Any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Engineer. The Engineer shall have no authority to amend the Contract nor to relieve the Contractor of any of its obligations of the Contract.

#### 3.2 Delegation by the Engineer

- i. The Engineer may from time to time assign duties and delegate authority to Engineers Representative/assistants and may also revoke such assignments or delegations. The delegation or revocation shall be in writing.
- ii. Each Assistant to whom duties have been assigned or authority has been delegated shall be authorized to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, Test or similar act by assistance shall have the same effect as though the act had been act of the Engineer. However,
- (a) Any failure to disapprove any work, plant or Materials shall not constitute Approval, and shall not therefore prejudice the right of the Engineer to reject the work, plant and materials.
- (b) If the Contractor questions any determination or instruction of an assistant, the contractor may refer

the matter to the Engineer who shall promptly confirm, reverse or vary the determination or instruction.

#### 3.3 Assistants to Engineer and Engineer's Representative

The Engineer or the Engineer's representative may appoint any number assistants to assist them after duly notifying their names, duties and scope authority to the contractor.

#### 3.4 Instructions of the Engineer

The Contractor shall comply with the instructions given by the Engineer, Engineer's Representative or the delegated assistant, on any matter related to the Contract. Wherever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant:

- a. Gives an oral instruction
- b. Receives a written communication of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
- c. Does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation, then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).

#### 4.1 CONTRACTOR

#### 4.2 Contractor's General Obligations

The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Engineer's instructions, and shall remedy any defects in the Works, as directed by the Engineer. The contractor shall provide the Plant and Contractor's documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether or a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

The Contractor shall be responsible for the adequacy, stability and safety of all such operations and of all methods of construction. The Contractor shall, whenever required by the

Engineer, submit details of the arrangement and methods which the contractor proposes to adopt for the execution of the works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.

If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless stated in Special Conditions of contract:

- a. The Contractor shall submit to the Engineer the Contractor's document for the part in accordance with the procedures specified in the Contract;
- b. These Contractor's Documents shall be in accordance with the specifications and Drawings, shall be written in the language for communications defined in and shall include additional information required by the Engineer to add to the Drawings for co-ordination of each party's designs;
- c. The Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract; and
- d. Prior to the commencement of the Tests on completion, the Contractor shall submit to the Engineer the "as-built" documents and operation and maintenance manuals without any extra cost in accordance with the Specifications and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works, Such part shall not be considered to be completed for the purposes of issue of Completion Certificate until these documents and manuals have been submitted to the Engineer.

#### 4.2 Contractor's Warranty of Design

If it is specified in the Contract that the Contractor shall be responsible for design;

The Contractor warrants that the Contractor's part of the design (in accordance with **Sub-Cause 4.1**) meets the specifications provided by the Employer and is fit for the purpose thereof. Where there is any inadequacy, insufficiency, impracticality or unsuitability in or of the specification or any part thereof, the Contractor's part of the design shall take into account, address or rectify such inadequacy, insufficiency, impracticality or unsuitability at Contractor's own cost.

- a.The Contractor shall indemnify the Employer against any damage, expense, liability, loss or claim, which the employer might incur, sustain or be subject to arising from any breach of the contractor's design responsibility and/or warranty set out in this clause.
- b. The contractor further specifies and is deemed to have checked and accepted full responsibility for the Contractor's part of the design (in accordance with **Sub Clause** 
  - i. Notwithstanding that such design may be or have been prepared, developed or issued by the Employer, any of Contractor's consultants, his sub contractor's and/or his qualified personnel/persons or cause to be prepared, developed or issued by others.
  - ii. Notwithstanding any warranties, guaranties and/or indemnities that may be or may have been submitted by any other person.
  - iii. Notwithstanding that the same have been accepted by the Engineer.

#### 4.3 Compliance with Regulations and Bylaws

The Contractor shall confirm in all respects with:

a. The Contractor shall conform to the provision of any statute relating to the works and regulation and bye-laws of any local authority and of any water and lighting companies or undertakings, with whose system the work is proposed to be connected and shall before making any variation from the drawings or the specifications that may be necessitated by so confirming give to the Engineer notice specifying the variation proposed to be made and the reason for making the variation and shall not carry out such variation until he has received instructions from the Engineer in respect thereof.

The Contractor shall be bound to give all notices required by statue, regulations or bye-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof which will be reimbursed on production of proper record.

The provision of all laws of land in force and enacted from time to time will be complied by the Contractor.

- b. The regulations or bye-laws of any local body and utilities.
- c. The contractor shall be bound to give all notices required by statute, regulations or bye-laws, aforesaid and to pay all fees and bills payable in respect thereof. The contractor will arrange necessary clearances and approvals before the work is taken up. Nothing will be paid by employer on this account.

Ignorance of rules, regulations and bylaws shall not constitute a basis for any claim at any stage of work.

#### 4.4 Representation of Works

The Contractor shall, when he is not personally present on the site of the works place and keep a

responsible agent at the works during working hours who shall on receiving reasonable notice, present himself to the Engineer and orders given by the

Engineer or the Engineer's Representative to the agent shall be deemed to have the same force as if they had been given to the Contractor. Before absenting himself, the Contractor shall furnish the name and address of his agent for the purpose of this clause and failure on the part of the Contractor to comply with this provision at any time will entitle the DFCC to rescind the contract under Clause 11 of these conditions.

#### 4.5 Provision of Efficient and Competent Staff

The Contractor shall employ and keep on the works at all times efficient and competent staff to give necessary directives to his workers for execution of works in a safe and proper manner. If the Engineer asks the Contractor to remove a person of his work force stating the reasons, the contractor shall ensure that the person leaves the site within seven days and has no further connection with the work in the Contract.

#### 4.6 Securities:

#### 4.6.1 Tender/Bid Security (Earnest Money Deposit):

Tender shall be accompanied with tender/bid security in the form of Bankers cheque/ Demand drafts/ FDR from Nationalised/Indian scheduled commercial banks drawn in favour of DFCCIL payable at VADODARA.

The tender/bid security of the successful tender shall be kept as security deposit for fulfillment of contractual obligations.

Value of the work (Tender Value)	EMD
For works estimated to cost up to Rs.20 crore	2% of the estimated cost of the work.(subject to maximum of Rs. 30 lacs)
For works estimated to cost more than Rs.20 crore and upto 50 crore	1.5% (One and Half percent) of the estimated cost of the work.(subject to maximum of Rs. 50 lacs)
For works estimated to cost more than 50 Crore	1% of the estimated cost of the work.

Tenders without the requisite security shall be summarily rejected. The tender/bid Security of unsuccessful tenderer/s shall be returned on award of contract.

#### 4.6.2 Performance Security (PERFORMANCE GUARANTEE)

#### 4.6.2.1 Performance Security

- a) The successful bidder shall have to submit a Performance Guarantee (PG) within 15 (Fifteen) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 15 (fifteen) days and up to 30 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 15% per annum shall be charged for the delay beyond 30 (thirty) days i.e. from 31<sup>st</sup> day after the date of issue of LOA. In case the contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract shall be terminated duly forfeiting EMD and other dues, if any payable against that contract. The failed contractor shall be debarred from participating in re-tender for that work.
- b) The successful bidder shall submit the Performance Guarantee (PG) in the form of irrevocable bank guarantee from any Nationalised/Indian scheduled commercial Bank, amounting to 5% of the contract value in favour of DFCCIL. In case of Joint venture(JV), the Bank guarantee towards Performance security shall be provided by JV.
  - Alternatively the Performance Guarantee may be submitted in the form of FDR in favour of DFCCIL payable at VADODARA.
- c) The Bank Guarantee for Performance security shall remain valid until a date 60 days (or as

specified in the contract) after expiry of Defect Liability Period.

- d) The Bank Guarantee for Performance security shall be submitted invariably in the format given in the Bidding document.
- e) Whenever the contract is rescinded, the Security Deposit shall be forfeited and the Performance Guarantee shall be encashed. The balance work shall be got done independently without risk & cost of the failed contractor. The failed contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a JV or a Partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV/partnership firm.
- f) The engineer shall not make a claim under the Performance Guarantee except for amounts to which the DFCCIL is entitled under the contract (not withstanding and/or without prejudice to any other provision in the contract agreement) in the event of:
  - i. Failure by the contractor to extend the validity of the Performance Guarantee as described
    - herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.
  - ii. Failure by the contractor to pay DFCCIL any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the Agreement, within 10 working days of the service of notice to this effect by Engineer.
  - iii. The Contract being determined or rescinded under provision of the GCC, the Performance Guarantee shall be forfeited in full and shall be absolutely at the disposal of the President of India.

#### 4.6.2.2 Security Deposit (Retention Money).

- (i) The Bid security of successful bidder shall be retained by DFCCIL as part of Security for the faithful fulfillment of the contract by the Contractor. In addition, a retention amount equal to 10% of each bill shall be retained till the total security available is 5% of contract amount.
- (ii) The Bidder may, at his option, replace the retention amount with an unconditional bank guarantee from the bank acceptable to DFCCIL at the following stages:
  - (a) After the amount reaches half the value of the limit of retention money
  - (b) After the amount reaches the maximum limit of retention money

#### 4.6.2.3 Release of Performance Security & Security Deposit:

- i. The performance security shall be released 21 days after issue of Performance Certificate.
- ii. One half of the retention money (or bank guarantee, which replaced retention money) shall be released on the issue of Taking-over-Certificate; if the Taking-over Certificates are issued in parts, then in such proportions as the Engineer may determine, having regard to the value of such part or section. The other half of the retention money (or bank guarantee, which replaced retention money) shall be released upon expiration of Defects liability period of the Works or final payment whichever is earlier on certification by the Engineer. In the event of different Defect Liability Periods being applicable to different section or parts, the expiration of Defect Liability Period shall be the latest of such periods.

#### 4.7 Assignment of Contract

The Contractor shall not assign a right or benefit under the Contract without first obtaining Employer's prior written consent, otherwise than by:

a. Charge in favour of the Contractor's bankers of any money due or to become due under the contract, or

b. Assignment to the Contractor's insurers (in cases where the insurers have discharges the Contractor's loss or liability) of the Contractor's right to obtain relief against any other party liable.

#### 4.8 Subcontracting

- a. The contractor shall not subcontract the whole of the Works.
- b. Subcontracting does not alter the Contractor's obligations in any manner and the Contractor shall ensure sufficient superintendence as well as impose such terms and conditions on the subcontractor as are appropriate to the parts of the works Sub-Contractor, to enable the Contractor comply with his obligations under the Contract.
- c. The contractor shall not be required to obtain such consent for provision of labour and material and for petty contractors/piece works under direct supervision of Contractor's Representatives.

#### 4.9 Assignment of Subcontractor's Obligations

If a Subcontractor's obligations extend beyond the expiry date of Defects Liability Period then the contractor shall assign the benefits of such obligations to the Employer.

#### 4.10 Compensation for Breach

Any breach of **sub clauses 4.7 to 4.9** shall entitle the Employer to terminate the Contract under Clause **10.4** of these conditions and also render the contractor liable for loss or damage arising due to such termination.

#### 4.11 Specifications and Drawings

#### **4.11.1 Ownership**

The contractor shall keep at site in good order, one copy of latest approved Specifications, drawings and other documents. All specifications and drawings shall remain the property of the Employer and shall be returned to the Employer on completion or on termination of the contract.

#### 4.11.2 Adherence to specifications and Drawings

- i. The works shall be executed in conformity with the Specifications and drawings of the Contract issued to the Contractor by the Engineer from time to time. If the contractor does any work or part in a manner contrary to the specifications or drawings, he shall bear all the costs arising there from including dismantling and reconstruction strictly in accordance with the specifications and drawings and shall be responsible for all loss to the Employer.
- ii. If any ambiguity arises as to the meaning and intent of any portion of the Specifications and drawings or as to execution or quality of any work or material or as to the measurement of the works, the decision of the Engineer thereon shall be final and binding.
- iii. The term "drawings" in this sub clause includes also the drawings prepared by the Contractor and approved by the Engineer, as specified in the special Conditions of Contract.

#### 4.11.3 Compliance with Contractor's Request for Details

- (i) The contractor shall give written notice to the Engineer whenever progress of the works is likely to be delayed or disrupted unless any further drawing, where the special conditions of Contract provide for such drawings to be prepared by the Engineer,or order, including a direction, instruction or approval is issued by the Engineer within a reasonable time. The notice shall include details of the Drawing or order required and of why and by when it is required and of any delay or disruption likely to be suffered if this issue is delayed.
- (ii) The Engineer shall furnish with reasonable promptness, on receipt of request from the Contractor, additional instructions by means of drawings or otherwise necessary for the proper execution of

the works or any part thereof. All such Drawings and instructions shall be consistent with the Contract documents and reasonable inferable there from. The Engineer may ask the Contractor for alternative proposals or clarifications or additional data or any other detail in respect Contractors request, if any.

If, due to any failure or inability of the Engineer to issue within a reasonable time any drawing or order requested by the Contractor as stated above, the contractor suffers delay and/or incurs additional costs, the Engineer shall take such delay into account while determining any extension of time to which the Contractor would be entitled and no claim whatsoever shall be entertained on this account.

#### 4.12 Temporary Works

All temporary works necessary for the proper execution of the works shall be provided and maintained by the Contractor at his cost and subject to the consent of the Engineer shall be removed by Contractor at his own expense when they are no longer required and in such manner as the Engineer shall direct. In case the Contractor fails to get the same removed, than the same will be removed by the Engineer/Employer and cost thereof shall be recovered from the Contractor.

4.13 The contractor shall be responsible for safety of works at site. In this connection, Contractor is required to take note of all necessary provisions in Employer's Works Manual (Chapter 9 Environment, Forest, Safety, health and other related clearances), which shall be inclusive of all necessary costs to meet the prescribed safety standards. In the case, the contractor fails in the above; the Employer may provide the necessary arrangements and recover the costs from the Contractor.

#### 4.14 Security of site and works

Unless otherwise stated in special Conditions of Contract

- a. The contractor shall be responsible for keeping unauthorized persons off the site.
- b. Authorized persons shall be limited to the Employees of the Contractor, subcontractor or persons authorized by the Engineer.

#### 4.15 Site Data and Inspection of site

- i. The contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works.
- ii. The contractor shall also be deemed to have inspected and examined the site, its surroundings, the above data and other available information and to have been satisfied before submitting the tender as to all the relevant matters, including without limitation:
- a. The form and nature of the site, including the subsurface condition
- b. The hydrological and climatic conditions
- c. The extent and nature of work and goods necessary for the execution and completion of the work and the remedying of any defects.
- d. The applicable laws, procedures and labour practices
- e. The contractor's requirement for access, accommodation, facilities, personnel, power, transport, water and other services.

#### 4.16 Sufficiency of accepted Contract amount

The contractor shall be deemed to have satisfied himself, before Tendering, as to the correctness and sufficiency of his tender for the works and of the rates and prices stated in the priced Bill of quantities and the schedule of rates and Prices, if any, all of which shall, except in so far as it is

otherwise provided in the contract, cover all his obligations under the contract and all matters and things necessary for the proper execution and maintenance of the works. The tenders containing any deviation from the Contractual Terms and conditions, specifications and other requirements save as provided in this General Conditions of Contract or Special Conditions of Contract shall be rejected as non responsive.

#### 4.17 Unforeseeable Physical conditions

In this clause "physical conditions" means natural physical conditions, which the Contractor encounters at Site while executing the Works excluding climatic conditions.

If during the execution of the works, the Contractor shall encounter physical conditions, which, in his opinion, could not have been reasonably foreseen by an experienced Contractor, the Contractor shall forthwith give written notice thereof to The Engineer and if, in the opinion of the Engineer, such conditions could not have been reasonably foreseen by an experienced Contractor, then the Engineer shall certify and the Employer shall pay reasonable additional cost to which the Contractor shall have been put by reason of such conditions in the following cases:

- a. For complying with any instruction which the Engineer may issue to the Contractor in connection therewith, and
- b. For any proper and reasonable measures approved by the Engineer which the Contractor may take in the absence of specific instructions from the Engineer, as a result of such conditions or obstructions being encountered.

When the Engineer is required to determine value, cost or extension of time, he shall consult with the Contractor and the Employer in an endeavor to reach agreement. If agreement is not achieved, the Engineer shall determine the matter fairly, reasonably and in accordance with the Contract, with the approval of Employer.

#### 4.18 Right of Way and Facilities

The Employer will acquire and provide land for Permanent Works and right of way (within DFCC's land). The contractor shall bear all cost and charges for special or temporary rights of way which he may require including those of access to the site. The contractor shall also obtain, at his risk and cost, any additional facility outside the site which he may require for the purpose of the Works the Employer/Engineer reserves the right to make use of these service roads/rights of way for itself or for other Contractors working in the area, as and when necessary without any payment to the Contractor.

#### 4.18.1 Avoidance of Interference and Safety of Public

- i. The contractor shall not interfere unnecessarily or improperly with:
  - (a) The convenience of the public, or
  - (b) The access to and use of all roads, footpaths, waterways without the Prior permission of the Engineer.

The contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

ii. During progress of work in any street or thoroughfare, the Contractor shall make adequate provision for the passage of traffic, for securing safe access to all premises approached from such street or thoroughfare and for any drainage, water supply or means of lighting which may be interrupted by reason of execution of Works and shall erect and maintain at his own cost save as provided in the Contract barriers, lights and other Safeguards as prescribed by the Engineer for the regulation of traffic, and provide watchman necessary to prevent accidents. The Works shall in

such cases be executed day and night if the Engineer so decides and so that the traffic is impeded for as short a time as possible.

- iii Existing road or watercourses shall not be blocked, cut through, altered, diverted or obstructed in anyway by the contractor, except with the permission of the Engineer. All compensation claimed for any unauthorized closure, cutting through, alteration, diversion or obstruction to such roads or water courses by the Contractor or his staff or Sub Contractors shall be recoverable from the Contractor by deduction from any sums which may become payable to him in terms of the Contract or any other amount due to him in any other Contract.
- iv. The contractor shall be responsible for taking all precautions to ensure safety of the public, whether on public or Employer's property and shall post such look-out men as may, in the opinion of the Engineer, be necessary to comply with the regulations appertaining to the work and to ensure safety.

#### 4.19 Electricity, Water and Gas

The contractor shall be responsible for making his own arrangements at his own cost to obtain supply of water, electricity or gas for the works. The Employer where feasible may at his discretion assist the contractor in this respect.

The Employer may provide water, electricity or gas if available at the rates fixed by the Engineer but employer will not be responsible for any disruption of supply of these items and in that case, contractor will make his own arrangement to avoid suffering of progress of work.

#### 4.20 Contractor's Equipment

- **4.20.1** All constructional plant and materials provided by the Contractor once brought by the contractor to site shall be deemed to be extensively intended for the execution of the works and Contractor shall not remove them without the consent in writing of the Engineer.
- **4.20.2** The employer shall not at any time be liable for the loss or damage to any of the Constructional Plant, Temporary works or Materials save as mentioned in Clauses 18.5 and 18.1
- **4.20.3** In respect of any Constructional Plant which the Contractor shall have imported for the purpose of the works, the employer will assist the Contractor, where required, in procuring any necessary Government consent for re-export of the same after completion of the works.
- **4.20.4** The Employer may assist (but is not obligated to) the Contractor, where required, in obtaining clearance through the Customs of Constructional plant, materials and other things required for the Works.

#### 4.21 Protection of Environment

The contractor shall comply with the Safety, health and Environmental manual of the Employer and shall submit a detailed Site safety manual and Environmental plan as **specified in special Conditions of Contract**. Nothing extra shall be payable to the Contractor on this account and his tender price shall be inclusive of expenditure required to be incurred for working as per SHE Manual.

The Contractor shall take all reasonable steps to protect the Environment (both on and off site) and to limit damage and nuisance to people and property resulted from pollution, dust, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's

activities shall not exceed the values indicated in the Specification and shall not exceed the values prescribed by applicable laws. The Contractor will ensure strict compliance of provisions in regard to protection of environment of Special Conditions of Contract.

#### 4.22 Tools, Plants and Equipment

Except for any specific item mentioned in the Special Conditions of Contract, the Contractor shall provide all tools, plants and equipment for the works. In respect of such exceptional tools, plants and equipment committed to be provided by the Employer

under terms and conditions specified in the Special Conditions of contract, the Contractor shall take all reasonable care and shall be responsible for all damages or loss caused by him, his representatives, sub-contractors or his workmen or others while they are in his charge. On completion of the works, the Contractor shall hand over the unused balance of the tools, plants and equipments to the Employer in good order and repair, fair wear and tear expected, and shall be responsible for any failure to account for the same or any damage done thereto. The decision of the Engineer as to the amount recoverable from the Contractor on this account shall be final and binding.

#### 4.23 Sheds, Stores, Yards

It shall be the responsibility of the Contractor to provide at his own expense the required sheds, store houses, and yards for both Permanent and Temporary Works and provide free access to the Engineer and the Engineer's Representative who will have right of inspection including that of instructing the Contractor to remove a particular material from the stores and not to use the same on the works.

#### 4.24 Use of Explosives

Explosives if required on the work shall be used by Contractor only with prior Approval of the Engineer and in the manner and to the extent permitted by him. The contractor shall be responsible for safe upkeep of such explosives in a special magazine as per the law on explosives as well as for taking all the precautions in the usage of the explosives with proper license and at contractor's cost, sole risk and responsibility.

The contractor shall hold the Employer harmless and indemnify for the above.

#### 4.25 Employer's Material

#### 4.25.1 Materials to be supplied by the Employer

Except for items mentioned in the Special Conditions of Contract, the Contractor shall provide all materials for the works. Material, if any, to be provided by Employer will be done only in a phased manner as per pre-approved program, against a bank guarantee for the value of the Material and at terms and conditions for issue, upkeep, usage, return and recovery of such materials as specified in special conditions of contract.

#### 4.26 Discoveries

Anything of historical importance or of significant interest discovered on the site shall be the property of the Employer. The Contractor shall notify the Engineer of such discoveries promptly and carry out Engineer's instructions for dealing with that.

#### 4.27 Excavated materials

Materials of any kind obtained from execution of the site shall be property of the Employer and shall be disposed of as the Employer/Engineer may decide.

## 4.28 Housekeeping at the Site of works Signature of Tenderer

The contractor shall at all times, maintain the site free from unnecessary obstructions and shall store or dispose neatly any Contractor's equipment and surplus materials. The contractor shall clear away and remove from site any wreckage, rubbish or Temporary Works no longer required.

On completion of the works, the contractor shall clear away and remove from site all constructional plant, surplus material and Temporary Works. He should leave the whole of the site and works in a clean, tidy and workmen like condition to the satisfaction of the Engineer. In case, the contractor even fails to clear the site as required within seven days from the issue of notice than site shall be cleared by the Engineer/Employer and cost thereof shall be recovered from the dues of the contractor.

On completion of work the contractor shall also clear away the labour camps, hutments and other related installations and restore the land to its original condition to the satisfaction of the Engineer within 45 days of the physical completion of the work, failing which it will be done by engineer on Contractors cost.

No final payment in settlement of the accounts for works shall be made till site clearance and clearance of labour camps etc. shall have been affected by the Contractor in addition to any other condition necessary for settlement of such final payment.

#### 4.29 Nil

#### 4.30 Disclosure of Relationship

If the contractor or any partner of the contractor or Director of the Contractor's company is closely related to any of the Officers of the employer or the Engineer, or alternatively, if any close relative of an officer of the Employer or the Engineer has financial interest/stake in the Contractor's firm, the same shall be disclosed by the Contractor at the time of filling his tender. Any failure to disclose the interest involved, shall entitle the Employer to rescind the Contract, without payment of any compensation to the contractor. The Contractor shall note that he is prohibited from developing such interest during the Contract period without specific approval of the employer.

#### 4.31 Opportunity for other Contractors

#### **4.31.1** Reasonable Opportunity

The contractor shall, in accordance with the requirements of the Engineer, afford all reasonable facilities for any other contractor who may be carrying out, on or adjacent to any site any work not included in the Contract but required by the Employer, any utilities undertaking or other duly constituted authority.

The contractor shall, on the written request of the engineer, make available to any such other contractor or to the employer or any such authority, any roads or ways for the maintenance of which the contractor is responsible, for which no additional payment shall be made by the Employer.

#### 4.31.2 Inspection of work of other Contractors

If any part of the contractor's work depends upon the work of another Contractor, he shall inspect and promptly report to the Engineer any defects in such work that may render it unsuitable for such proper execution. The contractor's failure to so inspect and report shall constitute acceptance of the other Contractor's work as fit and proper except as to defects which may develop in the other Contractor's work after execution of his work.

#### 4.32 Progress Reports

Unless otherwise stated in special conditions of Contract, monthly progress shall be prepared by the Contractor and submitted to the Engineer. The first report shall cover the period up to the end of the first calendar month following the commencement of works in accordance with **sub clause 9** Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.

Reporting shall continue until the contractor has completed all work, which is known to be outstanding at the completion date stated in the completion Certificate for the works:

Each report shall include:

- a. Charts and detailed descriptions of progress, including each stage of design (in accordance with sub clause 4.1), contractor's document, procurement, manufacture, delivery to the site, construction, erection and testing: and including these stages for work by each subcontractor.
- b. Copies of quality assurance documents, test results and certificates of materials.
- c. List of notices given by either party.
- d. Safety statistics, including details of any hazardous incidents an activities relating to environmental aspects and public relations; and
- e. Comparisons of actual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with Contract and measures being adopted to overcome delays.
- f. Labour welfare compliance report if desired by the Engineer in accordance with **sub clause** 6.
- g. Details of labour, engineers, tools & plants at site during the month under reference.
- h. Any problem/hindrance faced by the contractor in proper execution of the work.

#### 5.0 CORRUPT OR FRAUDULENT PRACTICES

- 5.1 The employer requires that the bidders/contractors observe the highest standards of ethics during Tendering and execution of this contract. In pursuance with this policy, the employer:
  - a. Defines, for the purpose of these provisions, the terms set forth below as follow:
  - I ."corrupt practice" means the offering, giving, receiving or soliciting of anything of value to employer, engineer or any of their employees, influence 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 the tender for the work or terminate the Contract if the employer determines that the bidder/Contractor has engaged in corrupt or fraudulent practices.
- c. Will declare a Contractor ineligible, either indefinitely or for a slated period of time, to be awarded a Contract/s if he at any time determines that the Contractor has engaged in corrupt or fraudulent practices.

#### 5.2 Action against Contractor on termination of Contract under this clause

In the event of termination of contract under sub clause 5.1 action will be taken in terms of clause 10, 4.2.

#### 6.0 FACILITIES FOR LABOUR

#### 6.1 Provision of accommodation

The contractor shall provide at his own expense, all necessary accommodation and the welfare facilities for his stag and labour. This includes good practices like provision of temporary crèche (Bal Mandir) where 50 or more women are employed at a time. All accommodation shall be maintained in a clean and sanitary condition, by the contractor at

his cost and provision of law of land in force and enacted from time to time.

The contractor shall have a labour welfare Organisation which shall be responsible for labour welfare and compliance with prevalent labour laws, statutes

and guidelines. In this context, the contractor is also required to familiarize himself with DFCC labour welfare Fund Rules as specified in Special conditions of Contract and comply with the same.

The Contractor shall prepare and submit compliance reports of adherence to labour laws as and when desired by the Engineer.

#### 6.2 Compliance with Rules for Employment of labour

The contractor shall be responsible for compliance with all the statutes, guidelines and rules for the time being in force regarding engagement of labour by the Contractor or through his petty Contractors or Sub contractors. The contractor shall also ensure that he or his subcontractors fully comply with all labour laws relating to engagement of labour and other related labour laws as in force and enacted from time to time.

#### 6.3 Labour to be Contractor's employee

If the contractor directly or through petty contractors or sub contractors supplies any labour to be used wholly or partly under the direct orders and control of the Engineer or the Employer, whether in connection with any work being executed by the Contractor or otherwise for the purposes of the Employer, such labour shall, for the purpose of this

clause, be deemed to be persons employed by the contractor. The contractor shall indemnify the employer for any claim or payment becoming payable to labourers due to his failure to comply with labour laws.

#### 6.4 Preservation of Peace

The contractor shall be responsible for preservation of peace at the site and its neighborhood by Contractor's employees, Representatives, petty contractors, sub contractors etc. In case, deployment of a special Police Force, becomes necessary at or near site, during the tenure of works, the expenses for the same shall be borne by the contractor.

#### 6.5 Health and safety

Precautions shall be taken by the contractor to ensure the health and safety of his staff and labour. The contractor shall in collaboration with and to the requirements of the local health

authorities, ensure that medical staff, first aid facilities, other medical facilities, sick bay and ambulance are available at the accommodation and on the site at all times, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. The contractor shall maintain records and make

reports concerning health, safety and welfare of persons and damage to property, as per the Engineer's requirement and will ensure complete compliance with relevant clauses of Employer's safety, Health and Environmental manual (SHE manual), which shall be binding on the contract.

#### 6.6 Use of Intoxicants

The contractor shall ensure that no labour or employee is permitted to work at the Site in an intoxicated state or under influence of drugs.

#### 7.0 Staff and Labour

#### 7.1 Engagement

The contractor shall make his own arrangements for the engagement of all staff and labour at its own cost.

#### 7.2 Labour Laws

In dealing with labour and employees, the Contractor and his sub-Contractors (including piece rate and petty Contractor) shall comply fully with all laws and statutory regulations pertaining to engagement, payment and upkeep of the labour in India.

# 7.3 Rates of Wages and Conditions of Labour

Full compliance of statutory requirements apart, the Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established for the trade or the industry where the work is carried out.

# 7.4 Working Hours

The normal working hours shall be the day time. The contractor if required, after notifying the Engineer shall carry out Works during night hour or in shifts unless specifically provided in the contract. No increase in rates or extra payment shall be admissible for night work. The Contractor shall provide adequate lighting and safety arrangement at his own cost.

#### 7.5 Persons in the service/retired of employer/engineer

- a. the contractor and/or any of his sub contractors shall not recruit or attempt to recruit, staff and labour from amongst the employer and the Engineers personnel.
- b. Employment of Retired Officer/Engineer
  - The contractor and/or any of his sub contractors at the Tendering stage or during constructing stage will not employ any retired employee of Employer or Engineer of the Employer in any capacity unless such employee has completed at least two years post retirement period or has obtained the no-subjection certificate from Employer for being employed with the contractor. It will be responsibility of the contractor to collect the Employer's no objection certificate from such retired employee and submit the same back to the employer.
- c. In case of non compliance of above, in addition to any or several of the courses, referred in subclauses **10.4** being adopted by the Employer the contractor on termination of the contract for the aforesaid reasons will have no claim whatsoever against the employer.

#### 7.6 Claim on account of violation of Labour Laws

The contractor shall be solely responsible for violation of any labour law by it, its petty contractors or sub contractors and will pay any such claim/damage to the authorities forthwith on demand. If any moneys shall, as a result of any instructions,

directions or decisions from the Authorities or claim or application made under any of the labour laws or regulations, be directed to be paid by the Employer, such moneys shall be deemed to be moneys payable to the Employer by the Contractor and he will pay the same to the Employer forthwith on demand, without demur and without asking for any reasons/explanations from the

Employer. On failure of the contractor to repay the Employer any moneys paid or to be paid by it as aforesaid within seven days after the same shall have been demanded, the Employer shall be entitled to recover the amount from any moneys due or incurring to the contractor under this or any other contract with the Employer.

# 7.7 Report of accidents to labour.

The Contractor shall be responsible for safety of all employees, employed by him on works, directly or through petty contractors or sub-contractors, and shall report accidents to any of them, however, and wherever occurring on Works, to the Engineer or the Engineers Representative, and shall make every arrangement to render all possible Assistance and to provide prompt and proper medical attention. The compensation for affected Workers or their relatives shall be paid by the contractor in such cases with utmost expeditious in accordance with the Workmen's Compensation Act.

#### 8.0 QUALITY CONTROL

The contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the contract. The system shall be in accordance with the requirements in the Special conditions of Contract. The Engineer shall be entitled to audit any respect of the system. Compliance with the quality assurance system shall not relieve the contractor of any of his duties, obligations or responsibility in the contract.

## 8.1 Manner of Execution

All plant, materials, goods and workmanship shall be of the respective kinds described in the contract and in accordance with the Engineer's instructions.

Subject from time to such Tests as the Engineer may require at the place of manufacture, fabrication, or on he site or any such other place or places as may be specified in the contract.

#### 8.2 COVERING UP OF WORK

#### 8.2.1 Examination of work before covering up

A work or part of work shall be covered up or put out of view, in the presence of the Engineer or the Engineer's Representative.

#### 8.2.2 Cost of uncovering the work already covered up

The contractor shall uncover any part or parts of the works, or make openings in or through the same, as the Engineer may from time to time direct, and shall reinstate and make good such part or parts, to the satisfaction of the Engineer. If any such part or parts, to the satisfaction of the Engineer. If any such part or parts have been covered up, or put out of view after compliance with the requirement and the works are found to be executed in accordance with the Contract, the expenses of uncovering, make openings in or through, reinstating and making good the same, shall be borne by the Contractor.

#### 9.0 TIME MANAGEMENT

#### 9.1.1 SIGNING OF AGREEMENT

The Engineer/Employer shall prepare the Agreement in the Performa prescribed annexed as Annexure V of these conditions, duly incorporating all the terms of agreement between the two parties. However, the successful tenderer shall arrange the necessary Non-judicial stamp papers of requisite value and attend the DFCC office to execute the agreement within two weeks of the date of receipt of the "Letter of acceptance" duly acknowledged and signed by the successful tenderer. Up on executing the agreement the original agreement will be retained by the employer and one copy of the Agreement duly signed by the Employer and the Contractor through their authorised signatories, will be supplied by the Employer to the contractor.

#### 9.1.2 Commencement of work

The contractor shall commence the works on the date specified in the letter of Acceptance or if

no date is specified in the Letter of acceptance, on the date specified in an instruction in writing to that effect from the Engineer. Thereafter, the contractor shall proceed with due diligence, without delay, and in accordance with the programme or any revised or modified programme of the works. Time will be the essence of the contract and time for completion shall run from the date the contractor is to commence the works under this clause.

# 9.2 Programme of Work

The contractor shall submit a detailed programme to the Engineer after receipt of the Letter of acceptance, not later than 28 days from the date of receipt of Letter of Acceptance. The contractor shall also submit a revised programme whenever the Engineer finds that the previous programme is inconsistent with actual progress or with the contractor's obligations. Each program shall include:

- a. The order and procedure in which the Contractor proposes to carry out the works
- b. The sequence and timing of inspections and tests specified in the contract.
- c. A supporting report which includes a general description of the method which the contractor intends to adopt and of major stages in the execution of the works.

No significant alterations to the programme or to such arrangements and methods shall be made without obtaining the approval of the Engineer. Approval by the Engineer to the Programme of Works shall not relieve the Contractor of any of his responsibilities or obligations under the contract.

## 9.3 Handing Over, Possession and use of Site

No land belonging to or in possession of the Employer shall be occupied without the permission of the Engineer or the Employer. The Contractor shall not use, or allow the site to be used for any purpose other than that of executing the works.

The employer shall give the contractor, right to or right of access to or possession of all parts of site as the case may be from time to time as stated to in the contract and as conforming with the requirement of the programme of the works.

In the event of any failure or delay by the employer or the engineer, to hand over to the contractor the possession of site necessary for execution of works then such failure or delay, shall in no way affect or vitiate the contract or alter the character thereof, or entitle the contractor to damages or compensation thereof but in any such case, the engineer shall grant such extension or extensions of time to complete the work as in his opinion is/are reasonable without penalty and with PVC as applicable.

#### 9.4 Access to Site of work

# 9.4.1 Access for Engineer

The Contractor shall allow the Engineer or the Engineer's representative, at all times access to the site, and 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. The contractor shall ensure that sub contracts if any shall contain provisions entitling the Engineer or any person authorized by him to have such access.

**9.4.2.** Access Road and Way Leaves Providing access roads/way leaves to the site will be contractor's responsibility at his own cost.

#### 9.5 Time for Completion

The time allowed for execution and completion of the works or part of the works as specified in the contract, in accordance with contract conditions, shall be the essence on the part of the contractor subject to any requirement in the contract as to completion of any portion or portions of the works before completion of the whole work. The Contractor shall fully and finally complete the whole of the works comprised in the contract.

#### **9.5.1** Time to continue to be the essence of the Contract in spite of extension of time.

It is an agreed term of the contract that notwithstanding grant of extension of time under any of the sub-clauses mentioned herein, time shall continue to be the essence of contract on the part of the Contractor.

# 9.6 Delay

Failure or delay by the employer or the Engineer, to hand over to the contractor the site necessary for execution of works, or any part of the works, or to give necessary notice to commence the works, or to provide necessary drawings or instructions or clarifications or to supply any material, plant or machinery, which under the contract, is the responsibility of the Employer, shall in no way affect or vitiate the contract or alter the character thereof or entitle the contractor to damages or compensation thereof but in any such case, the Engineer shall extend the time period for the completion of the contract. As in his opinion is/are reasonable.

In case of delay on the part of the contractor, the contractor shall be liable to pay liquidated damages in addition to any other compensation for the damages suffered by the Employer. This is without prejudice to the right of the Employer to rescind the contract in terms of **Clause 10.4.** 

# 9.7 Extension of time for completion not on Contractor's fault

The time with which, the works or any phase or part of the work is to be completed, may be extended by the Engineer by such further period of time as may reasonably reflect delay in completion of works notwithstanding due diligence and the taking of all reasonable steps by the contractor to avoid or reduce such delay, caused by any of the following events.

- i. "Force Majeure" referred to in clause 17.0
- ii. The issue of any instruction or major violation by the Engineer.
- iii. The contractor not being given possession of or access to the site or any part.
- iv. Instruction of the engineer to suspend the works and the Contractor not being in default as to reasons of suspension.
- v. Acts or omissions of other contractors in executing the work not forming part of this contract and on whose performance, the performance of the contractor necessarily depends.
- vi. Any act of prevention or breach of contract by the Employer and not mentioned in this clause.
- vii. Any order of Court restraining the performance of the contract in full or in any part thereof.
- viii. Due to extra or additional work ordered by the engineer for execution.
- ix. Due to modifications, if any in the contract which if necessitates extension of time
- x. Any other event or occurrence which, according to the employer is not due to the contractor's failure or fault.

However, the contractor shall not be entitled to any extension of time where the instructions or acts of the Employer or the Engineer are necessitated by or intended to cure any default of or breach of contract by the contractor. If the contractor considers himself to be entitled to an extension of time for completion, he shall give notice to the Engineer of such intention as soon as possible and in any event within

28 days of the start of the event giving rise to the delay, together with any notice required by the contract and relevant to such clause.

#### 9.7.1 Contractor to apply for extension of time

In case, the contractor feels that work cannot be completed within the specified period in the contract than he shall be responsible for requesting extension of the date as he may consider necessary as soon as cause thereof shall arise and in any case not less than one month before the expiry of the original date for completion of the works giving detailed reasons for delay in completion of the work.

## 9.8 Extension of time for delay due to Contractor and Liquidated damage

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#### 9.8.1 Extension of time for delays due to contractor

If the delay in the completion of the whole works or a portion of the works, for which an earlier completion period is stipulated, is due to the contractor's failure or fault, and the Engineer is of the view that the remaining works or the portions of works can be completed by the contractor in a reasonable and acceptable short time, then, the Engineer may allow the contractor extension or further extension of time at its discretion with liquidated damages, for completion as he may decide.

#### 9.8.2 Liquidated damages

In case the Engineer decides to extend the contract with liquidated damages for delays due to contractor, in that case without prejudice to any other right or remedy available to the Employer, the liquidated damages shall be levied at the rate of 0.5 percent of the contract value for the Works for each week or part of the week or any token fixed amount the contractor is in default subject to a maximum of 10% of the total Contract value.

If the delay relates to a portion of the works with a separate and earlier completion period, the contract value shall be restricted to the cost of that portion of the works only.

The decision of the Engineer as to the liquidated Damages payable by the Contractor under this clause shall be final and binding.

## 9.8.2.1 Consequences of Objection by the contractor for grant of extension with LD

In case the contractor does not agree/raise any objection to the grant of extension with levy of the liquidated damages then action will be taken under clause 10.4.2 for termination of contract. In case no objection is raised by the contractor within 7 days of issue of sanction for extension then it will be deemed that contractor has accepted extension with LD. No claim/dispute shall be entertained later on this account.

#### 9.9 Rate of Progress

If for any reason which does not entitle the contractor to an extension of time, the rate of progress of the works is at any time, in the opinion of the Engineer too slow to ensure timely completion of the works or any part thereof, the Engineer may so notify the contractor in writing. The contractor shall thereupon take such steps as are necessary or in default of taking such steps, shall take such steps as the Engineer may reasonably instruct to expedite progress so as to complete the works or any part thereof within date of completion. The contractor shall not be entitled to any additional payment for taking such steps. If any step taken by the Contractor in meeting his obligations under this Sub clause cause the Employer to incur additional costs, such costs shall be recoverable from the Contractor and shall be deducted by the Employer from any monies due, or become to the Contractor.

## 9.10 Suspension

#### 9.10.1 Suspension of work.

The Contractor shall, on the order of the Engineer, suspend the works or any part thereof, for such time and in such manner, as the Engineer may consider necessary, and shall during such suspension properly protect and secure the works as it is necessary in the opinion of the Engineer.

The Contractor shall not be entitled to extra cost, damages or loss of any anticipated profit during the period of suspension of work. However, the contractor shall be entitled to such extension of time for completion of work, as the Engineer may consider proper, having regard to the period of such suspensions.

If the suspension of the whole of the works or any part or group of the works exceeds 12 weeks, the contractor shall have the option to ask for closure of the contract, or deletion from the Contract of that part of works which has been suspended by giving 28 days' notice to the Engineer for restart of work. If no permission is granted then treat suspension as default of employer and terminate/omit that part of the work/contract after giving 14 days' notice.

#### 10.0 TERMINATION OF CONTRACT

## 10.1 Termination for Employer's Convenience

- (i) The Employer may terminate the Contract by giving notice to the Contractor with effect from the date stated in the notice, for its convenience and without need to give reasons.
- (ii) The Contractor must comply with the instructions of the Employer to wind down and stop work and the Contractor must leave the Site by the date stated in the termination notice and remove all Temporary Works it has brought on to the Site except for those items identified in the termination notice as to be retained on the Site.
- (iii) After termination under **Clause 10.1**, subject to its other rights under the Contract, the Employer shall pay to the Contractor:
  - a. The value of approved Materials actually brought to the site and reasonably required to execute the Works during next three months, as per approved programme, and Value of Work completed up-to-date by the Contractor at rates specified in the Contract, after taking into account any deductions, retentions, setoff
- (iv) The payment as above are full compensation for termination under this clause and the Contractor has no claim for damages or other entitlements whether under the Contract or otherwise.
- (v) Any remaining tools, plants, equipment and surplus Materials of Employer with Contractor will be returned to the Employer at Employer's depot at Contractor's cost. In case of failure of the Contractor to do so, the Employer will be entitled to recover their cost from the Contractor from the amount becoming due to the Contractor or from any other money due in any other Contracts. The decision of the Engineer of amount to be recovered will be final decision and full credit at rates initially charged to the Contractor shall be allowed for such Materials. Similarly the Employer shall be entitled to recover the cost of unreturned material, plant, equipment and tools from the Contractor where such Materials have been supplied free of cost and plant, equipment and tools free of cost or on lease basis to the Contractor as stipulated in the Special Conditions of Contract.
- (vi) Provided further, that any diminution of quantities against individual items of the Contract, merely as a variation when the work is completed, shall not constitute foreclosure of Contract in terms of this clause, and no compensation or payment whatsoever as per this clause will be due or payable to the Contractor on that account.
- (vii) The Contract shall only be settled as above after furnishing no claim certificate by the Contractor and relieving the employer from all contractual liabilities under the contract.

#### 10.2 Termination for Default of Employer

- **10.3** i. In the event of the Employer:
  - a) Failing to pay to the Contractor the amount due without reasonable cause, under any certificate of the Engineer, within ninety days after the same shall have become due under the terms of the Contract, subject to any deduction that the Employer is entitled to make under the Contract, or
  - b) Becoming bankrupt or, being a company, going into liquidation, other than for the purpose of a scheme of reconstruction or amalgamation then, the Contractor may give notice requiring the Employer to remedy the default within 28 days after receipt of the notice. If the Employer fails to remedy the default or fails to propose steps reasonably acceptable to the Contractor to do so and in that case Contract after issue of 14 days' notice to the Employer with a copy to the Engineer. In this case, the Contractor shall be compensated as per **Sub clause (iii) of**. 10.1 The Engineer's decision on the account payable on this account shall be final and binding.

#### 10.3 Rescission of Contract Due To Death Of Contractor/Partner

If a Tenderer expires after the submission of his tender or after the acceptance of his tender, The DFCC shall deem such tender as cancelled without financial repercussions on each side. If a partner of a firm expires, after the submission of their tender or after the acceptance of their

tender, the DFCC shall deem such tender as cancelled without financial repercussions on each side unless the firm retains its character. The heir of the Contractor or remaining partner of the firm shall only be paid for the work executed at site and nothing extra shall be paid.

#### 10.4 Termination Of Contract Due To Contractor's Default

#### 10.4.1 Notice to Correct

If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and remedy it within a specified time as the Engineer may deem reasonable.

#### 10.4.2 Conditions Leading To Termination of Contract

The Employer shall be entitled to terminate the Contract if the Contractor or any one of its constituents,

- a) Fails to comply with a notice under Sub clause 10.4.1 above.
- b) Abandons or repudiates the Contract
- c) Without reasonable excuse fails to commence the Works in accordance with the Contract.
- d) Sub contracts the whole of the Works or assigns the Contract without approval of the Employer as per provision of the contract.
- e) Becomes bankrupt or insolvent or goes into liquidation except voluntary liquidation for the purpose of amalgamation or reconstruction
- f) Persistently disregards instructions of the Engineer or contravenes any provisions of the Contract,
- g) Fails to adhere to the agreed programme of work by margin of 10% of the stipulated period or 21 days, whichever is earlier, or fails to complete the Works or parts of the Works within the stipulated or extended period of completion, or is unlikely to complete the whole Work or part thereof within time because of poor record of progress;
- h) Fails to remove Materials from the Site, or pull down and replace work, after receiving notice from the Engineer to the effect that the said Materials or Works have been condemned or rejected.
- i) Fails to take steps to employ competent and/or additional staff and labour.
- j) Fails to afford the Engineer or his representative proper facilities for inspecting the Works or any part thereof.
- k) Indulges in corrupt or fraudulent practices as explained in Clause 5.1 (a) (ii) of this GCC
- l) Does not agree with the decision of the Engineer to grant extension with LD under Clause 9.8.2 of this GCC
- m) Fails to comply with provision of clause 7.5 of this GCC.
- n) Fails to advise change in constitution of the firm and insist for this change if the same is not acceptable to the Engineer/Employer as per clause 19.4 of this GCC.

In any of these events or circumstances, the Employer may upon giving 7 days notice to the Contractor, terminate the Contract and expel the Contractor from the Site. The Employer shall give a 2 days notice to the Contractor towards the end of this 7 day period following which the Contractor shall remove all his Plants and Machinery from the site within these two days. The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer under the Contract.

After termination of the contract, the Engineer/Employer shall be entitled to get the balance work completed by another agency, the manner & method in which such work is completed, shall be in the entire discretion of the Engineer whose decision shall be final.

On termination of Contract due to Contractor's default

a. On termination of the contract, the security deposit of the contractor shall be forfeited and the performance guarantee shall be encashed and the balance work shall be got done without risk & cost of the original contractor.

b. Final bill of the terminated contract shall be drawn and any legitimate amount due to the contractor after making necessary deductions as per provisions of contract shall be released on furnishing a no claim certificate relieving the employer of contractual liabilities under the contract.

#### 10.4.3 Non-exercise of power not to constitute waiver.

Provided always that in case any of the powers conferred upon the Employer by Sub Clause 10.4.1 and sub clause 10.4.2 above, shall have become exercisable, and the same may not have been exercised, the non-exercise thereof shall not constitute waiver of any of the conditions thereof.

## 10.4.4 Execution of balance work by another agency.

In case of termination, original contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a JV or a partnership firm, then every member/partner of such a firm would be debarred from participating in the tender for the balance work either in his/her individual capacity or as a partner of any other JV/partnership firm.

#### 11.0 VARIATIONS

## 11.1 Authority to order modifications

Engineer acting on behalf of Employer shall have the authority to make any variation of the form, quality or quantity of the Works or part thereof, which in his opinion may be necessary at any time before whole completion of work. The Contractor shall execute and to be bound by each variation ordered by the Engineer and shall do any of the following:

- a) Increase or decrease the quantity of any item or part of work included in the Contract.
- b) Omit any such work included in the Contract.
- c) Add a new part or item of the Work not included in the Contract.
- d) Change the character or quality or kind of any such work.
- e) Change the levels, lines, positions and dimensions of any part of the Works.
- f) Execute additional work of any kind necessary for the completion of the Works or
- g) Change any specified sequence or timing of construction of any part of the Works.

No such variation shall in any way vitiate or invalidate the Contract. The decision of the Engineer under this clause shall be final.

## 11.2 Variations to be authorized in writing.

All Variations shall be recorded in a written instruction/s from the Engineer and shall not be implemented by the Contractor without such an instruction in writing from the Engineer. In urgent cases, verbal instructions of the engineer shall be implemented but the same must be confirmed immediately thereafter. On receipt of an instruction from the

Engineer to execute variation, the Contractor shall forthwith proceed to carry out the variation and be bound to these conditions in doing so as if such variation was stated in the Contract. The work shall not be delayed for fixing the rates/prices under this Sub clause.

## 11.3 Value Engineering or Innovation

# 11.3.1 Value Engineering Proposals

The Contractor may submit to the Employer, in writing at its own cost, value engineering proposals for modifying the Specifications for the purpose of reducing construction costs. The value engineering proposal shall not impair the essential character, functions or characteristics or the Work, including service life, economy of operation, ease of maintenance, desired appearance, or design and safety standards.

#### **11.3.2** Value Engineering Proposals - Contents

If the Employer requires it, and if the Contractor wants to proceed with the proposal, the Contractor must provide (at no cost to the Employer) a detailed report, acceptable to the Employer and which shall include:

- (a) A general description of the original Contract requirements for the Works and the proposed changes.
- (b) An itemized list of all the proposed modifications to the Drawings and Specifications.
- (c) An itemized list of all Work and goods affected by the value engineering proposal.
- (d) A detailed estimate of the construction cost based on the original Contract requirements and based on the proposed changes.
- (e) Any resultant time extensions or reductions for the Contract.
- (f) Statement to the extent of minimum saving expected. The Contractor's cost of preparing value engineering proposal shall be excluded in determining the estimated net savings in construction basis.

#### 11.3.3 Value Engineering Proposals - Employer Review

The Employer may in his sole discretion, accept or reject the value engineering proposal or any part thereof and determine the estimated net saving in the construction cost. The Employer shall not be liable for delays or damages to the Contractor due to any failure of the Employer to accept or act upon any value engineering proposal submitted pursuant to this Clause. If the submitted value engineering proposal is similar to a change/variation already under consideration by the Employer, the Employer may make such changes as deemed fit with no extra cost.

## 11.3.4 Amendments - Employer Issuance

If the value engineering proposal is acceptable to the Employer in whole or in parts, it will accept by execution of an amendment. Such amendment shall identify all the changes in the Specifications, Contract Period etc, shall specify net savings on construction costs and shall provide that the Contractor be paid 30% of saved net savings amount based on the difference between the amounts contained in the Contract and the estimated net savings both as determined by the Employer.

# 11.3.5 Contractor's Acceptance and Payment.

The Contractor shall either accept or reject any proposed amendment executed by the Employer pursuant to this section within 5 working days of its receipt date from the Employer. If the Contractor does not reject the same in the period stipulated above, the amendments shall be deemed to be accepted by the Contractor and shall become a variation to the Contract.

## 11.4 Variation In The Bill Of Quantities.

The quantities of items shown in the Bill of Quantities are approximate, and liable to vary during the actual execution of the Work. Some items/group of items may have to be altered, added or omitted. The Contractor shall be bound to carry out and complete the stipulated work as instructed by the Engineer, irrespective of the magnitude of variations including additions, alterations or omissions in the Bill of Quantities, individual items or group of items, specified in the Bill of Quantities.

The procedure detailed below shall be adopted for dealing with variations in quantities during execution of works contracts:

- 1. Individual NS items in contracts shall be operated with variation of plus 25 %or minus 50% and payment would be made as per the agreement rate. For this, no finance concurrence would be required.
- 2. In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable; the same shall be got executed by floating a fresh tender. If floating a fresh tender or operating that item is considered not practicable, quantity of that item may be operated in excess of 125% of the agreement quantity subject to the following conditions:
  - i. Operation of an item by more than 125% of the agreement quantity needs the approval of an officer of the rank not less than Accepting Authority;
  - a) Quantities operated in excess of 125% but up to 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular

tender:

- b) Quantities operated in excess of 140% but up to150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender:
- c) Variation in quantities of individual items beyond 150% will be prohibited and would be permitted only in exceptional unavoidable circumstances with the concurrence of associate finance and shall be paid at 96% of the rate awarded for that item in that particular tender.
- ii. The variation in quantities as per the above formula will apply only to the Individual items of the contract and not on the overall contract value.
- 3. The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1% of the total original agreement value.
- 4. No such quantity variation limit shall apply for foundation items.

However, if the Engineer or the Employer so directs the Contractor shall be bound to carry out any such additional quantities beyond the limits stated above original quantities and or new items and the disagreement or the difference regarding rates to be paid for the same, shall be settled in the manner laid down under the conditions for the settlement of dispute.

## Day work:

The Engineer may, if in his opinion it is necessary or desirable issue an instruction that any varied work or new item of work shall be executed on a day work basis. The Contractor shall be then paid for such item based on the actual expenditure made on daily basis under the terms set out in day work schedule included in the Contract and at the rates and prices affixed by him in the Tender.

The Contractor shall furnish such receipts or other vouchers as may be necessary to prove the amounts paid and before ordering Materials shall submit to the Engineer the quotations for the same for his Approval. The Contractor shall furnish to the Engineer or his representative, a daily list (with name, occupation and shift time) of all workmen deployed on

the work, in duplicate for checking and Approval. The Contractor shall submit to the Engineer a priced statement of labour, material, plant, etc., actually used on the work, together with the output of work at the end of each calendar month and / or as soon as the work is completed. The payment for the new item of work will be certified by the Engineer based on this submission.

# 12.0 PRICE VARIATION (Not Applicable on this tender)

- 12.1 The rates quoted by tenderer and accepted by DFCCIL shall hold good till the completion of the work and no additional individual claim will be admissible on account of fluctuation in market rates, increase in taxes/ any other levies/- tolls etc. except that payment/recovery for overall market situation shall be made as per Price Variation Clause (for tenders of value more than Rs.50 (Fifty) Lakhs) given in para below:
- 12.2 No cognizance will be given for any sort of fluctuations in taxes and other market conditions etc. for any individual item for the purpose of making adjustment in payments. The contact shall, however, be governed by the general price variation clause as under:
- **12.3** Adjustment for variation in prices of material, labour, fuel, explosives, detonators shall be determined in the manner prescribed below:
- **12.4** The percentage component of various items in contract on which variation in prices shall be admissible as prescribed for the respective category of work as shown in the statement given

below:

## **12.5** (a) Earthwork Contract

Labour component	50%
Fuel component	20%
Other material components	15%
Fixed component	15% *

#### (b) Ballast and Quarry Products Contracts

Labour component	55%
Fuel component	15%
Other material components	15%
Fixed component	15%*

#### (c) Other works Contracts

Labour component	30%
Material component	25%
Fuel component	15%
Fixed component	30%*

<sup>\*</sup>Will not be considered for any price variation.

The above weightage will be applied on the value arrived at after deducting the cost of steel and cement from the total contract value.

**12.6** (A-1) The amount of variation in prices in the several components (labour material etc.) shall be worked out by the following formulae (except cost of steel and cement supplied by contractor as a separate NS item):-

(i) 
$$L = \underbrace{R \times (I - Io)}_{lo} \times \underbrace{P}_{100}$$

(ii) 
$$M = \underbrace{R \times (W - W_0)}_{W_0} X \qquad \underbrace{Q}_{100}$$

(iii) 
$$U = \underbrace{R \times (F-Fo)}_{Fo} \qquad X \times Z$$

(iv) 
$$X = \underbrace{R \times (E-Eo)}_{Eo} \qquad \underbrace{X \times S}_{100}$$

(v) 
$$N = R \times (D - DO) X$$
  
Do  $T$ 

- L Amount of Price Variation in Labour
- M Amount of Price Variation in Materials
- U Amount of Price Variation in Fuel
- X Amount of price variation in Explosives
- N Amount of price variation in Detonators
- R Gross value of the work done by the contractor as per on account bill(s) excluding

Cost of materials supplied by DFCCIL at fixed price

Cement and steel provided by the contractor for which separate PVC formulae is given. Specific payment, if any, to be made to the consultants engaged by the contractors (such payment will be indicated in the contractor's offer).

Io = Consumer Price Index Number for Industrial Workers – All India –as Published in RBI Bulletin for the base period.

I = Consumer Price Index Number for industrial Workers – All India- as published in RBI Bulletin based on the average price index of the three months of the quarter.

Wo = Index Number of wholesale Prices - By Groups and sub-groups - All commodities -as published in the RBI Bulletin for the base period.

W = Index Number of wholesale Prices - BY groups and sub groups - All commodities - as published in the RBI Bulletin based on the average price index of the three months of the quarter.

Fo = Index Number of wholesales Prices – By Groups and sub-Groups for Fuel, Power, Light and Lubricants as published in the RBI Bulletin for the base period.

F = Index Number of wholesale Prices – By Group and sub-groups for Fuel, Power, Light and Lubricants as published in the RBI Bulletin based on the average price index of the three months of the quarter

Eo = Cost of explosives as fixed by DGS & D in the relevant rate contract of the firm from whom purchases of explosives are made by the contractor for the base period.

E = Cost of explosive as fixed by DGS & D in the relevant rate contract of the firm from whom purchases of explosives are made by the contractor for the first month of the quarter under consideration.

Do = Cost of detonators as fixed by DGS&D in the relevant rate contract of the firm from whom purchases of detonators are made by the contractor for the base period.

D - Cost of detonators as fixed by DGS&D in the relevant rate contract of the firm from whom purchases of detonators are made by the contractor for the first month of the quarter under consideration.

P = % of labour component Q = % of material component Z = % of fuel component S = % of explosive component

T = % of detonators component

#### NOTE:-

- 1. The Price Variation Clause shall be applicable for tenders of value more than **Rs.50** (Fifty) Lakhs irrespective of the contract completion period and PVC shall not be applicable to the tender of value less than Rs.50 (Fifty) Lakhs.
- 2. Price variation is payable/recoverable during the extended period of contract, provided the Price Variation Clause was part of the original contract and the extension has been granted on administrative ground i.e. under Clause 9.7 of this GCC.
- 3. No maximum value for the price variation is prescribed.
- 4. If, in any case, the accepted offer includes
  - (i) Cost of materials supplied by DFCCIL at fixed price.

- (ii) Cement and steel provided by the contractor for which separate PVC formulae is given.
- (iii) Specific payment, if any, to be made to the consultants engaged by the contractors (such payment will be indicated in the contractor's offer).

  Such payments would be excluded from the gross value of the work for purpose of payment/

Such payments would be excluded from the gross value of the work for purpose of payment/recovery of variations.

- 5. The index number for the base period will be the index number as obtained for the month of opening of the tender and the quarters will commence from the month following the month of opening of tender. However, if the rates quoted in negotiated tender are accepted, the base month for the price variation clause is the month in which negotiations are held.
- 6. The adjustment for variation in prices if required shall be made once every quarter in the on-account payments, if more than one on-account payment is made to the contractor in a quarter, the adjustment, if required shall be made in each bill.
- 7. The price variation should be based on RBI's average price index of the 3 months of the quarter.
- 8. The demands for escalation of the cost may be allowed on the basis of provisional indices made available by the Reserve Bank of India. Any adjustment needed to be done based on the finally published indices is to be made as and when they become available.
- 9. The weight age would be applied on the value arrived at after deducting the cost of steel and cement from the total contract value.
- 10. The price variation implies both increase as well as decrease in input prices and, therefore price variation during the currency of the contract may result in extra payment or recovery as the case may be.

# 12.7 A-2 (I) Price Variation in case of Steel supplied by the contractor

This special Price Variation Clause will be applicable only on Iron and Steel supply items of tender schedule without value addition.

The amount of variation for the component of supply of steel shall be adjusted (paid/recovered) by the following formulae:-

Ms = Q (Bs-Bso) where

**Ms=** Amount of price variation in steel payable/recoverable.

**Q=** Weight of steel in tones supplied by the contractor as per the on account bill for the month under consideration.

**Bs=** SAIL's (Steel Authority ofIndia Limited) ex-works price plus Excise Duty thereof(in rupees per tone) for therelevant category of steel supplied by the contractor as prevailing on the first day of the month in which the steel was purchased by the contractor (or) as prevailing on the first day of themonth in which steel was brought to the site by the contractor whichever is lower.

**Bso=** SAIL's ex-works price plus Excise Duty thereof (in rupees per tonne) for the relevant category of steel supplied by the contractor as prevailing on the first day of the month in which the tender was opened.

#### NOTE:

**1.** Relevant categories of steel for the purpose of operating the above price variation formula based on SAIL's ex-works price plus Excise Duty thereof are as under:-

Category of steel supplied in the DFCCIL work Reinforcement bars and other rounds.	Category of steel produced by SAIL whose exworks price plus Excise Duty thereof would be adopted to determine price variation.  TMT 8 mm IS 1786 Fe 415/ Fe 500
All types and sizes of angles.	Angle 65x65 x 6 mm IS 2062 E250A SK
All types and sizes of plates.	PM Plates above 10-20 mm IS 2062 E 250A SK
All types and sizes of channels and joints.	Channels 200 x 75 mm IS 2062 E250A SK
Any other section of steel not covered in the above categories and excluding	Average of price for the 3 categories covered under sl. No. 1,2,3 above.

- **2.** The prevailing ex-works price of steel per tone as on  $1^{St}$  of every month for the above categories of steel as advised by SAIL to Railway Board would be circulated to DFCCIL.
- **3.** Separate items for "supply ofsteel' for RCC/PSC work should have been incorporated in the tender schedule to know the cost of steel actually consumed at any given point of time.
- 4. The Price Variation Clause shall be applicable for tenders of value more than **Rs.50 (Fifty) Lakhs** irrespective of the contract completion period and PVC shall not be applicable to the tender of value less than **Rs.50 (Fifty) Lakhs**.
- **5.**Price variation is payable/recoverable during the extended period of contract, Provided the Price Variation Clause was part of the original contract and the extension has been granted on administrative ground i.e. under Clause 9.7.
- **6.** No maximum value for the price variation is prescribed.
- 7. If, in any case, the accepted offer includes
- (i) Cost of materials supplied by DFCCIL at fixed price
- (ii) Value of steel, for which PVC is being paid/recovered under this clause
- (iii) Specific payment, if any, to be made to the consultants engaged by the Contractors (such payment will be indicated in the contractor's offer).

Such payments would be excluded from the gross value of the work for purpose of payment/recovery of variations.

- **8.** The SAIL's Ex-work price plus Excise Duty there of (in Rupees per tone) for the relevant category of steel, as prevailing on first day of the month in which tender is opened, will be considered. However, if the rates quoted in negotiated tender are accepted, the base month for PVC will be the month in which negotiations are held.
- **9.** The adjustment for variation in prices, if required, shall be made every month in the on-account payments as per above formula.
- **10.** The APM/PM concerned will maintain a register showing receipt of steel from contractor on site (supported by documentary evidence of purchase) and consumption thereof.
- **11.** The price variation implies both increase as well as decrease in input prices and, therefore price variation during the currency of the contract may result in extra payment or recovery as

the case may be.

**12.** Steel supplied free or at firm price by DFCCIL, as per contract, if any, will not be considered for calculation of PVC.

#### 12.7 A-2(II) Price Variation in case of Cement supplied by the contractor

This special Price Variation Clause will be applicable only on Cement supply items of tender schedule without value addition.

1. The amount of variation for the component of supply of cement shall be adjusted (paid/recovered) by the following formulae :- Where

Mc= Rx(Wc-Wco)/Wco

Where Mc= Amount of price variation in material (-Cement).

R=Value of Cement supplied by contractor as per on account bill in the quarter under consideration.

Wco= Index No. of Wholesale price of sub-group (of cement) as published in RBI Bulletin for the base period.

Wc= Index No. of wholesale price of sub group (of cement) as published in RBI Bulletin for the first month of the quarter under consideration.

Note:

- **1.** Separate items for "supply of cement' for RCC/PSC work should have been incorporated in the tender schedule to know the cost of cement actually consumed at any given point of time.
- **2.** The Price Variation Clause shall be applicable for tenders of value more than Rs.50 (Fifty) Lakhs irrespective of the contract completion period and PVC shall not be applicable to the tender of value less than Rs.50 (Fifty) Lakhs.
- **3.** Price variation is payable/recoverable during the extended period of contract, provided the Price Variation Clause was part of the original contract and the extension has been granted on administrative ground i.e. under Clause 17 (1), (2) and (3) of this GCC.
- **4.** No maximum value for the price variation is prescribed.
- **5.** If, in any case, the accepted offer includes
- (i) Cost of materials supplied by DFCCIL at fixed price
- (ii) Value of cement, for which PVC is being paid/recovered under this clause
- (iii) Specific payment, if any, to be made to the consultants engaged by the contractors(such payment will be indicated in the contractor's offer).

Such payments would be excluded from the gross value of the work for purpose of payment/recovery of variations.

- **6.** The index number for the base period will be the index number as obtained for the month of opening of the tender and the quarters will commence from the month following the month of opening of tender. However, if the rates quoted in negotiated tender are accepted, the base month for the Price Variation Clause is the month in which negotiations are held.
- **7.** The adjustment for variation in prices, if required, shall be made once every quarter in the on-account payments, if more than one on-account payment is made to the contractor in a quarter, the adjustment, if required shall be made in each bill.

- **8**. The price variation would be based on the price index of the first month of the quarter under consideration.
- **9.** The demands for escalation of the cost may be allowed on the basis of provisional indices made available by the Reserve Bank of India. Any adjustment needed to be done based on the finally published indices is to be made as and when they become available.
- **10.** The price variation implies both increase as well as decrease in input prices and, therefore price variation during the currency of the contract may result in extra payment or recovery as the case may be.
- **11.** Cement supplied free or at firm price by DFCCIL, as per contract if any, will not be considered for calculation of PVC.

#### 13.0 CONTRACT PRICE AND PAYMENTS

#### 13.1 Rates for Items of Work.

The Contractor shall be paid only at accepted rates for finished work as per approved construction Drawings. Where such rates are not available the Contractor shall be paid as per Clause 11.0 read with Clause 11.4 "Variation" of these Conditions.

## 13.1.1 Rates accepted for BOQ are for complete item of work

The rates entered in the accepted Bill of Quantities of the Contract, shall provide for Works duly and properly completed in accordance with these Conditions of Contract, Special Conditions of Contract and the Specification and Drawings, together with such enlargement,

extension, dimunition, reduction, alteration or addition, as may be ordered in terms of conditions of Contract, and without prejudice to the generality thereof, shall inter-alia be deemed to include and cover all charged relating to labour and superintendence thereof, supply including all cost and freight of Materials, stores, equipments, profiles, moulds, cuttings, centerings, scaffoldings shuttering, machinery, derricks, tackles, ropes, pegs, posts, tools and all apparatus and plants, required at / for the work, and contingencies, complete in all respects, except such items as may be specified in the Special Conditions of Contract to be supplied to the Contractor by the Employer. The rates quoted shall also include:

o Erection, maintenance and removal of all Temporary Works and Buildings. o All watching, lighting, pumping and draining unless otherwise provided for. o All barriers and arrangements for safety of the property, utilities, public or of Employees/workers during the execution of Works.

- O All sanitary and medical arrangements for labour camps as may be prescribed.
- o The setting out of all Works of construction, repair and up-keep of all centre lines, benches, brackets, etc.
- o Site clearance.
- o All taxes, royalties, duties, cess, octroi and other levies payable to various authorities except as provided in Sub-clause 13.1.1. and 13.1.3

#### 13.1.2 Nothing extra payable over the accepted rates

Subject to **Sub-clause 13.1.1** above, nothing extra shall be payable over the quoted rates, notwithstanding any provision to the contrary in any law for the time being in force, save and except what is specifically provided in General or Special Conditions of Contract.

#### 13.1.3 Changes in cost due to subsequent legislation.

If after the date for submission of tender, there is change/increase/decrease in various taxes through national or state statute, ordinance, decree or other law or any regulation or bye-law of any local or other duly constituted authority which causes additional or reduced cost to the contractor as otherwise permissible in the execution of the contract, such additional or reduced cost shall be determined by the engineer and shall be added to or deducted from the contract price as the case may be.

#### 13.2 Payment on actual measurements

The quantities set out in the Bill of Quantities, are the estimated quantities and not the actual quantities of work to be executed by the Contractor. The Contractor shall be paid for the Works, at applicable rates based on the actual measurements or as per the special condition of contract. Measurements of the work in progress shall be taken by the Contractor in presence of the Engineer. These measurements shall be recorded at such intervals, as in the opinion of the Engineer shall be proper having regard to the progress of the work in the Measurement Books to be supplied by the Engineer. The Contractor or his authorized representative shall sign the result of the measurements, which shall also be signed by the Engineer or the Engineer's representative as an acknowledgement and acceptance of the accuracy thereof.

The Engineer or the Engineer's Representative shall have the right to delete or correct any measurement if it is found at a later stage that the work is incomplete, defective and / or not conforming to the Specifications.

#### 13.3 Payment Currency:

The mode of payment in the Contract will be Indian Rupees unless specified otherwise.

#### 13.4 On Account Payment

# 13.4.1 Procedure for On-Account payment.

- a. The Contractor shall be entitled to be paid from time to time normally once in a calendar month, by way of "On-account" bills, only for such Works, as, in the opinion of the Engineer, the Contractor has executed in terms of the Contract.
- b. The Contractor shall submit the On-account bills, by the date stipulated by the Engineer, in the prescribed proforma, supported with measurements.
- c. After preliminary scrutiny and certification by the Engineer, payment of 80% of the certified amount shall be made by the Employer within 7 days. The amount certified shall account for all deductions, including statutory deductions, recoveries for advances and any amounts due from the Contractor. The balance 20% shall be paid within 28 days, from the date of the preliminary certification of the bill by the Engineer.
- d. Such payments made by the Employer, shall not constitute any acceptance of the measurements or bill of quantities by the Employer and the Employer shall have the right to alter, modify, reduce or diminish the quantities or classification entered in the Measurement Books or Bills. The Employer shall have right to recover any amount paid in the earlier bill from any subsequent bill and should the amount to be recovered be more than the amount of the subsequent bill, the Contractor shall on demand from the Engineer or Employer immediately refund the extra amount to the Employer within 7 days, failing which he shall have to pay interest @ 12% per annum till the said extra amount is paid back by him. In addition to above, if contractor claims more on-account payment than due, second time, the facility of making 80% on-account payment within 7 days shall be withdrawn.

## 13.4.2 On-Account Payment without prejudice

"On account' payments made in respect of work; done or Materials delivered by the Contractor, shall be without prejudice to the final accounts, (except where measurements are specifically noted in the measurement book as "final measurements" and have as such been signed by the Contractor), and shall not be considered by itself to be evidence of any facts, stated in or to be inferred from such payments or of any work done or Materials supplied, or of the manner of its execution.

#### 13.5 Final Measurements And Payments.

- (i) Soon after the issue of the Completion Certificate, as per Clause 15.1 and 15.2 the Engineer shall have the final measurements taken, recorded and signed, as in the case of interim measurements referred to in Clause 13.2. A joint accountal of any plant, equipment and Materials issued by the Employer to the Contractor, shall also be prepared and signed jointly.
- (ii) Based on above, the Contractor shall submit a draft Final Bill with supporting documentation at the earliest but not later than 60 days from the issue of the Completion Certificate.
- (iii) The Engineer shall check the bill within 60 days of its receipt and return the bill to the

Contractor for correction if any. Employer shall pay 75% of the undisputed amount of the bill to the Contractor at the stage of returning the bill.

(iv) The Contractor shall resubmit the bill with corrections within 30 days of the return together with a written discharge in form of "No Claim Certificate" (Annexure VI of these conditions) representing full or final settlement of all money due to the Contractor under or in connection

with the Contract or a list of total unsettled claims in accordance with Clause 14.1.

The Employer, shall, on receipt of the Certificate, arrange to make payment, subject always to any deductions under these presents, due to the Contractor, within a period of further 30 days failing and after which the Employer shall be liable to pay interest at 10% per annum which shall be compounded every 3 months. Provided always, that, no interest shall be payable on any amount disallowed or withheld under Clause 13.10 and 16.2 or disputed by the Engineer or the Employer in any case.

The Engineer for his pure convenience retains the right to instruct the Contractor to furnish the details of both on account and final bill in soft form as well.

#### 13.6 Round Off

In every payment to the Contractor, sums of less than fifty paise shall be omitted and sums of fifty paise and more up to one rupee shall be reckoned as one rupee.

#### 13.7 Payment By Cheque/E-Payment.

All payments to the Contractor will be made by cheque or through "E-Payment" as decided by the Employer.

## 13.8 Tax Deduction at Source.

Tax deductions will be made at source as per statutory requirement from every payment made to the Contractor at rates notified from time to time.

#### 13.9 Production of Vouchers

- I. The Contractor shall, whenever required by the Engineer, produce or cause to be produced for examination by the Engineer, any quotation, invoice, cost or other account books, vouchers, receipts, letters, memoranda or any copy of or extract from any such documents and also furnish information and returns, as may be required, relating to the execution of this Contract or relevant for verifying or ascertaining the cost of execution of this Contract or ascertaining the Materials supplied by the Contractor are in accordance with the Specifications laid down in the Contract. The Engineer's decision on the question of relevancy of any documents, information or returns shall be final and binding on the parties.
- II. If any part or item of the work is allowed to be carried out by a sub-Contractor, assignee or any subsidiary or allied firm through the Contractor, and shall have power to examine and inspect the same. The above obligations are without prejudice to the obligations of the Contractor under any statue, rules or orders.

## 13.10 Withholding Any Lien For Sums Claimed.

- i. The Employer shall have lien over all or any moneys that may become due and payable to the Contractor under the Contract, and / or over the deposit of Performance Guarantee/Security deposit or any other amount or amounts made under the Contract and which may become payable to the Contractor.
- ii. And further, unless the Contractor pays and clears immediately on demand any claim of the Employer, the Employer shall at all times be entitled to deduct the amount of the said claim from the moneys, securities and / or deposits which may have become or will become payable to the Contractor under these presents, or under any other Contract or transaction whatsoever between the Employer and the Contractor even if the matter stands referred to Arbitration. The Contractor shall have no claim for any interest or damage whatsoever in respect of any amounts withheld or treated as withheld under the lien referred to above and duly notified as such to the Contractor.

#### 13.11 Signature on Receipts For Payments.

Every receipt of payment to Contractor including refund of the Performance Security shall be signed by the person authorized to do so on his behalf. In the event of death of any of the Contractor's partners in case the Contractor is a partnership firm, during the currency of the Contract, it is hereby expressly agreed that every receipt by any one of surviving Contractor's partners, shall, if so signed as aforesaid, be a good and sufficient discharge as aforesaid, provided that nothing in this Clause shall be deemed to prejudice or affect any claim, which the Employer may hereafter have against the legal representatives of any Contractor's partner so dying, for or in respect of breach of any of the conditions of the Contract. Provided also that nothing contained in this clause shall be deemed to prejudice or affect the respective rights and obligations of the Contractor's partners, or of the legal heirs/representatives of any deceased Contractor/partner interse.

## 13.12 Post Payment Audit.

It is an agreed term of the Contract, that the Employer reserves to himself the right to carry out a post payment audit and /or technical examination of the Works, and the Final bill including all supporting vouchers, abstracts, etc, and to make a claim on the Contractor for the refund of any excess amount paid to him, if as a result of such examination, any over-payment to him is discovered to have been made in respect of any work done or alleged to have been done by the Contractor, under the Contract. If any under-payment is discovered, the same shall be paid by the Employer to the Contractor. Such payments or recoveries, however, shall not carry any interest.

#### 14 CLAIMS & LIENS IN RESPECT OF CLAIMS IN OTHER CONTRACTS.

#### 14.1 Claims

The Contractor shall send to the Engineer's Representative once in every three months an account giving particulars, along with full details and justification, of all claims for any additional payment to which the Contractor may consider himself entitled and of all extra or additional work ordered by the Engineer which he has executed during the preceding three months. No final or interim claim for payment for any such work or expense will be considered which has not been included in such particulars.

#### 14.2 Lien in Respect of Claims in Other Contracts.

Any money due to the Contractor either alone or jointly with others, including the Performance Guarantee/Security deposit amount returnable to him, may be withheld or retained by exercise of lien by the Employer, against any claim of the Employer inrespect of payment of a sum of money arising out of or under any Contract other than the present Contract made by the Contractor, alone or jointly with the Employer. It is an agreed term of Contract that the sums of money so withheld or retained under this clause by the Employer, shall be kept withheld or retained till the claims arising out of or under the other Contract, are either mutually settled or determined by the Arbitrator, or by the competent Court, as the case may be and the Contractor will have no claims of interest or damage in this regard whatsoever.

#### 15. COMPLETION AND MAINTENANCE CERTIFICATE

#### 15.1 Completion and Completion Certificate

After completion of the Work the Contractor shall serve a written notice of such completion, (whether of the whole of the Works of any part of the work for which a separate date of completion is stipulated in the Contract) to the Engineer. The Engineer or Engineer's representative within 30 days of the receipt of this notice shall conduct a complete joint survey of the Works (including carrying out any Tests as prescribed in the Contract) and prepare a Defects List jointly with the Contractor. The defects pointed by the Engineer or Engineer's representative shall be rectified by the Contractor within 30 days and there after acceptance report be signed jointly by the Contractor and Employer or Engineer on his behalf. This report shall be treated as "Completion Certificate".

#### 15.2 Completion Certificate not to Absolve.

The Contract requires defects free Completion and completion certificate issued as per

Completion Certificate Sub-Clause 15.1 above, shall not absolve the Contractor from his liability to make good defects, imperfections and shrinkages or faults, which may appear

during the Defects Liability Period specified in the Contract, arising in the opinion of the Engineer from any design for which the Contractor is responsible or any Materials or workmanship being not in accordance with Drawings or Specifications or instructions of the Engineer. These defects shall be rectified by the Contractor at his own cost and if he fails to do so, the Engineer may employ labour, plant and machinery and Materials or appoint another agency or Contractor, to amend and make good such defects, imperfections, shrinkages and faults all costs for the same, and, shall be borne by the Contractor and shall be recoverable from any moneys due to him under this or any other contract.

## 15.3 Cessation of Employer's Liability.

The Employer shall not be liable to the Contractor for any matter, arising out of or in connection with the Contractor, or the execution of the Works, unless the Contractor shall have made a claim in writing in respect thereof within 60 days from the date of completion of the Works.

#### 15.4 Unfulfilled obligations.

Notwithstanding the issue of Maintenance Certificate, the Contractor and the Employer, shall remain liable for the fulfillment of any obligation incurred under the provision of the Contract, prior to the issue of the Maintenance Certificate, which remain unperformed at the time such certificate is issued, and for the purpose of determination of the nature and extent of any such obligation, the Contract shall be deemed to remain in force between the parties hereto.

## 16 RISK & RESPONSIBILITY.

#### 16.1 Contractor's Care of Work.

- i. The Contractor shall take full responsibility for the care of Works frombthe commencement of the Works until the date stated in the Completion Certificate for the whole of the Works is issued pursuant to Clause 15.1 and 15.2.
- ii. The Contractor shall not demolish, remove or alter structures or other facilities on the Site without prior Approval of the Engineer.
- iii. If the Engineer shall issue a Completion Certificate in respect of any part of the Permanent Works for which a separate date of completion is stipulated as provided for in Sub Clause 15.2, the Contractor shall cease to be liable for the care of that part of the Permanent Works from the date stated in the Completion Certificate in respect of that part for which responsibility to take care will shift to Employer.
- iv. Provided further that the Contractor shall take full responsibility for the care of any outstanding work, which he shall have undertaken to finish during the Defects Liability Period. If any loss or damage happens to Works during the period for any cause while the Contractor shall be responsible for the care thereof, the Contractor shall rectify the loss or damage at Contractor's risk and cost so that the Works conform with the Contract.
- v. In the event of any such damage, loss or injury happening from any of "Force Majeure" for the portion of work already measured, the Contractor if and to the extent required by the Engineer shall undertake the repair and make good the defect at the cost of the Employer. vi. The Contractor shall also be liable for any damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of completing any outstanding work or complying.

# 16.2 Urgent Repairs.

If, by reason of any accident, or failure, or other event occurring to or in connection with the Works, or any part thereof or proximity thereof, either during the execution of the Works, or during the Defects Liability Period, any remedial or other work or repair shall, in the opinion of the Engineer or the Engineer's Representative, be urgently necessary and the Contractor is unable or unwilling to do such work or repair or other work at once, the Engineer may authorize the carrying out of such repair or other work by a person other than the Contractor. If the work or repair so got done by the Employer is work which, in the opinion of the Engineer, the

Contractor was liable to do at his own expense under the Contract, all expenses incurred by the Employer in carrying out the same shall be recovered by the Employer form the Contractor.

# 16.3 Damage To Employer's Property, Private Property And Life.

The Contractor shall be responsible for all risks to the Works and for trespass and shall make good, at his own expense, all loss or damage to the Works themselves or to any other property of the Employer or the lives, persons and property of others form whatsoever cause in connection with Works until they are taken over by the Employer; in case the Employer is called upon to make good any such costs, loss or damages, or to pay compensation (including that payable under the provisions of Workmen's Compensation Act or any statutory amendments thereof or under any other law of land applicable to contract) to any person or persons sustaining damage as aforesaid by reason of any act, omission or negligence on the part of the Contractor the amount of any costs or charges(including costs and charges in connection with legal proceedings), which the Employer may incur in reference thereto, shall be charged to the Contractor. This will include any payment made by the Employer for any legal proceedings.

# **16.4** Indemnity By Contractor:

## 16.4.1 Indemnity Against All Actions of Contractor:

The Contractor shall hold and save harmless and indemnify the Employer, from and against all actions, suits, proceedings, loss, costs, damages, charges, claims and demands of every nature and description brought or recovered against the Employer, by reason of any act or omissions of the Contractor, his Representative or his employees, in the execution of the Works or in the guarding of the same. All sums payable by way of compensation under these conditions shall be considered reasonable compensation payable to the Employer, without reference to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

#### 16.4.2 Indemnity Against All Claims of Patent Rights And Royalties.

The Contractor shall defend, indemnify and save harmless the Employer from and against all claims and proceedings for or on account of infringements of any patent rights, design, trademark name or copyright or other protected rights in respect of any construction equipment, Plants. Materials, goods or design (submitted by the Contractor pursuant to his obligations under the Contract) used for or in connection with or for incorporation in the Works and from or against all loss, expense, costs or damages whatsoever in respect of such claims or proceedings or in relation thereto, except here such infringement results from compliance with the design or Specifications provided by the Engineer.

## 16.5 Indemnity By Employer.

The Employer shall indemnify and hold harmless the Contractor against all claims, damages, losses, and expenses in respect of:

- a. Bodily injuries or damages to persons which is attributable to any negligence, willful act or breach of the Contract by the Employer.
- b. Where the injury is contributed partially by the other Contractor, the proportion of the liability to be borne by each party will be decided by the Engineer.

## 17 FORCE MAJEURE

If, at any time during the currency of the Contract, the performance in whole or in part by either party of any obligation under this Contract shall be prevented or delayed by reasons of any war, hostilities, invasion, acts of public or foreign enemies, rebellion, revolution, insurrection, civil commotion, sabotage, large scale arson, floods, earthquake, large scale epidemics, nuclear accidents any other catastrophic unforeseeable circumstances, quarantine restrictions, any statutory rules, regulations, orders or requisitions issued by a Government department or competent authority or acts of God (hereinafter referred to as

"event") then, provided notice of the happening of such an event as given by either party to the other within 21 days of the occurrence thereof.

- a. Neither party shall be reason of such event be entitled to terminate the Contract or have claim for damages against the other in respect of such non-performance or delay in performance.
- b. The obligation under the Contract shall be resumed as soon as practicable after the event has come to an end or ceased to exist.
- c. In case of doubt or dispute, whether a particular occurrence should be considered an "event" as defined under this clause, the decision of the Engineer shall be final and binding.
- d. Works that have already been measured shall be paid for by the Employer even if the same is subsequently destroyed or damaged as a result of the event. The cost of rebuilding or replacing any work that has been measured shall be borne by the Employer.
- e. If the Contract is terminated under this Clause, the Contractor shall be paid fully for the work done under the Contract, but not for any defective work or work done which has been destroyed or damaged before its measurement.

#### 18. SETTLEMENT OF DISPUTES AND ARBITRATION.

#### 18.1 Dispute to be Referred To And Settled By Engineer-In-Charge At The First place.

Should any dispute or difference of any kind whatsoever arise between the Employer and the Contractor, touching, in connection with, or arising out of the Contract, or subject matter thereof, or the execution of Works, whether, during the progress of Works or completion and whether before or after termination, abandonment or breach of Contract, it shall, in the first place, subject to the provisions under Sub-clause 15.3 be referred to and settled by the Engineer-In-Charge. who shall, within a period of sixty days after being requested in writing by the contractor to do so, give written notice of his decision to the Contractor. The Engineer-In-Charge while considering the matters of dispute referred to him, shall be competent to call for any records, vouchers, information and enforce the attendance of the parties either in person or through authorized representatives, to sort out or clarify any issue, resolve the differences and to assist him to decide the matters referred to him. Subject to arbitration, as hereinafter provided, such decision in respect of every matter so referred shall be given by the Engineer-In-Charge and parties shall proceed with the execution of works with all due diligence irrespective of whether contractor goes in for appeal against decision or desires to go in for arbitration. If no intimation of reference of any claim to arbitration has been sent to him by Contractor within a period of sixty days from receipt of such notice, the said decision of the Engineer-In-Charge shall remain final and binding upon the Contractor and the same shall be deemed to have accepted by him. The Contractor shall not seek any arbitration thereafter.

## 18.2 Referring Of Dispute For Arbitration

If the Engineer-In-Charge shall fail to give notice of his decision, as aforesaid, within a period of sixty days after being requested or the Contractor be dissatisfied with any such decision of the Engineer-In-Charge, then the matter in dispute shall be referred to arbitration as herein provided.

#### 18.3 Dispute Due For Arbitration

Disputes or differences shall be due for arbitration only if all the conditions in Sub-clauses 18.1 and 18.2 are fulfilled.

## **18.4** Settlement of Disputes

The demand for arbitration shall specify the matters, which are in question, or subject of the dispute/s or difference/s as also the amount of claim item wise. Only such dispute/s or difference/s in respect of which the demand has been made by the party/parties shall be referred to arbitration and other matters if any shall not be included in the reference.

## 18.5 Nomination of Arbitrators/Sole Arbitrator.

Matters to be arbitrated upon shall be referred to a sole Arbitrator if the total value of the claim is up to Rs 5 million and to a panel of three Arbitrators if total value of claims is more than Rs 5 million. The Employer shall provide a panel of three arbitrators which may also include DFCC officers for claims up to Rs 5 million and a panel of five Arbitrators which may also include DFCC officers for claims of more than Rs 5 million. The Employer at the time of offering the panel of

Arbitrator(s) to be appointed as Arbitrator shall also supply the information with regard to the qualifications of the said Arbitrator nominated in the panel along with their professional experience, phone nos. and addresses to the contractor. The Contractor shall have to choose the sole Arbitrator from the panel of three and/or one Arbitrator from the panel of five in case three Arbitrators are to be appointed. The Employer shall also choose one Arbitrator from this panel of five and the two so chosen will choose the third arbitrator from the panel only. The competent authority shall then indicate the presiding arbitrator among three arbitrators. The Arbitrator(s) shall be appointed within a period of 30 days from the date of receipt of written notice/demand of appointment of Arbitrator from either party.

The arbitration proceedings shall be held in DFCCIL HQ office or respective CPM office or any other place nominated by employer. The language of proceedings that of documents and communication shall be English.

This is a condition of contract agreement /Arbitration that Arbitrators so nominated shall be professional Engineer/s. In case of 3 Arbitrators, one of the arbitrators shall be an accounts officer.

This is also a condition of contract that in case above procedure for nomination of arbitrator/s cannot be adopted due to whatsoever reason may be, then it will be deemed that no arbitration clause exist in contract agreement and normal law of land shall prevail to settle the disputes.

#### 18.6 No Suspension of Work.

The reference to arbitration shall proceed notwithstanding that works shall not then be or be alleged to be complete, provided always that the obligations of the Employer and the contractor shall not be altered by reasons of arbitration being conducted during the progress of Works. Neither party shall be entitled to suspend the work to which the dispute relates on account of arbitration and payments to the Contractor shall continue to be made in terms of the Contract.

#### 18.7 Award To Be Binding On All Parties.

The award of the sole arbitrator or a bench of three arbitrators shall be binding on all parties.

## 18.8 Rules Governing The Arbitration Proceedings.

The arbitration proceedings shall be governed by Indian Arbitration and Conciliation Act 1996, as amended from time to time including provisions in force at the time the reference is made.

#### 18.9 Limitation of Time.

No dispute or difference shall be referred to Arbitration after expiry of 60 days from the date of decision by the Engineer-In-Charge, if notified, or from the date when the Engineer-In-Charge ought to have given his decision in terms of provisions under Sub-clause 18.1.

#### 18.10 Interest on Awarded Amount

Where the arbitral award is for payment of money, no interest shall be payable on the whole or any part of the money for any period till the date on which the award is made.

#### **18.11.** Fee to Arbitrator/s

The cost of arbitration shall be borne by the respective parties equally. The cost shall inter-alia include the fees of the Arbitrator(s) as per the rates fixed by the DFCC from time to time.

#### 19 NOTICES

#### 19.1 Notices to Contractor

- i. All notices to the Contractor shall be served by post or telex or telefax or by hand to the Contractor or his authorized representatives
- ii. The Contractor shall, on award of the Contract, furnish to the Engineer, the name, designation, address and telephone, telex and telefax numbers and e-mail address of his representative

referred to in Clause 4.4.

# 19.2 Notice to Employer and Engineer

All notices to the Employer or Engineer shall be served by post or telex or telefax, or by delivering by hand to the address nominated for the purpose.

# 19.3 Change of Address

Parties to the Contract may change the nominated address with a notice to all concerned failing which all correspondence made on given address will be deemed to have been duly received by the concerned parties.

# 19.4 Change in Constitution of Firm

The Contractor shall forth with notify the Employer of any change in constitution of the firm. It is agreed terms & conditions of contract that no such change will be made effective unless specifically approved by the Employer failing which contract is liable to be terminated under Clause 10.4 of this GCC.

# **Dedicated Freight Corridor Corporation of India Ltd.**

# **SECTION -V**

#### SPECIAL CONDITIONS OF CONTRACT.

#### A. GENERAL

- 1. The Tenderer shall visit the site and shall satisfy himself as to conditions under which the work is to be performed. He shall also check, ascertain the locations of any existing structures or equipment or any other situation which may affect the work. No extra claim as a consequence of ignorance or on ground of insufficient description will be allowed at a later date.
- 2. The price of items includes all accessories, consumables etc. as required to make the item complete in all respects, compatible with other related/associated items and fully functional.
- 3. Contractor shall be fully responsible for any error, difficulty in execution/damage incurred owing to discrepancy in drawings which has been overlooked by him. However, the several documents forming the contract are to be taken as mutually explanatory of one another, detailed drawing being followed in preference to small scale drawing and figured dimensions in preference to scaled dimensions.

In the case of discrepancy between schedules of quantities, the specifications and/or the drawings, the following order of preference shall be observed:

- i. Description in the Schedule of Items, Rates and Quantities (BOO)
- ii. Drawings.
- iii. Technical Specifications.

If there are varying or conflicting provisions made in any one document forming part of the contract, the accepting authority or the Employer shall be the deciding authority with regard to the intention of the document. Any error in decision, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the contract or release the contractor from the execution of the whole or any part of the work comprised therein according to drawing and specification or from any of his obligations under the contract.

## 4. LAND FOR CONTRACTORS ESTABLISHMENT

For the purpose of construction of Contractor's store yard, godowns, site office etc, the contractors may utilize with the permission of the Employer/Architect, portion and/or space belonging to the Employer if available, at such location as would not interfere with the execution of the work. The contractor shall for this purpose submit to the Employer for his approval a plan or plans of the proposed layouts for the site facilities. The Employer/Architect reserve the right to modify the contractor's proposal as he may deem fit.

## 5. CONTRACTOR'S GENERAL RESPONSIBILITIES:

- 5.1 The Contractor shall execute and maintain the works with due care and diligence and shall provide all materials, labour including supervision thereof, constructional payment, temporary works, transport and all other things, whether of temporary or permanent nature, required for the proper execution and maintenance of the works.
- 5.2 The Contractor shall execute the whole and every part of the work, in the most substantial and workmanlike manner, both as regards materials and labour and in every respect in strict accordance with the contract documents. The Contractor shall conform exactly, fully and faithfully to the designs, drawings, and instructions relating to the works.
- 5.3 Before commencing any item of work, the Contractor shall correlate all relevant drawings and information and satisfy himself that the information available thereof is complete, unambiguous and without any discrepancies. The Contractor shall be responsible for any errors in the execution of the works and/or his sub contractor and/of the specialist agency to which has been assigned is not brought to the notice of the DFCC.
- 5.4 The dimensions and other information shown on the drawings are believed to be correct. The contractor shall however, verify them for himself and no claim of allowance whatsoever shall be entertained on account of any errors or omissions in the dimensions etc. from those shown in the drawings.
- 5.5 The Contractor shall pay, in full, all the third party suppliers and sub-contractors the amounts due in respect of the purchases of goods and services made of the works and shall on demand from the DFCC provide evidence of such payments. It is clarified the DFCC is not responsible to the third party suppliers and/or sub contractor for the payment of any dues.
- **TECHNICAL EXAMINATIONS:** The proposed work covered under this tender during its progress is subject to inspection by the Chief Technical Examiner/ Technical examiner, Central Vigilance Commission, Govt. of India or by an officer of the Vigilance cell of the Employer. The contractor will be required to extend all assistance and facilities for each inspection.
- **5.7 GUARANTEE:** Wherever a provision for submission of a guarantee has been advised, the same shall be submitted from the specialized agency along with a counter guarantee by the main contractor engaged for the work. The guarantee shall be furnished on a non-judicial stamp paper of appropriate value. If the contractor is required to submit guarantee/guarantees for any item/items for a period of more than 12 months, the guarantee/guarantees in case of these items shall remain valid even after expiry of the defect liability period of 6 months as stipulated.
- 5.8 WATER: The rates quoted by the contractor shall include all expenditure for providing all the water for the full contract period required for the work, including that for the work people and all staff on the site. He shall make his own arrangement for the supply of good quality water. He shall obtain municipal connection. And all charges for the connection & consumption shall be borne by him. If municipal water is not available or inadequate, he shall make other arrangements like sinking tube wells, or making bore wells or transport from outside by tanker or any other suitable means entirely at his own and no separate payment for the same shall be made.
- **5.9 POWER:** The contractor shall at his own cost arrange for necessary power connection and lighting for the entire period of contract. If, however, separable power is available in the premises, the contractor shall make his own arrangements to obtain necessary connections, maintain efficient services of electric lights and power and shall pay for all

the requisite charges for the same. The employer, as well as the consultant shall give the recommendations necessary to obtain power and water connections from the concerned authorities, but the responsibilities for obtaining the same shall rest with the contractor. If any other contractor, appointed by the employer, is required to use water and power, he shall be allowed to use the same and make temporary connections from the supply arranged by the main contractor at rates, terms and conditions that may be decided by the Employer/Consultant.

- 5.11 FIRST-AID FACILITIES: The contractor shall at his own expense arrange to ensure availability of medical attendance promptly when necessary. He shall provide properly equipped first-aid station, in charge of qualified person at suitable location within easy reach of the workmen and staff. The contractor shall also provide for transport of serious cases to the nearest hospital. The contractor shall be responsible for any liability which may be excluded from the insurance policies referred in above mentioned clause and also for all other damaged to any person, animal or property arising out of or incidental to the negligence or defective carrying out of this contract. He shall also indemnify the Employer in respect of any cost, charges or expenses arising out of any claims or proceedings and also in respect of any award of compensation and damages arising there from. The Employer shall with the concurrence of the consultant be entitled to deduct the amount of any damages, compensation, cost, charges and expenses arising from or occurring from or in respect of any such claim or damages from any or all sums due to or become to the contractor without prejudice to the employer's rights in respect thereof.
- **5.12 FIRE EXTINGUISHERS** The contractor shall at his own expenses provide at suitable, prominent and easily accessible places, requisite number of fire extinguishers buckets some filled with sand and some with water.

#### 6. CONTRACTOR'S SUPERVISION:

- 6.1 The contractor shall provide all necessary supervision during the execution of the works and the guarantee period for the proper fulfillment of the Contractor's obligations under the contract document.
- 6.2 The Contractor shall employ for the execution of the works- such technical persons as are qualified and experienced and such representatives, Foremen and supervisory staff as are competent to supervise the works and in the course of any operations carried out by him for the purpose of completing any outstanding work or rectification of defects during the Guarantee Period.
- **6.3** The supervisors deployed can be demobilized on instructions of DFCC, if not found fit for the job.
- Any material rejected by DFCC shall be removed from premises within 24 hours by the contractor at his own cost.

# 7. CO-OPERATION AND INTERFACE WITH OTHER CONTRACTORS:

- **7.1** The Contractor shall co-operate and interface with other Contractors and consulting agencies and freely exchange with them such technical information as necessary for the proper execution of the work.
- **7.2** The Contractor shall afford all reasonable opportunities to other Contractors, their workmen and to the workmen of DFCC for carrying out their works.

**7.3** All operations necessary for the execution of works shall be carried out so as not to interfere unnecessarily with the execution of works by other.

Contractors execution of works under this contract shall be coordinated with the works of other contractors where it would interfere with their works or working. The DFCC and the concerned Contractor shall be informed well in time for effective coordination and proper execution of works.

#### 8. CO-ORDINATION OF WORK:

- **8.1** At the commencement of work, and from time to time, the Contractor shall interface with other Contractors, sub-contractors, persons engaged on separate contracts in connection with the works, and with the DFCC for the purpose of coordination and execution of the various phases of works. The Contractor shall ascertain from the other Contractors, sub-contractors and persons engaged in separate contracts in connection with the works the extent of all chasing, cutting and forming of all opening, holes, groves etc., as may be required to accommodate the various services.
- 8.2 The Contractor shall ascertain the routes of all services and the position of all floors and wall outlets, traps etc., in connection with the installation of plant, services and arrange for the construction of work accordingly. The breaking and cutting of the work must be done as per the instructions of representative of the competent authority. Generally, all breaking shall be by the Contractor for civil works and no work shall be done over broken or patched work without first ascertaining that the broken surface is adequately prepared and reinforced to receive and hold further work.
- **8.3** The contractor shall protect and preserve the works from all damages or accidents.
- 8.4 The contractor shall properly clean the work as it progresses and shall remove all rubbish and debris from the site from time to time as is necessary and as directed. On completion, the contractor shall ensure that the premises and/or site are cleaned, surplus materials, debris, sheds etc. removed, all fixtures cleared and polished wherever necessary, all appliances commissioned so that the whole installation is left fit for immediate occupation or use and to the satisfaction of the Employer.

# 9. PROGRAMME/PROGRESS EVALUATION AND REVIEW:

- 9.1 Network based integrated time schedule shall be submitted by the contractor. The time schedule shall include details of mobilization of resources, materials, equipment and labour. After the award of contract, the DFCC shall require the Contractor to expand the information given in the programme, until it is suitable for the effective review of progress during the execution of the works. The critical path shall be determined. The Contractor has to submit a time schedule that has to be duly approved by the DFCC and is available prior to the commencement of the works.
- 9.2 The Contractor shall review and update this programme time to time and furnish for the information to the DFCC, in writing, details of the Contractor's arrangement for executing the works, materials procured, erected, balance at site and expected deliveries the next week, skilled/unskilled labour, foremen, supervisors working at site and steps proposed for speeding up progress of work. A progress report, in writing, comparing the actual work to the completion schedule should be provided to the DFCC on as directed by Engneer in charge.

- **9.3** If, at any time it appears to DFCC, that the progress of the work does not conform to the approved programme, the Contractor shall furnish a revised programme and take such steps at his cost, as are necessary to expedite progress and ensure completion of works within the completion period or extended date of completion.
- **9.4** Approval by DFCC of such programme or the furnishing of such particulars shall not relieve the Contractor of any of his duties or responsibilities under the contract documents.
- 9.5 The Contractor shall be called upon to attend co-ordination meetings with DFCC, and shall fully cooperate with persons and agencies involved in these discussions.

  The Contractor shall take notes of the discussions during the meeting and shall strictly adhere to the decisions of DFCC in performing the works.
- **9.6** The Employer shall have the right to take possession of or use any completed or partially completed part of work. Such possession or use will not be an acceptance of any work not completed in accordance with the contract agreement.

#### 10. INSPECTION OF WORKS:

- **10.1** The DFCC or any person authorized by them shall at all times access to the works and the contractor shall assure and make available every facility and assistance in obtaining the right to access at his own cost.
- **10.2** All works embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice to the DFCC when such each stage is ready.
- **11. ADHERENCE TO TIME SCHEDUL**E: Timely completion of work is the essence of the contract.
- **12. WITHHOLDING OF PAYMENTS**: DFCC may withhold or on account of subsequently discovered evidence, nullify the whole or part of any certificate to such extent as may be necessary to protect DFCC from loss on account of:
  - (a) Defective work not remedied.
  - (b) Failure of the contractor to make payments properly to sub-contractors for materials or equipments or labor.
  - (c) Damage to works of another Contractor or Sub-Contractor.
  - (d) A reasonable doubt that the contractor is unlikely to complete the contract for the balance amount unpaid.
  - (e) A reasonable doubt that the contractor intends to leave the work incomplete. (f) Delay the work at site.
- 13. In no event shall the contractor be entitled to collect any additional fees or further payments for general condition, administrative or overhead costs or expenses or profit in connection with any change in the works. No change in the works, whether by way of alteration or addition to the works shall be carried out unless the authorization is received. No course of conduct or dealings between the parties, nor expenses or implied acceptance of alterations or additions to the work and no claim that DFCC has been unjustly enriched by any alteration or addition to the work whether or not there is in fact any such unjust enrichment, shall be the basis for any claim to an increase in the contract sum or extend the completion date.

- 14. The work as detailed in this Tender shall be executed and completed in all respects in accordance with the Tender document, Instructions to Tenderers, Bill of Quantities, General & Special Condition Of The Contract, technical specifications, Schedules and Drawings to the satisfaction of DFCC.
- **15.** DFCC does not bind itself to accept the lowest tender and reserves the right to reject any or all the tenders without assigning any reasons whatsoever.

## 16. Difference of opinion:-

- i) In case any difference of opinion, contractor shall submit his opinion to Engineer-incharge.
- ii) The appeal against decision of Engineer-in-charge shall lie with GM/MA /WC/DFCC.
- iii) The decision of GM/MA/WC/DFCC of the project shall be final and binding in the interpretation of the clause of the codes and specifications under the Special Conditions relating to Site Data and Specifications of this tender document and no claim whatsoever shall be entertained on this account by DFCCIL.
- iv) Items under this scope shall be deemed to be "excepted matters".

#### 17.0 MAINTAINING RECORD OF CONSTRUCTION WORK:

- **17.1** The contractor is required to take and supply to the Engineer-in-charge colored photographs detailing the various stages of construction activities and achievements of milestones as directed by the Engineer-in charge.
- **17.2** The coloured photographs shall be taken by the contractor of various activities pertaining to the work at regular intervals as directed by the Engineer-in-charge. A sets of 5"x3" prints of each shall be supplied. The negatives or soft copy of all the photographs taken shall be supplied to the Engineer-in-charge.
- 17.3 ll the cost of reels, taking, developing and printing etc. shall be deemed to have been included in rates quoted against various items and nothing extra shall be paid for the item of work under the clause as above. The DFCCIL shall have full ownership of copyright of these entire photograph and the contractor shall indemnify the DFCCIL against any claim of any sort.

#### 17.4 RECORDS AND REGISTERS

The contractor shall maintain proper records and charts showing the dates and progress of all main operations and the Engineer shall have access to this information at all reasonable times. Records of tests made shall be handed over to the Engineer's representative after carrying out the tests. The following registers will be maintained at site by the contractor/s.

- i. SITE ORDER REGISTER: The contractor shall promptly comply with site orders given therein by the Engineer or his representative or superior officers. The compliance shall be reported by the contractor to the Engineer in reasonable time so that it can be checked.
- ii. LABOUR REGISTER: This register will be maintained to show daily strength of labour in different categories employed by the contractor. All activities are required to be chronologically logged in this book, shifts-wise and date-wise

iii. PLANT AND MACHINERY REGISTER: This register will record daily particulars of machinery with the contractor.

#### 18. TIME SCHEDULE:

On acceptance of tender, the contractor shall provide the detailed bar chart including the starting & finishing date of each and every activity, which shall be approved by Engineer- In-Charge. Thus contractor then, start the work as per the approved bar chart.

#### 19. HIRING OF TOOLS AND PLANTS.

19.1 The contractor will be entirely responsible to arrange all necessary machinery required for successful completion of work and their spare parts required for sufficient and methodical execution of work and transport them to the site of work. Delay in procurement of such items due to their non-availability on account of import difficulties or any other cause whatsoever, will not be taken as excuse for slow or non-performance of the work. Safety of plants and machinery will be the responsibility of the contractor and for any loss due to any cause or wash away in flood, or otherwise no claim will be entertained on this account whatsoever carried out without hindering the Railway traffic in any way. Suitable arrangements shall have to be made by the contractor without infringing the schedule of dimensions.

DFCCIL shall not be responsible for any loss or damage to contractor's men, materials, equipments, tools and plants etc from any cause whatsoever. No claim for idle labour, idle machinery/plant etc on any account shall be entertained by DFCCIL. Similarly no claim will be entertained for business loss or any such loss for whatsoever reason.

#### 20.0 Arbitration Clause

In the event of any dispute or difference between the parties in connection with this work, arbitration clause No 18 of General Conditions of Contract, regulations and instructions to tenderer/s and standard form of contract with replacement of work contract by contractor Architects/Consultant shall be applicable.

#### 21.0 SUPPLY OF ELECTRIC POWER:

- **21.1** The Contractor shall be responsible for the arrangements to obtain supply of electric power necessary for the work. He shall preferably arrange his own electric generating set, especially in view of erratic and unreliable electric supply.
- **21.2** On request of contractor, DFCCIL will forward the contractor's application for getting electric supply to local authorities but it will be sole responsibility of contractor to get connection on his cost and time.

## 22.0 LABOUR

- **22.1** The contractor/s will be held responsible for compliance with provision of various laws, acts and rules & regulations related to contract labour even in respect of labour employed by his/their sub-contractor in the execution of the works contracted by him/them.
- **22.2** The contractor/s shall obtain labour license/registration certificate from the appropriate licensing officer/labour enforcement authority of the area before commencement of the work and shall produce a copy thereof along with the original to the CPM,DFCCIL,VADODARA to start the work.

- 22.3 In any case, in which by virtue of provisions of contract labour (regulation and abolition) Act. 1970, the DFCCIL is obliged to provide amenities and/or pay wages to labour employed by the contractor directly or through petty contractor/s or sub-contractor/s under this contract then the contractor shall indemnify the DFCCIL fully and the DFCCIL shall be entitled to recover from the contractor the expenditure incurred on providing the said amenities and wages so paid by deducting it from the security deposit or from any sum due to the contractor from the DFCCIL provided that if any dispute arises as to the expenditure incurred by the DFCCIL on provisions of the said amenities, the decision of the Engineer-in- charge shall be final and binding on the contractor.
- **22.4** The DFCCIL will not take any responsibility or make arrangements for supply of food stuff to the contractor's staff or his/their labourers.
- 22.5 The contractor/s shall make his/their own arrangements at his/their own cost for supply of water to his/their staff and labour and the DFCCIL undertake no responsibilities for such supply of water to the contractor's staff or labourers.
- 22.6 The contractor/s shall take all precautionary measures in order to ensure protection of his own personnel moving about or working on the DFCCIL premises & shall have to conform to the rules and regulations as per instructions of Project Incharge. If any unforeseen incident or injury happens to any of contractor's personnel while working the contractor shall be solely responsible for the same.
- **22.7** he Contractor/s shall maintain necessary records such as employment cards, service certificates etc to be displayed on board in accordance with provisions of contractor labour act and contract labour rules.

#### 23.0 - Nil

#### 24.0 NOTICES TO PUBLIC BODIES

The contractor/s shall give to the municipality, police and other authorities, all notices that may be required by law and obtain all requisite licenses for temporary obstructions, enclosures and pay all fees, taxes and charges, which may be livable on account of his operations in executing the contract. He should make good any damage to adjoining premises whether public or private and supply and maintain any lights etc. required at night. Nothing extra shall be payable on any such account and accepted rates of various items in the schedule of items, rates and quantities shall be deemed to cover any such aspect.

#### **25.0 FIRST AID**

The contractor/s shall maintain in a readily accessible place First Aid appliances including adequate supply of sterilized cotton wool. The appliances shall be placed under the charge of a responsible person who shall be trained for the purpose and shall be readily available during working hours.

# **26.0 CONDITIONAL TENDERS**

Conditional tenders are liable to be rejected straight away. DFCCIL reserve the right to reject such tenders summarily without assigning any reasons whatsoever

# 27.0 TECHNICAL SPECIFICATION PARTICULARS

- I INTERIOR WORK
- 2 MAS ONRY WORK

- 3 PLASTERING AND POINTING
- 4 FLOORING
- 5 DOORS, WINDOWS & GLASS
- 6 PAINTING & POLISHING
- 7 WATER PROOFING
- 8 SANITARY& PLUMBING

#### 1. INTERIOR WORKS

# SPECIFICATIONS FOR INTERIOR WORKS LIST OF INDIAN STANDARDS REFERRED TO

- 1. l.S. No.: 1200 Latest measurement of building & civil engineering works, methods of Measurements.
- 2. I.S. No.:287-1973: Recommendation for maximum permissible moisture content of Timber used for different purpose in different climate zones.
- 3. l.S. No:1141-1973: Code of Practice for seasoning to timber.
- 4. l.S. No.:6534-1971 : Guiding Principles for grading and inspection of timber.
- 5- 1.S. No.: 1200 (Part XXI)—1973: Method of measurement of building and Civil Engineering Works. Part XXI wood work and joinery.
- 6. l.S. No. 3845-1966 : Code of Practice for joints used in Wooden Furniture.
- 7. l.S. No.4020—l967: Wooden flush doors. Type to method of test for
- 8. l.S. No. 4970-1973 :Key1br identification o1` commercial timber.
- 9, l.S. No.3364 (Part II)-1976: Methods of measurement and evaluation of defects in timber, Part II converted timer.
- 10. l.S. 1708-1969: Methods of Testing small clear specimens of Timber.
- 11. I.S. No.6342-1971: Rosewood logs for production of sliced veneers.
- 12. l.S. No.5248-1969 : Teak logs for production of sliced veneers.
- 13. I.S. No.2202 (part 1)-1973: Specification for wooden flush door shutters (solid core type part-I plywood panels).
- 14. I.S. No.2338 (Part 1)-1967 : Code of practice for finishing of wood and wood based materials; Part—l operations and workmanship.
- 15. I.S. No. 7638-1975: methods of sampling of plywood.
- 16. I.S. No. 303-1975 : Specification for plywood for general purpose.
- 17. l.S. NO. 3129-1965 : Specification for particle board For insulation purpose.
- 18. I.S. No. 3515 (part II] & IV)—l966: High and medium density wood based laminates.
- 19. I.S. No.l659—1979 : Block Boards.

NB: The various items to be used in the interior decoration work shall be of ISI standards. Wherever the items/products do not have ISI mark/standard, it shall be got tested for its quality etc. at the laboratory and necessary testing charges shall be borne by the Contractor.

#### **GENERAL SPECIFICATION**

# 1.1.0 GENERALLY:

- 1.1.1 This specification is for work to be done, item to be supplied and materials to used in the works As shown and deformed on the drawings and described herein, all under the supervision and to the satisfaction of the Consultants.
- 1.1.1 The workmanship is to be the best available and of a high standard. Use must be made of special tradesmen in all aspects of the work and allowance must be made in the rates for so doing.
- 1.1.2 The materials and items to be provided by the Contractors shall be the best of their respective kinds, approved by the Consultant, in accordance with any samples which may be submitted for approval and generally in accordance with the specifications. Where materials or

products are specified in the specification and/or Bill of brand, trade name or catalogue reference, the Contractor will be required to obtain the approval of the Consultant before using a material. The Contractor shall produce all invoices, vouchers or receipts for any material if called upon to do so by the Consultant.

1.1.3 Samples of all materials are to be submitted to the Consultant for approval and to Client for their approval before the Contractor orders or delivers in bulk to the site. Samples together with their pickings' are to be provided free of charge by the Contractor and should any materials be rejected, they will be removed from the site at the Contractors expense.

# 2.1.0 CARPENTRY AND JOINERY

# 2.I.I GENERAL REQUIREMENTS:

This I section of the specification shall be read in conjunction with the Drawings and other contract documents and other sections of this specification Exchange shall be deemed complimentary with one another. The Contractor shall shall be responsible for providing all plant, tools, materials and all things necessary for the proper execution, completion and maintenance of the works.

#### 2.1.2 DELIVERY AND STORAGE:

All timber delivered to the site shall be carefully stored above ground in such a manner `as to provide proper drainage, ventilation and protection from the weather and shall be stored in a proper manner according to each material type.

## 2.1.3 **DEFINITION OF CARPENTRY:**

The definition of carpentry work shall be deemed to include fixing clips, blockings, grounds, fittings, sub-frames, rough frames and wood framing members.

#### 2.1.4 MOISTURE CONTENT OF TIMBER:

The moisture content of timber during manufacture, delivery to site, storage, site working, assembly, installation and at issue of certificate of completion shall, subject to communication by the Construction Engineer, be+ 2 of the average equilibrium moisture content percent that it is expected to attain in service.

## 1.5 PROTECTION, DELIVERY AND STORAGE:

All timber shall be treated with preservatives before delivery to site. All joinery to be painted shall be appropriately sealed with the specified primer to all faces before leaving its place of manufacture. All joinery to be varnished/spirit polished shall be sealed with a minimum of one coat of specified varnish polishes to all faces before leaving its place of manufacture. All joinery and joinery timber shall be wrapped in polythene wrappers before and during transport and delivery to site.

#### **2.1.6 TIMBER:**

Timber shall be softwood or hardwood and suitable for the purpose for which it is intended. It shall be thoroughly seasoned.

## 2.1.7 TIMBER FIXINGS:

The carpentry timber shall be fixed with nails, spikes, bolts, screws, hangers, stringers, purloins, ties or any other accessories which are suitable to develop the full strength of the member which they support or to which they are attached, as directed.

## **2.1.8 FIXING:**

## **2.1..9 FIBRE PLUGS:**

Fixing by means of wooden plugs will be permitted only where it is required.

## **2.1.10 FASTENINGS:**

Power driven fasteners may be used for fastening to steel, concrete and brick masonry.

## 2.1.11 NAILING STRIPS:

Nailing strips unless otherwise required shall be continuous. Fixing strips shall be cast into concrete where required by the Construction Engineer and shall be slightly undercut and finished flush with the finished rendered surface.

## 2.2.0 PROTECTION AND RETARDANTS:

#### 2.2.1 ORGANIC PROTECTION - TIMBER GENERALLY:

The Contractor shall make his own investigation to guard against local sources of attack and damage and take all necessary precautions for protection. All timber shall be protected with an organic solvent water repellent wood preservative to give a highly efficient protection against termite, spider worm, all insect and fungus and rot attack and shall, where exposed, enhance the appearance of the timber.

# 2.3.0 **JOINERY AND PLASTICS:**

#### **2.3.1 SOFT WOODS:**

Softwood shall be appropriate for its use in the works and shall be Deodar, Hollock. Assam Teak or similar species as approved.

#### 2.3.2 HARDWOODS:

Hardwoods shall be Ist Class teakwood.

## 2.3.3 PLASTIC LAMINATE VENEER:

- [a] Plastic decorative laminated veneer sheeting shall be of the brand, catalogue number and color indicated. The laminated veneer shall be 1/16" thick on Hat surfaces and 1/32" thick on curved surfaces unless otherwise approved.
- [b] Plastic laminates shall be veneered to mounting surface with an approved adhesive, used in strict accordance with the manufacturer's instructions. Rubber based adhesives shall not be used. Sheeting shall not be applied to timber with a moisture content of more than 15 or at a temperature of less than 15\*C [60\*1:]. otherwise required by the Construction Engineer: Lengthwise on Horizontal surfaces. Vertical on vertical surfaces. Horizontal on edges of top surfaces and shelves.
- [c] Grain directions of laminates shall be shown in detail drawing, unless otherwise specified.
- [f] Samples of laminated plastics showing the surface texture and pattern shall be submitted for approval before fixing.

# 2.3.4 TIMBER VENEERS:

- [a] Timber veneers shall be of the timber species shown on drawings.
- [b] Adhesives for use in fixing veneers shall be in accordance with the manufacturer's recommendations
- [c] If adhesives other than contact type are required then bonding shall be in presses.

#### **2.3.5 PLYWOODS:**

[a] Plywood shall be a product of a balanced construction made up of piles assembled by gluing, the chief characteristics being the crossing of alternate piles to improve the strength properties and minimise movement in the plane of board.

#### 23.6 CHIPBOARD:

- [a] Wood chipboard shall be a particle board made from wood particles bonded with a synthetic resin and/or other organic bonder. Thickness shall vary as shown on drawings.
- [b] Manufacturer and reference for Chipboard shall be subject to approval.

#### 2.3.12 DELIVERY AND STORAGE - SHOP FABRICATED ITEMS:

Shop fabricated items shall not be delivered to the site of the works until that site is ready for such installation and the building is fully dry, and shall be cartoned or otherwise protected whilst in transit. Installed work shall be adequately protected against soiling or damage. Damaged or soiled items shall be made good or replaced at the Contractors own expense and to the satisfaction of the Construction Engineer.

## 2.4.0 JOINERY GENERALLY:

#### **2.4.1 GENERAL:**

Joinery shall be carried out strictly in accordance with the drawings. Where joints are not specifically indicated recognized forms of joints shall be used. Joinery shall conform to suitable 1.S. Code or else specified. Where no dimensions are specified or shown on drawings the Contractor shall space fixing battens, fillets, grounds, studs and the like, in accordance with the recommendations of the manufacturer of the sheets being fixed.

#### **2.4.2 FRAMING:**

Faces of joints shall be square and driven together to give a close accurate fit.

# 2.4.3 NAILED JOINTS:

Nailed joints shall be used to frame sections together as follows:

[a] Studs to sole and head plates: Butt joints shall be skew nailed with two nails to each face of stud or end nailed with two nails.

## 2.4.5 HALVED JOINTS:

## **2.5.0 MANUFACTURE OF JOINERY CONIPONENTS:**

## 2.5.1 QUALITY OF TIMBER:

The generally is to be best of its kind and well seasoned, of nature growth and with the following conditions.

- [a] Pitch pockets will not be permitted.
- [b] Plugs and insets will not be permitted.
- [c] Sapwood will not be permitted.
- [d] Joints and lamination glue lines will not be permitted.
- [e] Species will be the same throughout the component.
- [f] Character of grain will match.

## **2.5.2 TEMPLATES:**

Templates, hexes and moulds shall be accurately set out and rigidly constructed so as to remain accurate during the time they are in use.

#### 2.5.3 MACHINING TIMBER:

Profiles of sections shall not be different from those shown on the approved drawings. Timber shall be treated with preservatives as specified after machining but before assembly. Preservatives shall be applied liberally to all new surfaces exposed by minor cuts.

#### 2.5.4 ASSEMBLING FINISHED COMPONENTS:

- [a] Unless components are specified to be built in, they shall not be manufactured until all site dimensions have been checked.
- [b] All components shall be made to the dimensions shown on the approved drawings and to approved tolerances.
- [I] Screws in timber which is to receive clear finish are to be counter sunk to 6mm. below the timber surface and grain matched pellets not less than 6mm thick and cut from matching timber are to' be glued in. Pelleting shall be finished flush with the timber face,

#### 2.5.5 **JOINTS AND ADHESIVES:**

Joints shall be indicated on detail drawings and as specified. The contact surfaces of dowels, tenons etc. shall be glued with a best quality cold setting, synthetic resin adhesive of moisture resistant, gap filling type Or with best quality cold-setting case in glue. where glued joinery is likely to come into contact with moisture the glue shall be waterproof Animal glues shall not be used.

#### 2-5-6 FIXING:

Nails, spikes, bolts etc shall be of the best quality steel except where brass headed nails/screws are indicated on the drawings. All screws shall be of best quality steel unless otherwise stated or when exposed they shall be brass. All fixings shall be as indicated in the drawing.

#### 2.5.7 FINISHING OF TIMBER:

- [al Finished wood shall be of the approved species. Wood to be polished/painted may be hardwood or softwood except that edging strips shall always be hardwood.
- [b] All solid wood shall be single pieces unless otherwise approved,
- [C] All joinery and cabinet fittings shall be fabricated in the workshop in complete or as large units as is practical leaving only the fitting, assembling and installation and with a minimum of fabrication and with a minimum of fabrication and finishing to be done in the building.
- [d] Frame work requiring disassembly shall be shop fitted before disassembling. All assembled work shall be rigidly secured and permanently fastened together unless otherwise required by the Construction Engineer.
- [e] All finished wood shall be fabricated and assembled to ensure that the work remains in place without warping, splitting or opening of joints.
- [I] Where solid wood and plywood are used together the solid wood shall be cut from the same species of wood as the veneered work and it shall match the veneer in color and graining. All exposed plywood edges shall be of tongue and groove construction.
- [g] All trim, facings, moldings and the like shall be in single lengths wherever possible with the backs slightly ploughed. Joints shall be mitered, glued and splined and shall be 'hairline' tight.
- [h] All fastenings shall be fixed with screws and surface fastenings shall be covered where necessary with matching wood pellets or wood putty as required by the Construction Engineer.
- [I] A11 exposed wood surfaces shall be free from machine tool, sanding or other marks and the finish shall be fine sanded.

#### **2.5.8 FITTINGS:**

#### 2.5.9 **FIXING**:

#### **2.5.10 SCRIBING:**

#### 2.6.0 TIMBER VENEERED AND LANIINATED PLASTIC PANELS:

#### **2.6.1 GENERAL:**

Reference should be made to sections of this specification which relate to timber and plastic laminate veneers:

- [a] The panels shall be factory made and shall be selected timber veneer or plastic laminate veneer glued to water- proof plywood the edges of which shall be finished with hardwood lapping. The sizes and finishes of the panels shall be in accordance with the drawings and schedules.
- [b] The edges of the panels shall have a veneer strip applied to exactly match that of the finished 'seen' face in color, type and finish.

#### 2.6.2 PROTECTION AND STORAGE:

[a] Panels shall be delivered to site in perfect condition and in their original protective coverings.

#### 2.6.3 INSTALLATION:

- [a] Panels shall not be installed until all plastering work is dry.
- [b] Panels shall be installed according to the drawings and schedules and to the manufacturer's recommendations.
- c) On completion of installation the panels shall be left in perfect condition and properly protected against damage, damp, excessive heat, dirt and direct sunlight.

#### **2.6.4 SAMPLES:**

The Contractor shall submit a sample of each type of veneer panel for approval before general fabrication is taken in hand.

#### 2.7.0 FINISHING OF VENEERS:

#### 2.7.1 FINISHING OF TIMBER VENEERS:

Timber veneers shall be finished by the application of two coats of an acid catalised clear lacquer wherever it is indicated in the drawing. The finish shall be a satin, semi gloss finish and shall be carried out as follows:

[a [b] After the first coat has fully dried the lacquered surface shall be rubbed down in the direction of the veneer grain with very fine glass paper and left completely smooth and clean before the second coat is applied.

#### 2.8.0 CONSTRUCTION AND FABRICATION:

#### 2.8.4 COMPLETION:

On completion and installation the Contractor shall leave the work clean and perfect.

- 3.1.0 SUSPENDED CEILINGS
- 3.1.1 GENERAL REQUIREMENTS:

This Section of the Specification shall be read in conjunction with the Drawings and other Contract Documents and other sections of this specification, which shall be deemed to be complimentary with one another. The Contractor carrying out this work shall be responsible for

providing all plant tools, materials and all things necessary for the proper execution, completion and maintenance of these works. Work shall be carried out in accordance with the drawing.

#### **3.1.2 SAMPLES:**

The Contractor shall submit samples of tiles and plastic laminate faced board, plaster of paris finishing samples for approval.

#### 3.13 **DIMENSIONS**:

The dimensions of the ceiling grids and tiles shall be within a tolerance of 2mm.

#### **3.1.4 SUSPENSION SYSTEM:**

The suspension system for tiles, boards, metal sheets and plaster of pairs false ceiling shall be concealed fixing system appropriate for the type of ceiling and shall be provided to support electric light fittings, air—conditioning outlets, all services outlets like curtain tracks etc. The materials to be used in the concealed fixing suspension systems shall be mild steel hanger rods of adequate size and section as approved by Construction Engineer at maximum 1.00 M centre to centre on both directions with minimum size of  $35 \times 3$  mm size flats, for the depth of suspension required, as per drawing. Metal suspension systems shall be painted as described in painting section.

#### **3.2.0 FRAMING:**

3.2.1 Framing for metal sheets, tiles and boards should be adequate size and section to support tiles, filting, grills etc. as per drawings.

#### 3.2.2 FRAMING FOR PLASTER OF PARIS FALSE CEILING:

The frame work shall be of the specified wood wrought and framed. The battens [ $100 \times 50 \text{ mm}$  sections or as per drawing] shall be securely fixed to the walls and pillars by holding down bolts and shall be fastened to the slabs above with iron strips as indicated in suspension system. Cross battens of  $50 \times 40 \text{ mm}$  sections at 400 mm centers or as shown in the drawing shall then be fixed at right angles to the main battens. The frame work shall be treated with approved wooden preservative before it is covered with ceiling. The frame work shall be treated with approved wooden preservative before it is covered with ceiling. The underside of the frame work shall be true to planes and steps.

- 3.2.3 WOODEN STRIPS:
- 3.2.4 RABBIT WIRE MESH:
- 3.2.5 PLASTER OF PARIS:
- 3.2.6 WATER:

Water shall be clean, fresh, free from all harmful impurities and deleterious matter and obtained from an approved source.

#### 33.0 WORKMANSHIP:

3.3.1 The plaster of paris will be mixed with water to a workable consistency. Plaster of paris shall be applied to the underside of the laths over the rabbit wire mesh, in suitable sized panels with Gypsum plaster undercoats. The subsequent coats shall be applied as soon as the undercoat has set and has developed reasonable suction. Smooth plaster of paris finish shall be troweled or floated to produce a tight, matt, smooth surface with no hollows, abrupt changes of level or

trowel warts and a finish shall be achieved compatible with the finish to be applied and to approval.

#### 33.2 TILES, BOARDS AND METAL SHEETS CEILINGS:

Ceiling tiles, boards or metal sheets shall be cut to fit trimming channels or special fittings to give a neat appearance and allowance shall be made for all cuttings to receive services and other terminal components in the ceiling plan.

#### 3.4.1 PROTECTION:

The Contractor shall be responsible for protecting all suspended ceilings in those areas of work forming part of this contract. The Contractor shall replace at his own expense any damaged suspended ceilings caused through lack of adequate protection or care in installation or handling. Tile Contractor shall make his own investigation to guard against local sources of attack and damage and take all necessary precautions for protection.

#### 3.4.2 COMPLETION:

On completion of installation the Contractor shall leave all suspended ceilings clean and perfect.

#### 4.1.0 GLASS, GLAZING AND MIRRORS

#### **4.1.1 GENERAL ARRANGEMENTS:**

This Section of the Specification shall be read in conjunction with the Drawings and Schedules and other sections of this specification which shall be deemed to be complimentary to one another. The Contractor carrying out this work shall be responsible for providing all plant, tools, materials and all things necessary for the proper execution, completion and maintenance of these works.

#### **4.1.2 SAMPLES:**

The Contractor shall submit samples of all glass and mirror types and glazing materials for approval. The glass and mirrors shall be obtained from an approved source.

#### **4.1.3 CODES OF MATERIALS:**

The codes shown on the drawings relate to materials a described in the finishes Schedules and control books.

#### 4.1.4 GUARANTEES:

mirrors shall be guaranteed against loss of reflective image trueness (Silver delimination or deterioration) for a period of minimum 6 months.

#### **4.1.5 DELIVERY AND STORAGE:**

[a] Delivered materials shall match the approved samples. Packaged materials shall be delivered in the original unopened, labeled containers of the manufacturers clearly marked with their name and brand.

#### **4.2.1 GLASS - GENERALLY:**

Glazing generally shall be to IS Standards and shall be subject to approval. Glass shall bear the manufacturers grade label, which shall remain on the glass until after inspection and approval.

#### 4.2.2 GLASS WORKING:

[a] All rebates and grooves shall be clean, dry and unobstructed.

[b] The Contractor shall follow the recommendations of the glazing compound manufacturer and surround manufacturer in applying a suitable primer to metal surrounds if required.

#### **4.3.1 FIXING GENERALLY:**

- [a] All external glazing shall be wind and weather tight on completion.
- [b] Frames which are to be glazed shall have sufficient rigidity to ensure that the glass pane does not have a supporting function.
- [c] Edge clearance shall be equal all round each pane and not less than 1/8" for single glazing.
- [d] Setting and location blocks shall be used on all panes exceeding 2 sqm, unless otherwise recommended. The Contractor is to locate the blocks as recommended by the manufacturer, but never more than 3" from comer of surround.

#### **4.3.2 FIXING:**

- [a] The requirements of ISI Code 'GLAZING AND FIXING OF GLASS FOR BUILDING' shall complement and shall be deemed to be part of these specifications.
- [b] The recommendations of the glass manufacturer and frame manufacturer shall be coordinate and followed.

#### 4.3.3 TEMPERED GLASS AND MIRRORS:

- [a] Tempered glass shall but cut, drilled polished and worked only by the manufacturer at the factory and in accordance with approved shop drawings.
- [b] Glass for unframed doors, balustrades and mirrored false ceilings shall be supplied with ironmongery fittings and fixings as supplied by the manufacturer in accordance with approved samples.

#### 4.3.4 DAMAGED GLASS:

The Contractor shall, prior to installation, inspect each piece of glass. Glass with damaged edges or surfaces shall not be installed and shall be removed from the site.

#### 4.3.5 MARKING GLASS:

#### 4.3.6 CUTTING GLASS:

Cutting of glass shall be in accordance with site measurements or dimensions.

#### **4.4.0 MIRRORS**:

#### **4.4.1 GENERAL**:

Mirrors shall be fabricated from clear plate or float glass of the quality and finish shown in the drawings and schedules unless otherwise required.

#### 4.4.2 THICKNESS:

All fixed panel mirrors shall be 1/4" thick unless otherwise stated.

#### **4.4.3 EDGES:**

All edges of mirrors shall be polished with beveled comer wherever it is indicated in the drawing as per ISI.

#### 4.4.4 DRILLING:

All drilling of holes shall be carried out at the stage of fabrication. No chipping, starring and other visible imperfections around holes will be accepted.

#### 4.4.5 PROTECTIVE BACKING:

The silver deposit on the back of the mirror shall be of an approved thickness and shall be protected from moisture. by a copper backing followed by a coating of shellac varnish and paint.

#### 4.4.6 **SIZE**:

In general wall and panel cladding mirrors shall not exceed  $2400 \times 1200 \text{ mm}$  and shall be fixed to a continuous sheet of 3/4" thick board backing or as shown on the Drawings.

#### **4.4.7 FIXING:**

- [a] Panels shall be securely fixed with screws on 'Z' clips at minimum 600 mm centers horizontally and 1200 mm centers vertically.
- [b] Mirrors shall be fixed to backings by adhesive or special fixings as shown on the drawings or otherwise specified.
- [c] Screws shall be chrome plated and wood screws with collars and screw-on domes unless otherwise required.

#### 4.4.8 FINISH OF FIXING:

All visible metal fixings shall be of approved finish to match mirror finish and color.

#### **4.4.9 ADHESIVE:**

#### 4.4.10 JOINT S:

All adjoining sections of mirrors shall be separated by paper thin joints.

#### 5.1.0 PAINTING

#### **5.1.1 GENERAL REQUIREMENTS:**

This Section of the Specification shall be read in conjunction with the Drawings and other Contract Documents and other sections of this specification which shall be deemed to be complimentary with one another. The Contractor carrying out this work shall be responsible for providing all plant, tools, materials, and all things necessary for the proper execution, completion and maintenance of the works. Work shall be carried out in accordance with I.S. specifications painting of buildings and the recommendations listed therein shall be taken as a minimum requirement.

#### **5.I.2 PAINTING GENERALLY:**

Painting shall comply with the standards of normal good practice and shall comply with I.S. specifications except as modified by this specification and the requirements of the Construction Engineer. Spray application of paint will not be permitted unless specified or approved. Protective coatings to structural steel work shall be applied in accordance with the recommendations of I.S. Code 'Protection of Iron and Steel structures from Corrosion' except as modified by this specification. All paints shall be delivered to site in the original sealed containers of the manufacturer and shall be mixed before use. Paint shall be applied in accordance with the manufacturer's recommendations in as many coats and at such intervals as necessary to ensure the proper curing, drying and hardening of coats and to ensure that the specified and required finish is obtained.

#### **5.13 SAMPLES AND TRIAL AREAS:**

Sample boards showing finishes, tints and shades of all paints, varnishes, stains and coatings to be used shall be submitted for approval.

#### **5.1.4 ADVERSE CONDITIONS:**

No exterior painting shall be carried out in extremes of temperature, rain or fog unless otherwise approved by the Construction Manager. If ventilation or mechanical means of drying is used, care shall be taken that treatment of a local surface area does not cause adverse conditions on

adjacent area. No painting or decoration work shall be carried out until all preparatory work has been completed and airborne dust has settled and has been removed from surfaces to be painted, papered or otherwise treated and adjacent surfaces.

#### **5.1.5 PRIMED SURFACES:**

Exposed primed or undercoated surfaces shall not be allowed to deteriorate before final coating. Primed steelwork shall be given a further primer or protective coat as soon as any sign of rust appears. Primer shall be applied only to properly prepared and dry surfaces.

#### **5.1.6 MANUFACTURERS AND BRANDS:**

All other materials shall be of the manufacturer and brand shown on the drawings and finishes schedule or otherwise specified.

#### **5.1.7 STORAGE:**

#### **5.1.8 PROTECTION:**

#### **5.1.9 COMPLETION:**

All spills spots and signs of paint shall be completely removed from unpainted surfaces. All rubbish shall be cleared. All glass shall be cleaned and overlapped paint removed and edges shall be made clean and straight to all painted surfaces. All painted areas shall be lei} perfect to the approval and entire satisfaction of the Construction Manager.

#### **5.2.0 PREPARATION:**

#### **5.2.1 WALLS AND CEILINGS:**

#### [a] Defective surfaces:

All defective rendering shall be cut out with edges slightly undercut and well wetted with a dilute solution of a P.V.A. bonding agent before filling with an approved material of a similar type. All large cracks shall be raked out, well wetted, and filled with keene's cement or an approved material of a similar type. Small cracks shall be scraped out and filled with approved proprietary powder filler.

#### [b] Surface preparation generally:

Surface shall be prepared by washing with sugar soap when necessary or required by the Construction Manager. A thoroughly smooth, flat and even surface shall obtained completely free from cracks, oil, grease, grit, dirt, dust, loose particles, roughness, high spots, irregularities and imperfections before further work proceeds. Taped joints in dry lining and plaster board shall be rubbed down flush with the surrounding surface.

#### **5.2.2 METAL**:

- [a] All metal surfaces to be painted shall be cleaned of corrosion, mill scale, grease, dust and dirt before priming.
- [b] All iron steel surfaces to be painted shall be scraped and rubbed down by wire brush and shall be entirely free from rust, mill scale, grease, dust and dirt before applying the priming coat. Solvents may be used providing they are compatible with the priming or coating. If required, iron and steel surfaces which are not galvanized shall be blast cleaned to remove all rust, millscale, grease, dust and dirt to the Construction Engineer's approval. All nags arising from blast cleaning shall be ground down.

#### **5.2.3 CONCRETE:**

Concrete surfaces shall not be prepared before they have been cured to the satisfaction of the Construction Engineer. The Contractor shall do all grouting, caulking and concrete finishing work

before other surfaces preparation for painting. The Contractor shall ensure that before priming or treating all surfaces are cleaned free of any efflorescent chalk, dirt, dust, oil, grease, and the like, or any foreign matter.

#### 5.2.4 WOOD:

- [a] The Contractor shall remove all large and dead knots and make good with sound timber and rub down Hush before priming. Nail and screw heads shall be counter sunk sufficiently to hold toppings. Wood surfaces shall be sanded before applying topping. Nail holes, cracks and blemishes shall be topped prior to the priming coat MS dried. Nail holes are to be filled flush.
- [b] Wood Surfaces Clear finish: Preparation for clear finish wood surfaces shall be as described above except that: Nail holes and similar depressions shall be stopped after the priming coat has dried. Nail holes are to be filled flush. the color of stopping shall match that of the finishing coats. Resinous beads shall be removed and knotting applied to resinous timber and all knots and allowed to dry. Any hardwood which contains an excess of natural oil shall be washed down with white spirit, immediately before priming. After stopping and priming pore and grain irregularities, shall be filled with filler applied by means of brush or knife. Surplus filler shall be removed and rubbed down to leave smooth.

#### 5.3.0 MATERIALS:

#### **5.3.1 GENERALLY:**

Finishing coats shall be those specified on the drawings and schedules. Where the number of coats specified is given these shall be the minimum number and the requirements relating to standard of finish stated elsewhere in this specification shall apply. All materials shall be subject to approval before being applied.

#### 5.4.0 MATERIALS FOR WOODWORK & PLASTERING WORKS:

5.4.1 Knotting shall be best quality shellac knotting to comply with ISI and two coats shall be applied.

#### **5.4.2 PRIMERS:**

The primer shall be ready mixed primer of approved brand and manufacturer.

- [a] Wood work (Hard & Soft Wood): Pink conforming to l.S. 3536 1966.
- [b] Resinous wood and plywood: Aluminum primer.
- [c] Aluminum, steel and galvanized steel work: Zinc chromate primer conforming to I.S. 104 1962.
- [d] Cement, brick work, plaster surface, asbestos surface, plaster of paris surfaces : Cement primer.

#### **5.5.0 PROTECTION:**

#### **5.5.1 PROTECTION OF GLASS AND MIRRORS:**

- [a] Glass shall be protected from paint, plaster, welding splatter, construction scum and the like. Should any such soiling occur, the glass shall be promptly and completely washed off as specified below.
- [b] Glass generally shall be protected with temporary wooden barricades or other warning devices as a deterrent against passing objects through glazed openings. Labels or markings shall not be applied directly to tinted glass.

#### **5.5.2 CLEANING:**

When directed by the Construction Engineer, the Contractor shall remove all markings and labels from glass and wash the glass with a mild neutral or slightly acidic solution as recommended by the glass manufacturer. Alkaline or abrasive agents shall not be used.

#### **5.5.3 PROTECTION:**

The Contractor shall be responsible for protecting all glass in those areas of work forming part of this Contract. The Contractor shall replace at his own expense any broken or damaged glass caused through lack of adequate protection or care in installation or handling.

#### 5.5.4 COMPLETION:

On completion of installation the Contractor shall leave all glass, mirrors and fixings perfect to the satisfaction of the Construction Engineer.

#### **5.6.1 UNDERCOATS AND FINISHING COATS:**

One undercoat and two finishing coats (minimum) shall be applied.

- [a] Plastic emulsion paint as per I.S. 5411-1969 of approved brand and of the required shade shall be used. The primer shall be of same manufacture as the plastic emulsion paint.
- [b] Oil bound distemper:

Oil bound distemper as per I.S. 428-1962 of approved brand and manufacture shall be used. The primer where used as on new work shall be cement primer of distemper primer as described and shall be of same manufacture as distemper.

[c] Cement paint;

The cement paint shall be conforming to I.S. 5410-1969 of approved brand and manufacture.

[d] Enamel Paint:

Enamel paint conforming to IS 2933-1975 of approved brand and manufacture and of the required color shall be used.

[e] Synthetic enamel paint:

Synthetic enamel paint conforming to IS 1932-1964 of approved brand and manufacture and of the require color shall be used.

- [f] Aluminium Paint.
- [g] Anti-corrosive bitumastic paint:
- [h] Varnishing:

Varnish shall be conforming to IS 347-1952 of approved brand and manufacture.

[i] Spirit polishing:

#### 5.7.0 MATERIALS FOR METAL-WORK:

#### **5.7.1 PRIMERS:**

#### 5.7.2 UNDERCOATS AND FINISHING COATS;

Undercoats and finishing coats shall generally be as those for woodwork unless otherwise specified and shall be of an approved proprietary brand.

#### **5.8.0 GILDING:**

#### **5.8.1 PREPARATION:**

Surface shall be prepared as previously described.

#### **5.8.2 PRIMING, UNDERCOATS AND SIZING:**

Surfaces shall be primed and painted one undercoat and one coat of eggshell finish oil paint and lightly rubbed down with very fine wire wool to obtain a completely smooth finish. Surfaces shall then be sized with a size of an approved proprietary brand.

#### **5.8.3 GILDING:**

Surfaces shall be gilded with best quality 23 carat gold leaf which shall be carefully skewed in and lightly polished and burnished with cotton wool and finished to approval.

#### **5.9.0 PROTECTION:**

#### **5.9.1 PROTECTION:**

The Contractor shall be responsible for protecting all painting work in those areas of work forming part of the contract. The Contractor shall redecorate at his own expense any damaged work caused through lack of adequate protection or care in installation. The Contractor shall make his own investigation to guard against local sources of attack and damage and take all necessary precautions for protection.

#### **5.9.2 COMPLETION:**

On completion of the painting work the Contractor shall leave all work clean and perfect.

#### 6.1.0 FURNITURE AND FURNISHING

#### **6.1.1 GENERAL REQUIREMENTS:**

This section of the specification shall be read in conjunction with the Drawings and other contract documents, and other sections of this specification which shall be deemed to be complimentary to one another, in particular the Preambles, Carpentry and joinery, and painting sections. The Contractor carrying out this work shall be responsible for providing all plant, tools, materials and all things necessary for the proper execution, completion and maintenance of these works.

#### **6.1.2 DIMENSIONS:**

Figured dimensions shall be taken in preference to scaled dimensions in all cases. Before commencing any work the Contractor shall verify all measurements on the site.

#### **6.1.3 SAMPLES:**

A sample of every item of furniture, including banquette seating, shall be submitted for approval before an order is placed or manufacture commences. Approved samples shall be used as standards of finish and workmanship. Banquette samples shall be of a minimum length of 4'-0". 6.1.4 Timber shall be of the species indicated on detail drawings or as specified. It shall be the best of its kind, as set out in section of Carpentry and Joinery, well seasoned and kiln dried with a moisture content of + 12 nominal.

#### 6.1.5 PLYWOOD:

Plywood shall be a premium quality, resin bonded, and weather- proof close grained plywood suitable for veneering, painting or bonding plastic laminate as required. Plywood for outdoor furniture shall be a standard specification waterproof brand. Exposed edges of plywood shall be finished with a strip of solid wood, tongued and grooved and glued or as detailed on the drawings.

#### **6.1.6 JOINTS AND ADHESIVES;**

#### **6.1.7 FASTENINGS:**

Screws, nails etc. shall be standard iron or wire unless otherwise shown on drawings. Screws and nails for outdoor furniture shall be of brass or other non-corrosive metal.

#### **6.1.8 HARDWARE:**

Hinges, locks, latches, door tracks, nail hides, etc. shall be of bars unless otherwise specified elsewhere.

#### **6.1.9 METAL:**

Where metal legs, frames and the like are used, these shall be welded, brazed bolted or riveted as required, and on finished surfaces welding, brazing and riveting shall be ground so that no evidence of this is apparent on the final finish of the metal. All legs of case or cabinet furniture, whether of wood or metal, shall be equipped with nylon glides or castors unless otherwise shown on the Drawings.

#### **6.1.10 FINISHES:**

Finishes shall be fully in accordance with the Drawings and Schedules. Where timber is in natural finish, pieces shall be matched for color and grain before assembly. Where timber is stained the stain shall be matched throughout.

#### **6.1.11 UPHOLSTERY:**

Where the upholstery fabric is patterned no upholstery fabrication is to commenced until the Contractor has received clear instruction concerning the direction of the pattern and the method of its joining. Upholstery will be of first class workmanship with webbing, no sag springs, coiled springs, padding and filling as specified. All woven upholstery shall be scotch-guard treated.

#### **6.1.12 CUSHION VENTS:**

- 6.2.0 DELIVERY, STORAGE, INSTALLATION AND PROTECTION:
- 6.2.1 DELIVERY, STORAGE AND INSTALLATION OF FURNITURE AND FURNTSHINGS:
- **6.2.2 PROTECTION:**

The Contractor shall protect and guard all fixed items and loose items of furniture, fixtures, fittings, and all other furnishing from fire, damp, theft or any other damage until the date of handover of the completed works. The Contractor shall make his own investigations to guard against local sources of attack and damage and take all necessary precautions for protection.

#### 6.2.3 COMPLETION:

On completion of the installation of all work in this section the Contractor shall Leave all work clean and perfect.

**VOLUME -I SECTION -I** 

#### 2. MASONARY WORK

(BRICK WORK, STONE MASONRY, PRE-CAST CONCRETE BLOCK MASONRY)
BRICK WORK

1.0 Indian standards to which this section conforms are as follows:a) IS 2212-1962 Brick work code of Practice (Latest Revision)

Part-I to IV Method of tests for.

b) IS 1200-1976 Measurement of Building & Civil Engineering.

2.0 MATERIALS

#### 2.1 BRICKS

- 2.1.1 Bricks shall be sound, hard, well burnt, uniform in size, shape and colour, homogeneous in texture, giving a metallic ringing sound, free fro flaws, cracks, holes, lumps or grit and arises should be square, straight and sharply defined, it Shall not break when struck against each other and dropped flat from 1 m on ground. It shall conform to respective 1.S. and meet requirement and tests as specified.
- 2.1.2 Bricks classified as per I.S. 8102 and as per I.S. 807 are as under.

		( Min.)	percentage) ( Max)	
IS: 2180	400	400	10	Nil
Common Clay	350	350	15	Slight
Building bricks	300	300	15	Slight
Is: 1077- 1970	250	250	15	Slight
	200	200	15	Slight
	175	175	15	Slight
	150	150	15	Slight
	125	125	20	Moderate
	100	100	20	Moderate
	75	75	20	Moderate
	50	50	20	Moderate

2.1.3 Bricks shall be as specified and detailed in Bills of Quantity. It shall have to be approved prior to procurement. Bricks shall be obtained from a source approved and shall be uniform colour, size, shape and rectangular faces with parallel sides and sharp straight right angle edges. Maximum absorption shall be 15\ on immersion in water for 24 hours.

#### 4.0 WORKMANSHIP.

4.1 Bricks used for masonry in cement mortar or composite mortar shall be soaked by immersing in water or by hosing of water (it shall comply with respective specification of A materials), such that bubbling is not there and, at least one hour prior to start of actual laying.

#### **4.9 PROTECTION AND CURING:**

Masonry in cement or composite mortar shall be kept constantly moist on all the faces for a minimum period of seven days.

#### 5.0 TYPES OF BRICK WORK

#### 5.1 WALLS 230 mm THICK OR MORE

5.1.1 Walls 230 mm thick or more shall be constructed with approved and selected bricks. Mortar shall be as bills of quantities ,Brick wall of 230 mm thick shall be constructed from one side and one face shall be true, plumb, Thicker wall shall be constructed with masons on both faces and both the faces shall be true and plumb.

#### 5.2 HALF BRICK WORK - PLAIN OR REINFORCED

5.2.1 115 mm thick brick work shall be called as stretcher bond. Mortar shall be as specified and also it shall be clear whether brick work is reinforced or plain in bills of quantities

#### 5.3 CAVITY WALLS

- 5.3.1
- 5.3.3 It is imperative to have a cleaned and clear cavity to achieve best results intended. While work is being carried out a plank tied with binding wire is inserted into cavity and rested on wall ties to prevent mortar falling in the cavity. Plank shall be of the width of cavity and continuously lilied upward by means of tied wire as work progresses.
- 5.3.4 Measurement for forming cavity and required wall ties shall be paid for in square meter. Brick work shall be paid in brick work item.

#### 5.4 HONEYCOMB BRICK WORK

#### **6.0 RATE**

- 6.1 The rare shall include the cost of all the materials and labour as described in respective items of work and for all the operations as derailed in the respective specification for the various items of work. Brick on edge courses, cut brick comers, splays, reveals, cavity walls shall be included in BRICKWORK GENERAL for the purpose of payment.
- 6.2 Following operation shall be included in rate for BRICKWORK —GENERAL : VOLUME -I

### S E C T IO N - II 3. PLASTERING & POINTING

#### **PLASTERING**

- 1.0 Indian standards followed shall be as under-
- 1. All relevant standard specified in section 2,3 and 4 of this volume.
- 2. IS 412 specifications for expanded metal steel sheets for general purposes.
- 3. IS 1542 specification for sand for plaster.
- 4. IS 2394 code of practice for application of lime plaster finish.
- 5. IS 1661 code of practice application of cement lime plaster finishes.
- 6. IS 2402 code of practice for external rendered finishes.
- 7. IS 1038 code of practice for field slaking of and preparation of putty.
- 8. IS 2645 specification for integral water proofing compound.

#### 2.0 MATERIALS

- 2.1 Cement, aggregate, lime, surkhi, water shall conform to respective specifications of section 2 of this volume.
- 2.2 Sand shall be as approved by E.I.C. and in accordance with IS 1542 specification for sand for plaster.
- 2.3 Marble dust obtained from crushing of hard marble stone shall not contain more than 8% of slit determined by field test. Fineness modulus shall be greater than 1.0.
- 2.4 Integral water proofing compound shall conform to IS 2645 (specifications for integral water proofing compound).
- 2.5 Neeru shall be obtained by mixing lime putty, sand in equal proportion and chopped jute @4 kg/cu/m. of mortar and ground to fine paste in the chemical grinder to give fine butter like paste.

- 3.0 Workmanship
- 3.1 Surfaces to be plastered must be clean and free from all dust, loose material, oil, grease, mortar dropping, sticking of foreign matter of traces algae etc. Point to be noted as that there should not be any chance of plaster getting de-bonded due to presence of material harmful for bonding.
- 3.2 Raking out of joints is expected to be carried out along with masonry but it should be checked and made sure to receive good key; This shall avoid cracking and crazing.
- 3.3 Walls should be sufficiently damp prior to plaster. Point to be borne in mind is that water from plastering mortar is not absorbed by masonry. Hence for wetting of wall prior to plaster, the contractor should discuss and satisfy E.I.C.
- 3.4 Any unavoidable projections in masonry, concrete surfaces shall be chiseled back. Care shall be taken that surrounding surfaces are not damaged.
- 3.5 Thickness of one coat should not be more than 12 mm and less than 8mm for single coat finished plaster.
- 3.6 In case of multicoat plaster, sufficient time shall be allowed to get under-coat hardened (cured, dried and shrunk properly) before subsequent coats are applied.
- 3.7 Undercoats shall be scratched or roughened before it is fully hardened to form a mechanical key.
- 3.8 Method of application is also important and hence it is allowable to throw mix on surface rather than apply with trowel. This increases the adhesion.
- 3.9 Scaffolding should be rigid, allowing free and safe movements on platform and it should be at sufficient distance or height from working point of view, Scaffolding with railing gives more confidence to workers and increases quality of work.
- 3.10 Plaster work should follow following steps rigidly and after approval of E.I.C. actual plaster shall proceed.
- a. Surface is cleaned.
- b. Plaster areas is provided with level dabs or spots allowing working and checking with 2-3 M straight edge, Depth of plaster shall not be less than 8mm at any point.
- c. Required concealing services are completed and tested.
- 3.11 Cornets, external or internal shall be finished along with finished coat. It is advisable to have rounded corners.
- 3.12 Plaster shall be cured for 14 days by wet curing except in neeru finish plaster.
- 3.13 Finishing of plaster may be carried out with wooden float (randhas) or trowelled smooth with sheet metal trowels a specified. Care shall be taken to avoid excessive trowelling and overworking the wooden float.

#### 4.0 TYPE OF PLASTER

#### 4.1 12mm THICK ORDINARI CEMENT SAND PLASTER.

Single coat cement sand plaster with cement sand mix in proportion of 1:4 shall be carried out over the entire areas as detailed above. This shall be finished just with wooden float to five best smooth surface possible. This may be for internal or external areas. Thickness may be from 10 to 15mm maximum.

#### 4.2 18 TO 25 mm ORDINARY CEMENT SAND PLASTER

This is same 12mm thick single coat plaster except that this is carried out in coats. Maximum thickness of under coat is 12mm and balance in second finishing coat. All operation remains same and as detailed in point 3.

#### 4.3 NEERU FINISH PLASTER

#### 4.4 CEMENT FINISHED PLASTER

It shall be carried out same as 4.1 and 4.2 for specified thickness in singl or double coat. Then it shall be finished uniformly over entire area with la paste or neat cement when plaster has just hardened and trowelled downed smooth with steel trowel.Quantity of cement applied shall be about 1kg/sqm.

#### 4.5 ARCHITECTURAL PLASTER FINISHES

These are additional finishes provided over the plaster detailed in 4.1 and 4.2 of this volume. These are called architectural finishes and are commonly known under following heads.

#### 4.5.1 ROUGH COAT PLASTER

The wet plastic mix of 1 cement 1.5 sand and 1 aggregate 6 to 10mm (ingle or crushed) is thrown on, undercoat finished wall by means of trowel or scoop. Curing and other operation remains same.

- 4.5.2 PEBBLE DASH PLASTER
- 4.5.3 ORNAMENTAL PLASTER
- 4.5.4 COLOURED PLASTER
- 4.5.5 STONE CRETE PLASTER
- 4.5.6 WASH TERRAZO PLASTER.
- 4.6 SAND FACE PLASTER
- 4.6.1 Generally this shall be carried out to outside face of block work. It shall be minimum 20mm thick and shall be in two coats. Its coat shall be CH 1:4 (1 cement and 4 sand) applied as usual and surface keyed.

#### 4.7 WATER PROOF PLASTER

The water proofing compound shall be mixed with dry cement in the proportion by weight as specified or recommended by approved manufacture of water proofing compound. Mixing should be thoroughly well integrated with cement. Addition of water shall not allow any slips of mixed cement. Mix, in general, used shall be CH 1:4 and balance application, curing procedure remains same as derailed above.

#### 4.8 METAL LATHINGS

#### 5.0 POINTING

5.l Pointing shall be done as soon as possible to achieve good bond in raked joint. Surface preparation is same as specified in point 3 above, Mortar shall be prepared as detailed in Section 2, Minimum depth of mortar in joint shall be 10mm, Mortar shall be set in or pressed into the raked joint with pointing trowel, Care shall be taken not to spread the corner edges of surface of masonry. It shall be further finished with pointing tool. Pointing shall be cured for 7 days by hosing water.

#### 5.2 TYPES OF POINTING

- 5.2.l Flush Pointing:
- 5.2.2 Ruled Pointing

#### 6.0 MEASUREMENT

- 6.1 Plaster and pointing work shall be measured in square meter to the second place of decimal.
- 6.2 Thickness of plaster shall be average depth of plaster. But extra thickness due to bad Quality of bricks, stone or blocks and due to bad workmanship shall be carried out at the cost of contractors.
- 6.3 a) Grooves, pattas in continuation of large areas or plaster areas shall be considered as part of plaster and measured in square meter.
- 6.4 Jams, Bills, cove, cornices etc. shall be part of plaster and no separate payment shall be made towards these items.
- 6.5 a) Deduction for an opening in plaster shall not be for area less than 0.5 sq.m. Same shall be applicable for pointing.
- b) In case of opening area 0.5 sq.m. to 3.0 sq.m. only 50% area shall be deducted from each face. Same shall be applicable for pointing.
- c) In case, width of door or window frame are equal to masonry iirll area of opening shall be deducted.

#### 17.0 RATE

- 7.1 Description of item in BOQ, unless otherwise started includes wherever necessary, conveyance and delivery handling, unloading, storing, fabrication, hoisting, all labour for finishing to required shape and size, setting, fitting and fixing in position, straight cutting and waste, return of packings and- other incidental charges.
- 7.2 Levels and heights shall be as indicated in bills of quantities.
- 7.3 Preparation of surface a approved by E.I.C.:
- 7.4 Trimming off the projection on masonry shall be included in price. .
- 7.5 Scaffolding, working platform shall be included in price.
- 7.6 Material as detailed and as required to complete item as specified hall be included in price.
- 7.7 Curing of plaster or pointing shall be included.
- 7.8 Cleaning of adjacent areas, windows, doors, frames, etc. including masonry surface in exposed masonry work shall be included in price.
- 7.9 Forming groove for weak joint, between beams/columns and masonry etc. shall be included in rate. Any special treatment if detailed shall be measured separately and billed in B.O.C.
- 7.10 Providing and fixing chicken mesh at junction of R.C.C., brick work, edges, comer, chiseled and repaired brick work prior to plaster over concealed conduit and etc. shall be as directed by EIC and paid as per BOQ.

#### VOLUME -I S EC T I O N —— III 4. F L O O R I N G

#### 2.0 MATERIAL

2.1 Cement, sand, aggregate, lime, water shall be conforming to Section 2 of this volume.

#### **2.2 STONE**

Stone for selling shall be hard, sound, durable and free from defects like cavities, cracks, sandholes, flaw, injurious veins, patches of loose or soft material etc. and weathered portions etc. Crushing value shall be 200 kg/sq.m. unless specified otherwise.

#### 2.3 TERRAZO AGGREGATES

2.3.1 2.3-2 Marble powder

#### 2.4 BRICK SOLING

Brick soling with a cushion of about 15mm sand is advisable. Bricks shall be laid flat or on edge with close fine joints. These may be in one or two layer as specified. After laying of each layer, dry sand or murrum shall be spread and worked into joints by brooming. Slight water shall be sprinkled and rolled with light roller. In case, two layer soling is carried out, both layers shall be staggered jointed and consolidation operation shall be carried out in each layer independently. All operations shall be t the satisfaction of EIC.

#### 2.5 BASE FLOOR

This shall be regular reinforced concrete floor or cement concrete floor of specified mix. Thickness shall vary from 50mm to 150mm as case may be. This may be nominally reinforced or mesh reinforced or reinforced by providing contraction joint with 16mm dia. 500mm long mild steel reinforced bare as 450mm center. Bare shall be de-bonded in concrete on one side of bay. All specifications of concreting are same as per Section 2 & 3 of this volume.

#### 4.0 FLOOR FINISHES

#### **4.1 INDIAN PATENT STONE**

4.1.1

4.1.2

#### 412 PRECAST TERRAZZO TILING

4.2.1

4.2.1 Tolerances on length, breadth shall be maximum 1mm and in thickness 3mm. Tiles shall be hydraulically pressed with a minimum pressure of 140 kg/sq.m. Tile shall be single coat polished prior to receipt at site. Backing of tile shall be in ordinary cement aggregate in proportion of 1:3 by weight. Top wearing course shall be minimum 6mm at any point in tiles.

#### **4.2.2 BEDDING**

It is advisable to provide lime mortar bed. This gives workability and helps achieve dead accurate levels. Lime mortar 1:2 (lime putty coarse sand) or lime surkhi mortar 1:1:1(1 lime putty: 1 surkhi: 1 coarse sand) shall be provided for bedding. Structural concrete or base slab

shall be cleaned, wetted, and mopped as detailed in 4.1.2a of this volume. Mortar shall be spread uniformly, tamped and leveled with 3M straight edge. Bed shall be keyed prior to finishing of the day's work. Thickness shall be as specified but no point shall have less than 10mm bedding.

#### **4.2.3 LATING OF TILES**

A thick cement slurry/paste shall be spread over the bedding and cleaned tiles laid over this grouted area. Grouting shall he such that area is covered within 15-20 minutes. Joints shall be as thin as possible and limited to 2mm maximum. Laying shall start after due consideration given to following point and approved by EIC.

- 1) Datum level of floor in a room and adjacent room, passage, etc.
- 2) Tiles in openings and door are equality placed.
- 3) Passage may be laid first to achieve evenness in doors.
- 4) Tiles in room shall be symmetrical and equal cut tiles shall be on both ends.
- 5) In case of different colour tiles in passage and rooms, dividing strip shall be provided and change over of colour shall be under the shutter.
- 6) In case there is any other architectural or structural feature, same shall be considered and pattern shall be adjusted accordingly.
- 7) Tiles may be allowed to go under plaster or dado about 10mm.
- 4.2.4 After the tile are laid, surplus cement slurry from the joint shall be cleaned. Following day, points shall be cleaned, washed and wire brushed. Grouting of joints shall be carried out with coloured (pigmented cement) Cement or gray cement matching with colour of tiles. Grout shall be worked into joint. Excessive grouts shall be cleaned off.
- 4.2.5 The floor shall be kept wet for a period of 7 days. No traffic shall be allowed on bedding and bedded tile at least for 2 days.

#### 4.3 CAST—IN-SITU TERRAZZO FLOORING/DADO

4.3.1 Terrazzo mix in required proportion and colour and to specified thickness is laid and applied over hardened or semi—hardened under layer of cement concrete or cement sand plaster. In case the floor under layer is concrete, l.P.S. activities detailed above in 4.1.0 to required thickness shall be carried out. Plaster to walls are carried out as detailed in section 5 of this volume of plaster.

#### 5.0 SKIRTING/DADO/STEPS/RISERS

- 5.1 Material for skirting, dado, steps, riser shall be as specified in 2 of Section 6.
- 5.1.1 Surface preparation shall be same as flooring for each type. Backing coat, plaster for dado and skirting shall be done as detailed in plaster section. It shall be combed for creating a key and better adhesion with skirting material. In case of steps, bedding shall be laid exactly as flooring and all operations described There in shall be carried out.
- 5.1.2 External and Internal facings shall be fixed with adequate provision for expansion and compression joints. The contractor shall supply and fix all necessary supports, anchor Slots, anchor Cramps, dowels required for the satisfactory completion of all vertical marble or any other stone cladding work. Fixing will be made from suitable non-ferrous metal. They shall be in such shape and dimension that they are adequate to carry the loads to be imposed upon them. Not with standing the above stipulation, the contractor shall be entirely reasonable, for the sufficiency of fixings. All anchors and other fixing shall be concealed when the work is completed. Great care shall taken to protect delivered and laid marble and other tones from dripping and standing during the course of work.

- 1) Floor is cleaned and made dust-free.
- 2) Adhesive recommended or supplied by tile/sheet manufacturer shall be applied with 2mm triangular combed notched trowel.
- 3) Adhesive shall be allowed to become tacky which generally take 20 to 30 minute depending on climatic conditions.
- 4) It shall be just tacky but shall not develop a film on its surface. This can be checked by gently pressing adhesive. It shall be tacky to touch but shall not mark the finger.
- 5) PVC sheets / tiles shall be placed in position from center or one side as found easy to achieve bet approved pattern.
- 6) Tiles / sheet shall be sufficiently pressed and aligned.
- 7) Tiles / sheets shall be rolled with smooth roller of about 5 kg. And area checked to note that no air is entrapped.
- 8) Adhesive squeezed out of joint shall be wiped off immediately before it hardens.
- 9) Floor shall be kept closed for working for next 36 hours.
- 10) Then floor shall be cleaned with mild soap water by mopping with cloth and not by wetting all over area.
- 4.9.4 Measurement shall be in square meters. Rate shall include the cost of all material, labour involved in all the operations described and completing work to the satisfaction of EIC.

#### 4.10 VITREOUS CERAMIC MOSAIC TILES

- 4.10.1 Bedding of brick bat coba shall be laid to slopes with lime mortar allowing just 20-25mm thick finishing left.
- 4.10.2 After Curing, floor shall be laid with cement sand mortar mix 1:6 15mm thick and finished. Surface shall be scratched arid roughened by and cured for 7 day.
- 4.10.3 Cured surface shall be cleaned and by taking care of layout pattern sheets of ceramic mosaic tiles shall be laid as under —
- a) Apply a coating of 4 to 6 mm of pure white or gray thick cement paste to above . cement mortar base surface and let the coating dry for 2 to 3 hrs.
- b) On un-papered side of mosaic sheet apply thin layer of whiter grey cement by buttering Surface and fix sheet to floor.
- c) Tap the sheet with wooden batten to level tiles and allow it to set. Topping mix is l part of dry cement to 2 parts of granite chips (well graded 6-10mm). Laying of base course, topping and polishing remains same as stated in 4.1, 4.2.6 and 4.3 of Section 6 of this volume. No acid wash permitted on this floor.
- 4.7.2 Measurement of this item shall be in square meter. Rate shall include material and labour required for completing the operation to the satisfaction of EIC.

#### 4.8 METALIC HARDENER FLOORING

4.8.1

#### 4.9 P.V.C. FLOORING

4.9.1 PVC floors are laid on Indian Paten Stone flooring or ordinary gray terrazzo tile flooring. Flooring has to be in dead level. Any variation in under floor shall be noticed within 2-3 months of laying of PVC tiles or sheets. Since Chances of cracking or shear are there., it is absolutely essential that floor is checked by 2-3M straight edge and difference at any point is not more than l mm.

4.9.2

- 4.9.3 4.6.2 Tiles do not-require any special bedding as for Terrazzo and stone floor tiles. But to achieve required slopes it is advisable to provide, average 30 to 40 mm thick bedding of PS as under layer. Over this, tiles shall be laid in cement mortar bed of 12mm thickness.
- 4.6.3 Sub-grade shall be cleaned, wetted and mopped. IPS shall be laid in required slope/gradients. It shall be cured for 7 days and surface shall be kept rough and to achieve key to

cement mortar (actual bedding). Cement mortar about 12rmn shall be spread over area uniformly and compacted with 3 meter straight edge to achieve dead uniform levels.

#### 4.7 GRANOLITHIC FLOORING

4.7.1. .

4.6.2 Tiles do not require any special bedding as for Terrazzo and stone floor tiles. Etc. achieve required slopes it is advisable to provide, average 30 to 40 mm thick bedding IPS as under layer. Over this, tiles shall be laid in cement mortar bed of 12mm thickness.

4.6.3

- 4.6.4 Tiles shall. be measured in square meters. Rate shall include for all material, labour, cutting, fixing, grouting, cleaning etc. to complete item to the satisfaction of Engineer-in- Charge.
- 4.3.3 This shall be cured for 7 days with water. Any cracked area shall be removed and redone.
- 4.3.4 Polishing and grinding shall be same as 4.2.6 above.
- 4.3.5 Measurement shall be in square meter It shall include material and labour required to complete work to satisfaction of EIC. No extras on any account shall be admitted.

#### 4.4 KOTA STONE FLOORING

#### 4.2.6 POLISHING.

4.2.7 Pre—cast terrazzo tiles are measured in square meters. Rate shall include shall all material and labour cost required to completed the item to the satisfaction of EIC. No extras shall be admitted on account of cutting of tiles in a shape, preparing a pattern from different colour tiles or a special border or a band. Leading of stair shall be paid in square meters. Treads and risers shall be measured in running meter for a particular width of tread and height of riser.

#### VOLUME -I SECTION V 5. DOORS AND WINDOWS

- 1.0 Indian Standards to be followed are —
- 1. IS 28/ Recommendation for maximum permissible moisture content of timber used for different purposes in different zones.
- 2. I.S. 2202-1983 Specification for flush door shutters solid core type. Part 1 & 11
- 3 IS 2191-198.5 Specifications tor Flush door shutters cellular core type Part 1 & 11
- 4. IS 1003 Specifications tor timber paneled and glazed shutters, windows.

#### **MATERIALS**

- 2.1 Timber shall be of quality as specified in bill and well seasoned. When kind of timber is not specified good quality teak shall be used. It shall have uniform colour. free from detects such as cracks. dead knots. soft spongy spots and waves of injurious open shakes. Grains shall be reasonably straight, The individual hard and sound knot shall not be larger than 0.5 cm.
- 2.2 All timber shall be kiln—seasoned to LS. l 141 and confirm to LS. 28'7 for moisture content. Maximum permissible limit shall be +- 3% for average moisture content of all samples
- 2.3 Timer used shall he treated with lt) years guaranteed approved anti—termite treatment. Wood work in contact with masonry or concrete shall be painted with bitumen coal tar before placing in position.
- 2.4.1 The readymade flush shutters shall be specified and shall comply lo respective code oil practice. Manufacturers certificate conforming that shutter supplied comply to LS. Shall have to be obtained and submitted to EIC. Also a copy of test certificate obtained by an independent laboratory shall be obtained. In large projects. one door shutter shall-be tested from a laboratory to get confirmation that door shutter comply to l.S. specification.

- 2.4.2 Shutter shall be 4Umm thick. they shall be with teak wood veneer finish or t.2mm thick melamine sheets as specified. These shall be hot pressed and bonded with water resistant formaldehyde synthetic resin a per LS. specification. The adhesive used tor bonding cross band to core and lace veneers to cross band shall conforms to 1.5. 848 Phenol and Aluminum plastic) or equivalent I.S. standards.
- 2.4.3 tolerance on width height shall be l; 2mm. tolerance on thickness shall be t l.2mm. 'thickness of shutter shall be uniform throughout. Variation permissible shall be 0.8mm.
- 2.6 Fittings and fixtures shall be as specified in bills of quantity and shall comply to respective I.S specifications.
- 2.7 All nails, screws etc. shall be not deep galvanized or of brass.
- 2.8 Adhesives and aloe shall as per l.5. 202 and 851l with latest revision or amendment.

#### 3.0 WORKMANSHIP

- 3.1 timber brought at site shall be as approved by EIC
- 3.2 No timber shall be painted, tarred, oiled, ctc. Before it inspection by the MC. Any effort to hide the detects by plugging painting . etc. shall render the piece respectable by EIC
- 3.3 All rejected timber shall be removed at once from site of work.
- 3.4 All sawing of timber shall he done in straight line and planes of uniform thickness.
- 3.5 All joints shall be tongued and grooved or of the type shown in the drawings specified ion item or as directed t. All joints shall be glued with approved adhesive. Joints shall be strong, neat and shall
- 3.6 Prior to joining, wood members of frame shall he planed smooth and accurate to the fully depth. Rebates, rounding, mouldings, etc. as shown in the drawing shall be done before the members are joined.
- 3.7 All timber items shall he subjected to inspection by EIC prior to any treatment to be carried out. No1t.eni.sllall he installed unless il. is approved by EIC

#### 4.0 FRAMES, DOORS / WINDOWS

#### 4.1 Frames.

Size of timber shall be specified in B.O.Q. Frames shall be rebated to house the shutter. They may be rebated on both sides, or rounded or moulded etc. as per drawing if specifically referred to in B.O.Q. li or single rebate depth shall be 12.5mm. Frames shall be finished smooth to receive paint, polish or any other finish specified. Surface abutting against masonry or concrete shall be treated with anti-termite treatment and a coat ot` boiling coal tar or any other approved wood preservative or primer prior to placing in final position.

- 4.2 Paneled Shutter (including glazed) These shall he specified in drawing. The thickness of the styles and rail shall he as specified in drawing. Thickness of panels will he as specified and type of panel also noted therein. Styles and rails of shutters shall be made out of single piece. Lock and intermediate rails exceeding 200mm in width may be made out of one or more piece of timber but the width of each piece shall not be less than 75mm. When more than one piece of timber is used, they shall be joined with a continuous tongued and grooved joint, glued together and reinforced with metal dowels at regular intervals of 200n1m. The tenons shall pass clear through styles. The styles and rails shall have a l2rnm groove to receive the panel. The panel shall he l2 to t5 min thick tip to width of 300 mm. Panel shall he made out of strips of planks not less than l2Sntm or more than 2t)0mm.
- 4.3 Plywood, particle board., hard woods, prefinished melamine boards, shall conform to relevant Indian Standards. Shutters shall not bepaint.cd or treated before these are passed by tilt]. Glazing shall be as specified under glazing in Section '/e of this volume.

#### 4 4 Flush Shutters

Door solid cure shutters fabricated out of 25 mm thk unveneered plain particle board exterior grade conforming to IS 3087 type 1 Where specified plain particle board may be replaced with melamine finished board keeping other construction same.

#### 5.0 FITTINGS AND FIXTURES

Following standard fitting shall be included for door and windows shutter in bras oxidized with ISI marking. Required screws f or fixing the same, in same colour shall also be included in pricing and fixed. Fittings and fixtures shall be approved by EIC.

#### 5.l Toilet Door

- l. Hinges  $100 \times 63 \times 4 \text{ mm}$  thick 1.5 pair
- 2. Tadi 200 mm long 2 No.
- 3.handels 100mm long I Pair
- 4. Tower bolt 150mm long l No.

#### 6.0 MEASUREMENTS AND RATES

Wood work and joinery shall be measured in cubic meters, square meters, running meters or any other manner as detailed in B.O.Q.

- 6.2 The price for item shall include supply of specified species of timber r, sawn, cut, joined, framed and fixed in position including supply and fixing of fixtures, straps, bolts, holdfast, spikes, nails, screw, etc. supplying and applying; glue, coal tar, paint and anti termite treatment. The item shall also include all materials, labour, scaffolding, use equipments.
- 6,4 If wood work is found to be defective duo to had workmanship .due to bad workmanship and materials , shrinkage etc, within I year after completion of work, the defective wood work shall be re-fixed by the contractor at his cost to the satisfaction of EIC. At his own cost.
- 6.5 If specified cost of glass shall be included in price complying to specification given in Section \_\_ this volume.

### SECTION V-A METAL DOORS AND WINDOWS

#### 2.0 ALUMINIUM DOORS, WINDOWS AND VENTILATORS

#### 2.1 MATERIALS

Aluminum alloy used in manufacture of extruded window sections shall correspond to I.S. Designation H E 9 WP of I.S. 733. Hollow aluminum alloy section used shall conform to I.S. Designation HV9·WP of I.S. 1285. Machine screw used shall conform to the requirements of I.S. 1362. Specially designed and extruded sections may be permitted if supporting design calculations for wind load are submitted to EIC for approval.

#### 2.2 l~ FABRICATION

- 2.2.1 Frames shall be square and flat, the corners of the frame being fabricated to a true right angle.
- 2.2.2 The fixed and operable frames shall be constructed by cutting sections to exact length, mitered and welded at corners.
- 2.2.3 where hollow sections are used with welded joints argon—arc welding; or flash but welding shall be employed.
- 2.2.4 Subdividing bare of units shall be tenoned and riveted into the frame.
- 2.2.5 Sections used shall conform to LS. 1948 for respective location or as approved by EIC

- 2.2.6 Fitting and fixtures shall be detailed in LS. 1948.
- $2\,2.7\,$  Fly screen may he provided if specified . Fly screen shall he 0.37 Smm wire and equivalent to 1.S. Sieve.
- 5.2.7 Bottom rollers attached to the shutter leaves shall not rest or roll on the bottom guide, but slide against bottom channel.

#### 5.3 FINISH

All surface shall be cleaned by sand blasting or chemically,. Then immediately Painted with two coats of prime (red led or zinc chromate). It shall be painted with coats or enamel paint in approved shade and brand.

#### 5.4 ME ASUREMENT

It shall be measured in square meter for actual size provided.

## SECTION—V C G L A Z I N G.

- 1.0 'This section shall conform to 1.S. standards as under -
- 1 I.S. 2835 Flat transparent sheet glass
- 2. LS. 2553 Safety glass`
- 3. LS. 5437 Wire and figured glass

#### 2.0 MATERIAL

#### **SHEET GLASS**

- 2.1 Sheet glass shall be flat, transparent and clear as judged by unaided eye. It may, however, possess a tint when viewed edgewise.
- 2.1.2 It shall be free from cracks.
- 2.1.3
- 2.1.4 Sheet glass shall not have defects greater than those given in Table of LS. 2835. Test shall be conducted as specified in l.S. 2835., Appendix A, B and C.
- 2. I.5 Classification of glass shall be per LS. 2835.

#### 2.2 WIRE AND FIGURED GLASS

Glass shall be conforming to l.S. 5437.

- 2.2.1 Glass shall not contain any stones cracks or stones bigger than 2nnn diameter.
- 2.2.2 ln case of tinted glass, colour patches shall not be permitted.
- 2.2.3 Wired glass shall be 6.4;l; 0.4 mm thick in sheet {bun. Wire mesh shall be of steel wire
- 0.46 to 0.56 mm in diameter. The pattern of mesh shall be square or diamond with wires welded or hexagonal with wires twisted. Wire mesh shall be completely embedded minimum 1mm from surface of glass. Wire mesh shall not contain more than 3 broken wires per square meter of the wire glass.
- 2.2.5 Wired and wired figured glass shall satisfy the tire proofing test prescribed in Appendix-A of this volume.

#### 2.3. TOUGHNED OR LAMINATED SAFETY GLASS

- 2.3.1 This shall conform to l.S. 2553.
- 2.3.2 The toughened or laminated glass shall be made of sheet glass of selected quality as detailed in LS. 2835.
- 2..3. 3 (Hass may he transparent, translucent or coloured as specified.
- 2.3.4 Glass shall be free from cracks, blisters, stones and scratches, bubble and other defects which will interfere with vision and service of glass.
- 2.3.5 it shall conform to. uniformly test, fragmentation test, humidity test and fracture and Adhesion test as detailed in Appendix A, B C and D) respectively of this volume.

#### 2.4 FROSTED OR OBSCURED GLASS

Sheet glass is ground to achieve frosting and obscuring effect. Grounding is done uniformly. Glass is cleaned thoroughly to avoid any stain formation over it.

#### **2.5 PUTTY**

#### 3.0 WORKMANSHIP

The detailed process shall be as specified in I.S. 3548 — Code of practice for glazing in buildings in wood joinery whereas for metal doors and windows it shall be l.S. 1081.

3.1 Glass for glazing shall allow a clearance of 2.5 mm between edge of the glass and wood or metal surround.

#### 4.0 MEASUREMENT AND RATES

- 4.1 Actual cut size glass shall be measured in square meter.
- 4.2 Irregular shaped or circular panes shall he measured as smallest rectangular area from which the irregular or circular pane can be cut. etc. also shall include carriage, hoisting, etc.
- 4.3 The rate for various items shall include the cost of material and labour required for proper completion of the item including wastage, breakages involve in process, cutting, cost of subsidiary material required for proper fixing and functioning of glass such as nails, spirits, etc. also shall include carriage, hoisting, scaffolding etc.
- 4.4 ltems may be measured as part of doors., windows and ventilators if specified in bills of quantities.
- 4.5 lite ture lin various items shall include the cost of and labour required for proper completion of the item including wastage, breakages involved in process, cutting, cost of subsidiary material required for proper fixing and l'u.netioniug of glass such as nails, spirits.

#### VOLUME -I S E C T I O N - VI 7. PAINTING & POLISHING

#### 2.0 MATERIALS

- 2.1 Paints used in the works shall he conforming to respective I.S.S. and code of practices. These shall be latest revised. Paints shall be obtained factory made and no site preparation shall be allowed except for white washing . Paints received at site shall be in manufacturer sealed drum.
- 2.2 Paints should be such as to withstand weathering effects of the atmosphere, decay of wood corrosion of metal and of pleasing appearance. Also surface should become hygienic, clean and attractive.
- 2.3 Paints shall have--
- l. Good spreading coverage
- 2. Easy to apply
- 3. On application, from a thin uniform film.
- 4. Surface should not crack when paint dries.
- 5. Inert to weathering actions of atmosphere.
- 6. Final surface should be hard and durable.
- 2.4 Manufacturer and shade of Paint used at work site shall be to approval of E.l.C.
- 2.5 Varnishes shall be conforming to respective latest and revised I.S.S. and code of practices. Varnishes should create brightening appearance on wood, brilliancy to the painted surface and protection to atmospheric actions.

- 2.6 Good varnishes should achieve -
- 1. render surface glossy/mat finish as specified
- 2. Uniform pleasing appearance or rapid drying
- 3. Colour should not fade
- 4. final hard, durable and tough surface.
- 3.0 WORKMANSHIP
- 3.1 CONCRETE, MASONR Y, PLASTERED SURFACES.
- 3.1.1. Work Shall be carried out as specified in IS 2395 Part l and Part lI. Schedule of painting System to be followed is reproduced from IS 2395 Part ll for ready reference after 3.1.8 of This volume.

#### 3.1.2 Surface preparation.

- a) Surface shall be cleaned and any existing fungus or mould shall be remove. A coat of fungicidal wash shall then be applied and allowed to dry.
- b) Any cracks, defects in plaster or concrete shall be cut out and made good and cured and allowed to dry. Minor cracks may be filled with suitable filler.
- c) In case of old surface, previous paints or any other coats shall be totally removed prior to any repaint. If painting system to be installed, is same as old, then complete removal is not necessary. They shall be washed and light sanded.
- d) Lime mortar plaster shall be left unpainted for first few months to allow plaster to carbonate, harden and dry thoroughly.
- e) In case of Gypsum plaster it shall be ensured that the surface is either alkaline or neutral tested in accordance with El as specified in IS 2395 P I l.
- f) In case of masonry, joints shall be brought to a sound condition before painting operations are started. Brick work painted shall he differed at least by 3 months.
- 3.1.3 Painting system to be installed shall be as detailed in table given under. All paints and products shall be from one manufacturer on . Steps for painting operation to be followed are as under :
- a) primer/ Sealer coat us recommended by paint manufacturer.
- b) Filler/ Putty »as many layers as required
- c) Under coat
- d) Finishing coat or coats
- 3.1.4. Paints to be applied shall be spread uniformly over the entire area.

Paint shall be mixed and stirred thoroughly prior to use. No addition of thinner or water shall be permitted other than any specified quantity by manufacturer.

- 3.1.11 Distemper shall be prepared by addition e. water thinner as specified sufficient for one coat for a room.
- 3. 1.12 Filler shall be plaster of Paris or as approved by E.I.C.
- 3.1.13 Cement paints shall be applied over thoroughly wetted surfaces lt is important that painted surface shall be sprinkled with water two or three times a day for 7 days.
- 3.1.14 Brushing of paints in coats shall be in right angle direction to previous one. No brush mark shall be visible.
- 3.1.15 Painting shall be measured in square meter.
- 3.1.16 Number of finished coats specified in table are for guide line only. Finished surface shall be to the acceptance and approval of E.I.C. Any additional coats required to achieve this shall be to the account of contractor and not extra charges shall be payable for any additional coat applied.
- 3.2 PAINTING OF WOOD WORK.

Work shall be carried out to I.S. 2338 Part l and Part ll. System shall be installed as under Schedule tor finishing shall be a per table of I.S. 2338 Part II and reproduced as under after 3.2.5 Of this volume.

3.2.1 Surface preparation.

- a) Wood to he painted shall be seasoned and free from discolored sapwood and from large resinous or loose knots.
- b) Nail shall he punched well below the surface to provide n firm key for stopping.
- c) Mouldings should be carefully smoothened with abrasive paper mid fibers left machining shall he cleaned and removed.
- d) Flat portions shall be smoothened.
- e) Any knot, resinous streaks or bluish sapwood shall be treated with two coats of pure shellac knotting, applied thinly and extended about 25mm beyond the actual area requiring treatment.
- 3.2.2 Priming
- a) Dirt or any other extraneous material shall be removed. A priming coat shall be applied to bare wood.
- b) All exposed surfaces of the wood shall be primered.
- c) Unless specified otherwise, all joinery work which is intended to be painted shall receive at least two priming coats.
- 3.2.3 Stopping and Filling
- 3.2.4 Under Coats.
- a) Under coat shall be applied after the surface has been primed, stopped, filled and rubbed down to a smooth surface.
- b) Under coat may be brushed or sprayed.
- c) After drying the coat shall be carefully rubbed down and wiped clean before next coat is applied.  $\cdot$
- 3.2.5 Finishing.

The application of finishing paint varies according to the type of paint employed. Cleanliness is essential and as far as possible the application shall be carried out in a normal dry condition. The finishing coat may be applied either with brush or sprayed.

#### 3.3 CLEAR FINISHES FOR WOOD SURFACES

Clear finishes shall be applied to wood & wood based interior surface. It shall be carried out to LS. 2338 Part 1-1967. Procedure of application shall be as under. Schedule of finishes table given under 3.2.0 of this volume shall be followed.

- 3.3.1 Filling
- a) To level of; to make smooth, to prevent the excessive penetration of the finish and to fill the open cells, filler conforming to LS. 345 shall be used.
- b) For special stain effects colour fillers shall be used.
- c) On line textured woods having minute pores that do not require filling, thin varnishes, lacquer or shellac may he used.
- d) Filler or stain tiller shall be applied by hand using hessian or jute rag across the grain. The filled surfaces shall be dried preferable overnight and smoothened with abrasive paper.
- 3.3.2 Staining...
- a) Staining of wood shall be restored to create special effects for subsequent clear finish.
- b) Stains used shall be waste based, spirit based or oil based as approved by E.I.C.
- c) Surfaces shall be kept scrupulously clean and lice from greasy linger marks.
- d) Small cracks or nail holes shall be stopped with line plaster of Paris or suitable stopping.
- e) Stains may be applied by brushing and wiping or spraying. Application shall be liberal but without over staining to spoil the stain surface.
- 3.3.3 Sealing.

A suitable seal shall be applied on the filled and sanded surface to prevent absorption by the wood of the succeeding coats of finish and 2682 stain and filler and thus preclude their bleeding into the finish coat. When fully dry the surface shall be sanded taking care not to cut through at comers and edges. Dust shall be blown off and surface wiped with a clean rag.

#### 3.3.4 Varnishing

- a) Surfaces to be varnished should be prepared to produce a smooth dry matt surface.
- b) Previous coats or stains, if any, should be allowed to dry and rubbed down lightly, wiped off and allowed to dry.
- c) Varnish should be applied liberally with a brush and spread evenly over a portion of the surface with short light strokes to avoid frothing.
- d) Excess varnish should then be scraped out of the brush and the first section be crossed, recrossed and then laid off lightly. Too much or too little varnish left on the surface will mar the appearance of the finish. The varnish once begins to set, shall not be retouched. If a mistake has happened, the varnish should be removed and redone.
- e) Sufficient time shall be allowed in subsequent coats to get previous coat hardened and dry.
- 3.3.5 Work shall be measured in square meter.
- 3.4 FRENCH POLISH

3

- 3.4.5 Measurements shall be in square meter.
- 3.5 FERROUS METAL SURFACE

Ferrous metal surfaces shall be painted in accordance with I .S.1477 part l and Part ll. Pre fabricated partly or fully material shall be pretreated at factory only with specified primer after required and controlled surface preparation. Painting system shall be as per table No.1 of l.S.1477 Part ll "Painting Schedule tor ferrous surfaces".

- 4.0 POINTS TO BE NOTED
- 4.1.1 Scaffolding.

Contractor shall provide, erect and remove all required scaffolding. It should be free of surface and easy to work. It should be rigid and safe.

4.1.2 Painting Equipments.

Brushes, Spraying Machines, Tools, Plants, etc. used shall conform to respective code of practice. It shall be maintained and serviced regularly as specified therein.

413 Paints

Paints used in work shall be from one manufacturer for a system to be installed. They shall  $\cdot$  conform to Indian Standards as specified in various tables of Schedule of finishes given in 3 above.

4.1.4 Drying Time.

It is essential that each coat shall be thoroughly dry before the subsequent coat is applied.

4.1.5 Flatting Down.

Cutting of Primer coat, under coat, and first finished coat is essential to provide a key for the subsequent coats in order to improve the inter coat adhesion.

4.1.6 Mixing Before Application.

Paint is applied only after the content of the drum is thoroughly stirred. Paint while in use shall also be stirred from time to time to ensure that the pigment in suspension.

4.1.7 Thinner / Dilutions.

Paint manufactured to I.S.S. shall have correct consistency and shall not require any further dilution. If there is doubt, the viscosity of the paint may be checked. If slight adjustment to the viscosity is necessary, use the thinner recommended by the manufacturer of the paint.

- 4.1.8 Environment
- .1.9 Paint surface should be clear of dust, grease, oil, alkalinity, fungus and totally dry.
- 4.1.10 Finishing

Paint coats and systems specified is for guidance. Finishing shall have to be carried out to the entire satisfaction of E.I.C. without any defect. If any defects are noticed later, contractor shall repair the same or re-install complete system as required under the contract. Additional coats if required to be carried out to achieve specified finish to approval of E.I.C., shall be at the cost of contractor and no additional charges shall be payable.

5.0 RATE

The rare shall include the coat of all materials, labour, scaffolding protective measures, involved in all operation described in workmanship and of the item of bills of quantities. Lt shall also include, unless otherwise stated, conveyance, delivery, handling, unloading, storing, waste return of packing etc

#### VOLUME -I SECTION- VII 8. WATER PROOFING

- 2.0 MATERIAL.
- 2.1 Stone aggregate, Lime, Sand cement and surkhi shall conform to section 2 of this volume.
- 2.2 Bricks and bricks aggregate shall confirm to section 4 of this volume.
- 2.3 Bonding materials Blown type bitumen shall confirm to IS 73 and to with stand the local condition, temperature and gradient satisfactorily.
- 2.4 China mosaic shall be prepared from broken pieces of white glazed tiles. No pieces shall be larger than 40mm and smaller than 10mm in any dimension.
- 2.5 Plain cement tiles Kota or Shahabad type stone slab shall conform to section 6 of this volume.
- 3.0 ROOF WATER PROOFING
- 3.1 MULTILAYER BITUMEN CARIET SYSTEM
- 3.l.1
- 3.2.0 CHINA MOSAIC WORK.
- 3.2.6 Additional points to be noted are
- a) Required slopes are created and maintained for easy draining of water.
- b) Draining points shall be treated thoroughly with treatment and carried out rightly into the rain water pipes.
- c) Edges and comers are rounded or chamfered minimum to 75 mm radius.
- d) The top edge shall be finished in a neat horizontal line and tricked, in a groove in a wall.
- 3.2.7 Measurement shall be in square meter for finished area.
- 3.3.0 PROPRIETAR TREATMENTS
- 3.3.1 Various experienced water proofing specialist carry out following or similar types of water proofing treatments. Various water proofing ingredients are prepared by them and are used in work. Final finished surfaces may be laid with paving tiles, stones or finished smooth in cement and marked false chequered marking. Points given below are just for guide lines. Actual steps and details shall be submitted by the contractor for approval of E.].C.
- 3.3.2 Surface to be treated shall be cleaned, well defined cracks grouted by marking "V"

notches with cement slurry. Average 75mm thick brick bat coba lime concrete with 25mm nominal size brick aggregate, 50 % lime mortar 1:2 ( 1 lime: 2 sand) shall be laid to false about 1 in 120 and rammed. This shall have 12 kg bar soap and 4 kg alum dissolved solution per cum. The beating shall be carried out with wooden hammer for 7 days with sprinkling liberally lime water mixing 3 kg of jaggery and 1.5 kg Beal Quit to 100 liters of water. On completion of beating, mortar coming out on top shall be trowelled with the addition of sugar solution ( if necessary), finished and cured for 7 days Treatment shall be carried out over parapet wall 300 mm in height

- 3.3.3 Surface shall be finished neat with cement mortar 1:3 and marked with false marking. Lt may be covered with paving pre-cast cement tiles, stones in specified sizes. These shall be bedded in 12mm thick cement sand mortar. Joints shall be pointed with CM 1:3 mixed with 5 % crude oil by weight.
- 3.3.4 Measurements shall be in square meter for finished surface area.
- 4.0 UNDER GROUND WATER PROOFING (FOR EXTERNAL WATER)
- 4.1 BOX TYPE
- 4.1.1 This is a proprietary treatment
- 4.1.3 The measurements are in square meters for the area treated.
- 4.2.0 BITUMEN FELT SYSTEM.
- 4.2.4 Measurements shall be in square meters for Finished surface area.
- 4.3 POLYURETHANE FOAM SPRAY.
  Polyurethane foam spray shall be applied in place of tar felt treatment of 40 to 60 kg./cu.m density. Laying of P.C.C. and other R.C.C. work operation remains same as
- 5.0 GURANTEE.
- 5.l All water proofing system described above are for guide line purpose. Contractor may purpose alternative system along with this tender giving hill description.
- 5.2 System shall be guaranteed for 10 years against all defects and liabilities thereof from date of completion of project. This shall be given in approved pro-forma and on Rs, 100/stamp paper.
- 5.3 Work shall be measured in square meter system.
- 5.4 Work shall be carried out as per approved system by E.l.C. and approved specialist agency.

#### VOLUME -I S E C T I O N -VIII 9. SANITARY & PLUMBING

#### 1.0 GENERAL.

All the materials, fixtures and workmanship shall be accordance with relevant Indian standard specification, codes of practice and local bylaws or regulations.

#### 1.1.0 SANITARY FITTINGS.

All the glazed earthenware shall be of "Madhusudan Ware" white in colour and of one piece construction. All metallic fixtures like tap, stop cocks, soap holders etc. shall be of CP brass and 'Gem 'appr0ved make. PVC fixtures shall be of "capliplast" Brite or equivalent approved make. All wall fittings shall be fixed with wooden cleats and CP brass screws and CP washers.

#### 1.2.0 WASH DOWN TYPE WATER CLOSET.

Wash down water closet shall be with glazed earthenware of M Cera 2021 ZNC. The water closet shall be of one piece construction. This shall be fixed with PVC seat and cover of solid type fixed with CP brass hinges and rubber buffers and an integral l00mm dia. 'S' or 'P' trap with antisyphonage vent hole. A low level earthenware cistern confirming to No.2l0l of MCera with 15mm dia PVC inlet pipe and brass union with wipes holder joint, and internal overflow arrangement shall be fixed with the water closet. The closet shall be fixed firmly in the wall floor with matching cement mortar. Payment shall be made on unit basis. The rate shall include providing and fixing all fittings, breaking floors and wall and making good the same, making inlet and outlet connection to the system and the closet, testing of joints.

#### **1.3.0 URINALS.**

#### 1.4.0 WASH BASHINS

This shall be Specified as in the BOQ with one tap. Wash basins shall be of one piece construction including a combined over flow. A slot type of overflow having an area not less than 5cm2 shall be provided in the back of the bowl and it shall be so designed as to facilitate cleaning of the overflow. This shall be fitted on M.S. brackets. The brackets shall be given two coats of white enamel paint or aluminum paint of approved quality.

#### 1.5.0 TOWEL RING.

Towel ring shall be of chromium Stainless Steel. The towel ring shall be 150mm dia.

#### 1.6.0 TOILET PAPER HOLDER.

Toilet paper holder shall be of as specified in the BOQ

#### 1.7.0 COAT AND HAT HOOKS.

Coat and hat hooks shall be of Stainless steel.

#### 1.8.0 BIB AND STOP COCKS.

Bib and stop cocks of screw —down type shall conform to IS 791. All type be heavy grade and as specified in the BOQ The taps shall be of chromium plated brass easy cleaning variety as specified. The rate shall include supplying and fixing of bib or stop cocks in position with while zinc and yam etc. complete. The payment shall be made on unit basis.

#### 1.9.0 GUN METAL VALVE.

All fill way and globe valves shall be of heavy gun metal and tested at 300 p.s.i. and shall be of leader make or equivalent approved by the Engineer-in—charge. Valves shall conform to I.S. 778. The payment shall be made on unit basis. The rate shall include supplying and fixing valves in position as per drawing and direction of Engineer-in-charge.

#### 1.10 NAHNI TRAP. (FLOOR TRAP)

Nahni trap shall be of heavy cast iron with 100mm inlet and 80 and 100mm outlet with 300mm x 300rmn 5.5 cover/grating. It shall be of self cleaning design. It shall be fixed in cement mortar 1:2 or C.C. 1:2:4 The rate shall include supply and fixing nahni tmp, including cement mortar, concrete cutting walls and floors and making good the same, providing and fixing chromium plated pressed steel grating all complete. Payment shall be mad on unit basis.

#### 1.11.0 STONEWARE GULLY TRAP CHAMBER

The square mouth gully trap shall be 100m dia. Confirming to LS. 991 or as specified and approved quality stoneware, complete with heavy east iron grating, and shall be approved by Engineer—in-charge. The size of C.l. frame and cover shall of 300mm x 300mm . It shall be properly fixed as directed by Engineer-in-charge. The size of chamber shall be 300 x 300 x 500mm. It shall be constructed ol` brick masonry walls of 230mm thick in G.M. 1:4 (1 cement: 4 Sand) resting on 100m thick M150 concrete. Inside faces of the masonry walls shall be given 15mm plaster 1:3 cement mortar. The top of the chamber shall be provided with C.I. cover and frame of medium duty and fixed in C.C. 1:2:4 and finished with neat cement. The rate shall include supplying and fixing of stone ware gully trap with C.1. grating and constructing masonry chamber including providing and fixing C.1. frame and cover, Payments of urinals shall be on set basis. Rate quoted shall include cost of inlet and outlet pipes, breaking and making good the walls and flooring, making inlet & outlet concealed connections, painting concealed brackets etc. complete. The quoted rated shall include concealed arrangements including breaking walls and floors and remaking the same to original condition.

# $1.12.0\,$ BRICK MASONRY CHAMBER ( <code>MANHOLES/</code> INSPECTION CHAMBERS AND VALVE CHAMBERS ).

The size of the manhole and chambers shall be as specified in the drawings or items. It shall be constructed with brick masonry walls in C.M. 1:4 1 cement: 4 Sand') resting on 150 grade concrete. The inside and outside face of the brick masonry walls m manholes and only inside face in valve chambers shall be plastered with 15mm thick p1aster'of cement mortar 1:3 (1 cement: 3 sand) mixed with water proofing compound. 20 thick plaster 1:3 with cement punning shall be provided over hat matches at the bottom of manholes and haunches will be of C.C. 1:2:4. Manholes shall be provided with minimum duty CI cover frame as per IS: 1726. The specification for brick masonry, plastering, concreting, excavation, backfilling etc. as given under relevant clauses in this tender shall be applicable for this work. Payment shall be done on unit basis including excavation, backfilling, construction of chamber, making connections of pipes through the walls, providing surface box in valve chambers and cover and frame in manhole etc. complete with all labour and materials etc. as per the direction of the Engineer-in-charge. The rate shall include breaking concrete of brick masonry work and making good the same with 1:4 cement mortar if necessary, finishing pointing, etc. complete with all labour and materials etc.

#### 1.13.0 C.l.PIPES. U

Heagly cast iron pipe, socket and spigot type shall be standard quality conforming to IS 172 . The spigot of the pipe shall be places fully resting inside the socket and hemp caulked home to leave for lead depth as specified. Lead conforming to IS: 782 in molten state shall then be poured in to joint filling the same in one pouring. The lead shall be caulked by proper tools to make it even all

round. All pipes shall be fixed 25mm clear off the wall with MS holder bat clamps or as approved by the Engineer-in charge. shall be painted with two coats of paint of approved make and shade walls and floors shall be made good, by cement concrete 1:2:4 and shall be leak proof. All soil and waste pipes shall be tested for leakage by hydraulic test, to the satisfaction of Engineer-in-charge.

#### 1.14.0 G.I.PIPES AND FITTINGS.

All G.I. pipes and fittings shall conform to IS:1239 and shall be medium class for water supply service and shall be of Indian Tube CO. or equivalent. All screwed tubes and sockets shall have pipe threads in accordance with the requirements specified in I.S: 554. Unless specified otherwise, pipe shall be supplied screwed with taper threads and sockets with paralleled thread. All fittings shall be malleable galvanized iron 'R' mark of R.M. engineering work,

# 28.0 LIST OF APPROVED BRANDS OF MANUFACTURES FOR VARIOUS ITEMS (List of vendors)

1.	Brick	Shrinath/MD
2.	Cement Sheet	Everest/ Shera/Bison
3.	Cement	UltraTech/Ambuja/Jk
4.	Vitrified Tiles	Somani/Kajaria/Asian
5.	Tile adhesive	Laticrete/ SaintGobian Weber
6.	Foam Sheet	MM Rubber/ Swastik
7.	Sanitarywares	Somany/Cera/Hindware
8.	Plumbing fixtures	Jaquar/ Marc/EssEss
9.	Plumbing Fittings	Vintage/Chilly
10.	CPVC Plumbing materials	Astral/Ashirwad/Finolex
11.	PVC Plumbing materials	Kissan/ Finolex/Supreme
12.	Flush Doors	Euro/Century/Mayur/Garnet
13.	Hardware	
	a.Stopper	Oswal/Princess/Riddhi
	b. Door Closer	Godrej/Solo/Cellozen/Dorma
	c. Handels	Nikki/Decowell/Tab/Tunes
	d. Hinges	Oswal/Princess/Riddhi
	e.Locks	Europa/Cuba/Godrel/Bose
	f. Latches	Oswal/Princess/Riddhi
	g.Silicon Joint sealers	DowConning/GE
14.	Ceramic Glazed Tiles	Somani/ Kajaria/Asian
15.	Sink	Nirali/Jyna
16.	Aluminum extruded sections	Banco/Jindall
17.	Glass	Modi/SaintGobian
18.	Ply and Block Board	Mayur/Garnet/Century/Euro
19.	Veneers	Timex/Anchor/Century/Silicon
20.	Laminates	Timex, Century/Aerolam
21.	Screws	G.K.W/ Nettlefold
22.	Adhesive for wood	Fevicol
23.	Paints	ICI Dulux/Asian
24.	Floor spring	Sol/Ozone/Dorma
25.	Soft Board	Jolly/ Hansh HardboardLOCKS
26.	Wood Preservatives	Asian/ICA
27.	Rubber Foam	MM RUBBER FOAM, SWASTIK / GOODFOATV.
28.	Venetian /Roller Blinds	Mac/Vista
29.	Plaster Of Paris /Gypsum Board	Lafarge/SaintGobian
30.	Silicate Boards	SHERA
31.	Melamine Polish	Asian/ICA
32.	Drawer Slides	Ozone,Solo, EARL BEHARI
33.	Cement Putty	Birla White
34.	Patch Fitting	Ozone/Solo/Dorma
35.	TEXTURE PAINT	ASIAN
36.	Glass Handel	Ozone/Decowell/Dorma
37.	Keyboard tray	Supreme/Innofit

38.	Stained MDF	Valchromat
39.	Hardwood	Burma Teak/GhanTeak
40.	Projection screen	Grand View /View Tech.
41.	Kitchen Accessories	Sleek/ EveryDay/Evershine
42.	PVC Copper wires	Polycab/Anchor
43.	PVC Conduits	Precision/Nihir
44.	Switches	Schnider/Anchor/Crabtree
45.	GI box	Schnider/Anchor/Crabtree
46.	Distribution Board	Havells/Indo asian/HPL/Standard
47.	LT Cables	Torrent/Polycab/Asian/Fort Gloster
48.	Cable Glands	Dowells/HMI
49.	Light Filaments/Fixtures	Crompton/Bajaj/Wipro
50.	Fans	Crompton/Orient/Usha
51.	Exhaust Fans	Crompton/Orient/Usha
52.	Switchgears	Havells/Indo asian/HPL/Standard
53.	Air Conditioners	Panasonic/Hitachi/Carrier
54.	Copper tubing	Mandev
55.	Copper tube Insulation	Superlone

# DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD.

**Section-VI** 

**SCHEDULE OF ITEMS, RATES & QUANTITIES** 

#### **SCHEDULE OF ITEMS, RATES & QUANTITIES**

Name of Work: Office Interior by repair of flooring, partitioning, false ceiling providing furniture, electrication, air conditioning, cabling of networking and telecommunication facility for CPM/Vadodara office in office premises of Sardar Sarovar Narmada Nigam Ltd, Vadodara (SSNNL).

#### SCHEDULE-A (Civil Work)

Item No.	DESCRIPTIONS	Quantity	Unit	Rates in INR	Amount in INR
1	Barricading of area with temporary structures in Ms/wooden frame work, ply covering, Agro-net covering, jute net covering in entrance, around building, window and other openings as per direction of the EIC.	65.43	Sqm	484.00	31668.12
2	DISMANTLING				
а	Dismantling an disposing outside premises as directed by Engineer In-Charge (EIC) of existing brick walls with all finishes such as tiles claddings, panelling etc as indicated in drawing an instructed at site by EIC/Architect inclusive of transportation, labour, machinery, material consumed.	25.00	Cum	217.00	5425.00
b	Removing and disposing outside /inside premises as directed by EIC of all flooring tiles/ marbles inclusive of all under laid conduits/ pipes./cables etc.Rate includes Transportation, labour, machinery, consumable etc. complete.	33.44	Sqm	37.09	1240.29
С	Removing and disposing outside or inside premises as directed by EIC of all metal framed or wooden door with ventilator, windows openable or fixed jallis, grills, collapsible of openable or sliding.	13.00	no	164.00	2132.00
3	Brickwork with modular bricks of class designation 7.50 in superstructure in CM 1:3				
а	9" thick brick masonary	5.00	Cum	2003.00	10015.00
b	4.5" thick brick masonary	130.00	Sqm	272.00	35360.00
4	Providing and laying 12mm thick (average) in Single coat internal cement plaster in CM 1:4 at all heights to the concrete or masonry surfaces, inclusive of beams pillar chajjas, finished smooth with cement slurry as directed, including hacking of concrete raking of joints, scaffolding, curing, etc. complete as per specifications and as directed by the Engineer.	340.00	Sqm	102.60	34884.00

5 (a)	Providing and laying polished vitrified floor tiles 600mmx 600mm with minimum 10mm th size ,Double charged, glossy of approved make like SOMANY, Kajaria, Johnson, in all colours, shades, size as approved by Engineer-with Tile adhesive of Laticrete or equivalent on existing flooring with minimum thickness of 12 mm of tile adhesive or more as required for making floor in level and jointing with matching cement grout.	445.00	Sqm	756.00	336420.00
5 (b)	Providing and laying polished vitrified tiles in skirting of 100 mm hight flush to brick wall from same as flooring tiles with minimum 10mm th size ,Double charged, glossy of approved make like SOMANY, Kajaria, Johnson, in all colours, shades, size as approved by Engineer. Rate to include making jari in brick /R.C.C wall bedding material, making joint good with matching cement grout, etc complete.	24.80	Sqm ·	756.00	18748.80
6	Protective masking of floor tiles with 4mm PU foam sheet/6mm construction plastic sheet laid over floor with adhesive tapes, inclusive of laying, removal and disposal.	445.00	Sqm	64.80	28836.00
7	Providing and fixing best quality satin white finish ceramic glazed tiles of 10 mm thick 300mm x600mmsize in dedo /skirting of kajaria or somany with cement slurry thickness as required to make in line and level joints filled with matching cementeous compund with all leads and lift complete. Rates include cost of all materials including cement and cement grouts, labour. surface area may have straight or curved edges.	80.00	Sqm	726.84	58147.20
8	Providing and fixing of 18 mm th. granite stone slabs as selected by EIC, strips on walls floors dados, steps, window opening edges and platforms make in all colours, shades, size as n bed of cement Mortar with all visible edges polished or moulded as per design, inclusive of MS/SS brackets, cutting of walls, tiles floor and making good.	5.90	Sqm	2259.00	13328.10
9	Providing & fixing in position EUROPEAN type glazed vitreous china, wall hung W.C. pan of 1st quality with integral "S" or "P" trap the W.C shall be clear twin action 2015 EWCP or S cera make vitreous china flushing system shall be 2115 Cera make as required and approved size, shade & as per EIC including Fitting with bracket s all accessories, inlet connection, stop cock, cutting and making good the walls and floor, painting to brackets etc. complete with all labour and materials. Make of W.C CERA, Hindustan twyford, Somany. Stop cock of jaquar make.	3.00	nos	5790.00	17370.00

10	Providing & fixing white , vitreous china flate back type liped front urinal 430x260x350 mm Urinals with manual flush system in position including all accessories, inlet conection, angle stop cock, cutting and making good walls and floor . Make of urinal somany, cera, hindustan Twyford.	2.00	nos	3445.00	6890.00
11	Providing & fixing in position oval shap (over Counter) model1005 basin 550x 460 mm Cera make with fitting with bracket and cutting and making good the wall floor etc. wherever required including making necessary molding and grooves for fixing wash basin on granite counter as directed by EIC. wash basin, Inclusive of supply pipe, bottle trap and waste disposal pipe.	3.00	nos	2100.00	6300.00
12	Providing & fixing in position of SS AISI-304(18/8) Kitchen sink of Nirali make bowl size 450x375x190 mm as per IS: 13983 with C.I brackets and stainless steel plug 40 mm including painting of brackets and fitting, cutting and making good wall, floor and granite counter with necessary grooving, cutting and moulding supply pipe, bottle trap and waste disposal pipe, etc. complete.	1.00	nos	4300.00	4300.00
13	Providing & fixing fittings with all accessories etc. complete of Jaquar make with all labours, materials as directed by Engineer in charge. The item includes all required joineries, flexible supply pipes, nipples, bottle trap, couplers, sleeves, flanges etc. complete.				
а	Basin pillar cock , S.S finish continental series -021 Jaquar.	3.00	nos	672.84	2018.52
b	Sink tap, S.S finish continental series-357 Jaquar.	1.00	nos	892.00	892.00
С	Halth faucet with angle cock. (Cat. No. 563) Jaquar make	3.00	nos	1147.00	3441.00
d	Concealed stop cock 15 mm nominal bore of std design and confirming to IS: 8931.	5.00	nos	205.00	1025.00
е	Angle cock continental series -055 jaquar.	7.00	nos	648.00	4536.00
f	Metropole Flush valve ( push type) Jaquar.	3.00	nos	3100.00	9300.00
g	Supply and Fixing PVC jet sprey superior quality Deflex Make or similar 1.50m Long including providing stop cock of continental series -087 Jaquar. Rate shall includes all fitting s, labours Etc. complete.	3.00	nos.	513.00	1539.00

14	Providing and fixing PVC nahni traps Heavy weight with SS jalli, SS Strainer, of self cleaning design in floors RCC slabs etc. with atleast 7.5cm water seal incl. cost of cutting and making good walls, slabs, etc. complete as per specifications with all labours and materials etc. complete of 100mm	8.00	nos	450.00	3600.00
15	Providing and fixing CPVC pipe line of ASTRAL make SDR-11 type including all necessary fittings, clamps, fixing in trenches or in wall using solution or yarn with socket, strap and screw at joints, bends, elbow, reducers, tees, tee holder, coupling, bushing and other specials etc. complete including making zaris in the wall and filling up the zaris, necessary excavation refilling etc. making good floor or wall etc. complete with all labours and materials.				
а	Dia 20 mm	50.00	rmt	159.84	7992.00
b	Dia 25mm	60.00	rmt	206.25	12375.00
С	Dia 50 mm	30.00	rmt	516.24	15487.20
16	Providing and laying Different Dia. P.V.C soil pipe of SWR Grade minimum 6 kg/Cm 2 pressure of Kisan, Supreme make and quality to be laid in line and slope as directed including excavation, jointing back filling etc. complete.				
а	110 mm DIA	20.00	Rmt	255.00	5100.00
b	150 mm Dia	40.00	Rmt.	457.00	18280.00
17	Providing and fixing powder coated ( Egg WHITE colour ) 3/4" Series Jindal/Banco Make Section for two track sliding /Fixed window .sliding window and fixed glazing to be paid for seperately. Rates includes glass cost also.				
a	Two track sliding window with 4 mm th. float glass including standard accessories like TPI make Runner, Clear pvc gasket, Star make concealed lock, 6 mm thic k track wool pile necessary screw &fasteners. Section spec. frame: two track bottom 62mmx32mmx1.2mm Side & Bottom 62mmx32mmx1.2 mm. Shutter: Handle, interlock top and bottom section. 18mmx 40 mm x1.2 mm	35.00	Sqm	2071.00	72485.00

b	fixed Glazing . With 4 mm glass powder coated Aluminium section Single partition section 63mmx38.1 mm x1.2mm glazing clip 19.0mmx 17.00 mm	20.00	Sqm	2106.00	42120.00
С	Ventilator: Same as 18.b i with non openable glazing of 4mm glass and 5mm acrylic with hole for centrifugal exhaust fan.	2.00	Sqm	2275.00	4550.00
18	providing and fixing frame less 5 mm th mirror on wall of 3'-o" x1'-9"above wash basin platform in full size with SS corer studs. edges polidhed Mirror shall be of Saint Gobain or Modi Guard .It includes drilling cutting making good walls etc. as per instruction of EIC. Rates include material hardware, edge polishing, labour etc. complete.	3.00	No.	1200.00	3600.00
19	Providing and fixing 12 mm thick 21"x 48" Acid washed toughened glass urinal divider with SS clamps and patch fitting as per design	2.00	nos	1200.00	2400.00
20	Providing and fixing paper holder with flap recessed type of CERA make 106 cat no. of Hotelier series. It includes drilling cutting making wall good etc. Rates include material hardware, labour etc complete.	3.00	nos	625.00	1875.00
21	Providing and fixing Towel ring of Jaquar make Cat no 1121 in s.s finish. It includes drilling cutting making wall good etc. Rates include material hardware, labour etc complete.	4.00	nos	748.00	2992.00
22	MS Grill/Platform				
a	Providing, making and fixing M.S grill/M.S platform from M.S angle 40.0mmx40.0mmx5.0mm, M.S plate 32mmx4mm, fastners as per design fixing at positioning and cutting , 1 coat of anti corrosive redoxide and on top 2 coats of enemal paint of Asian Paint. Rates to include materail, hardware, color, labour, cutting, grooving and making good walls with finish.	300	KG	86	25800.00
		TOTAL OF	Schedu	ıle A=	852472.02

### **SCHEDULE-B** (Interior Work)

item no.	DESCRIPTIONS	QTY	UNIT	MODE OF MEASUR E	Rates in INR	Amount in INR
a b	Standard Partition of the 3in. thk., upto false ceiling with 24" x 24" apart vertical and horizontal member of commercial grade ply of 18/19mm thickness, with 8mm ply boards, on both sides and laminated or as specified in drawing at Annexure -A inclusive of fixing of glass supplied by contractor, as indicated in the drawing with trims, battens, beadings with melamine polish or paint as indicated.  Extrusive laminated joint less than equal to 90 degree must be smoothened of sharp edges and 2mm Uniform gap between all laminate joints, cleaned thoroughly of the excess adhesive. 1" dia PVC pipes to be provided vertically or horizontally to run Electric/Data/Voice cable wherever required or indicated in drawing at Annexure -A. Cost to include ply, laminate, hardware, labour, beading, battens, trims, paint and polish etc.  Measurements of partitions will be excluding the the total surface area of glass	64.13	Sqmt	LXB	4035.0	258764.6
c d	and doors  Payment and Measurements of glass will be made as per the heading of Supply and fixing of glass.  Payment and Measurements of doors will be made as per the heading of Doors as Part glass door.					
2	Half partitions 5' height with in ply as described in above clause No 1 with 24" x 24" apart vertical and horizontal member of commercial grade ply of 18/19mm thickness, with 8mm ply boards, on both sides and laminated or as specified in drawing inclusive of fixing of glass supplied by contractor, as indicated in the drawing at Annexure -A with trims, battens, beadings	51.12	Sqmt	LX B	4196.0	214499.50

	with melamine polish or paint as indicated.					
	Parts of partitions in , wherever indicated					
a	to have writable white laminates. No extra calculation will be made for the change in					
	laminate type.  Partitions at straight to curved Junctions,					
	Straight to straight junctions ,at doors					
	frames at doors frames, corners, ends may change in width ( see drawing at Annexure -					
b	A )are to be considered in quote and will					
	not be calculated separately. Cost to include ply, laminate, hardware, labour, beading,					
	battens, trims, paint and polish etc.					
	Supply of Glass					
	Supply of clear float glass of required thickness , inclusive of edge polishing,					
3	carting lifting and placing in position of					
	make , Modi or Saint Gobian .					
a	12mm normal	52.97	Sqmt	LxB	1420.0	75217.40
b	12mm toughen	7	Sqmt	LxB	2235.0	15645
С	8 mm normal	12.5	Sqmt	LxB	1022.0	12775
d	6 mm normal	5.5	Sqmt	LxB	772.0	4246
е	6 mm mirror	3.2	Sqmt	LxB	1230.0	3936
	DOORS					
4	Flush Doors					
a	Doors made up of 35mm block boards , layered ply as external frames, laminated on both sides .					
b	All doors are to be fixed with door closer, motice lock, SS handle of approved make.	13.66	Sqmt	LxH	4663.0	63696.58
С	Rate for Doors will include cost of all required Iron Mongries such as hinges, locks handles door stoppers, door closers, floor spring if indicated					
5	Part Glass Doors					
a	Doors made up of 32mm blockboards, layered ply as external frames, laminated on both sides and with clear float glass where	27.00	Sqmt	LxH	5232.0	141264
	5		L	L	l	

	ever indicated in the design at Annexure -A					
b	All doors are to be fixed with door closer, motice lock, SS handle of approved make.					
С	Measurements of partitions will be excluding the total surface area of glass.					
d	Payment and Measurements of glass will be made as per the heading of Supply and fixing of glass.					
e	Rate for Doors will include cost of all required Iron Mongries such as hinges, locks handles door stoppers, door closers, floor spring as indicated					
6	Main Entry door					
a	Entry door with melamine polished wooden stilled door, 12mm toughened glass with printed logo pasted Part of door will be fixed and non openable as shown in drawing at Annexure -A . Openable Door will be set on floor spring, lockable, SS D handle, door stopper inclusive, Door frame solid wood with required thickness as needed.	6.7	Sqmt	L X B	8984.0	60192.8
b	All doors are to be fixed with door closer, motice lock, SS handle ,Floor Spring of approved make.					
С	Rate for Doors will include cost of all required Iron Mongries such as hinges, locks handles door stoppers, door closers, floor spring, Toughened glass as indicated.					
7	Panelling (laminated)on walls/ beam					
а	Paneling on and walls/ beam bottom with 12 mm ply wood with wooden battens. Ply strips to run electrical/ data cables or otherwise, laminated /painted as per locations	102.2	Sqmt	LXB	1830.0	187026.0
8	Paneling around windows					
a	Paneling with 18mm ply around inner of windows, sills lintel and sides Laminated/painted as per locations	5.1	Sqmt	LX B	2152.0	10975.2
9	Paneling on walls/beam					
a	Paneling on walls/beam with 12mm commercial grade plywood of century green make in line and level with necessary beading, batten, hardware. Cost to include	10 5	Samt	IVD	1200	24050.00
	beauting, battern, maruware, cost to michade	10.5	Sqmt	LXB	1300	24050.00

	supply, hardware, labour, beading, battens,					
	making walls and floor good etc.					
	Supply and fixing 3.50mm thick natural					
	vineer of teak figured on ply surface with					
	adhesive and necessary nails screw etc. and					
b	finishing vineer with cutting of vineer					
b						
	touching of nails hole and applying 3 coats					
	of natural malemine polish, buffing, cutting					
	etc. complete. Cost to include natural					
	veenear, adhesive, hardware, malemine					
	polish, labour, beading, battens, making					
	walls and floor good etc. complete	17	Sqmt	LXB	1112	18904.00
	Decorative partition panel					
	Decorative panel in partition of 18mm thick					
10	waterproof HDF (high density fibre board)					
	board with hydro or laser cutting as per					
	design as shown in drawing and finished					
	with 3 coats of malemine polish. Cost to					
	include HDF Board, adhesive,					
	hardware,malemine polish, labour, beading,					
	battens, etc. complete					
	battens, etc. complete	4.5	Sqmt	LXB	5020	22590.00
			- 1			
11	WORK STATIONS					
а	30" high Work Stations of 18mm ply shape					
	as per the design, with detachable 16"x18"x					
	28" side storage unit of one 4" drawer					
	receiving table top. One end of top rests on					
	vertical support and one end on side unit.					
	* *					
	Side of top is wedged to front/side	14	Nos	Unit	17000.0	238000.00
	partitions and clamped. The junctions of two					
	Work station ends to be provided with 12					
	mm glass divider on bracketsThe unit					
	includes All dividing partition back paneling					
	CPU Stand or hanger, key board tray, wire					
	managers.					
	All tables are detachable from partitions/					
	storage units.					
b						
					1	

С	Top and visible sides with laminate and polished/ painted wooden trims as indicated in drawing. All inner side of storage unit and table, bottom of table is 0.8 mm laminated of white or off white color. Key board is to be provided where ever required.					
d	12"Pin up board with fabric and white board above the WS above switch panel on front and on side partition as positioned above and indicated in drawing					
e	Drawers and shuttered cabinet must be locable with a common keyed locking system of approved make Handles, hinges are of S.S. All considered Iron mongery must be exhibited and approved prior to installation. All wooden trims and beadings to be matched with selected laminate and melamine polished/Duco painted					
12	Cabin tables for CPM					
a	Cabin table, shape as per the design with two 4in.drawer of 21" depth with channel and filing cabinet with shutter. Top fixed to drawer unit with 2" dia SS clamp. Top and visible sides veneered and melamine polished and wellcromet if indicated. Front fascia board in 18 mm ply, veneered and melamine polished fixed to drawer unit and credenza. All inner parts are .8 mm laminated. Key board of approved make is to be provided if indicated. One side of table to rest on side credenza, screwed from bottom and is detachable if necessary.  Front beading is of 1.5" thk. All wellcromet	1	Nos	Unit	50000.0	50000.00
b	and beeding to be matched with selected laminate and melamine polished. Unit will include all items inclusive of top side unit, front apron, side credenza, side panel locks with common key, handles, and all iron mongries and no extra calculation will be made.					
13	Cabin tables for DYCPM	6	Nos	Unit	35700.0	214200.0

	Cabin table, shape as per the design with					
	two 4in.drawer of 21" depth with channel					
	and filing cabinet with shutter. Top fixed to					
	drawer unit with 2" S.S. clamp. Top and					
	visible sides laminated and wooden trims if					
	indicated. Front fascia board in 18 mm ply,					
	laminated, and fixed to drawer unit and					
	credenza. All inner parts are .8 mm					
	laminated. Key board tray of approved					
	make is to be provided if indicated. One side					
	of table to rest on side credenza, screwed					
	from bottom and is detachable if necessary.					
	Front beading is of 1.5" thk. All wooden					
	trims and beadings to be matched with					
	selected laminate and melamine polished					
	Unit will include all items inclusive of top					
	side unit, front apron, side credenza, side					
	panel locks with common key, handles and					
	all iron mongeries and no extra calculation					
	will be made.					
14	Cabin tables for APM					
	Cabin table, shape as per the design with					
	two 4in.drawer of 21" depth with channel					
	and filing cabinet with shutter. Top fixed to					
	drawer unit with 2" S.S.clamp. Top and					
	visible sides laminated and wooden trims if					
	indicated. Front fascia board in 18 mm ply,					
	laminated fixed to drawer unit and					
	credenza. All inner parts are .8 mm					
	laminated .Key board tray of approved					
	make is to be provided if indicated. One side	11	Nos	Unit	30000.0	330000.0
	of table to rest on side credenza, screwed	11	1403	Onic	30000.0	330000.0
	from bottom and is detachable if necessary.					
	Front beading is of 1.5" thk. All wooden					
	trims and beadings to be matched with					
	selected laminate and melamine polished					
	Unit will include all items inclusive of top					
	side unit, front apron, side credenza, side					
	panel locks with common key, handles and					
	all iron mongeries and no extra calculation					
	will be made.					
15	Conference Table					
	Conference Table:(2 detachable parts)of					
	ply/BB, laminated and matching wooden	1	Nos	Unit	62334.0	62334.0
	trimming with melamine polish or painted.					
	Size 4' x 12'-0"					
	Shape and details: As per drawing.					
	Snape and details: As per drawing.					

	Central arrangement on table to receive					
	power supply, data/communication VGA					
	cable upto projector in ceiling.  Central part of table is with panels with					
	hydraulic hinges.					
16	Reception table					
	Round reception table of 24 " deep 30" high					
	with 6" th 42"high front apron. The unit					
	includes detachable file storage and side					
	credenza as shown in the drawing	1	Nos	Unit	55000.0	55000.0
17	Conference Display Unit					
	Conference table ledge of 18" deep with					
	drawer units and shuttered cabinets as					
	shown in drawing with writing board made					
	of ply and writable laminates.					
		10.8	Sqmt	LXH	12900.0	139320.0
	Slots and conduits to be provided for Audio	10.0	Squit	LATI	12,00.0	137320.0
	Video cables, Power cables, HDMI cables to					
	pass thru connecting electronic equipment					
	such as amplifier, DVD player, Laptop, Hand					
	held system to screen, LCD display, Camera,					
	Microphone, Speaker as indicated in the					
	drawing or identified on siteMeasurement					
	will be of elevation					
	Display system					
18						
10						
	Projection screen of 80" width X 60" height					
	with manual operation . Diagonal					
a	measurement is 100". Screen with material					
	matt white, gain 1.0, angle ratio 45 degree,					
	metal housing of 90mm X 90mm. Screen of make such as Grand View or View Tech.	1	Nos	Each	15400.0	15400.0
	STORAGE/ UTILITY					
10	Pantry Unit					
19	,					
	storage units below pantry platform in ply,					
	and laminated on all visible sides with					
	1mm laminate, and inner sides with .8 mm					
a	laminate , Unit includes provision for					
	storage system for cutlery etc with SS baskets on channels. napkin holder, SS					
	waste basket, as mentioned in the drawing		_			
	waste basice, as mentioned in the trawing	1.859	Sqmt	LxH	6886.0	12801.07
_	Unit will include all items inclusive of locks					
1 1-						
b	with common key, handles and all iron					

	mongeries and no extra calculation will be madeMeasurement will be of elevation					
	File cabinets					
20						
a	Filing cabinet 16" deep, with sliding shutters, shelves at 14" height in ply and 8 mm glass vertical partitions fixed with Aluminium C channels for filing. Visible and inner sides with laminated and wooden trims wherever necessary All cabinets are lockable. Handels of Stainless steel.					
b	Unit will include all items inclusive of locks with common key, handles and all iron mongeries and no extra calculation will be made. Measurement will be of elevation.					
С	Type 1 - 36" high					
		24.63	Sqmt	LxH	8690.0	214034.70
	Type 2 - 30" high					
d		1.859	Sqmt	LXH	8690.0	16154.71
21	File cabinets in DYCPM cabin					
a	File storage for DYCPM 48" high, 16" deep with 8" drawer on top and sliding shuttered file cabinet below with wooden shelves and vertical division of 8mm th edge polished glass at about 10" apart fixed with aluminum C chanels visible and inner sides with laminated and wooden trims wherever necessary All cabinets are lockable. Handles of Stainless steel.	12.08	Sqmt	LXH	8690.0	104975.20
b	Unit will include all items inclusive of locks with common key, handles and all iron mongeries and no extra calculation will be madeMeasurement will be of elevation	12100	oquie		0070.0	10177.0120
22	Printer table					
a	Stationery unit and printer table of 24 "depth, 30" height with 4" drawers on top and hinged shuttered cabinets of 18 mm ply with shelves as indicated in drawing. Visible	3.717	Sqmt	LXH	11290.0	41964.93

	and inner sides with laminated and wooden trims wherever necessary All cabinets are					
	lockable. Handles of Stainless steel.					
b	Unit will include all items inclusive of locks with common key, handles and all iron mongeries and no extra calculation will be made.					
23	FALSE CEILING					
a	Providing and fixing seamless ceiling with Gypsum Sheets 12 mm thk as per design Inclusive of cutting holes for electrical fixtures/ Ac grills and ducts.	408.9	Sqmt	LXB	540.0	220806.0
b	Suspended or lifted parts/recessed parts must be in perfect line level rounded/curved pats must in perfect curvature with out dents and distortion					
С	Measurement inclusive of all visible horizontal and vertical surfaces as in a wrapped up surface area, no double measurements for change in levels/suspension will be counted.					
	PAINTING WORK					
24	Surface punning	1200	Sqmt	LXB	120.0	144000
a	Leveling of plastered wall surfaces with Plaster Of Paris slurry in line and level for all exposed and visible areas from finish floor to false ceiling bottom.					
b	All measurements will be done in wrapped up surface manner and no running length will be considered.					
	Standard Painting					
25		1609	Sqmt	LXB	134.5	216410.50
a	Providing & applying approved quality Plastic Paint/Acrylic emulsion paint of Asian , Burger, ICI make in three coats for walls and ceiling with selected shade on finished surface of wall by applying required primer coat etc complete.  All measurements will be done in wrapped					

	up surface manner and no running length will be considered.					
	Texture paint					
26						
26						
		30	Sqmt	LXB	525.0	15750.0
a	Providing & applying textures surface paint of Asian make in selected shade and texture for walls and ceiling					
b	All measurements will be done in wrapped up surface manner and no running length will be considered.					
	MISCELLANEOUS					
	Film printing pasting					
27						
а	Supply, printing of graphic as provided by client and pasting on walls and partitions as directed.	20	Sqmt	Lx B	750.0	15000.0
b	FILMING ON GLAZED PORTIONS: Providing and fixing on glass panels, self adhesive image graphics film with computerized graphic design ref.3M Scotchcal commercial Graphics Cat. Electrocut Crystal films, or of approved equivalent make frosted crystal sand-Blasted look. All compete as per approvals and					
	instructions of the Engineer in Charge.	52	Sqmt	Lx B	700.0	36400.0
	Wall paper of basic cost Rs.645.00/sqm					
28		28	Sqmt	Lx B	740.0	20720.0
29	P&F of Roller blind on windows of Vista or Mac make spotlight, transworld collection or equivalent consisting of control unit, idler, brackets, operating chain, fixing brackets, roller tube and load bar complete as per directions of Engineer in charge.					
	Standard Type					
a		52	Sqmt	L x B	1450.0	75400.0

	Blackout Type					
b						
		7.5	Sqmt	LxB	1683.0	12622.5
a	Supply and fixing of Art frame with painting on canvas framed with 3mm float glass of Modi Make and good quality moulding of suitable size with black 3mm MDF at the back. Shade ,colour, size and pattern of moulding, art work will be decided by EIC.	5	SOM	LXB	7778	38890.0
31	TOTAL of Schedule-B	J	SQM	LAD	7770	3403965.66

It e m N o.	DESCRIPTIONS	Quanti ty	Unit	Rates in INR	Amount in INR
	The electrical installation shall be carried out by Govt. approved licensed contractor in strict accordance with the latest edition of the Regulations for the Electrical Equipment of Buildings issued by the Institute of Electrical Engineers I.E. rules and to the satisfaction of and in accordance with rules, regulations, and requirements of the supply company and the Fire department all to the entire satisfaction of the Engineer in charge, Architect, electrical consultant & client. (All the qty. are indicative only as per drawing, bill should be raised on actual qty.)  INTERNAL POINT WIRING				
1	INTERNAL POINT WIRING  Supply and installation of Point wiring for Light point, ceiling fan points,6amp. socket outlet point etc. with 2 nos of 1.5 sq.mm & 1 nos of earth wire of 1.0 sq. mm multistand, flexible, ISI marked FR PVC Copper Wires of approved make in rigid PVC MMS conduit duly erected complete with 6A Moduler type switch, step type fan regulators, 6 amp. socket, angle holder/batten holder/ceiling rose & accessories erected on 18 SWG G.I. / PVC box covered with approprite				
a	<i>mains.)</i> One 6A switch controlling one light point using 2no. Of 1.5 sqmm wire & 1 no. of earthing wire. [without wiring]	20	no.	365.00	Rs.7,300.00
b	One 6A switch controlling two light point using 2no. Of 1.5 sqmm wire & 1 no. of earthing wire. [ without wiring ]	30	no.	425	Rs.12,750.00
С	One 6A switch controlling three light point using 2no. Of 1.5 sqmm wire & 1 no. of earthing wire. [	10	no.	495	Rs.4,950.00

	without wiring ]				
d	One 6A switch controlling four light point using 2no. Of 1.5 sqmm wire & 1 no. of earthing wire. [ without wiring ]	2	no.	565	Rs.1,130.00
e	One 6A switch controlling one fan point using 2no. Of 1.5 sqmm wire & 1 no. of earthing wire. [without wiring]	21	no.	745	Rs.15,645.00
f	Two 6A two way switch controlling one fan point using 2no. Of 1.5 sqmm wire & 1 no. of earthing wire. [ without wiring ]	1	no.	800	Rs.800.00
g	One 6A switch controlling 6A socket outlet (5 pin) in common switch board [ without wiring ]	26	no.	420	Rs.10,920.00
h	One 6A switch controlling 6A socket outlet (5 pin) separate switch board for raw plug point (Without wiring - it will be included in circuit mains).	50	no.	420	Rs.21,000.00
I	Two 6A switch controlling two 6A socket outlet (5 pin) separate switch board for UPS operated plug point (Without wiring - it will be included in circuit mains).	33	no.	745	Rs.24,585.00
j	6/16A switch socket with flush metal company made box with front modular cover plate (Without wiring - it will be included in circuit mains).	18	no.	695	Rs.12,510.00
k	T.V.out let socket point with company made box with front moduler cover plate. (Without wiring - it will be included in circuit mains).	1	no.	345	Rs.345.00
	CIRCUIT MAINS				
2	Providing, installing, testing, commissioning of CIRCUIT MAINS of following sizes PVC insulated copper conductor multi-stranded flexible type wires with 20 / 25mm dia P.V.C. Rigid conduits 1.5 mm thick ISI mark of above specified make with following size of wires with copper lugs, numbering ferrul as per instruction of engineer in charge.				
a	Do as above but with 2 nos. of 1.5 sq mm and 1 no. of 1.0 sq mm (for earthing) wires (FOR POINT WIRING OFF & EX-FAN MAIN LINE).	700	mtr.	87	Rs.60,900.00
b	Do as above but with 2 nos. of 2.5 sq mm and 1 no. of 1.0 sq mm (for earthing) wires (LDB TO SB Lighting / Computer DB to Computer mainline).	1400	mtr.	104	Rs.145,600.00
С	Do as above but with 2 nos. of 2.5 sq mm and 1 no. of 1.0 sq mm (for earthing) wires (UPDB TO UPS PLUG mainline).	400	mtr.	104	Rs.41,600.00

d	Do as above but with 2 nos. of 4 sq mm and 1 no. of 2.5 sq mm (for earthing) wires (LDB TO A.C. & POWER SB mainline).	450	mtr.	139	Rs.62,550.00
e	16 sqmm flexible 'cu' cable for earthing in 20 mm PVC conduit pipe.	50	mtr.	169	Rs.8,450.00
f	6 sqmm flexible 'cu' cable for earthing in 20 mm PVC conduit pipe.	65	mtr.	84	Rs.5,460.00
	DISTRIBUTION BOARD (Approved switchgear : Havells / HPL / Indoasian/Standard )				
3	(DISTRIBUTION BOARDS) Supply, installing, testing and commissioning of Double door type distribution board with following 10 KA MCBs, Lugs, blank plates, numbering etc. complete to the satisfaction of the Engineer in Charge				
a	4 WAY TPN IP 43 double door vertical DB with 32 A FP MCB - 1 no., 32 A. FP 30 ma type-Hi ( hi immunity ) RCCBs - 1no. as incomer, 6 A TO 25 A. SP MCB-12 no. as outgoing (For LDB-1 & LDB-2)	2	set	8142	Rs.16,284.00
b	<b>4 WAY TPN</b> IP 43 double door vertical DB with 63 A FP MCB - 1 no., 63 A. FP 30 ma type-Hi ( hi immunity ) RCCBs - 1no. as incomer, 16 A TO 20 A. SP MCB-12 no. as outgoing <b>(For ACDB-1 &amp; ACDB-2)</b>	2	set	9142	Rs.18,284.00
С	<b>4 WAY V TPN</b> IP 43 double door vertical DB with 125 A FP MCCB - 1 no., as incomer & 63 A TP MCB-2 no. & 32 A. TP MCB -2 no. as outgoing <b>(MLDB)</b>	1	set	13272	Rs.13,272.00
	L T CABLES				
4	Supply, installation, testing & commissioning charges for 4 C x 16 sqmm XLPE Alu. Armoured cable. (for MLDB TO ACDB -1 & 2)	40	mtr.	145	Rs.5,800.00
5	Supply, installation, testing & commissioning charges for 4 C x 6 sqmm XLPE Alu. Armoured cable. (for MLDB TO UPDB & LDB -1 & 2)	45	mtr.	112	Rs.5,040.00
	CABLE GLAND				
6	Supply and making end termination with brass single compression cable glands for the following XLPE aromoured 1.1 KV grade cable including cost of crimping lugs/ferrules, glands, insulation tape, etc complete as required. (Approved make: Dowells/HMI)				
a	for 4 c x 16 sqmm Alu. Arm. Cable.	4	no.	350	Rs.1,400.00
b	for 4 c x 6 sqmm Alu. Arm. Cable.	6	no.	270	Rs.1,620.00
	LIGHT FIXTURE				

7	Supply, Installation, testing and commissioning of following light fixtures with lamps, ballast, control gear, mounting clamps, hanging rods for fixtures along with all its accessories, checking of intrenal wiring etc. (Approved make: Crompton/Bajaj/wipro)				
а	Supply, Installation, Testing & Commissioning charges for 2 x 18 Watt Recess Mounted square DOWN LIGHTER FIXTURE WIPRO GCP 10218 SWG	77	no.	1859	Rs.143,143.00
b	Supply, Installation, Testing & Commissioning charges for 12V X 50 Watt LIGHT FIXTURE WIPRO EYE BALL WCQ 22150 recess mounted dichroic halogen downlighter	14	no.	750	Rs.10,500.00
С	Supply, Installation, Testing & Commissioning charges for 1 x 28 Watt recess mounted linear T-5 LIGHT FIXTURE WIPRO GCF 31128 SGW	25	no.	3542	Rs.88,550.00
d	Supply, Installation, Testing & Commissioning charges for 250 mm sweeps VENTIL-AIR - DX Ex-Fan (crompton/orient/usha make.)	3	no.	1700	Rs.5,100.00
e	Supply, Installation, Testing & Commissioning charges for 1200 mm Ceiling Fan ( crompton/orient/ usha make.)  L T CABLES	22	no.	2000	Rs.44,000.00
	Supply, installation, testing & commissioning				
8	charges for 3.5C x 70 sqmm XLPE Alu. Armoured cable. (for METER TO LDB)  (Approved make: ICL /  UCL/CCI/ASIAN/FORT  GLOSTER/NICCO/TORRENT/POLYCAB) (Cable length is indicative only, on site measurement should be verified by contractor before placing order)	200	mtr.	345	Rs.69,000.00
	CABLE GLAND				
9	Supply and making end termination with brass single compression cable glands for the following XLPE armoured 1.1 KV grade cable including cost of crimping lugs/ferrules, glands, insulation tape, etc complete as required. (Approved make: Dowells/HMI)				
a	for 3.5 c x 70 sqmm Alu. Arm. Cable.	2	no.	575	Rs.1,150.00
	EARTHING SYSTEM				
1 0	Supply, installation, testing and commissioning of 50 mm bore dia, medium class, ISI mark, and RCC earth box as per Drawing no. P 1870-R2 enclosed. As per IS 3043-1987	2	no.	3500	Rs.7000.00
	Earthing Strip/Wires/Grid				
1 1	Supply, installation, testing and commissioning of following sizes of GI/ Copper strip/wire clamped to walls, cable trays, bus ducts, cables in recess or				

	surface etc for equipment/ System /Lightning protection earthing complete as required including inter connection between length at joints, all fixing accessories saddles, clamps etc and other fixing hardware material as required for proper installation.				
a	6 SWG earth wire from metering box to main DB.	150	mtr.	30	Rs.4,500.00
1 2	AIRCONDITIONERS				
	supply installation and testing of panasonic brand(3 star) wall mount split air conditioner of different capacity in different areas as shown in drawings. Work includes fitting indoor and outdoor unit as mentioned, pvc hard drain, copper tubing of 1/2" and 1/4" with insulation and electrical supply cable between indoor and outdoor unit.  Cost includes making zari, hole, grooving, cutting in B.M/RCC wall or floor and making good wall and floor. it also includes cost of hard pvc drain,				
	copper tubing with insulation and electrical supply cable from outdoor unit to indoor unit or vice versa and fixing indoor and outdoor unit. cost does not include the M.S stand for outdoor unit it will be paid separately under the heading of M.S grill and platform in annexure-1.  Panasonic(3 star) 1-ton model no.(YC12PKY) or				
a b	equivalent model from Hitachi, Carrier make.  Panasonic(3 star) 1.5-ton model no.(YC18PKY)or	10	nos.	29890 33690	Rs.149,450.00 Rs.336,900.00
С	equivalent model from Hitachi, Carrier make.  Panasonic(3 star) 2-ton model no.(YC24PKY)or equivalent model from Hitachi, Carrier make.	2	nos.	41300	Rs.82,600.00
1 3	Supply of 42 inch LED full HD smart TV make Samsung/LG and its connection to audio system of conference hall as directed by EIC including supply and installation of Set Top box in name of CPM/DFCC/Vadodara with HD from TataSky/Airtel/Dish TV	1	Nos	60000	Rs.60,000.00
			Total of So	chedule-C	Rs.14,97,580.00
	GRAND TOTAL (Schedule A+B+C)				Rs. 58,63,308.00

(Rs. Fifty Eight Lakh Sixty Three Thousand Three Hundred Eight Only)

### Rate quoted by the tenderer-

In figure Schedule-A%(percentage) above/ below /at par In figure Schedule-B%(percentage) above/ below /at par In figure Schedule-C%(percentage) above/ below /at par	
In word Schedule-A	above/
In word Schedule-B	above/
In word Schedule-C	above/

### (to be filled by the Bidder/Tenderer)

### NOTE:

- 1. Bidders should quote %age above/below/at par both in words and figures via a vis every schedule..
- 2. In case of cutting/overwriting, the rates in words shall be taken as final.Contractor has to quote a single flat percentage in the blank space above.
- 3. All cuttings and over-writings should be signed by the bidders.
- 4. Any drawings/details required to be seen by the bidder can be seen in the office of CPM/ DFCCIL, 4th floor, Block "A", Narmada Naher Bhawan, (SSNNLs' office), Chhani Jakat Naka, Vadodara.
- 5. Multiple rates or rates not quoted in the desired format shall not be considered for evaluation.

Tender No. BRC/EN/Tender/Office Interior/2013-14/01 dated 01/06/2013

Signature of tenderer

### **ANNEXURE-I**

# STATEMENT OF WORKS COMPLETED BY THE CONTRACTTOR DURING LAST THREE FINANCIAL YEARS & CURRENT FINANCIAL YEAR

SN	Name and Place	Authority/Agency/Company for	Date of award &
0	of Work	which work was carried out	agreement no
1	2	3	4

Date of Completion(original/actual)	Agreement cost/Completion	Scope of work in brief	S. No. at which relevant certificate/docume nts
5	6	7	8

Note: The relevant documents & certificates from clients must be enclosed.

### **ANNEXURE-II**

# DETAILS OF CONTRACTUAL PAYMENT RECEIVED IN LAST THREE FINANCIAL YEARS & CURRENT FINANCIAL YEAR

S.No.	Financial Year	Total Turnover
1	2010-11	
2	2011-12	
3	2012-13	
4	2013-14	
	Total	

- For 2010-11, 2011-12 & 2012-13 copies of the audited balance sheets may please be attached.
- For 2013-14 unaudited results of turnover of company up to date may be submitted under the certification of CA.

### **ANNEXURE-III**

### **CONSTITUTION OF THE FIRM/COMPANY**

- 1. Full name of contractor's firm and year of establishment:
- 2. Registered Head Office address:
- 3. Branch offices in India

Address on which correspondence regarding this tender should be done.

- 4. Constitution of firm (give full details including name of partners/ executives/ Power of Attorney/ Holders etc.
- 5. Particulars of registrations with Government

### **ANNEXURE-IV**

## FORM OF PERFORMANCE SECURITY (BANK GUARANTEE)

(On non-judicial stamp paper of the appropriate value in accordance with stamp Act. The stamp Paper to be in the name of Executing Bank) From:
Name and address of bank
To: The Managing Director Dedicated Freight Corridor Corporation of India Ltd. 5 <sup>th</sup> Floor Pragati Maidan Metro Station Building Complex New Delhi- 110001  WHEREAS, Dedicated Freight Corridor Corporation of India Ltd. hereinafter called "the Employer" acting through (insert designation and address of the Employers)
Representative)has accepted the tender for(name of the work)vide Letter of Acceptance Nodatedto M/s(Name of the contractor)(Name of members of the consortium)hereinafter called the "Contractor' AND
WHEREAS the Contractor is required to furnish a "Performance Security' in the form of Bank Guarantee for the sum of Rs in amount(Rupeesin words) which is a condition precedent to the signing of the Contract Agreement.
AND
Whereas(Name of the bank)with is branch at(address)having our Head Office at(address including name of country)hereinafter called "the Bank" Acting throughhave, at request of the Contractor, agreed to give the guarantee as hereinafter contained: KNOW ALL MEN by these presents that we the undersignedNames of authorized representatives of the Bank)being fully authorized to sign and incur obligations for and on behalf of(full name of the Bank)that thesaid Bank will guarantee the Dedicated Freight Corridor Corporation of India Ltd. the full amount in the sum of Rs
After the Contractor has signed the aforementioned Contract Agreement with the DFCC, the Bank undertakes to immediately pay to Dedicated Freight Corridor Corporation of India Ltd., any amount up to and inclusive of aforementioned full amount upon written order from DFCC without

The Bank shall pay the amount so demanded without any reference to the Contractor and without the DFCC being required to show grounds or give reasons for its demand or the amount demanded.

The Guarantee hereinbefore shall not be affected by any change in the constitution of our Bank

any demur, reservation or recourse;

or in the constitution of the Contractor.

We agree that no change, addition to or other modifications to the terms of the Contract Agreement or to any documents which have or may be made between DFCC and the Contractor will in any way release us from any liability under this guarantee and we waive any requirement for notice of any such change, addition or modification.

This guarantee is valid and effective from its date. This guarantee and our obligations under it will terminate on (the issue of) the...... day of.......And any demand for payment under it must be received at this office on or before that date.

We agree that our obligation to pay any demand made by DFCC before the termination of this guarantee will continue until the amount demanded has been paid in full.

Date	Signature of Authorized person of bank
Place	
	(Name in Block letters) (Designation) (Address)
Witness:	, ,
1. Signature	Bank's Seal
Name & Address & Seal	Authorization
2. Signature	
Name & Address & Seal	

#### FORM OF AGREEMENT

### TO BE EXECUTED ON A RS.100/- NON-JUDICIAL STAMP PAPER

This Agreement is made on the  $\cdots$ -day of- $\cdots$ -2013 between DFCC hereinafter called "the Employer" of the one part and M/s- $\cdots$ -hereinafter called "the contractor" of the other part.

Whereas the Employer is desirous that as Detailed in Section 2.0 - Scope of work "herein after called the "them Works" and has accepted a Tender by the contractor for the execution and completion of such works.

### NOW THIS AGREEMENT WITNESSETH as follows:

- 1. In this Agreement words and expression shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to. The following documents shall be deemed to form and be read and construed as part of this Agreement viz. a. TENDER NO: comprising of Notice Inviting Tender, Instructions to Tenderers, Scope of work, Technical specifications, Special Conditions of Contract and Bill of Quantities.
- b. Your offer through your letter No.

-

IN WITNESS WHEREOF the parties hereto have caused their respective common Seals to be hereunto affixed / (or have hereunto set their respective hands and seals) the day and year first above written.

For and on behalf of the Contractor Name of the official Stamp/Seal of the contractor For and on behalf of the DFCCIL

Name of the official Stamp/Seal of the Employer

In the presence of in the presence of

Witness Witness

Name Name Address Address

### **ANNEXURE-VI**

### **No Claim Certificate**

- 1. I/We Was/Were awarded the work namely
- 2. The work has been completed and jointly measured and full payment has been made to me/us in terms of the measurement so recorded and in accordance with provisions of work order/agreement.
- 3. I/We have no other claim against M/s Dedicated Freight Corridor Corporation of India Ltd.
- 4. I/We have made payments to the labourers & sub contractors strictly as per labour laws and

other rules/laws of land in force. M/s DFCC shall be responsible for any dispute arisen between me/us with labourers & sub contractors later on.

5. I/We hereby undertake and reiterate that I/We have given this No Claim Certificate with free consent and without any corrosion as such M/s DFCC stands relieved from all contractual obligations for above noted work order/agreement.

Thanking you,

Yours Faithfully,

Witness:-1. Name Full address with date (Signature) Name of the Contractor With date

2. Name Full address with date

Note:- In case any contractor is not willing to sign this no claim certificate before passing the final bill, then the matter may please be referred to Employer giving comments/reason as to why the contractor is not willing to sign the said no claim certificate. The final bill should only be passed after further instructions from employer.

#### **ANNEXURE-VII**

### Real Time Gross Settlement (RTGS)/ National Electronic Fund Transfer (NEFT)

(Model Mandate Form)

(Investor/customer's option to receive payments through RTGS/NEFT)

- 1. Investor/customer's name
- 2. Particular's of Bank Account:
  - A) Name of the Bank:
  - B) Name of the Branch.

Address

Telephone No.

- C) RTGS/NEFT IFS Code.
- D) Type of the account (S.B. / Current or Cash Credit) with code (10/11/13).
- E) Ledger and Ledger folio number.
- F) Account number (as appearing on the Cheque book) (in lieu of the bank certificate to be obtained as under, please attach a blank cancelled cheque or a photocopy of a cheque or front page of your savings bank pass book issued by your bank for verification of the above particulars)

3 Date of effect

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold the user institution responsible. I have read the option invitation letter and agree to discharge the responsibility expected of me as a participant under the scheme.

(......)
Signature of the Investor/
Customer Date
Certified that he particulars furnished above are correct as per our records.

Bank's Stamp

Signature of Bank Authority (With seal) Signature of the tenderer/s

#### Annexure VIII

### Guidelines for submitting tenders by Partnership Firms and their Eligibility Criteria

- 1 The Partnership Firms participating in the tender should be legally valid under the provisions of Indian Partnership Act.
- **2** Partnership Firms are eligible to quote tenders.
- The Partnership Firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have either been registered with the competent registrar or the partnership deed should have been notarized prior to date to tender opening, as per Indian partnership Act.
- Separate identity/name should be given to the partnership firm. The partnership firm should have PAN/TAN number in its own name and PAN/TAN number in the name of the any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.
- Once the tender has been submitted, the constitution of firm shall not be allowed to be modified/altered/terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc, in which case prior permission should be taken from DFCCIL and in any case the minimum eligibility criteria should not get vitiated. The reconstitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the DFCCIL and the tenderer shall have no claims what so ever. Any change in the constitution of Partnership Firm after opening of tender shall be with the consent of all partners and with the signatures of all partners as that in the Partnership deed. Failure to observe this

requirement shall render the offer invalid and full EMD shall be forfeited. If any partner/s withdraw from the firm after opening of the tender and before and award of the tender, the offer shall be rejected. If any new partner joins the firm after opening of tender but prior to award of contract, his/her credential shall not qualify for consideration towards eligibility criteria either individually or in proportion to this share in the previous firm. In case the tenderer fails to inform DFCCIL beforehand about any such changes/modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a breach of contract conditions, liable for determination of contract under General Condition of Contract.

- A Partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender.
- The tender form shall be purchased and submitted only in the name of partnership firm and not in the name of any constituent partner. The EMD shall be submitted only in the name of Partnership Firm. The EMD submitted in the name of any individual partner or in the name of authorized partner(s) shall not be considered.
- One or more of the partners of the firm or any other person(s) shall be designated as the authorized person(s) on behalf of the firm, who will be authorized by all the partners to act on behalf of the firm through a "Power of Attorney" specifically authorizing him/them to submit & sign the tender, sign the agreement, receive

payment, witness measurements, sign measurement books, make correspondences, compromise, settle, relinquish any claim(s) preferred by the firm, sign "No Claim Certificate", refer all or any dispute to Arbitration and to take similar such action in respect of the said tender/contract. Such "Power of Attorney" should be notarized /registered and submitted along with tender.

- A notary certified copy of registered or notarized partnership deed shall be submitted along with the tender
- On award of the contract to the partnership firm, a single Performance Guarantee shall be submitted by the firm as per tender conditions. The entire guarantee like Performance guarantee, guarantee for Mobilization advance, Plant and Machineries advance shall be submitted only in the name of the partnershipfirm and no splitting of guarantees among the partners shall be acceptable.
- On issue of LOA, contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner
- In case, the contract is awarded to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit before signing of contract agreement:
  - a) Joint and several liabilities: The Partners of the firm to which the contract is awarded, shall be jointly and severally liable to the DFCCIL for execution of the contract in accordance with general and special conditions of the contract. The partners shall also be liable jointly and severally for the loss, damages caused to the DFCCIL during the course of execution of the contract or due to non-execution of the contract or part thereof.
  - b) Duration of the partnership deed and partnership firm agreement:-
    - The partnership deed/partnership firm agreement shall normally not be modified, altered, terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract.

Any change carried out by partners in the constitution of the firm without permission of DFCCIL, shall constitute a breach of contract liable for determination of contract under General Conditions of Contract.

- c) Governing Laws: The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian Laws.
- d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner and that of the DFCCIL in respect of the tender/contract.
- The tenderer shall clearly specify that the tender is submitted on behalf of a partnership concern. The following documents shall be submitted by the partnership firm, with the tender.
  - a) A copy of registered/notarized partnership deed duly authenticated by Notary.
  - b) Power of Attorney duly stamped and authenticated by a Notary Public or by a Magistrate from all partners of the firm in favour of one or more of the partners(s) or any other person(s) as detailed in para (8) above.

- c) An undertaking by all the partners of the partnership firm shall be given that they have not been black listed or debarred by DFCCIL or any other Ministry/Department of the Govt. of India/any State Govt. from participation in tenders/contract on the date of opening of bids either in their individual capacity or in any Firm in which they were /are partners .Concealment/wrong information in regard to above shall make the contract liable for determination under General Conditions of Contract.
- Evaluation of eligibility of a partnership firm Technical and Financial eligibility of the firm shall be adjusted based on satisfactory fulfillment of the following conditions:
  - i) Technical eligibility criteria: The tenderer should satisfy either of the following criteria:-
  - a) The partnership firm shall satisfy the full requirement of technical eligibility criteria (defined in "Para 23 of General Instructions to Tenderers (Section-III)") in its own name and style;

OR

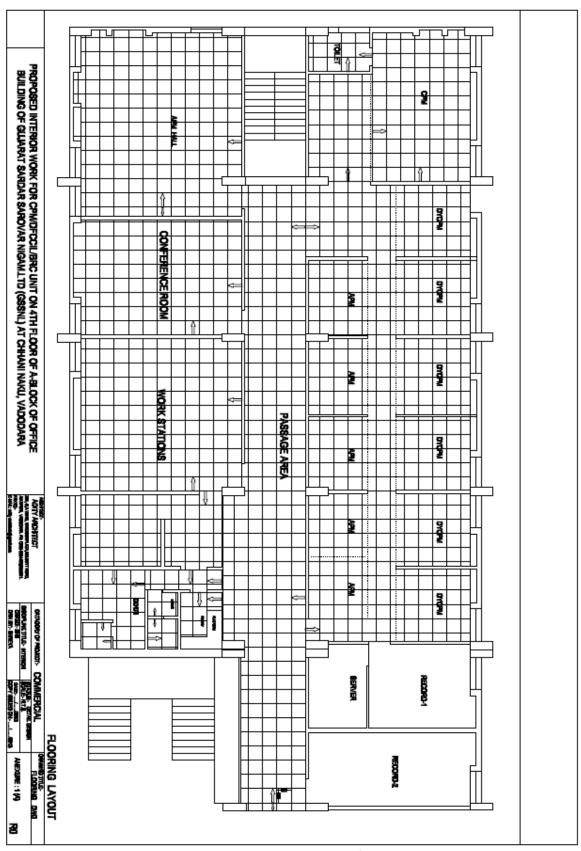
- b) In case the partnership firm does not fulfill the technical eligibility criteria in its own name and style, but one of its partners has executed a work in the past either as a sole proprietor of a firm or as a partner in a different partnership firm, then such partner of the firm shall satisfy the technical eligibility criteria (defined in "Para 23 of General Instructions to Tenderers (Section-III)") on the basis of his/her proportionate share in that proprietorship/partnership firm reduced further by his/her percentage share in the tendering firm.
- ii) Financial eligibility criteria: The tenderer shall satisfy either of the following criteria:
  - a) The partnership firm shall satisfy the full requirements of the financial eligibility criteria (as defined in "Para 23 of General Instructions to Tenderers (Section-III)") in its own name and style.

OR

b) In case the partnership firm does not fulfill the financial eligibility criteria in its own name and style, but one or more of its partners have executed a work/contract in the past either as sole proprietor or as partner in different firms, then the arithmetic sum of the contractual payments received by all the partners of the tendering firm, derived on the basis of their respective proportionate share in the such firms reduced further by their respective percentage share in the tendering firm, tendering firm shall satisfy the full requirements of the financial eligibility criteria ( as defined in Para 23 of General Instructions to Tenderers (Section-III)").

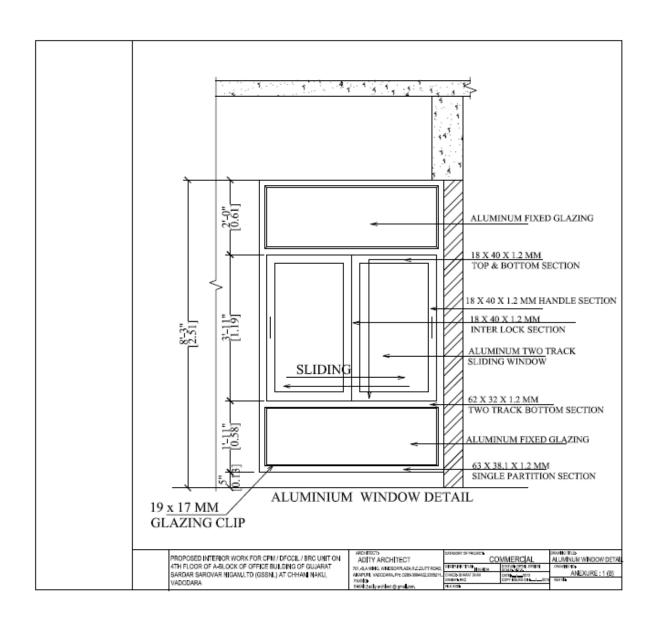
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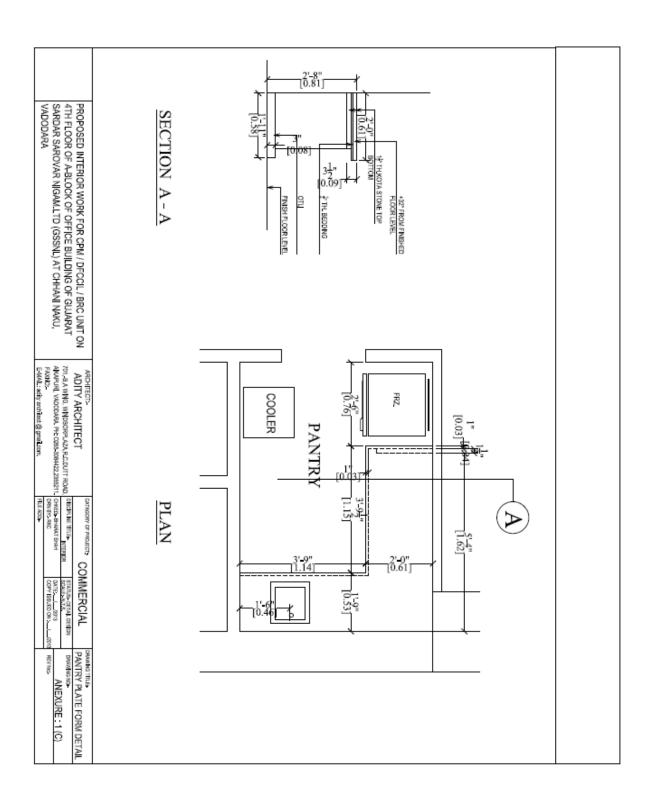
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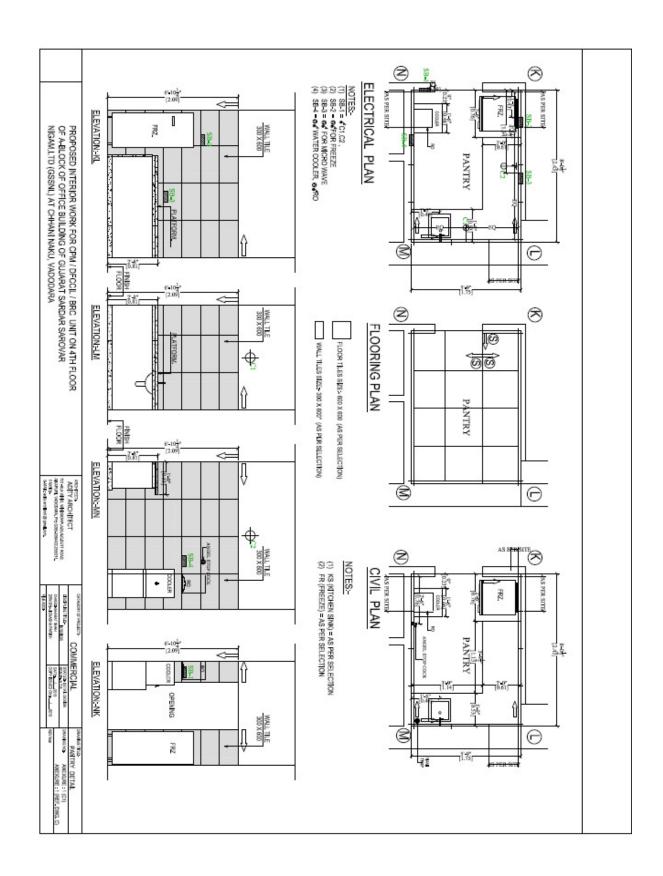


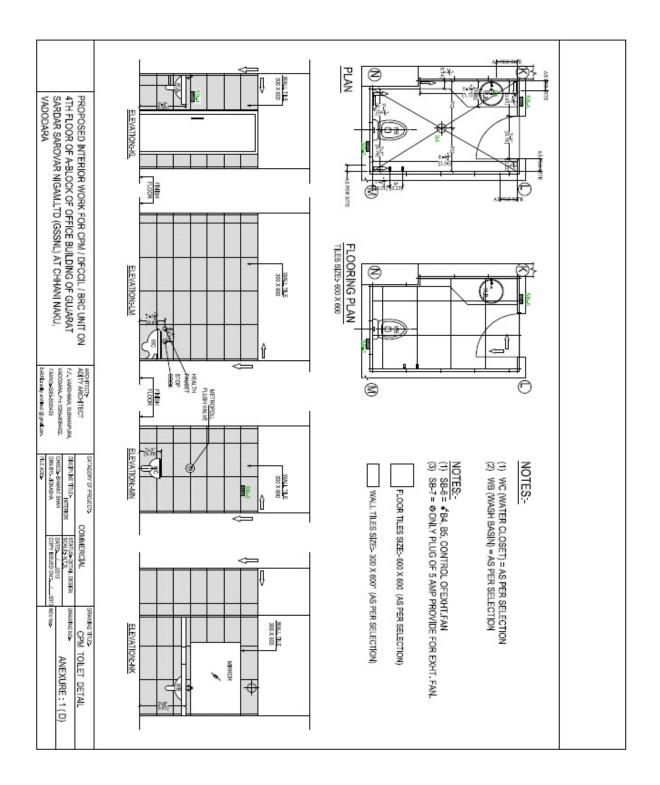
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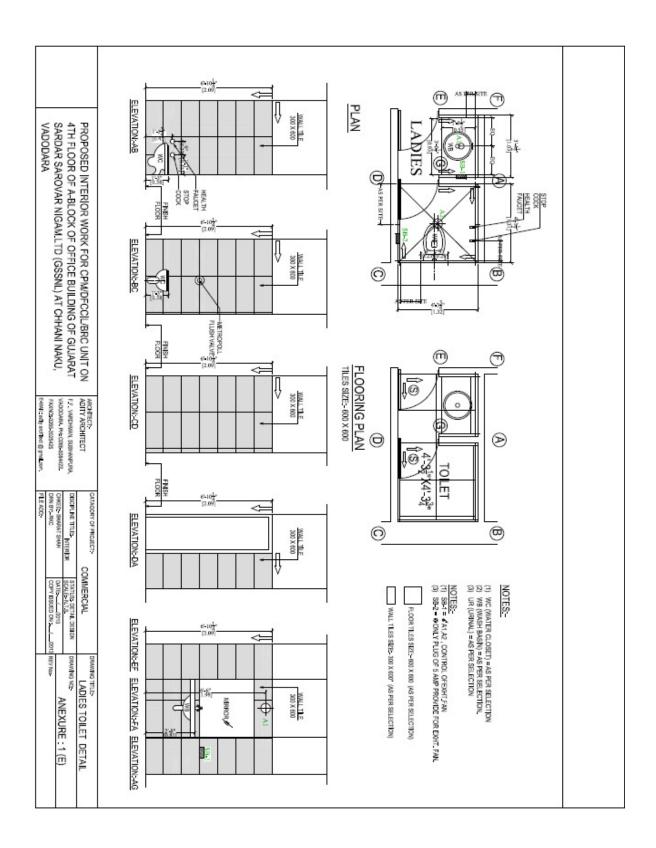
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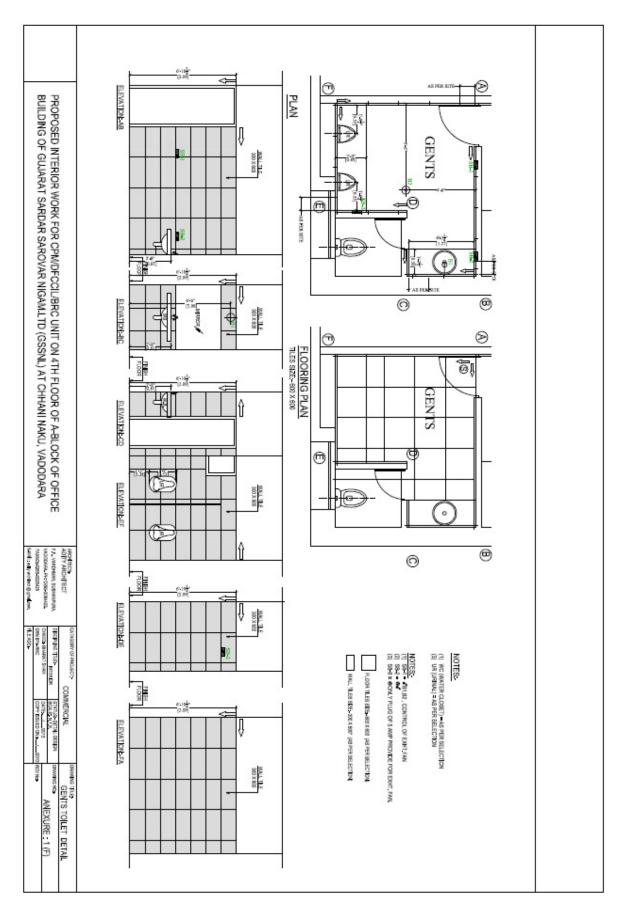


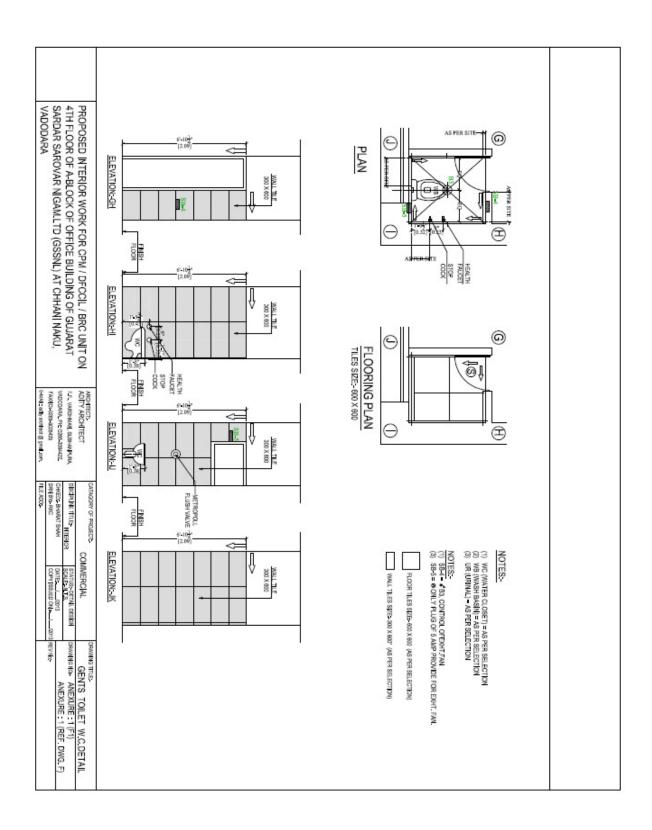


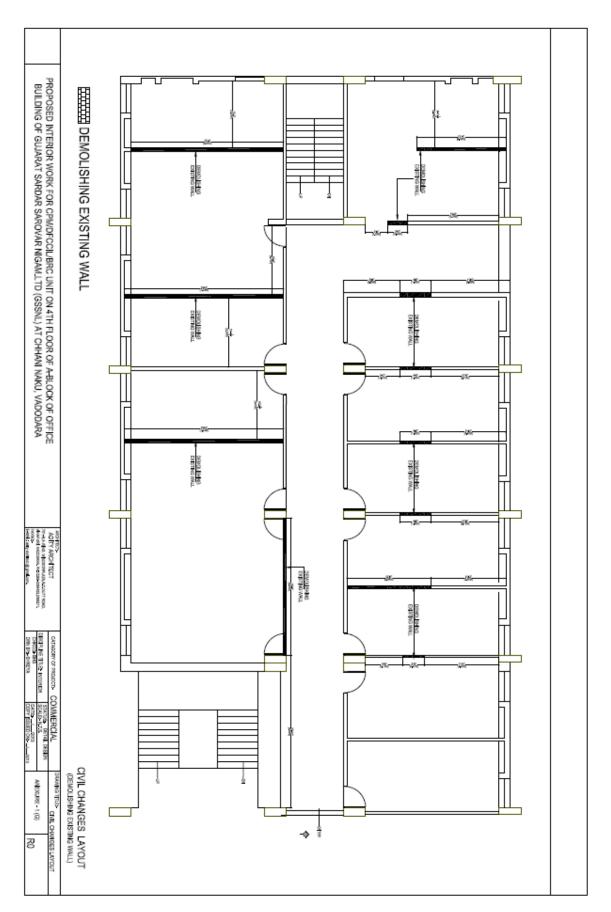


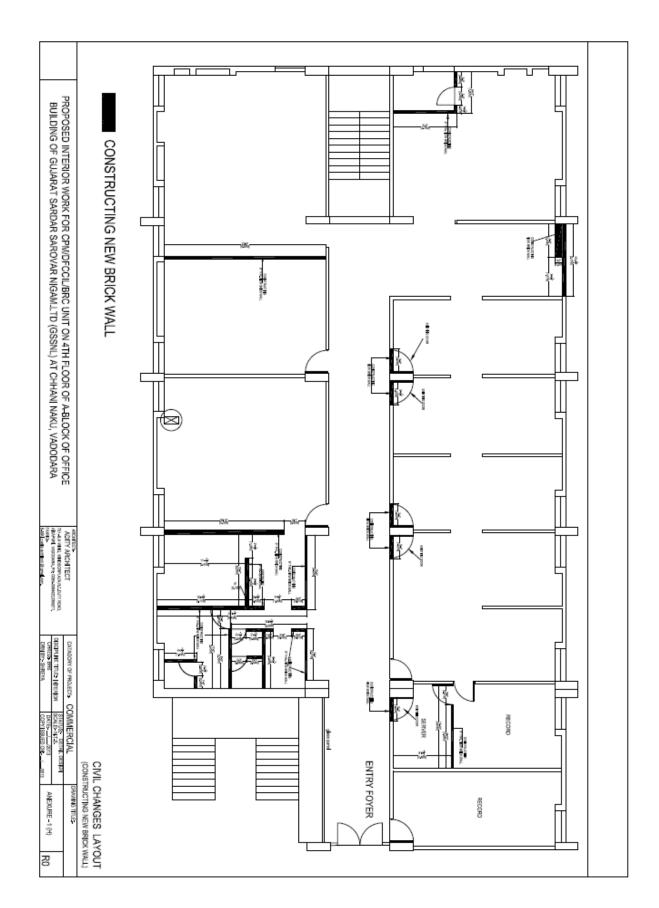


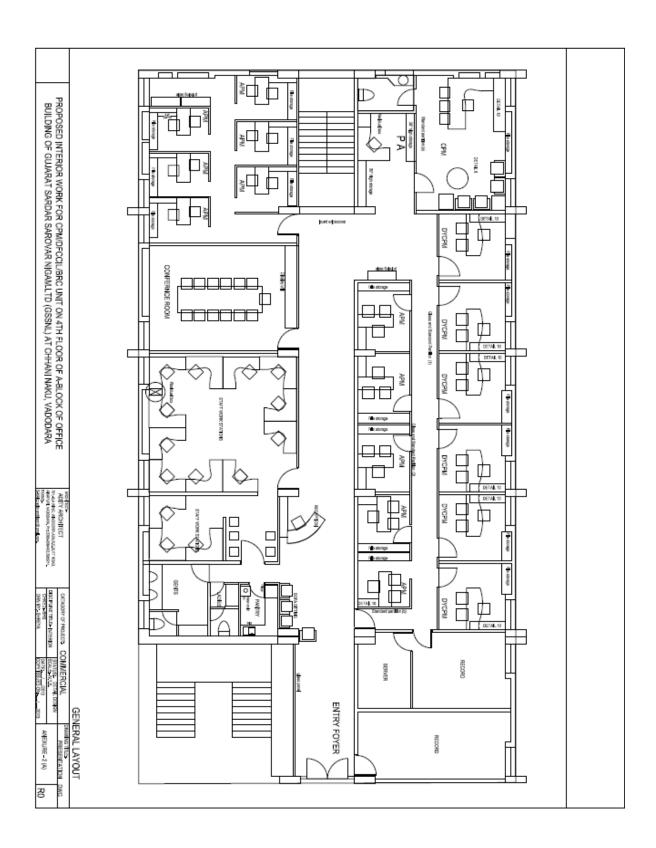


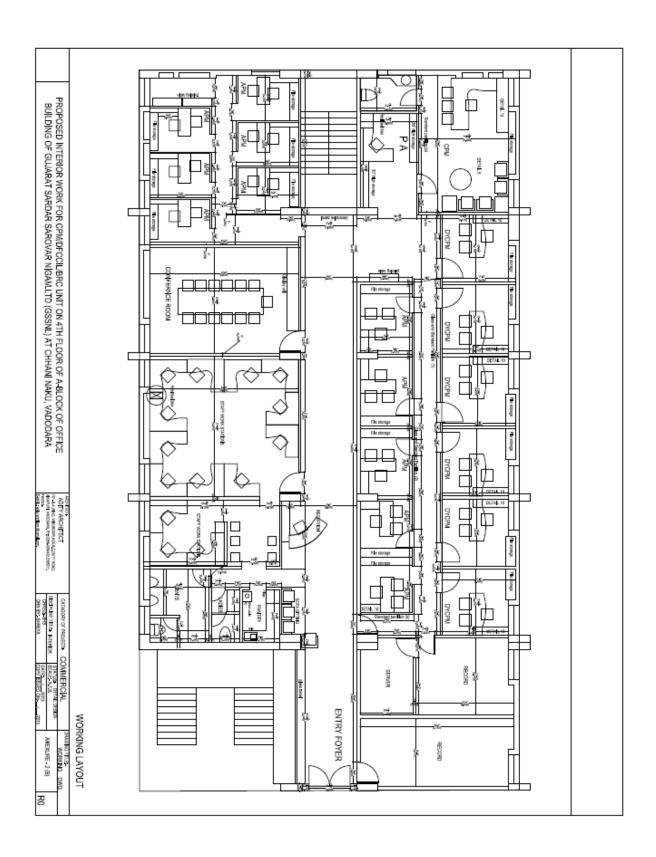


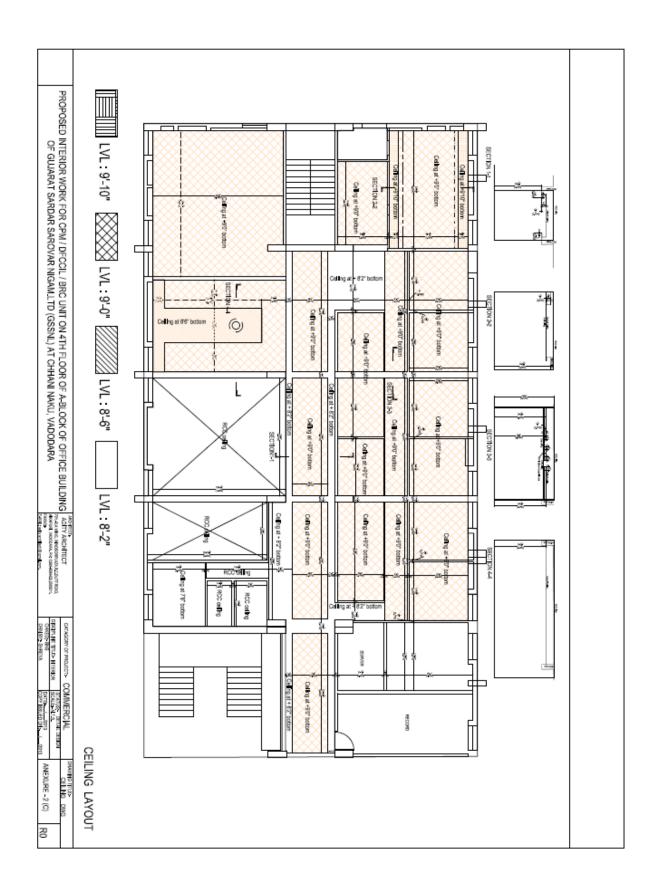


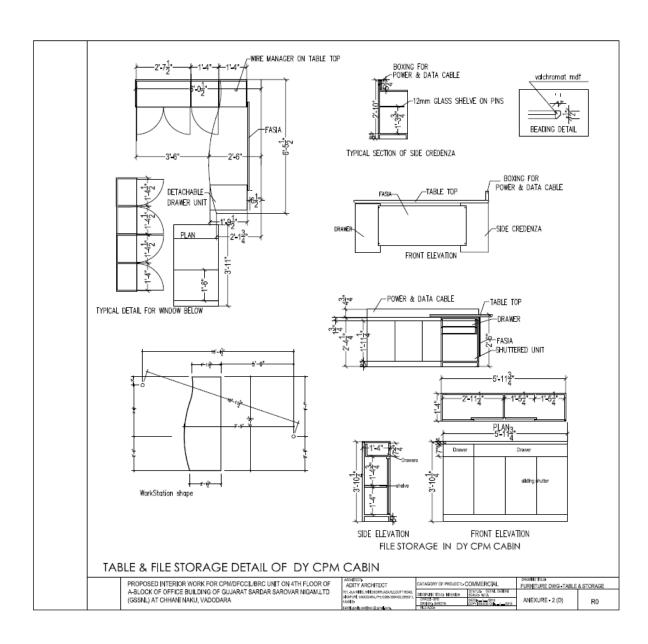


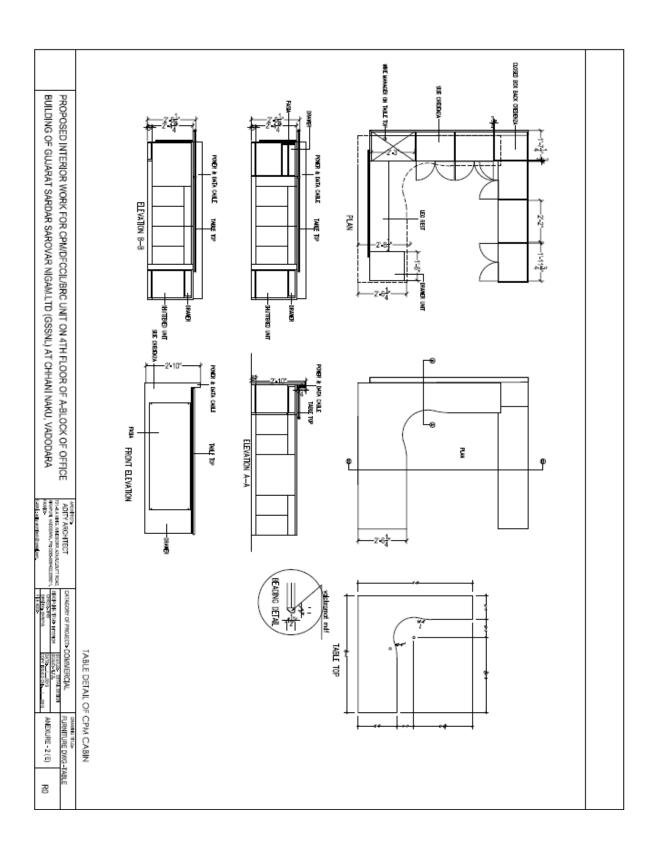


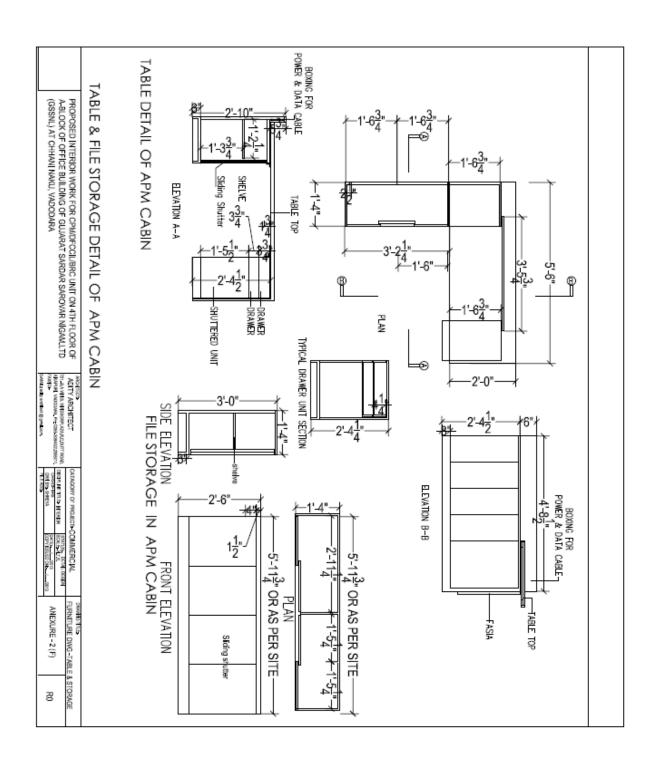


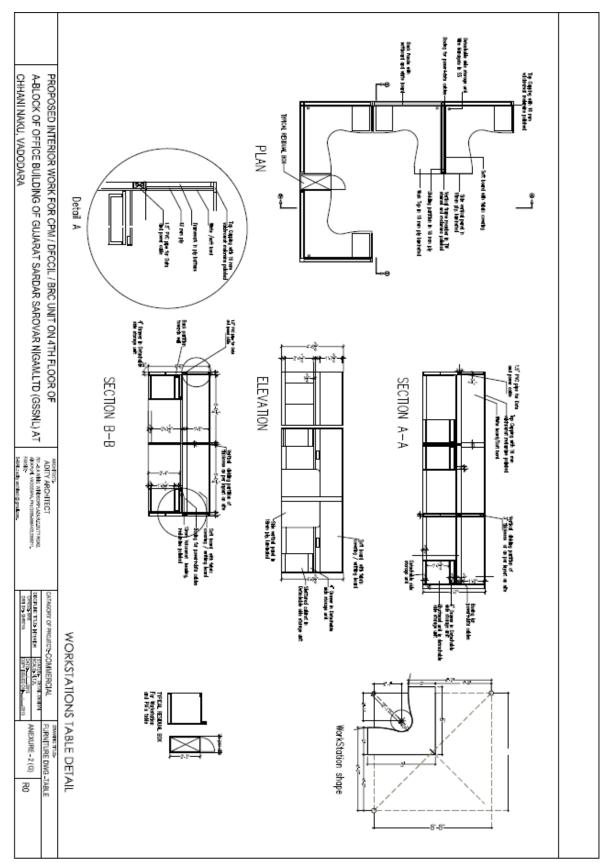


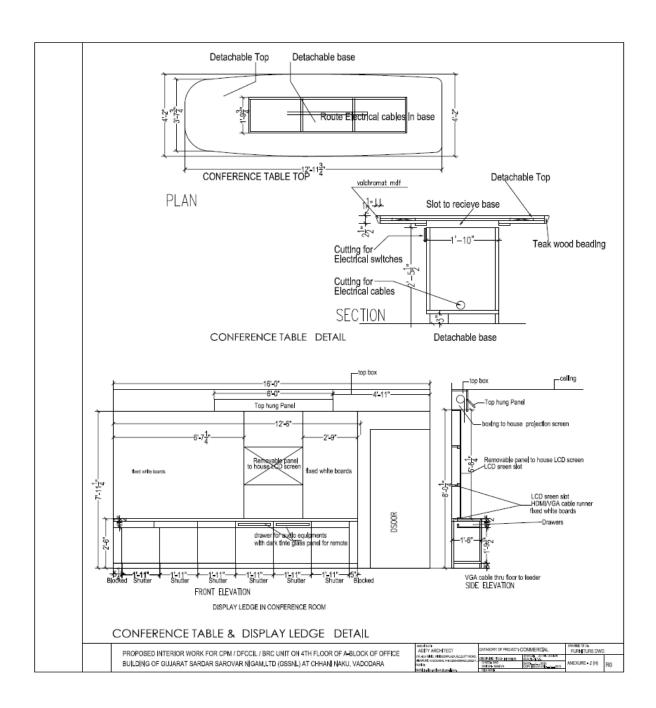


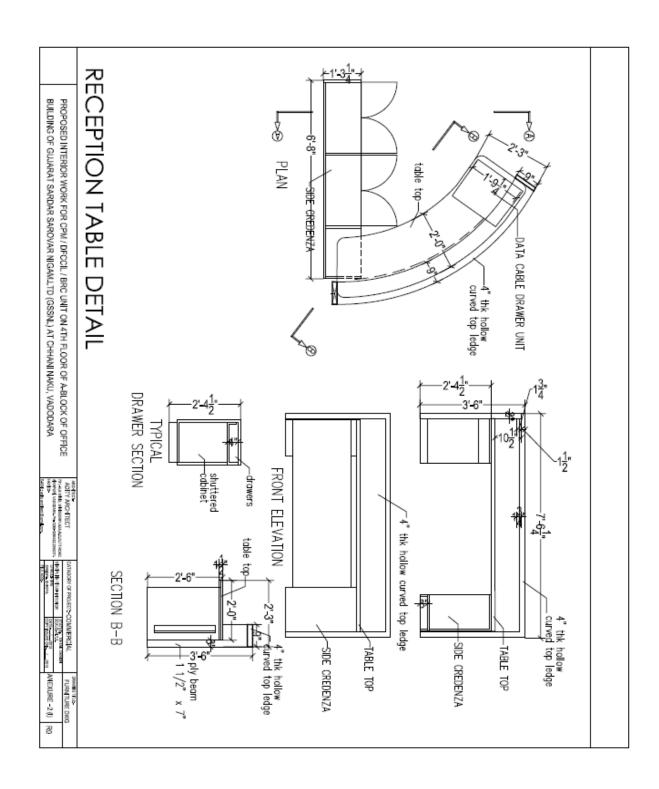


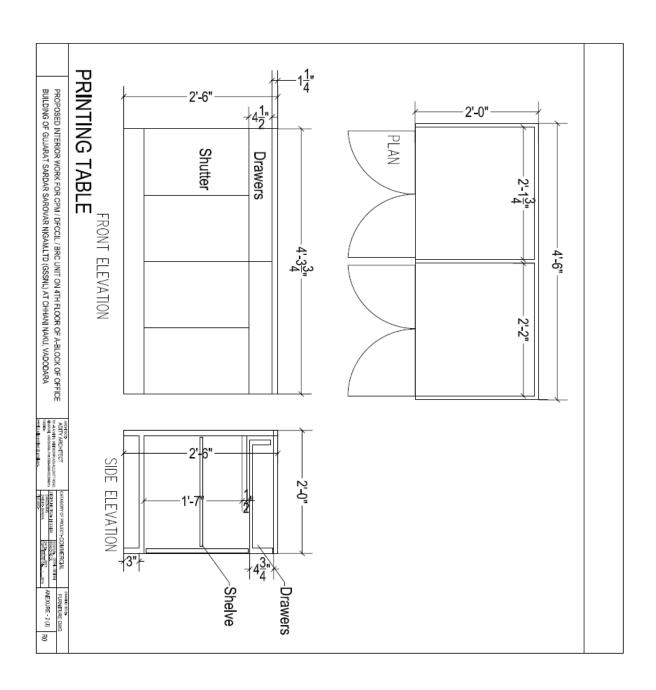


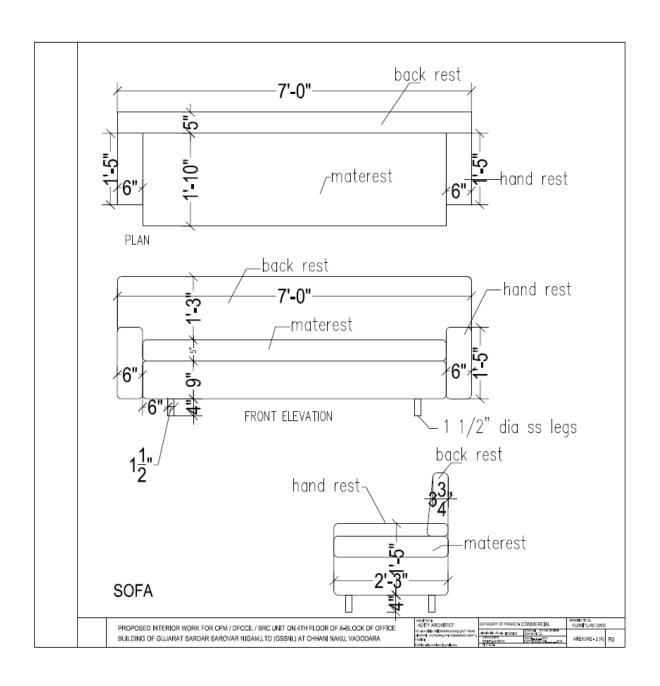


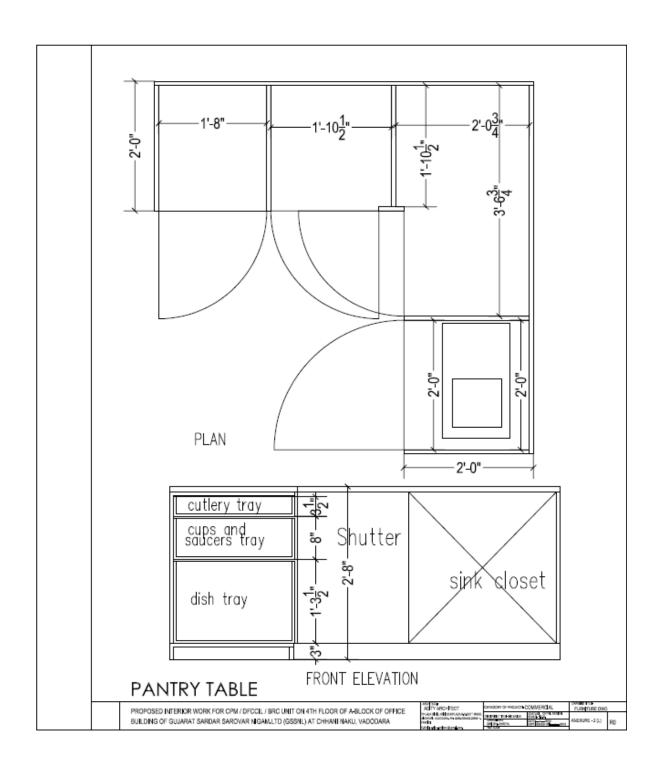


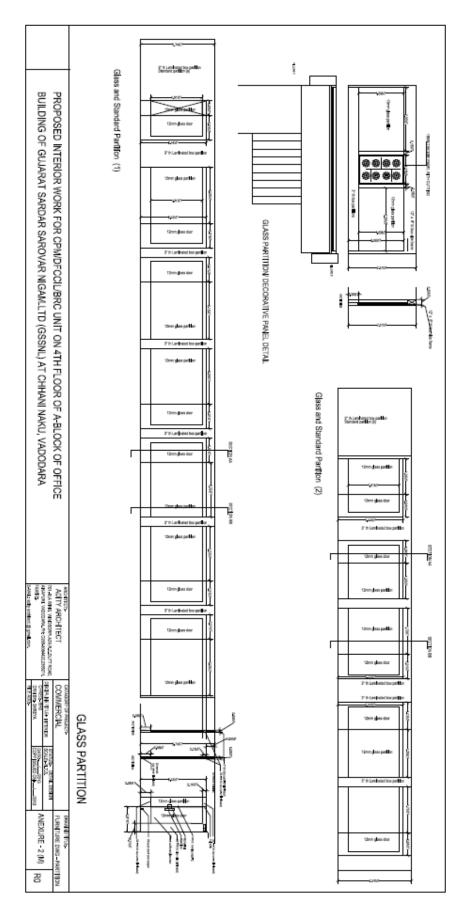


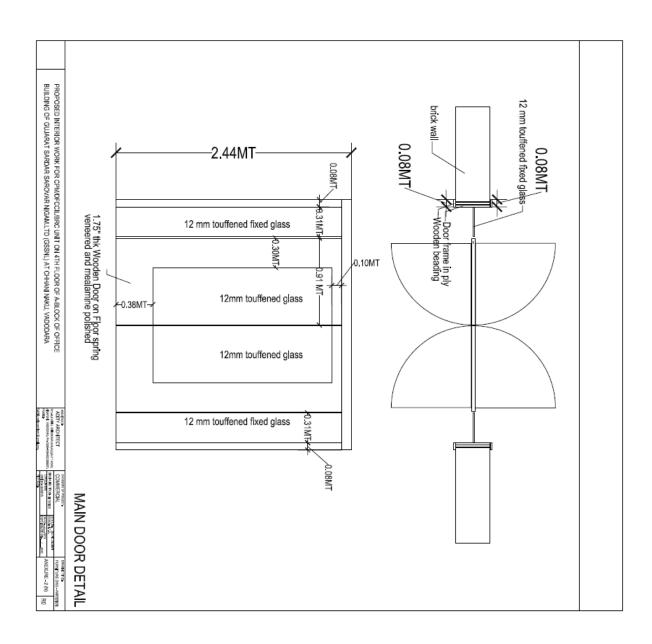


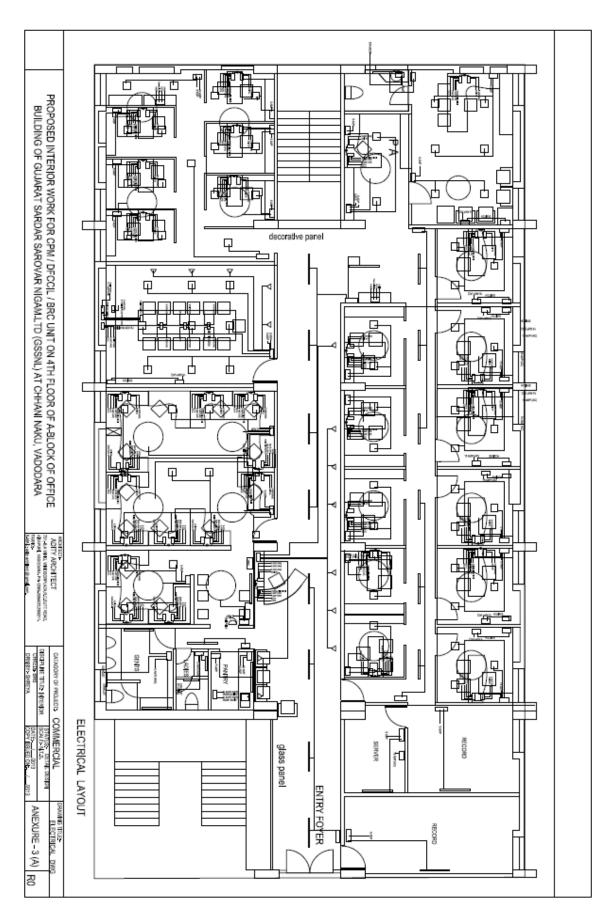


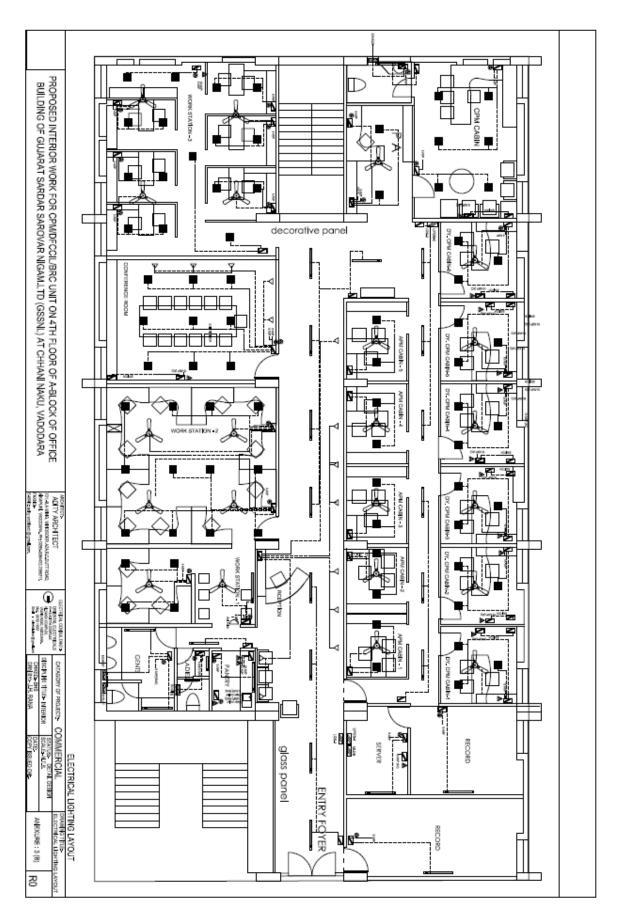


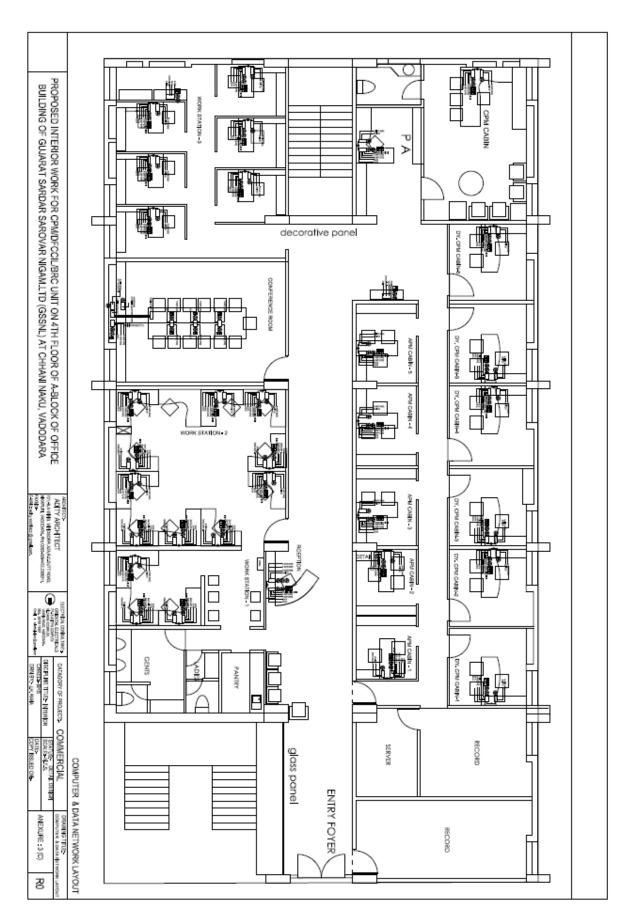












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