

जयपुर विकास प्राधिकरण, जयपुर

कमरा नं. 106, प्रथम तल, नागरिक सेवा केन्द्र, रामकिशोर व्यास भवन, इन्दिरा सर्किल जवाहर लाल नेहरू मार्ग, जयपुर-302004

दूरभाष : 91.141.2569696, ई-मेल sanjeevanjain@rajasthan.in

क्रमांक

दिनांक 10.06.2026

निविदा सूचना

निविदा सूचना: जविप्रा / अधि. अभि. जोन-बी / 5 / 2026-27

जयपुर विकास प्राधिकरण द्वारा **सेक्टर-1, विद्याधर नगर, जेडीए, जयपुर में विद्याधर नगर सूचना, व्यवसाय और मनोरंजन (VIBE) केंद्र का निर्माण** जिसकी अनुमानित लागत राशि रु 10.03 करोड़ के लिए ऑनलाईन बिड्स दिनांक 07.07.2026 को सायं 6:00 बजे तक आमन्त्रित की जाती है। निविदा बोली का ऑनलाईन आवेदन व भुगतान जविप्रा पोर्टल पर करने की अन्तिम तिथि 07.07.2026 को सायं 6:00 बजे तक है। निविदा बोली के दस्तावेजों का विस्तृत विवरण www.sppp.rajasthan.gov.in, www.eproc.rajasthan.gov.in and www.jda.urban.rajasthan.gov.in पर देखा जा सकता है।

(UBN No.....**JDA2627WLOB00135**.....)

निविदा में भाग लेने वालों को निम्न शर्तों की पूर्ति करनी होगी।

1. निविदादाता जयपुर विकास प्राधिकरण की वेबसाइट www.jda.urban.rajasthan.gov.in पर पंजीकृत हो एवं निविदा में भाग लेने के लिए बोलीदाता को आवेदन करने के लिए दस्तावेज शुल्क, अमानत राशि, आर.आई.एस.एल. प्रोसेसिंग शुल्क ऑनलाईन जमा करनी होगी।
2. ऑनलाईन निविदा प्रस्तुत करने के लिए निविदादाताओं का राजस्थान सरकार के ई-प्रोक्यूरमेंट पोर्टल www.eproc.rajasthan.gov.in पर पंजीकृत हो।

अधिशाली अभियंता .बी
जविप्रा, जयपुर।

JAIPUR DEVELOPMENT AUTHORITY

Room No. 106 FF, CCC, Ram Kishore Vyas Bhavan, Indira
Circle, Jawaharlal Nehru Marg, Jaipur – 302004

Telephone: +91-141-2569696 Email:-sanjeevanjain@rajasthan.in

No:

Dated: 10/06/2026

NOTICE INVITING BID

NIB No.: JDA/EE-B/5/2026-27

UBN No.:JDA2627WLOB00135.....

Online Bids are invited up-to 06:00 PM of 07/07/2026 for “**Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur**”. The last date for Applying Bid and making online payment on JDA portal is up-to 06:00 PM of 07/07/2026. The estimated cost of NIB is Rs 10.03 Crore. Details may be seen in the Bidding Document at our office or the State Public Procurement Portal website www.sppp.rajasthan.gov.in, www.eproc.rajasthan.gov.in and www.jda.urban.rajasthan.gov.in/jda

To participate in the bid, bidder must:

- A. Participate in Tender & Deposit Payment on ‘Online Tender Participation’ Portal of JDA at <https://jda.urban.rajasthan.gov.in/jda> or by Single-Sign-On at <http://service.jaipurjda.org>.
- B. Submit e-Bid on ‘e-Procurement Portal’ of GOR at www.eproc.rajasthan.gov.in

**Executive Engineer-B
JDA, Jaipur**



Jaipur Development Authority, Jaipur
Engineering Procurement and Construction
(EPC)

Bid Document

For

Construction of Vidhyadhar Nagar
Information, Business & Entertainment
(VIBE) Centre in Sector-1, Vidhyadhar
Nagar, JDA, Jaipur



Bidding Document

Table of Contents - Summary Description

VOLUME – I

PART I BIDDING PROCEDURES

Section I - Instructions to Bidders (ITB)

This section specifies the procedures to be followed by Bidders in the preparation and submission of their Bids. Information is also provided on the submission, opening, and evaluation of bids and on the award of contract.

Section II - Bid Data Sheet (BDS)

This section consists of provisions that are specific to each procurement and supplement the information or requirements included in Section 1 - Instructions to Bidders.

Section III - Evaluation and Qualification Criteria (EQC)

This Section contains the criteria to determine the lowest evaluated bid and the qualifications of the Bidder to perform the contract.

PART II REQUIREMENTS

Section IV–Procuring Entity’s Requirement (PER)

This Section contains the Specification, the Drawings, and supplementary information that describe the Works to be procured.

PART III CONDITIONS OF CONTRACT AND CONTRACT FORMS

Section V A - General Conditions of Contract (GCC)

This Section contains the general clauses to be applied in all contracts.

Section V B - Special Conditions of Contract (SCC)

This Section contains provisions which are specific to each contract and which modify or supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Section V C - Contract Forms (CoF)

This Section contains forms, which, once completed, will form part of the Contract. The forms for Performance Security, Advance Payment Security, when required, Tripartite Agreement shall only be completed by the successful Bidder after contract award.

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DISCLAIMER

The participating bidders are informed through sale of Bidding Documents and under disclaimer of bid documents, Volume-I as under: -

(a) The interested bidder should make its own independent assessment and seek its own professional, technical, financial and legal advice.

(b) The information provided in the bid documents has been prepared in good faith; it is not and does not purport to be comprehensive or to have been independently verified. Neither JDA, nor any of its officers or employees, nor any of their advisers nor consultants accept any liability or responsibility for the accuracy, reasonableness or completeness of, or for any errors, omissions or misstatements, negligent or otherwise, relating of the proposed interior work, or makes any representation or warranty, express or implied, with respect to any written or oral information made or to be made available of any of the recipients or their professional advisers and, so far as permitted by law and except in the case of fraudulent misrepresentation by the party concerned, and liability therefore is hereby expressly disclaimed.

(c) The information contained in the bid documents is selective and is subject to updating, expansion, revision and amendment that a recipient may require. Neither JDA nor any of its officers, employees, nor any of its advisors nor consultant undertakes to provide any recipient with access to any additional information or to update the information in bid documents or to correct any inaccuracies therein which may become apparent. Each recipient must conduct its own analysis of the information contained in bid documents or to correct any inaccuracies therein which may become apparent. Each recipient must conduct its own analysis of the information contained in bid documents or to correct any inaccuracies therein that may contain in bid documents and is advised to carry its own investigation into the proposed interior work, the legislative and regulatory regime which applies thereto and by and all matters pertinent to the proposed Project and to seek its own professional advice on the legal, financial, regulatory and taxation, consequences of entering into any agreement or arrangement relating to the proposed interior work.

(d) The bid documents include certain statements, estimates, targets and forecast with respect to the work. Such statements, estimates, projections, targets and forecasts reflect various assumptions made by the management, officers and employees of JDA, which assumptions (and the base formation on which they are made) may or may not prove to be correct. No representation or warranty is given as the reasonableness of forecasts or the assumptions on which they may be based and nothing in bid documents is, or should be relief on as, a promise, representation or warranty. The estimate provided with the bid document is only for reference purpose. Actual assessment of cost for the work shall be carried out by participating bidder before online submission of bid.

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

Room No. 106 FF, Ram Kishore Vyas Bhavan, Indira Circle, Jawaharlal Nehru Marg,
Jaipur – 302004 Telephone: +91-141-2569696 Email:-sanjeevanjain@rajasthan.in

No: - JDA/EE-B/2026-27/D-**Dated:**

NIB No. : JDA/EE-B/5/2026-27

Name & Address of the Procuring Entity	➤ Name: Executive Engineer-B, Jaipur Development Authority ➤ Address: Room No.106 1st floor, CCC Building, JDA Campus, Indira Circle, Jawahar Lal Nehru Marg, Jaipur- 302004 (Rajasthan) ➤ Email: sanjeevanjain@rajasthan.in
Subject Matter of Procurement	Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur JobNo. JDA/EE-2/A&F/2026-2027/Apr/012 Date: 13.04.2026
Bid Procedure	➤ EPC Mode, Two Envelope System; open competitive bidding as per e-Bid procedure at http://eproc.rajastha.gov.in
Bid evaluation Criteria (Selection Method)	➤ L1 (eg. Least Cost based Selection (LCBS)-L1)
Websites for downloading Bidding Document, Corrigendum's, Addendums, etc.	➤ Websites: www.sppp.rajasthan.gov.in, www.eproc.rajasthan.gov.in, www.jda.urban.rajasthan.gov.in
Website for online Bid application participation and payment *	➤ Website: www.jda.urban.rajasthan.gov.in ➤ For participating in the Bid, the Bidder has to apply for this Bid and pay the Bidding Document Fee, RISL Processing Fee and Bid Security Deposit online only. ○ Bidding document fee: Rs. 1000/- Rupees (One Thousand Only) ○ RISL Processing Fee: Rs. 2500/- (Rupees Two Thousand Five Hundred Only) ➤ Online/Bank Guarantee ○ Bid Security Deposit (BSD) as detailed below.
Estimated Procurement Cost	INR 10.03 Cr (Rupees Ten crore three lacs only)

Bid Declaration	➤ EMD shall be @2% of estimated procurement cost i.e. Rs. 20.07 Lakhs for the bidder registered in appropriate equivalent class in Other Department /PSUs/private or a private entity registered under companies act or other relevant acts as applicable or 0.5% of estimated procurement cost i.e. Rs. 5.02 Lakhs for bidder registered in AA class in JDA. ➤ Bid Security deposit can be deposited either online or in the form of Bank Guarantee in favor of Secretary, JDA, Jaipur payable at Jaipur. The bidder will provide details of BG viz No., issue date, expiring date etc. on online tendering system of JDA. ➤ A copy of this BG is to be attached with the document during uploading.
Date/Time/Place of Pre-Bid	➤ 25/06/2026 at 3:00 PM in "Manthan", Second Floor, Main Building, Ram Kishore Vyas Bhavan, Indira Circle, Jawahar Lal Nehru Marg, JDA Campus, Jaipur
Applying Bid and making Online Payment on JDA portal (www.jda.urban.rajasthan.gov.in)	➤ Start Date: 18/06/2026 at 9.30 AM ➤ End Date : 07/07/2026 at 06.00 PM ➤ In case EMD in form BG, Original Bank Guarantee is to be submitted in Room No 106, 1st floor CCC Building in the office of Ex.En-B, Jaipur Development Authority by 08/07/2026, 9.30 PM to 10/07/2026 up to 6.00 PM
Bid Submission on e-Procurement Portal of GOR (www.eproc.rajasthan.gov.in)	➤ Start Date: 18/06/2026 at 9.30 AM ➤ End Date: 07/07/2026 at 06.00 PM
Date/Time/Place of Technical Bid Opening	➤ 13/07/2026 at 11.00 AM in Room No.106 1st floor, CCC Building, JDA Campus, Indira Circle, Jawahar Lal Nehru Marg, Jaipur- 302004 (Rajasthan)
Date/Time/Place of Financial Bid Opening	Will be intimated later to the technically qualified bidders on E-proc portal. Room No.106 1st floor, CCC Building, JDA Campus, Indira Circle, Jawahar Lal Nehru Marg,, Jaipur- 302004 (Rajasthan)
Bid Validity	➤ 120 days from the bid submission deadline
Completion period of work	➤ 12 Months

Job No	JobNo. JDA/EE-2/A&F/2026-2027/Apr/012 Date: 13.04.2026 Amount: Rs. 10.03 Crore.
A. The details of the project is as below: Construction of Vidhyadhar Nagar Information Business and Entertainment (VIBE) Centre on EPC including the preparation of drawings, civil, finishing, Electrical works. HVAC, Fire Fighting system and outer development works including Operation and Maintenance for a period of 5 years at Sector-1, Vidhyadhar Nagar, Jaipur complete in all respects including all materials, labour, T&P, machinery etc. required for complete execution of work as per specifications and direction of Engineer-in-Charge. B. *Process for Tender Participation & Depositing Payment on ‘Online Tender Participation’ Portal of JDA 1. Participate in tender - Bidders can access the 'Online Tender Participation' portal of JDA at https://jda.rajasthan.gov.in/jda or via Single Sign-On (SSO) at https://sso.rajasthan.gov.in/signin. - Before proceeding to the JDA portal, create a user login on SSO Rajasthan with a valid mobile number and select the JDA services from active Applications. - Then click on 'Proceed for Subscription' under 'Tender Online Payment.' The prevailing plan for getting registered for tendering process of JDA is Rs. 500.00 with the validity period of 3 Years (renewable) in case the bidder doesn't have Prior Registration With JDA. - After successful payment, re-login and upload required documents for KYC (Know Your Client) compliance as per the type of entity viz. Individuals/ Company/ Partnership Firms/ Trusts & foundations. Besides, Bank Passbook / Cancelled Cheque consisting of Bank Account, IFSC Code is mandatory to be uploaded, to refund the bid security of unsuccessful bidder. - After receiving the payment successfully and approving KYC documents the bidder will be authenticated by JDA for taking part in Tender. 2. Deposit Tender Fee, RISL processing fee and Bid Security (EMD) - Option-1: Payment Gateway (Aggregator) The facility to make payment through Debit Card, Credit Card, Net banking etc., will be available. User can use this facility from anywhere any time till the closing date & time of bid participation. - Option-2: Electronic Fund Transfer (EFT: NEFT/RTGS) If the bidder selects payment mode as EFT (NEFT/RTGS), “Paying Slip for EFT (NEFT/RTGS)” will be generated by the system for the complete amount. The payment can be made from any Bank any Branch using this Paying Slip through NEFT/RTGS (Claim against payment made through EFT in any other JDA bank account will not be acceptable and bidder stands disqualified from participation in the bid applied for). After successful transaction through NEFT/RTGS, as per the standard procedures it may take 4 to 24 hours in process of confirmation of EFT through Auto-Process depending on the time of EFT done. Therefore, option to make payment through EFT (NEFT/RTGS) will be available till 48 hours prior to closing date of bid participation. 3. Deposit Bid Security (EMD) The Bid Security (EMD) can be submitted through Bank Guarantee (BG). Bidder may opt Bank Guarantee (BG) against Bid Security (EMD), for which bidder requires to prepare BG before applying in the tender. The detail of BG requires to be fed on ‘Online Tender Participation’ Portal of JDA before	

paying balance amount (Tender Fee + RISL Processing Fee). This balance amount will be paid through Payment Gateway only, option to make balance payment through EFT (RTGS/NEFT) will not be available.

4. Obtain Bid Participation Receipt

After confirming payment, the bidder will get Bid Participation Receipt based on which user will get the payment details along with other details for bidding on e-Procurement portal of GOR.

- In case of BG as the remaining payment will be done through Payment Gateway, on successful transaction the 'Bid Participation Receipt' will be generated on real time basis.
- In case complete payment is done through Payment Gateway, on successful transaction the 'Bid Participation Receipt' will be generated on real time basis.
- In case complete payment is done through EFT (NEFT/RTGS), on confirmation of payment from ICICI Bank (Auto Process) 'Bid Participation Receipt' will be available on Login of Bidder on JDA portal.

C. **Bid Submission on 'e-Procurement Portal' of Government of Rajasthan

1. Online e-Bid can be submitted after registration at e-Procurement Portal of Government of Rajasthan www.eproc.rajasthan.gov.in
2. It is mandatory to upload Bid Participation Receipt with the bid submission.
3. Details of online payment available on Tender Participation Portal of JDA have to be filled in 'offline payment' section of e-Procurement portal.

Note:

1. Bidder (authorized signatory) shall submit their offer on-line in Electronic formats both for technical and financial proposal.
2. In case, any of the bidders fails to pay the Tender Fee, BSD, and RISL Processing Fee, online (subject to confirmation), its Bid shall not be accepted.
3. To participate in online bidding process, Bidders must procure a Digital Signature Certificate (Type III) as per Information Technology Act-2000 using which they can digitally sign their electronic bids. Bidders can procure the same from any CCA approved certifying agency, i.e. TCS, Safecrypt, N code etc. Bidders who already have a valid Digital Signature Certificate (DSC) need not procure a new DSC. Also, bidders must register on <http://eproc.rajasthan.gov.in> (bidders already registered on <http://eproc.rajasthan.gov.in> before 30-09-2011 must register again).
4. JDA will not be responsible for delay in online submission due to any reason. For this, bidders are requested to upload the complete bid well advance in time so as to avoid 11th hour issues like slow speed; choking of web site due to heavy load or any other unforeseen problems.
5. Bidders are also advised to refer "Bidders Manual Kit" available at eProc website for further details about the e-Tendering process.
6. Training for the bidders on the usage of e-Tendering System (eProcurement) is also being arranged by DoIT &C, GoR on a regular basis. Bidders interested for training may contact e-Procurement Cell, DoIT &C for booking the training slot.

Contact No: 0141-4022688 (Help desk 10 am to 6 pm on all working days) e-mail:

eproc@rajasthan.gov.in Address : e-Procurement Cell, JDA, Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur

7. The procuring entity reserves the complete right to cancel the bid process and reject any or all of the Bids.
8. No contractual obligation whatsoever shall arise from the bidding document/ bidding process unless and until a formal contract is signed and executed between the procuring entity and the successful bidder.
9. Procurement entity disclaims any factual/ or other errors in the bidding document (the onus is purely on the individual bidders to verify such information) and the information provided therein are intended only to help the bidders to prepare a logical bid-proposal.
10. The provisions of RTPPA Act 2012 and Rules 2013 thereto shall be applicable for this procurement. Furthermore, in case of any inconsistency in any of the provisions of this bidding document with the RTPP Act 2012 and Rules thereto, the later shall prevail.

**Executive Engineer-B
JDA, Jaipur**

Process for Participation & Depositing Payment Online

JAIPUR DEVELOPMENT AUTHORITY, has decided to receive Bidding document fee, RISL Processing Fee and Bid Security Deposit (BSD) through online mode only for which the bidder has to get registered himself on JDA portal www.jaipurjda.org.

To participate in the bid, bidder has to be:

1. Bidder should be registered in AA class category in JDA or equivalent in other departments /PSUs/private or may be a private entity registered under companies act or other relevant acts as applicable.
2. Registered on e-Procurement Portal of Government of Rajasthan www.eproc.rajasthan.gov.in for online e-Bid submission.

Methods for depositing on line amount

- All the eligible bidders should submit earnest money deposit (EMD) (Bid Security), Tender fee and RISL processing fee online through JDA portal. The bid security options available in tender for participants has been mentioned above.

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

SCHEDULE AND SPECIFICATIONS

Name of Work: Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur

NIB No.	EE-B/.... /2026-27
Approximate cost	₹ 10.03 Crore
Cost of the Bid document	₹ 1000.00, (One Through Online Payment only)
Bid Processing Fees	₹ 2500.00 (One Through on Line Payment only)
Bid Security / Bid Declaration (In favors of Secretary, JDA, Jaipur.)	➤ EMD shall be @2% of estimated procurement cost i.e. Rs. 20.07 Lakhs for the bidder registered in appropriate equivalent class in Other Department /PSUs/private or may be a private entity registered under companies act or other relevant acts as applicable or 0.5% of estimated procurement cost i.e. Rs. 5.02 Lakhs for bidder registered in AA class in JDA. ➤ Bid Security deposit can be deposited either online or in the form of Bank Guarantee in favour of Secretary, JDA, Jaipur payable at Jaipur. The bidder will provide details of BG viz No., issue date, expiring date etc. on online tendering system of JDA. ➤ A copy of this BG is to be attached with the document during uploading.
Download of Bid document	From 18/06/2026 at 9.30 AM to 07/07/2026 at 06.00 PM
Upload the Bid Document	From 18/06/2026 at 9.30 AM to 07/07/2026 at 06.00 PM
Date of Pre Bid Meeting	25/06/2026 at 3:00 PM
Date/Time/Place of Technical Bid Opening	13/07/2026 at 11.00 AM in Room No.106 1st floor, CCC Building, JDA Campus, Indira Circle, Jawahar Lal Nehru Marg, Jaipur- 302004 (Rajasthan)
Date/Time/Place of Financial Bid Opening	Will be intimated later to the technically qualified bidders on E-proc portal. Room No.106 1st floor, CCC Building, JDA Campus, Indira Circle, Jawahar Lal Nehru Marg, Jaipur- 302004 (Rajasthan)
Physically BG submission start date	08/07/2026 at 09:30 AM
Physically BG submission end date	10/07/2026 at 6.00 PM
Last Date of submission of Bid cost, Bid Process cost & Bid Security.	07/07/2026 up to 6.00 PM through online only.

	Completion period of work	12 Months
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SCHEDULE – A: INFORMATION USEFUL FOR THE BIDDERS:

The bidder should see the site and fully understand the conditions of the site before tendering and include all leads, lift etc. This work is on EPC mode and bidder should quote his rate on lump-sum basis. The work shall be carried out in accordance with the relevant Manual and drawings submitted by contractor duly approved by Engineer-In-Charge and to the entire satisfaction of the Engineer-In-Charge of the work.

Qualified personnel as required under the contractor enlistment rules duly approved by the Deptt. shall have to be engaged at site by the Contractor. The deptt. Reserves the right to engage such staff and recover the expenses from the contractor on such account in case of his failure to do so.

SCHEDULE – B: LIST OF THE DRAWING:

Conceptual drawings showing the layouts are enclosed with this Bid document.

SCHEDULE – C: LIST OF THE DRAWING TO BE SUPPLIED BY THE SUCCESSFUL BIDDER:

(a) **The successful bidder has to submit the planning and working drawings of approved plan (drawings and specifications) submitted by the consultant appointed for this project and to be get vetted from MNIT or IIT at his own cost. The structural designs should be prepared using latest software's. The same will need approval by JDA before execution.**

(b) **The successful bidder must note that all activities related to project must be completed within 12 months of stipulated period.**

SCHEDULE - D: TEST OF THE MATERIALS:

The testing of the materials and workmanship shall be conducted by the JDA staff as per prescribed norms. The result of such tests should confirm to the standards and specifications. Qualified personnel as required duly approved by JDA shall have to be engaged at site by the contractor at his cost. The JDA reserves the right to engage such staff and recover the expenses from the contractor on such account in case of his failure to do so.

SCHEDULE – E: SAMPLES OF THE MATERIALS

The samples of the materials to be used by the bidder shall be deposited 15 days in advance with the Engineer-in Charge and be get approved by him/her before use.

SCHEDULE - F: TIME OF COMPLETION:

The work should start within 10 days of issue of work order and complete within 12 months

SCHEDULE – G: NIL**SCHEDULE – H: SPECIAL CONDITION:**

Attached Separately.

SCHEDULE – I: LIST OF MATERIAL TO BE SUPPLIED BY THE DEPARTMENT

NIL

SCHEDULE – J: COST OF BID DOCUMENTS, PROCESSING FEES & BIDSECURITY.

RFP_VIBE Centre_VDN

annexure-1. special conditions of contract regarding defect liability period.

annexure-2a. bank guarantee will be in specified Performa enclosed with this bidding document for bid security.

annexure-2b. bank guarantee will be in specified Performa enclosed with this bidding document for performance security.

annexure-a. compliance with the code of integrity and no conflict of interest (rtpp act/rules).

annexure-b. declaration by the bidder regarding qualifications (rtpp act/rules).

annexure-c. grievance redressal during the procurement process (rtpp act/rules).

annexure-d. additional conditions of contract (rtpp act/rules).

annexure-e. process for tender participation & depositing payment on 'online tender participation' portal of JDA & bid submission on 'e-procurement portal' of government of Rajasthan.

EXECUTIVE ENGINEER B

JDA, JAIPUR

The Bid processing fees payable to Managing Director R.I.S.L. & Cost of Bid documents & Bid Security is payable to Secretary, JDA, Jaipur will be accepted on line only Kindly refer "Instructions to Bidders" of the bid documents for process of online payment.

Signature of the Bidder
With full Address

Executive Engineer-B
JDA, Jaipur

SECTION I
INSTRUCTION TO BIDDERS (ITB)

Section-I : Instruction to Bidders (ITB)

Important Instruction: - The Law relating to procurement “The Rajasthan Transparency in Public Procurement Act, 2012” [hereinafter called the Act] and the “Rajasthan Public Procurement Rules, 2013” and modified thereof from time to time [hereinafter called the Rules] under the said Act have come into force which are available on the website of State Public Procurement Portal <http://sppp.raj.nic.in>. Therefore, the Bidders are advised to acquaint themselves with the provisions of the Act and the Rules before participating in the Bidding process. If there is any discrepancy between the provisions of the Act and the Rules and this Bidding Document, the provisions of the Act and the Rules shall prevail.

1.	General		
	1.1 Scope of Bid		In support of the Invitation to Bid indicated in the Bid Data Sheet (BDS), the Procuring Entity issues this Bidding Document for the procurement of works as named in the BDS and as Specified in Section V, Procuring Entity’s Requirements.
	1.2 Interpretation		Throughout this Bidding Document: (a) The term “in writing” means communicated in written Form through letter, fax, e-mail etc. with proof of receipt. (b) If the context so requires, singular means plural and Vice versa; and “Day” means calendar day.
	1.3 Code of Integrity	1.3.1	Any person participating in the procurement process shall: - i. Not offer any bribe, reward or gift or any material benefit either directly or indirectly in exchange for an unfair advantage in procurement process or to otherwise influence the procurement process; ii. Not misrepresent or omit that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation; iii. Not indulge in any collusion, bid rigging or anti-competitive behavior to impair the transparency, fairness and progress of the procurement process; iv. Not misuse any information shared between the Procuring Entity and the Bidders with an intent to gain unfair advantage in the procurement process; v. Not indulge in any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process; vi. Not obstruct any investigation or audit of a procurement process; vii. Disclose conflict of interest, if any; and viii. Disclose any previous transgressions with any Entity in India or any other country during the last three years or any debarment by any other Procuring Entity.

		1.3.2	Conflict of Interest: A conflict of interest is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations. A Bidder may be considered to be in conflict of interest with one or more parties in this bidding process if, including but not limited to: have controlling partners/ shareholders in common; or receive or have received any direct or in direct subsidy from any of them; or have the same legal representative for purposes of this Bid; or have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Procuring Entity regarding this bidding process; or The Bidder participates in more than one Bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which the Bidder is involved. However, this does not limit the inclusion of the same subcontractor, not otherwise participating as a Bidder, in more than one Bid; or the Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the Works that are the subject of the Bid; or The Bidder or any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as Engineer-in-charge/ consultant for the Contract.
		1.3.3	The Bidder shall have to give a declaration regarding compliance of the Code of Integrity prescribed in the Act, the Rules and stated above in this Clause along with its Bid.
		1.3.4	Breach of Code of Integrity by the Bidder: - Without prejudice to the provisions of Chapter IV of the Rajasthan Transparency in Public Procurement Act, in case of any breach of the Code of Integrity by a Bidder or prospective Bidder, as the case may be, the Procuring Entity may take appropriate action in accordance with the provisions of sub-section (3) of section 11 and section 46 of the Act.
	1.4 Eligible Bidders	1.4.1	Bidder should be registered in AA class category in JDA or equivalent in other departments /PSUs/private or may be a private entity registered under companies act or other relevant acts as applicable.
		1.4.2	JOINT VENTURE NOT ALLOWED

		1.4.3	A Bidder shall have the nationality of India. A Bidder shall be deemed to have nationality of a country if the Bidder is a citizen or constituted or incorporated, and operates in conformity with the provisions of the Laws of that country. This criterion shall also apply to the determination of the nationality of proposed Sub-Contractors or suppliers for any part of the Contract including related services
		1.4.4	A Bidder should not have a conflict of interest in the procurement in question as stated in the RTPP Rule 81 and this Bidding document.
		1.4.5	A Bidder debarred under section 46 of the RTPP Act shall not be eligible to participate in any procurement process undertaken by any Procuring Entity, if debarred by the State Government; and a Procuring Entity, if debarred by such Procuring Entity.
		1.4.6	Bidder should be registered in AA class category in JDA or equivalent in other departments /PSUs/private or may be a private entity registered under companies act or other relevant acts as applicable.
		1.4.7	(i) Any change in the constitution of the firm, etc., shall be notified forth with by the Bidder in writing to the Procuring Entity and such change shall not relieve any former partner/ member of the firm, etc. from any liability under the Contract. (ii) No new partner/partners shall be accepted in the firm by the Bidder in respect of the contract unless he/they agree to abide by all its terms, conditions and deposit with the Procuring Entity a written agreement to this effect. The Bidder's receipt for acknowledgement or that of any partners subsequently accepted as above shall bind all of them and will be sufficient discharge for any of the purpose of the Contract. (iii) The status of the lead partner/ representative of the Joint Venture, Consortium or Association as a major stake holder shall not change without the consent of the Procuring Entity. New major stake holder must agree to abide by all terms and conditions of the Contract.
		1.4.8	Each Bidder shall submit only one Bid
		1.4.9	Bidder should be registered under the GST Act and submit the proof of registration before signing the Contract agreement. He is also required to provide proof of Permanent Account Number (PAN) given by Income Tax Department.

2	BID DOCUMENT		
	2.1 Sections of the Bidding Document	2.1.1	The Bidding Document consists of two volumes (volume I & II). Volume I comprises three parts (part I, II, & III) which includes Sections as indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB Clause 2.3 [Amendment of Bidding Document]. (A) Volume-I Part I: Bidding Procedures Section I. Instructions to Bidders (ITB) Section II. Bid Data Sheet (BDS) Section III. Evaluation and Qualification Criteria Part II: Requirements Section IV. Procuring Entity's Requirements. Part III: Contract Section V(A) - General Conditions of Contract [GCC] Section V(B). Special Conditions of Contract [SCC] Section V (C). Contract Forms (B) Volume-II : Financial bid
		2.1.2	The Invitation for Bids (NIB) issued by the Procuring Entity is also part of the Bidding Document.
		2.1.3	The Bidding Document shall be uploaded on the e-procurement portal, eproc.rajasthan.gov.in along with the Notice Inviting Bids. The complete Bidding Document shall also be placed on the State Public Procurement Portal, sppp.rajasthan.gov.in. The prospective Bidders may download the bidding document from these portals. The price of the Bidding Document and processing fee of e-bid shall have to be paid to the Procuring Entity in the amount and manner as specified in NIB and e-procurement portal.
		2.1.4	The Procuring Entity is not responsible for the completeness of the Bidding Document and its addenda, if they were not downloaded correctly from the e-procurement portal or the State Public Procurement Portal
		2.1.5	The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding Document. Failure to furnish all information or authentic documentation required by the Bidding Document may result in the rejection of the Bid.
	2.2 Clarification of Bidding Document and Pre-Bid Meeting	2.2.1	The Bidder shall be deemed to have carefully examined the conditions, specifications, size, make and drawings, etc. of the Works and Related Services to be provided. If any Bidder has any doubts as to the meaning of any portion of the conditions or of the specifications, drawings etc., it shall, before submitting the Bid, refer the same to the Procuring Entity and get clarifications. A Bidder requiring any clarification of the Bidding Document shall contact the

			Procuring Entity in writing or e-mail at the Procuring Entity's address indicated in the BDS. The Procuring Entity will respond to all raised queries in pre bid meeting. Minutes of pre bid meeting shall be uploaded on the e-procurement portal and state public procurement portal. The pre bid minutes issued by procurement entity shall then become part of the bid document and shall read as addendum to bid document.
		2.2.2	The Bidder or his authorized representative may attend the pre bid meeting on the specified date and time as mentioned in NIB. The purpose of pre bid meeting will be to clarify issues and to answer question on any matter related to this procurement that may be raised. If required, site visit may be arranged by the procuring entity.
		2.2.3	The Bidder is requested, to submit questions in writing, to reach the Procuring Entity before the date of Pre-Bid Meeting..
		2.2.4	At any time prior to the deadline for submission of the Bids, the Procuring Entity, suo motto, may also amend the Bidding Document, if required, by issuing an addendum which will form part of the Bidding Document
		2.2.5	Non-attendance at the Pre-Bid Conference will not be a cause for disqualification of a Bidder.
	2.3 Amendment of Bidding Document	2.3.1	Any addendum issued shall be part of the Bidding Document and shall be uploaded on the State Public Procurement Portal and the e-procurement portal.
		2.3.2	To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Procuring Entity may, at its discretion, extend the deadline for the submission of the Bids, pursuant to ITB Sub-Clause 4.2 [Deadline for Submission of Bids], under due publication on the State Public Procurement Portal and the e-procurement portal.
	Preparation of Bids		
	3.1 Cost of Bidding	3.1.1	The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Procuring Entity shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
		3.1.2	The Bidder shall furnish the scanned attested copies of following documents with its Bid: - i. Partnership Deed and valid registration certificate with the Registrar of Firms in case of Partnership Firms and private entity are also permitted. Power of Attorney in favour of the partner signing/submitting the Bid, authorizing him to represent all partners of the firm. ii. GST registration certificate and Permanent Account Number (PAN) given by the Income Tax Department.

			iii. Address of residence and office, telephone numbers, e-mail address iv. Certificate of Registration and Memorandum of Association issued by Registrar of Companies in case of a registered company and in case of any other statutory or registered body, certificate of incorporation or registration issued by concerned authorities. Power of attorney in favour of the person signing the Bid. v. Where permitted to bid as Joint Venture, Consortium or Association, letter of formal intent to enter in to an agreement or an existing agreement in the form of a Joint Venture, Consortium or Association.
	3.2 Language of Bid	3.2.1	The Bid, as well as all correspondence and documents relating to the Bid between Bidder and the Procuring Entity, shall be written in English/ Hindi. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages duly accepted by the Bidder in English/ Hindi in which case, for purposes of interpretation of the Bid, such translation shall govern
	3.3 Documents Comprising the Bid	3.3.1	The bidders shall submit the bid online with all pages numbered serially and by giving index of submissions. Bid should be submitted as follows : (a) Two-envelope system would be adopted, for POST QUALIFICATION. Envelope-1 being for Technical Bid and Envelope - 2 being for Financial Bid. Each envelope would be sealed separately and super scribed as "Envelope-1 Technical Bid" and "Envelope-2 Financial Bid". Both envelopes would be placed in Third envelope duly sealed, bearing the name of work and the name of the bidding contractor. In this third envelope, envelop of earnest money, GST certificate and copy of registration of contractor in required category should also be kept. (E-Bid procedure at http://eproc.rajasthan.gov.in) (b) The technical bid will be opened only of those bidders whose proper Bid Security (Earnest money), GST certificate, Copy of PAN Card and copy of registration of contractor in required category are found to be in order.
		3.3.2	The Technical Bid shall contain the following: i. Technical Bid Submission Sheet and Technical Bid containing the filled-up Bidding Forms and Declarations related to Technical Bid]; ii. proof of payment of price of Bidding Document, processing fee, Bid Security, in accordance with ITB Clause 3.10;

			iii. written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB Clause 3.11; iv. documentary evidence in accordance with ITB Clause 3.7 establishing the Bidder's eligibility to bid; v. documentary evidence in accordance with ITB Clause 3.8 establishing the Bidder's qualifications to perform the contract if its Bid is accepted; vi. the Notice Inviting Bids; vii. RTPP Annexures (Annexure B duly filled and signed) viii. any other document required in the BDS; and viii. Others considered necessary to strengthen the Bid submitted.
		3.3.3	The Financial Bid/ Price Proposal shall contain the following: Financial Bid/ Price Proposal Submission Sheet and the applicable Price Schedules, in accordance with ITB Clauses 3.4, 3.5; Any other document required in the Bid documents.
	3.4 Bid Submission Sheets and Price Schedules	3.4.1	The Bidder shall submit the Technical Bid and Financial Bid using the Bid Submission Sheets provided. These forms must be completed without any alterations to their format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
		3.4.2	The Bidder shall submit as part of the Financial Bid, the Price Schedules for Works, using the forms
	3.5 Bid Prices	3.5.1	Total Price which the Bidder wants to charge for the entire Works with all its contingencies in accordance with drawings and specifications shall be quoted (in figures and words) by the Bidder. The quoted amount shall be specified in the financial bid in order to regulate the amount to be added to or deducted from the fixed sum on account of additions and alterations not covered by the Contract. Payments shall be linked to various stages of completion of the Works specified in Activity Schedule given in Section V C Special Condition of Contract.
		3.5.2	Prices quoted by the Bidder shall be fixed during the Execution of the work and not subject to variation on any account, unless otherwise specified in the BDS. A Bid submitted with an adjustable price quotation shall be treated as non-responsive and shall be rejected, pursuant to ITB Clause 5.7 [Responsiveness of Bids]. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a Bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.

		3.5.3	All duties, taxes and other levies payable by the Bidder under the contract, or for any other cause, shall be included in the rates and prices, and the total Bid Price submitted by the Bidder.
	3.6 Currencies of Bid	3.6.1	The rates quoted by the Bidder shall be in Indian Rupees. All payments shall be made in Indian Rupees only.
	3.7 Documents Establishing the Eligibility of the Bidder	3.7.1	To establish their eligibility in accordance with ITB Clause 1.4 [Eligible Bidders], Bidders shall: complete the eligibility declarations in the Bid Submission Sheet and Declaration Form.
	3.8 Documents Establishing the Qualifications of the Bidder	3.8	To establish its qualifications to perform the Contract, the Bidder shall submit as part of its Technical Proposal the documentary evidence indicated for each qualification criteria specified in Section III, [Evaluation and Qualification Criteria].
	3.9 Period of Validity of Bids	3.9.1	Bids shall remain valid for 120 days after the Bid submission deadline date as specified by the Procuring Entity. A Bid valid for a shorter period shall be rejected by the Procuring Entity as non-responsive
		3.9.2	In exceptional circumstances, prior to the expiration of the Bid validity period, the Procuring Entity may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. The Bid Security or a Bid Securing Declaration in accordance with ITB Clause 3.10 [Bid Security] shall also be got extended for thirty days beyond the dead line of the extended validity period. A Bidder may refuse the request without forfeiting its Bid Security or a Bid Securing Declaration. A Bidder granting the request shall not be permitted to modify its Bid.
	3.10 Bid Security	3.10.1	All the eligible bidders should submit Bid Security Deposit as ➤ EMD shall be @2% of estimated procurement cost i.e. Rs. 20.07 Lakhs for bidder registered in appropriate equivalent class in Other Department /PSUs/private or may be a private entity registered under companies act or other relevant acts as applicable or 0.5% of estimated procurement cost i.e. Rs. 5.02 Lakhs for bidder registered in AA class in JDA. ➤ Bid Security deposit can be deposited either online or in the form of Bank Guarantee in favour of Secretary, JDA, Jaipur payable at Jaipur. The bidder will provide details of BG viz No., issue date, expiring date etc on online tendering system of JDA. ➤ The original BG will be physically handed over in JDA as detailed in NIB.

			➤ A copy of this BG is to be attached with the document during uploading.
		3.10.2	Bid Security of a Bidder lying with the Procuring Entity in respect of other Bids awaiting decision shall not be adjusted towards Bid Security for this Bid. The Bid Security originally deposited may, however be taken into consideration in case Bids are re-invited.
		3.10.3	The issuer of the Bid Security and the confirmer, if any, of the Bid Security, as well as the form and terms of the Bid Security, must be acceptable to the Procuring Entity.
		3.10.4	Prior to submitting its Bid, a Bidder may request the Procuring Entity to confirm the acceptability of a proposed issuer of a Bid Security or of a proposed confirmer, if different than as specified in ITB Clause 3.10.3. The Procuring Entity shall respond promptly to such a request.
		3.10.5	The bank guarantee presented as Bid Security shall be got confirmed from the concerned issuing bank. However, the confirmation of the acceptability of a proposed issuer or of any proposed confirmer does not preclude the Procuring Entity from rejecting the Bid Security on the ground that the issuer or the confirmer, as the case may be, has become insolvent or is under liquidation or has otherwise ceased to be creditworthy.
		3.10.6	The Bid Security of unsuccessful Bidders shall be refunded soon after final acceptance of successful Bid and signing of Contract Agreement and submitting Security deposit by successful Bidder pursuant to ITB Clause 6.4 [Security deposit].
		3.10.7	The Bid Security from a Bidder shall be recovered /forfeited in the following cases namely :- (a) When the Bidder withdraws, or modifies his Bid after opening of Bids; or (b) when the Bidder does not execute the agreement in accordance with ITB Clause 6.3 [Signing of Contract] after issue of letter of acceptance/ placement of Work order within the specified time period; or (c) when the Bidder fails to commence the Works as per Work Order within the time specified; or (d) when the Bidder does not deposit the Security deposit in accordance with ITB Clause 6.4 [Security deposit]; in the prescribed time limit after the work order is placed; or (e) if the Bidder breaches any provision of the Code of Integrity prescribed for Bidders in the Act and Chapter VI of the Rules or as specified in ITB Clause 1.3 [Code of Integrity]; or

			(f) if the Bidder does not accept the correction of its Bid Price pursuant to ITB Sub-Clause 5.5 [Correction of Arithmetical Errors].
		3.10.8	In case of the successful bidder, the amount of Bid Security may be adjusted in arriving at the amount of the Security deposit, or refunded if the successful bidder furnishes the full amount of Security deposit. No interest will be paid by the Procuring Entity on the amount of Bid Security.
		3.10.9	The Procuring Entity shall promptly refund the Bid Security of the Bidders at the earliest of any of the following events, namely: - (a) The expiry of validity of Bid Security; (b) The execution of agreement for procurement/O&M and Security deposit is furnished by the successful bidder on part of execution/O&M hence shall be refunded in two parts accordingly. (c) The cancellation of the procurement process; Or The withdrawal of Bid prior to the deadline for presenting Bids, unless the Bidding Document stipulates that no such withdrawal is permitted.
		3.10.10	DELETED
	3.11 Format and Signing of Bid	3.11.1	All pages of the Technical and Financial Bid shall be digitally signed by the Bidder or authorized signatory on behalf of the Bidder. This authorization shall consist of a written confirmation and shall be attached to the Bid.
4	Submission and Opening of Bids		
	4.1 Sealing and Marking of Bids	4.1.1	Bidders shall submit their Bids to the Procuring Entity electronically only on the e-procurement portal, www.eproc.rajasthan.gov.in . In submission of their Bids, the Bidders should follow the step by step instructions given on the e-procurement portal
		4.1.2	The Bidder shall enclose the Technical Bid and the Financial Bid in separate covers. The proof of payment of price of Bidding Document, processing fee and Bid Security shall be enclosed in third cover. The price of Bidding Document and Bid Security shall be paid in the name of the Procuring Entity and the processing fee shall be paid in the name of RISL.
	4.2 Deadline for Submission of Bids	4.2.1	Bids shall be submitted electronically only up to the time and date specified in the Notice Inviting Bids and BDS or an extension issued thereof.
	4.3 Withdrawal, Substitution and Modification of Bids	4.3.1	A Bidder may withdraw, substitute or modify its Bid after it has been submitted by submitting electronically on the e-procurement portal. A written Withdrawal/ Substitutions/ Modifications etc. Notice on the e-procurement portal, duly digitally signed by the Bidder or his authorized representative, and shall include a copy of the authorization in accordance with ITB Sub- Clause 3.11.1 [Format and

			Signing of Bid]. The corresponding Withdrawal, Substitution or Modification of the Bid must accompany the respective written Notice. All Notices must be received by the Procuring Entity on the e-procurement portal prior to the deadline specified for submission of Bids in accordance with ITB Sub-Clause 4.2. [Deadline for Submission of Bids].
		4.3.2	No Bid shall be withdrawn, substituted or modified in the interval between the deadline for submission of the Bid and the expiration of the period of Bid validity specified in ITB Clause 3.9. [Period of Validity of Bids] or any extension thereof.
	4.4 Bid Opening	4.4.1	The electronic Technical Bids shall be opened by the Bid opening committee constituted by the Procuring Entity at the time, date and place specified in the Bid Data Sheet in the presence of the Bidders or their authorized representatives, who choose to be present.
		4.4.2	The Bidders may choose to witness the electronic Bid opening procedure online.
		4.4.3	The Financial Bids shall be kept unopened until the time of opening of the Financial Bids. The date, time and location of electronic opening of the Financial Bids shall be intimated to the bidders who are found qualified by the Procuring Entity in evaluation of their Technical Bids.
		4.4.4	The Bid opening committee shall prepare a list of the Bidders or their representatives attending the opening of Bids and obtain their signatures on the same. The list shall also contain the representative's name and telephone number and corresponding Bidders' names and addresses. The authority letters brought by the representatives shall be attached to the list. The list shall be signed by all the members of Bids opening committee with date and time of opening of the Bids.
		4.4.5	First, covers marked as "WITHDRAWAL" shall be opened and recorded and the covers containing the corresponding Technical Bids and Financial Bids shall not be opened. No Bid shall be permitted to be withdrawn unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is readout and recorded at Bid opening. If the withdrawal notice is not accompanied by the valid authorization, the withdrawal shall not be permitted and the corresponding Technical Bid shall be opened. Next, covers containing Scanned copy of online payments and registration certificate shall be opened and recorded. Next, covers marked as "SUBSTITUTION Technical Bid" shall be opened, read out, recorded. The covers containing the Substitution Technical Bids and/ or Substitution Financial

			Bids shall be exchanged for the corresponding covers being substituted. Only the Substitution Technical Bids shall be opened and recorded. Substitution Financial Bids will remain unopened in accordance with ITB Sub-Clause 4.4.4. No Bid shall be substituted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out and recorded at Bid opening Covers marked as “MODIFICATION Technical Bid” shall be opened thereafter, read out and recorded with the corresponding Technical Bids. No Technical Bid and/ or Financial Bid shall be modified unless the corresponding modification notice contains a valid authorization to request the modification and is read out and recorded at opening of Technical Bids. Only the Technical Bids, both Original as well as Modification is to be opened, read out, and recorded at the opening. Financial Bids, both Original as well as Modification, will remain unopened in accordance with ITB Sub-Clause 4.4.4.
		4.4.6	All other covers containing the Technical Bids shall be opened one at a time and the following read out the name of the Bidder, whether there is a modification or substitution; whether proof of payment of Bid Security or Bid Securing Declaration, if required, payment of price of the Bidding Document and processing fee have been enclosed Any other details as the Bids opening committee may consider appropriate
		4.4.7	After all the Bids have been opened, their summary shall be printed and shall be initialed and dated on the first page and other important papers by the members of the Bids opening committee. Only Technical Bids shall be read out and recorded at the bid opening and shall be considered for evaluation. No Bid shall be rejected at the time of opening of Technical Bids except Alternative Bids (if not permitted) and Bids not accompanied with the proof of payment of the required price of Bidding Document, processing fee and Bid Security.
		4.4.8	The Bids opening committee shall prepare a record of opening of Technical Bids that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, modification, or alternative offer (if they were permitted), any conditions put by Bidder and the presence or absence of the price of Bidding Document, processing fee and Bid Security. The Bidders or their representatives, who are present, shall sign the record. The members of the Bids opening committee shall also sign the record with date.
		4.4.9	After completion of the evaluation of the Technical Bids, the Procuring Entity shall invite Bidders who have submitted

			substantially responsive Technical Bids and who have been determined as being qualified to attend the electronic opening of the Financial Bids. The date, time, and location of the opening of Financial Bids will be intimated in writing by the Procuring Entity. Bidders shall be given reasonable notice of the opening of Financial Bids.
		4.4.10	The Procuring Entity shall notify Bidders in writing whose Technical Bids have been rejected on the grounds of being substantially non-responsive and not qualified in accordance with the requirements of the Bidding Document
		4.4.11	The Bids opening committee shall conduct the electronic opening of Financial Bids of all Bidders who submitted substantially responsive Technical Bids and have qualified in evaluation of Technical Bids, in the presence of Bidders or their representatives who choose to be present at the address, date and time specified by the Procuring Entity.
		4.4.12	All covers containing the Financial Bids shall be opened at the time & date and the following shall be recorded- the name of the Bidder; whether there is a modification or substitution; the Bid Prices; any other details as the Bids opening committee may consider appropriate After all the Bids have been opened, their summary shall be printed and shall be initial and dated by the members of the Bids opening committee. Key information shall be encircled and unfilled spaces in the Bids shall be marked and signed with date by the members of the Bids opening committee.
		4.4.13	The Bids opening committee shall prepare a record of opening of Financial Bids that shall include as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification, the Bid Price, any conditions, any discounts and alternative offers (if they were permitted). The Bidders or their representatives, who are present, shall sign the record. The members of the Bids opening committee shall also sign the record with date.
5.	Evaluation and Comparison of Bids		
	5.1 Confidentiality	5.1.1	Information relating to the examination, evaluation, comparison, and post-qualification of Bids, and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders.
		5.1.2	Any attempt by a Bidder to influence the Procuring Entity in its examination of qualification, evaluation, comparison of the Bids or Contract award decisions may be resulting in the rejection of its Bid, in addition to the legal action which may be taken by the Procuring Entity under the Act and the Rules.

	5.2 Clarification of Technical or Financial Bids	5.2.1	To assist in the examination, evaluation, comparison and qualification of the Technical or Financial Bids, the Bid evaluation committee may, at its discretion, ask any Bidder for a clarification regarding his Bid. The committee's request for clarification and the response of the Bidder shall be in writing.
		5.2.2	Any clarification submitted by a Bidder with regard to His Bid that is not in response to a request by the Bid evaluation committee shall not be considered.
		5.2.3	No change in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetical errors discovered by the Bid evaluation committee in the evaluation of the financial Bids.
		5.2.4	No substantive change to qualification information or to a submission, including changes aimed at making an unqualified Bidder, qualified or an unresponsive submission, responsive shall be sought, offered or permitted.
	5.3 Deviations, Reservations and Omissions in Technical or Financial Bids	5.3.1	During the evaluation of Technical or Financial Bids, the following definitions apply: i.) "Deviation" is a departure from the requirements specified in the Bidding Document; ii.) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and iii.) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
	5.4 Nonmaterial Non-conformities in Technical or Financial Bids	5.4.1	Provided that a Technical or Financial Bid is substantially responsive, the Procuring Entity may waive any non-conformities (with recorded reasons) in the Bid that do not constitute a material deviation, reservation or omission.
		5.4.2	Provided that a Technical or Financial Bid is substantially responsive, the Procuring Entity may request the Bidder to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Bid related to documentation requirements. Request for information or documentation on such nonconformities shall not be related to any aspect of the Financial Proposal of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
	5.5 Correction of Arithmetical Errors in Financial Bid	5.5.1	Provided that a Financial Bid is substantially responsive, the Bid evaluation committee shall correct arithmetical errors during evaluation of Financial Bid on the following basis: i. if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total

			price shall be corrected, unless in the opinion of the Procuring Entity there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected; ii. if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and iii. if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.
		5.5.2	If the Bidder that submitted the lowest evaluated Bid does not accept the correction of errors, its Bid shall be disqualified and its Bid Security shall be forfeited or its Bid Securing Declaration shall be executed.
	5.6 Preliminary Examination of Technical or Financial Bids	5.6.1	The Procuring Entity shall examine the Technical or Financial Bids to confirm that all documents and technical documentation requested in ITB Sub-Clause 3.3 [Documents Comprising the Bid] have been provided, and to determine the completeness of each document submitted.
		5.6.2	The Procuring Entity shall confirm, following the opening of the Technical or Financial Bids, that the following documents and information have been provided: i. Bid is signed, as per the requirements listed in the Bidding documents; ii. Bid has been sealed as per instructions provided in the Bidding documents; iii. Bid is valid for the period, specified in the Bidding documents; iv. Bid is accompanied by Bid Security or Bid securing declaration; v. Bid is unconditional and the Bidder has agreed to give the required security deposit; vi. Price Schedules in the Financial Bids are in accordance with ITB Clause 3.4 [Bid Submission Sheets and Price Schedules]; vii. written confirmation of authorization to commit the Bidder; viii. Declaration by the Bidder in compliance of Section 7 and 11 of the Act; and ix. Other conditions, as specified in the Bidding Document are fulfilled.
		5.7.1	The Procuring Entity's determination of the Responsiveness of a Technical or Financial Bid is to be based

	5.7 Responsiveness of Technical or Financial Bids		on the contents of the Bid itself, as defined in ITB Sub-Clause 3.3 [Documents Comprising the Bid].
		5.7.2	A substantially responsive Technical or Financial Bid is one that meets without material deviation, reservation, or omission to all the terms, conditions, and specifications of the Bidding Document. A material deviation, reservation, or omission is one that: if accepted, would- i. affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in Section V, Schedule of Supply; or limits in any substantial way, inconsistent with the Bidding Document, the Procuring Entity's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.
		5.7.3	The Procuring Entity shall examine the technical aspects of the Bid in particular, to confirm that requirements of Section IV, Procuring Entity's Requirements have been met without any material Deviation, reservation, or omission.
		5.7.4	If a Technical or Financial Bid is not substantially responsive to the Bidding Document, it shall be rejected by the Procuring Entity and may not subsequently be made responsive by the Bidder by Correction of the material deviation, reservation, or omissions.
	5.8 Examination of Terms and Conditions of the Technical or Financial Bids	5.8.1	The Procuring Entity shall examine the Bids to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.
		5.8.2	The Procuring Entity shall evaluate the technical aspects of the Bid submitted in accordance with ITB Clauses 3.3 [Documents Comprising the Bid] and to confirm that all requirements specified in Section IV [Procuring Entity's Requirements] of the Bidding Document and all amendments or changes requested by the Procuring Entity in accordance with ITB clause 2.3 [Amendment of Bidding Document] have been met without any material deviation or reservation.
	5.9 Evaluation of Qualification of Bidders in Technical Bids	5.9.1	The determination of qualification of a Bidder in evaluation of Technical Bids shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 3.8 [Documents Establishing the Qualifications of the Bidder] and in accordance with the qualification criteria indicated in Section III [Evaluation and Qualification Criteria]. Factors not included in Section III, shall not be used in the Evaluation of the Bidder's qualification.

	5.10 Evaluation of Financial Bids	5.10.1	The Procuring Entity shall evaluate each Financial Bid, the corresponding Technical Bid of which has been determined to be substantially responsive
		5.10.2	To evaluate a Financial Bid, the Procuring Entity shall only use all the criteria and methodologies defined in this Clause and in Section III, Evaluation and Qualification Criteria. No other criteria or methodology shall be permitted.
		5.10.3	To evaluate a Financial Bid, the Procuring Entity shall consider the following: i). the Bid Price quoted in the Financial Bid; ii) price adjustment for correction of arithmetical errors in accordance with ITB Clause 5.5[Correction of Arithmetical Errors]; iii) Adjustment of bid prices due to rectification of nonmaterial nonconformities or omissions in accordance with ITB Sub Clause 5.4.3 [Non material Non conformities in Bids], if applicable.
		5.10.4	In case the rate received in the bid is below than tender cost, additional Performance security shall be deposited by the bidder as per Rule 75 (A) of RTPP Rules.
	5.11 Negotiations		
		5.11.1	To the extent possible, no clarifications shall be Conducted after the pre-Bid stage. All clarifications needed to be sought shall be sought in the pre-Bid stage itself.
		5.11.2	Negotiations may be undertaken only with the lowest Bidder when the rates quoted are considered much higher than the prevailing market rates.
		5.11.3	The Competent committee shall have full powers to undertake negotiations. Detailed reasons and results of negotiations shall be recorded in the proceedings.
		5.11.4	The lowest Bidder shall be informed about negotiations in writing either through messenger or by registered letter and e-mail (if available). A minimum time of seven days shall be given for calling negotiations. In case of urgency, the competent committee, after recording reasons, may reduce the time, provided the lowest Bidder has received the intimation and consented to holding of negotiations.
		5.11.5	Negotiations shall not make the original offer made by the Bidder inoperative. The competent committee shall have option to consider the original offer in case the Bidder decides to increase rates originally quoted or imposes any new terms or conditions.
		5.11.6	In case of non-satisfactory achievement of rates from lowest Bidder, the Bid evaluation committee may choose to make a written counter offer to the lowest Bidder and if this is not accepted by him, the committee may decide to reject and re-invite Bids or to make the same counter-offer first to

			the second lowest Bidder, then to the third lowest Bidder and so on in the order of their initial standing in the bid evaluation and work order be awarded to the Bidder who accepts the counter-offer.
		5.11.7	In case the rates even after the negotiations are considered very high, fresh Bids shall be invited.
	5.12 Procuring Entity's Right to Accept Any Bid, and to Reject Any or All Bids	5.12.1	The Procuring Entity reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to Contract award without assigning any reasons thereof and without there by incurring any liability to the Bidders.
	Award of Contract		
	6.1 Procuring Entity's Right to Vary Quantities	6.1.1	If the Procuring Entity does not procure any subject matter of procurement or procures less than the quantity specified in the Bidding Document due to change in circumstances, the Bidder shall not be entitled for any claim or compensation except Otherwise provided in the Bidding Document.
6.	6.2 Acceptance of the successful Bid and award of contract	6.2.1	The Procuring Entity after considering the recommendations of the Bid Evaluation Committee and the conditions of Bid, if any, financial implications, samples, test reports, etc., shall accept or reject the successful Bid.
		6.2.2	Before award of the Contract, the Procuring Entity shall ensure that the price of successful Bid is reasonable and consistent with the required specifications.
		6.2.3	A Bid shall be treated as successful only after the competent authority has approved the procurement in terms of that Bid.
		6.2.4	The Procuring Entity shall award the contract to the Bidder whose offer is the lowest in accordance with the evaluation criteria.
		6.2.5	Prior to the expiration of the period of validity of Bid, the Procuring Entity shall inform the successful Bidder in writing, by registered post or email, that its Bid has been accepted.
	6.3 Signing of Contract	6.3.1	In the written intimation of acceptance of its Bid sent to the successful Bidder, it shall also be requested to execute an agreement in the format given in the Bidding Document on a non-judicial stamp of requisite value at his cost and deposit the Security deposit or a Security deposit Declaration, if applicable, within a period specified in the BDS.
		6.3.2	If the Bidder, whose Bid has been accepted, fails to sign a written procurement contract or fails to furnish the required Security deposit or Security deposit Declaration within the specified time period, the Procuring Entity shall forfeit the Bid Security of the successful bidder / execute the Bid Securing Declaration and take required action against it as per the provisions of the Act and the Rules.

		6.3.3	The Bid Security, if any, of the Bidders whose Bids could not be accepted shall be refunded soon after the contract with the successful Bidder is signed and his Security deposit is obtained. Until a formal contract is executed, LOA shall constitute a binding contract.
	6.4 Security deposit	6.4.1	Security deposit shall be solicited from the successful Bidder except State Govt. Departments and undertakings, corporations, autonomous bodies, registered societies, co-operative societies which are owned or controlled or managed by the State Government and undertakings of Central Government. However, a Security deposit Declaration shall be taken from them.
		6.4.2	(i) The amount of Security deposit shall be ten percent (10%) of the amount of the Work Order. The currency of Security deposit shall be Indian Rupees.
		6.4.3	Security deposit shall be furnished in one of the following forms as applicable- a). Deposit through eGRAS; or b). Bank Draft or Banker's Cheque of a Scheduled Bank in India in favour of Secretary, JDA, Jaipur; or c). National Savings Certificates and any other script/ instrument under National Savings Schemes for promotion of small savings issued by a Post Office in Rajasthan, if the same can be pledged under the relevant rules. They shall be accepted at their surrender value at the time of Bid and formally transferred in the name of the Procuring Entity with the approval of Head Post Master; or d). Bank guarantee in favour of Secretary JDA, Jaipur payable at Jaipur. It shall be got verified from the issuing bank. Other conditions regarding bank guarantee shall be same as specified in ITB Sub-Clause 3.10 [Bid Security]; or e). Fixed Deposit Receipt (FDR) of a Scheduled Bank. It shall be in the name of the Procuring Entity on account of Bidder and discharged by the Bidder in advance. The Procuring Entity shall ensure before accepting the Fixed Deposit Receipt that the Bidder furnishes an undertaking from the bank to make payment/ premature payment of the Fixed Deposit Receipt on demand to the Procuring Entity without requirement of consent of the Bidder concerned. In the event of forfeiture of the Security deposit, the Fixed Deposit shall be forfeited along with interest earned on such Fixed Deposit. f). The successful Bidder at the time of signing of the Contract agreement, may submit option for deduction of Security deposit from each running and final bill @ 10% of the amount of the bill.

		6.4.4	Security deposit furnished in the form of a document mentioned at options (a) to (e) of Sub-Clause 6.4.3 above, shall remain valid for a period of sixty days beyond defect liability period.
		6.4.5	Failure of the successful Bidder to submit the Security deposit in accordance to 6.4.3 above and sign the Contract accordingly shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event, the Procuring Entity may either cancel the procurement process or if deemed appropriate, award the Contract at the rates of the lowest Bidder, to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Procuring Entity to be qualified to perform the Contract satisfactorily.
		6.4.6	Forfeiture of Security deposit: Amount of Security deposit in full or part may be forfeited in the following cases: - when the Bidder does not execute the agreement in accordance with ITB Clause 6.3 [Signing of Contract] within the specified time; after issue of letter of acceptance; or when the Bidder fails to commence the Works as per Work order within the time specified; or when the Bidder fails to complete Contracted Works satisfactorily within the time specified; or when any terms and conditions of the contract is breached; or to adjust any established dues against the Bidder from any other contract with the Procuring Entity; or if the Bidder breaches any provision of the Code of Integrity prescribed for the Bidders specified in the Act, Chapter VI of the Rules and this Bidding Document. Notice of reasonable time will be given in case of forfeiture of Security deposit. The decision of the Procuring Entity in this regard shall be final

SECTION II

BIDDING DATA SHEET

This section consists of provisions that are specific to each procurement and supplement the information or requirements included in Section I: Instructions to Bidders.

Contents

- A. Introduction
- B. Bidding Documents
- C. Preparation of Bids
- D. Submission and Opening of Bids
- E. Award of Contract

A. Introduction

ITB. 1.1.1	The Number of the Invitation for Bids (NIB) is: JDA/EE-B/..../2026-27 The Member of the Invitation for Bids is: Jaipur Development Authority. Name of Work: Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur (Detailed Scope of work has been defined in Section IV: Procuring Entity's Requirement)
1.1.2	Period of Completion: Construction work in all respect shall be completed in 12 months from the Start Date, which shall be the stipulated date of commencement mentioned in work order.
1.1.3	Estimated Cost of work is: Rs. 10.03 Crore.
ITB 1.4.1	DELETED
ITB 1.4.2	“Bidders of Indian Nationality” are permissible.
ITB 1.4.3	Bidder should be registered in AA class category in JDA or equivalent in other departments /PSUs/private or may be a private entity registered under companies act or other relevant acts as applicable.
ITB 1.4.4	The bidding process is open to bidders who fulfil the prescribed eligibility criteria.
ITB 1.4.5	Each bidder shall upload on-line / submit only one bid for one work. A bidder who submits or participates in more than one bid for the particular Works will be disqualified.

B. Bidding Documents

ITB 2.1.3	This is an “on-line tender”. Therefore, tender documents in physical form shall not be available for sale but can be downloaded from the website and pay cost (Rs 1,000/-) while submitting the filled-up Bidding document to the Procuring Entity along with the processing fee of Rs 2,500/- separately in favor of MD RISL, Jaipur. The bidder should submit, by date & time specified in NIB, in original, hard copies of (i) cost of bid document as Rs. 1,000/-Online (ii) Bid processing fee of Rs. 2,500/- online to Managing Director, RISL, Jaipur payable; (iii) Bid Security as per RTPP; (iv) Letter of Technical Bid; (v) Power of Attorney; and (vi) Joint Venture Agreement, if applicable. The bidder should upload scanned copies of these documents on e-procurement website along with their technical bids.
ITB 2.2.1	For Clarification purposes only, the Procuring Entity's address is: OFFICE OF THE EXECUTIVE ENGINEER-B Jaipur Development Authority ROOM No 106, 1st Floor, Main Building Ram Kishor Vyas Bhawan, Indira Circle, Jawahar Lal Nehru Marg, Jaipur-302004 EPABX +91 -141-2569696 Ext.- email : sanjeevanjain@rajasthan.in

ITB 2.2.2	Pre bid Meeting to be held as below: Date: 25/06/2026 Time: 3:00 PM Venue: Manthan Hall Jaipur Development Authority. No site visit shall be organized by the procuring entity. However, bidder are advised to visit the sites at their own expenses and if any support is required, shall be provided by the JDA.
ITB 2.2.3	The Bidders are requested, to submit questions in writing, to reach the Procuring Entity.
ITB 2.3.1	Any addendum issued shall be part of the Bidding Document and shall be uploaded on the State Public Procurement Portals http://sppp.rajasthan.gov.in and http://eproc.rajasthan.gov.in or www.jda.rajasthan.gov.in
ITB 2.3.2	To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Procuring Entity may, at its discretion, extend the deadline for the submission of the Bids, pursuant to ITB Sub-Clause 4.2 [Deadline for Submission of Bids], under due intimation to the Bidders by uploading it on the State Public Procurement Portal and its e-procurement portal.

C. Preparation of Bids

ITB 3.2.1	The language of the bid shall be English
ITB 3.3.1	The online Bid shall comprise of two parts submitted simultaneously, one containing the Technical Bid/ Proposal and the other the Financial or Price Bid/ Proposal.
ITB 3.3.2	The Bidder shall submit the forms, declarations and documents, as specified in Section IV of Bid Document, with the Technical Bid:
ITB 3.3.3	The Bidder shall submit the following additional documents with its Technical Bid: - Technical Bid/Proposal Submission Sheet and Technical Bid containing the filled-up Bidding Forms and Declarations related to Technical Bid, possession of required qualifications and Code of Integrity given in Section IV [Bidding Forms]; - Proof of payment of price of Bidding Document, processing fee and Bid Security in accordance with ITB Clause 3.10; - Written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB Clause 3.11; - Documentary evidence in accordance with ITB Clause 3.7 establishing the Bidder's eligibility to bid; - Documentary evidence in accordance with ITB Clause 3.8 establishing the Bidder's qualifications to perform the contract if its Bid is accepted; - The Notice Inviting Bids; - The PAN No. (Permanent Account Number) of Income tax with the Xerox copy of the PAN card. - Alternative bids shall not be permitted.

	ix. Alternative times for completion shall not be permitted. (However, this does not prohibit the successful bidder from completing the work as per specifications before schedule) x. RTPP Annexures (Annexure B duly filled and signed) xi. Any other document required in the BDS; and xii. Others considered necessary to strengthen the Bid submitted.
ITB 3.5.1	Add following: The form of contract for the work “Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur” will be a Lump Sum contract on EPC basis.
ITB 3.5.2	The Prices quoted by the Bidder shall be fixed.
ITB 3.5.3	All variations in taxes and duties shall be borne as per relevant clause of the Section VI B: SCC
ITB 3.9.1	The Bid validity period shall be 120 (One Twenty days) days from deadline for submission of bids.
ITB 3.10.2	➤ EMD shall be @2% of estimated procurement cost i.e. Rs. 20.07 Lakhs for the bidder registered in appropriate equivalent class in Other Department /PSUs/private or may be a private entity registered under companies act or other relevant acts as applicable or 0.5% of estimated procurement cost i.e. Rs. 5.02 Lakhs for bidder registered in AA class in JDA. ➤ Bid Security deposit can be deposited either online or in the form of Bank Guarantee in favor of Secretary, JDA, Jaipur payable at Jaipur. The bidder will provide details of BG viz No., issue date, expiring date etc on online tendering system of JDA. ➤ The original BG will be physically handed over in JDA as detailed in NIB. ➤ A copy of this BG is to be attached with the document during uploading.
ITB 3.10.3	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: Power of Attorney.

D. Submission and Opening of Bids

ITB 4.1.1	For bid submission purposes only, the Procuring Entity’s address is: OFFICE OF THE EXECUTIVE ENGINEER-B Jaipur Development Authority, Room No 106, 1st floor Ram Kishor Vyas Bhawan, Indira Circle, Jawahar Lal Nehru Marg, Jaipur-302004 Bidders shall submit their Bids electronically only. The Bidders shall submit the Bid online with all pages numbered serially and by giving an index of submissions. Each page of the submission shall be initialled by the Authorised Representative of the Bidder as per the terms of the tender. The Bidder shall be responsible for documents accuracy and correctness as per the version uploaded by the Procuring Entity and shall ensure that there are no changes caused in the content of the downloaded document. The bidder shall follow the following instructions for online submission: • Bidder who wants to participate in bidding will have to procure digital certificate as per IT Act to sign their electronic bids. Offers which are not digitally signed will not be accepted. Bidder shall submit their offer in electronic format on above mentioned website after digitally signing the same.
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	- Cost of bid document is Rs. 1,000/- should be deposited by online, whereas the Processing fee Rs. 2,500/- should be deposited online to MD, RISL, Jaipur payable at Jaipur. Scanned copy of proof of payments shall be submitted with the technical bid. - The Procuring Entity will not be responsible for any mistake occurred at the time of uploading of bid or thereafter. - If holiday is declared on submission & opening date of tender the scheduled activity will take place on next working day.
ITB 4.1.2	Bids are required to be submitted in Electronic Format, it shall be submitted on the e-procurement portal: http://eproc.rajasthan.gov.in
ITB 4.2.1	The Deadline for electronic Bid submission is Date: 07/07/2026 at 06.00 PM Time: 06:00 PM
ITB 4.4.1,4.4.5	The online Bid opening shall take place at: OFFICE OF THE SUPERINTENDING ENGINEER- Jaipur Development Authority, Room No, Ram Kishor Vyas Bhawan, Indira Circle, Jawahar Lal Nehru Marg, Jaipur-302004 The tendering process shall be conducted online only; DD/BG of Bid Security shall be submitted physically up to deadline described in tender document.
ITB 4.4.13,4.4.15	The Procuring Entity will open the Financial proposal as per e-tendering procedure.

E. Award of Contract

ITB 6.3.1	The period within which the Performance Security is to be submitted by the successful Bidder and the Contract Agreement is to be signed by him from the date of issue of Letter of Acceptance is 14 Days.
ITB 6.3.3	The procuring entity shall promptly return the bid security after the earliest of the following events, namely: - The expiry of validity of bid security - The execution of agreement for procurement/O&M and Security deposit is furnished by the successful bidder on part of execution/O&M hence shall be refunded in two parts accordingly. - The cancellation of the procurement process; or - The withdrawal of bid prior to the deadline for presenting bids, unless the bidding documents stipulate that no such withdrawal is permitted.
ITB 6.4.1	Security Deposit shall be solicited from the successful Bidder in accordance to 6.4 of ITB.
ITB 6.4.3	(i) Security Deposit amounting to total 10% of contract value (Ref Clause 6.4.2 of ITB) shall be submitted in advance at the time of signing of agreement as per latest rules under RTTP act. Bank Guarantee en cashable at Jaipur submitted against the performance

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	guarantee, shall be unconditional and en-cashable/ invokable at Town for which tenders are invited or submitted at Jaipur. (ii) The successful Bidder at the time of signing of the Contract agreement, may submit option for deduction of Security Deposit from each running and final bill @ 10% of the amount of the bill.
7.1	First Appellate Authority shall be: Executive Committee JDA, Jaipur Second Appellate Authority shall be: A.C.S./P.S. UDH Jaipur

**Name of Project: - Construction of Vidhyadhar Nagar
Information, Business & Entertainment (VIBE) Centre
in Sector-1, Vidhyadhar Nagar, JDA, Jaipur**

Section – III

Evaluation and Qualification Criteria

JAIPUR DEVELOPMENT AUTHORITY JAIPUR

Schedule and Specifications

SCHEDULE – A: INFORMATION USEFUL FOR THE BIDDERS:

The bidder should see the site and fully understand the conditions of the site before tendering and include all leads, lift etc. This work is on EPC mode and bidder should quote his rate on lump-sum basis. The work shall be carried out in accordance with the relevant Manual and drawings submitted by contractor duly approved by Engineer-In-Charge and to the entire satisfaction of the Engineer-In-Charge of the work.

Qualified personnel as required under the contractor enlistment rules duly approved by the Deptt. shall have to be engaged at site by the Contractor. The deptt. Reserves the right to engage such staff and recover the expenses from the contractor on such account in case of his failure to do so.

SCHEDULE – B: LIST OF THE DRAWING:

The JDA has engaged a consultant for consultancy of proposed works. The bidder has to work as per the conceptual details provided by the consultant. The bidder will submit the design and drawings required for construction without violating the basic themes. The structural drawings are to be get vetted by bidder from MNIT or IIT at his own cost.. The same will need approval by JDA before execution.

SCHEDULE - C: TEST OF THE MATERIALS:

The testing of the materials and workmanship shall be conducted by the JDA staff as per prescribed norms. The bidder should also provide third party test result. The result of such tests should confirm to the standards and specifications. Qualified personnel as required duly approved by JDA shall have to be engaged at site by the contractor at his cost. The JDA reserves the right to engage such staff and recover the expenses from the contractor on such account in case of his failure to do so.

SCHEDULE – D: SAMPLES OF THE MATERIALS:

The sample of the materials to be used by the contractor shall be deposited in advance with the Engineer In charge and be got approval by him before use.

SCHEDULE - E: TIME OF COMPLETION:

The work should start within 10 days of issue of work order and complete within 12 months.

JAIPUR DEVELOPMENT AUTHORITY JAIPUR

Name of work: - Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur

Procedure:

Procedure for qualification would be as follow:

1. Two-part bid system:

Two part (Two-envelope) (2 docket) system would be adopted, Docket-1 being for Technical Bid and Docket-2 being for Financial Bid.

Docket-1:- There will be three separate folders- Folder-1 is for proof of deposition of Bid Security, cost of bidding document and bid processing fee along with copy of GST registration, signed Annexure “B” and copy of enlistment as contractor/ bidder in required category. Folder-II is for bid document and folder-III is for technical bid.

Docket-2:- There will two separate folders-1 is for financial bid and 2 is for bill of quantities.

The technical bid will be opened only for bidders whose proper Bid Security, copy of GST registration, proof for deposition of bidding document fee, RISL processing fee, copy of enlistment of contractor in the required category and signed Annexure “B” are found to be in order. Bid Security will be accepted only in the form of online deposition or in the form of Bank Guarantee

- a. The technical bid will be opened only for bidders whose proper Bid Security, copy of GST registration, proof for deposition of bidding document fee, RISL processing fee, copy of enlistment of contractor in the required category and signed Annexure “B” are found to be in order. Bid Security will be accepted only in the form of online deposition or in the form of Bank Guarantee
- b. The Technical Bid envelope would be opened on the date 13/07/2026 at 11.00 AM in the chamber of Executive Engineer-B Room No.106 1st floor, CCC Building, JDA Campus, Indira Circle, Jawahar Lal Nehru Marg, Jaipur- 302004 (Rajasthan)
- c. The Financial Bid envelope would be opened only of those bidders who fulfill all the technical bid criteria.

2. Criteria:

Contractors who fulfil the following requirements shall be eligible to apply.

(a)The bidder should have executed following quantities of work in any one financial year of the last seven financial years. However, the bidder may opt current year in the said financial assessment period.

S.No.	Items	Quantities
	Major items of schedule “G” as decided by Director (Engineering)/OIC(Engineering.)	50%
For Building or other work		
	NIL	

Note:-

(i) The Bidder should enclose the certificate having quantities financial year wise otherwise the certificate will not be considered.

(ii) Quantities of all the items mentioned in criteria 2(a) should be executed in one financial year.

(iii) Certificate issued by the Government of India, State Governments, Union Territory, Government, Undertaking, Autonomous Bodies shall only be considered.

2(b) The bidder should have completed at least one similar nature work in last seven Financial Year (including current year, if opted by the bidder) of value not less than 50% of the Estimated Cost of the work (bid cost Rs. 10.03 Cr.) updated to present price level.

“Similar work” shall mean — construction, extension, redevelopment of community centers, multipurpose halls, institutional buildings, public buildings, civic amenity buildings, commercial buildings, social infrastructure buildings, or other RCC framed or Composite framed building works comprising civil works, finishing works, internal services, and external development works executed under a single contract.

The bidder shall submit abstract of cost of completed similar work(s) along with supporting documents and certificate issued by the experience issuing authority in support of this.

The previous year’s value shall be given weight age of 10% per year as follows: -

(a)	2026-2027 (Current Year)	1.00
(b)	2025-2026	1.00
(c)	2024-2025	1.10
(d)	2023-2024	1.21
(e)	2022-2023	1.33
(f)	2021-2022	1.46
(g)	2020-2021	1.60
(h)	2019-2020	1.76

Note:-

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- (i) The bidder should enclose supporting documents like photographs, copies of G-Schedule, Work Order, completion/execution certificate etc. in support of the work qualifying as similar nature work.
- (ii) The starting & completion date of the work is to be in between above said financial year. In case if work has started before the above seven year's criteria then 70% of the particular work should be completed during the seven years period. The bidder should have to enclose the proper bifurcated certificate accordingly otherwise the certificate will not be considered.
- (iii) If bidder is submitted certificate having different components/nature of work then proper completion certificate of required similar nature building work (community centers, multipurpose halls, institutional buildings, public buildings, civic amenity buildings, commercial buildings, social infrastructure buildings, or other RCC framed or Composite framed building.) experience is to be enclosed.
- (iv) Certificate issued by Govt. of India, State Govts., Union Territory, Govt. Undertakings, Autonomous Bodies or private entity registered under companies act or relevant act shall only be considered.

2(b). The bidder should have a minimum 7 years of experience with design and/ or execution of in **construction field including Structure, Masonry, Flooring Work, Electrical and landscaping work etc.** Both completed and ongoing projects shall be considered provided the bidder furnishes work orders and/ or completion certificates in support and verification of the information.

2 (c). The bidder should have achieved an annual financial turnover of at least 60% of the Estimated Cost of the work (bid cost Rs. 10.03 Cr.) in any one of last seven financial years (including current year, if opted by the bidder).

Note:-

- (i) The bidder should enclose certificate of Turn over from Chartered Accountant for last seven financial years & audited balance sheet of the year which is considered by the bidder in criteria.
- (ii) If the current year or last year has been opted by a bidder whose balance sheet is not submitted till the submission of bid then certificate from Chartered Accountant should be enclosed.

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2(d) The bidder should propose a panel of expert(s) as under:

	Requirement of Technical Staffs		Experience/Qualification		Rate of recovery per person if not appointed
	Designation	Strength	Minimum Experience (Years)	Qualification	
	Project Manager	1 No.	7 yr. (having experience of one similar nature of work)	Mtech/B Tech Civil or Equivalent	Rs. 70000/- per month
	Project / site Engineer	2 No.	3 Yr.	Civil Graduate Engineer or Diploma Engineer	Rs. 35000/- per month
	Interior Designer	1 No.	3 Yr.	Architecture Graduate	Rs. 30000/- per month
	MEP Specialist	1 Nos	3Yr	Electrical/Mechanical Graduate Engineer	Rs. 30000/- per month
	Safety Engineer/Quality Engineer	1 no's	2 Yr	Civil Engineering Graduate	Rs 25000/- per month
	Data Analyst	1 Nos	2Yr	B.Sc./B.Tech. or Equivalent	Rs 20000/- per month

The bidder should enclose duly attested CVs of the above experts.

2(e). Bid Capacity: Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is equal to or more than the total bid value. The available bid capacity will be calculated as under: -

Assessed available bid capacity = (AxNx3-B)

A= Maximum value of civil engineering works executed in any one year during the last seven years (updated to present price level) taking into account the complete as well as works in progress. However the bidder may opt current year in the seven year assessment period.

N= Number of years prescribed for completion of the works for which bids are invited **In present case value of N shall be 1.00**

B= Value, at present price level, of existing commitments and ongoing works to be Completed during the period of completion of works for which bids are invited.

Note:-

(a) Certificate from Chartered Accountant should be enclosed by bidder clearly indicating maximum value of Civil Engineering works in one Financial Year.

2(f). Litigation History: - Bidder should provide accurate information on any litigation or arbitration resulting from contracts completed or under execution by him over the last seven years. The maximum value (updated at the present price level) of disputed amount claimed in the litigation / arbitration resulting from contracts executed in the last seven years shall be deducted from the calculated Bid Capacity of the bidder. The details shall be furnished in Schedule VI.

(i) The present price level for turnover, cost of completed work & disputed amount of similar nature, the previous year's value shall be given weightage of 10% per year as follows :-

(a)	2026-2027 (Current Year)	1.00
(b)	2025-2026	1.00
(c)	2024-2025	1.10
(d)	2023-2024	1.21
(e)	2022-2023	1.33
(f)	2021-2022	1.46
(g)	2020-2021	1.60
(h)	2019-2020	1.76

3. **Documentation:**

The bidder should furnish the following documents along with the technical bid:

- (a) Information regarding financial resources and capability in Schedule –I.
- (b) Information regarding civil engineering works executed in the last seven years in Schedule–II
Certificates from the concerned Engineer–In–Charge or Project head of PSU or private company in support and verification of the information furnished in Schedule–II .
- (c) Information regarding details of maximum value of civil engineering works executed during the last seven years taking into account the completed as well as works in progress in schedule – III.
- (d) Information regarding existing commitments and ongoing works to be completed in schedule – IV. Work orders (duly signed and stamped by a competent authority) for each of the works to be furnished in support and verification of the information.

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- (e) Information regarding details of litigation or arbitration contracts to be furnished in schedule – V.
- (f) Calculation of Bid capacity in schedule – VI.
- (g) Information regarding financial resources and capability- financial turnover for the last 7 years. Audited financial statements for the last 7 years and a provisional statement for the current year (attested by a CA) to be furnished in support and verification of the information.
- (h) Duly attested CVs of the panel of experts as per 2(d) and details to be filled in Schedule VII.
- (i) Affidavit of self-declaration as per Annexure I.
- (j) Undertaking for not blacklisted as per Annexure 2
- (k). Declaration by bidder under RTTP Act. (Annexure A, B, C, D)
- (l) Annexure 3

4. Important:

- (A) The bidder must ensure that all the information required in the Documents is furnished by him complete in all respects. He would not be allowed to withdraw any document, or to rectify any information furnished therein, after submitting the bid.
- (B) The bidder should give an affidavit that the information furnished in schedule I, to VII is correct. If any information is found incorrect, the offer of the bidder shall be rejected and action be taken as per rules.
- (C) Bidders must do paging of all enclosure of bid documents.

5. Rejection of bids:

THE DEPARTMENT RESERVES THE RIGHTS TO REJECT ANY BID OR TO DISQUALIFY ANY OR ALL THE BIDDERS, WITHOUT ASSIGNING ANY REASONS AT ANY STAGE.

- i. If Bid is not accompanied with the requisite documents mentioned in Clauses 3 (a) to 3 (l) or is not in accordance with procedure specified in Para 1, or is not accompanied with bid security, copy of GST registration, proof for deposition of bidding document fee, RISL processing fee, Annexure “B” (RTTP Act/Rules) is mandatory to be fulfilled & signed with seal by the bidder and registration of contractor in required category; it would be liable for rejection.
- ii. Furnishing of incorrect or incomplete or concealment of any information required in the bid documents would render the bid liable for rejection.
- iii. If all the copies enclosed in support and affidavit are not duly self-attested by Bidder himself then bid of the bidder is to be rejected.

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- iv. The bidder shall prepare bid in the digital/ electronic mode for uploading on e-procurement portal in the format/type of file specified in the evaluation qualification criteria. All the documents uploaded should be digitally signed with DSC of authorized signatory, deemed as all the pages of the uploaded documents have been signed.
- v. The self-declaration and annexure “B”(under RTPP Act, 2012 and Rules, 2013), should be signed by the participating bidder before uploading bid documents; otherwise the bid shall be rejected as per officer order No. 194 dated 06.09.2022.

**EXECUTIVE ENGINEER-B
JDA, JAIPUR**

Bid Evaluation Sheet

Name of Work: - Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur **on EPC Basis.**

S. No.	Criteria	Required Qualification	Bidders qualification	Bidders uploaded document Page No. in support of qualification.	Remark
	2	3		5	
	Registration Certificate - As per Clause 1e of Special Conditions of Contract.	Bidder should be registered in AA class category in JDA or equivalent in other departments/PSUs/ private or may be a private entity registered under companies act or as applicable act			
	GST Certificate - As per Special Conditions of document	-			
	Fee Payment Details (Please enclose copy of electronic receipt)	-			
i)	Cost of Bid	Rs. 1,000/-			
ii)	Bid Processing Fee	Rs. 2,500/-			
iii)	Bid Security(EMD)	a. EMD shall be @2% of estimated procurement cost i.e. Rs. 20.07 Lakhs for the bidder registered in appropriate equivalent class in Other Department /PSUs/ private or a private entity registered under companies act or other relevant acts as applicable or 0.5% of estimated procurement cost i.e. Rs. 5.02 Lakhs for bidder registered in AA class in JDA. b. Bid Security deposit can be deposited either online or in the form of Bank Guarantee in favour of Secretary, JDA, Jaipur payable at Jaipur. The bidder will provide details of BG viz No., issue date, expiring date etc on online tendering system of JDA.			

		c. A copy of this BG is to be attached with the document during uploading.			
	2(a). The bidder should have completed/ executed at least one similar nature work in the last 7 financial years (including the current year, if opted by the bidder) of value (cost updated to present price level) as under: One work costing not less than 50% of the Estimated Cost of The work “Similar work” shall mean — construction, extension, redevelopment of community centers, multipurpose halls, institutional buildings, public buildings, civic amenity buildings, commercial buildings, social infrastructure buildings, or other RCC framed or Composite framed building works comprising civil works, finishing works, internal services, and external development works executed under a single contract.				
	Value of work executed	-			
	Financial year	-			
	2(b) The bidder should have a minimum 7 years of experience with design and/ or execution of in construction field including Structure, Masonry, Flooring Work, Electrical and landscaping work etc. Both completed and ongoing projects shall be considered provided the bidder furnishes work orders and/ or completion certificates in support and verification of the information				
	2(c) The bidder should have achieved an annual financial turnover of at least 60% of the Estimated Cost of the work bid cost in any one of last seven financial years (including current year, if opted by the bidder).				
	Annual Turn over	-			
	Financial Year	-			
	2(d) The bidder should propose a panel of expert(s) as under: a. One number Project Manager with a recognized degree in				

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	Mtech/B Tech Civil or equivalent from a reputed institute and at least seven (7) years of total professional experience b. Two Nos. Project / site Engineer with experience of minimum 03 years Civil Graduate Engineer or Diploma Engineer c. One nos Interior Designer with experience of minimum 03 years Architecture Graduate d. One nos MEP Specialist with experience of minimum 03 years Electrical/Mechanical Graduate Engineer e. One nos Safety Engineer/Quality Engineer 2 years of experience Civil Engineering Graduate f. One number of Data Analyst 2yrs experience B.Sc./B.Tech. or Equivalent The bidder should enclose duly attested CVs of the above experts.				
	2(e) Bid Capacity = (A x N x 3 - B) A = Maximum value (at present price level) of Design and Execution works. N = Number of years prescribed for completion of the work for which bids are invited. In present case value of N shall be 1 B = Value at present price level of existing commitments and ongoing works to be executed during "N" period.	-			
0	Litigation History Schedule-VI				
1	Affidavit for Correctness of documents (Annexure 1)	-			
2	Declaration by bidder under RTTP Act. (Annexure A, B, C, D)	-			
3	Undertaking for not Blacklisted (Annexure 2)				
4	Duly filled Schedules as enclosed				

Signature of Bidder with Seal

Schedule – I**FINANCIAL RESOURCES AND CAPABILITY**

[Reference clause 3 (a)]

1. Name of Bidder: - M/s.....

1. FINANCIAL TURNOVER FOR THE LAST 7 YEARS

Sr.S No.	Year	Turnover as per the financial statements	Turnover at present price level
1.	2026-2027 (Current Year)		
2.	2025-2026		
3.	2024-2025		
4.	2023-2024		
5.	2022-2023		
6.	2021-2022		
7.	2020-2021		
8.	2019-2020		

Note: Balance Sheets and Profit & Loss Accounts is to be enclosed by the bidder

which is considered by him as per criteria 2 (a).

3. Total financial Turnover projected in the current financial year

4. Has the bidder ever been debarred from bidding for Central Government / State Government / any Government undertaking?

Yes / No, if yes give details.

5. Has bidder ever been declared insolvent?

Yes/No, if yes give details.

6. Name(s) and Address of Branch/(s) for bidder's Bankers.

I/We hereby certify that the above information is correct to the best of my/our knowledge and belief.

Signature of Bidder

Date :
Signature and seal of the Chartered Accountant
UDIN:

(With Seal wherever applicable)

SCHEDULE II
[Reference clause 3 (b)]

**DETAILS OF WORKS EXECUTED IN DURING THE LAST SEVEN FINANCIAL
YEARS TAKING INTO ACCOUNT THE COMPLETED AS WELL AS WORKS IN
PROGRESS**

Sr. No.	Name of the Work	Name of the Client	Location of work	Nature of work	Date of completion of work

Note: Certificate of completion (duly signed and stamped by a competent authority) for each of the above works to be submitted by the bidder.

Signature of Bidder

Date:
Signature and seal of the Chartered Accountant
UDIN:

(With Seal wherever applicable)

SCHEDULE – III
Reference Clause 3 (c)

**DETAILS OF MAXIMUM VALUE OF CIVIL ENGINEERING WORKS EXECUTED
 IN ANY ONE YEAR DURING THE LAST SEVEN FINANCIAL YEARS TAKING
 INTO ACCOUNT THE COMPLETED AS WELL AS WORKS IN PROGRESS**

S. N.	Name of Works (with agreement No. & Date)	Client	Place (district / state)	Financial Year	Cost of Work as per Work Order	Stipulated date of commenceme nt	Stipulated date of completion	Value of work done during the year	Page No.

Signature of Bidder

Date:
Signature and seal of the Chartered Accountant
UDIN:

(With Seal wherever applicable)

SCHEDULE IV
[Reference Clause 3(d)]

**DETAILS OF EXISTING COMMITMENTS & ON GOING WORKS TO BE
 COMPLETED**

Sr. No.	Name of the Work	Name of the Client	Location of work	Cost of work as per the work order (inclusive of taxes)	Date of commencement and completion of work	Likely date of completion of work	Value of balance work on the date of bid

Note: Work orders (duly signed and stamped by a competent authority) for each of the above works to be submitted by the bidder.

I/We hereby certify that the above information is correct to the best of my/our knowledge and belief.

Signature of Bidder

Date :
Signature and seal of the Chartered Accountant
UDIN:

(With Seal wherever applicable)

SCHEDULE V
[Reference Clause 3(e)]

DETAILS OF LITIGATION OR ARBITRATION DURING THE LAST 7 YEARS

Sr. No.	Name of the Work	Name of the Client	Cost of work as per the work order	Disputed amount claimed in litigation or arbitration	Cause of litigation and matter in dispute	Date of raising disputed amount	Actual awarded amount (if the case is decided)

I/We hereby certify that the above information is correct to the best of my/our knowledge and belief.

Date:

Signature of Bidder
(With seal wherever applicable)

SCHEDULE VI
[Reference Clause 3(f)]

BID CAPACITY

1.	A = maximum value (at present price level) of all design, design & build, construction works executed in any one year during the last 7 years (updated to present price level)	
2.	N = number of years prescribed for the completion of work for which this bid is invited	1.00
3.	B = value at present price level of all existing commitments and ongoing works to be executed during "N" period.	
4.	Bid capacity = (A x N x 3 - B)	

Note: Bidders should provide accurate information on any litigation or arbitration resulting from contracts ongoing or completed during the last 7years. The maximum value (updated at the present price level) of disputed amount claimed in the litigation/ arbitration shall be deducted from the calculated bid capacity of the bidder.

I/We hereby certify that the above information is correct to the best of my/our knowledge and belief.

Signature of Bidder

Date : _____ **(With Seal wherever applicable)**
Signature and seal of the Chartered Accountant
UDIN: _____

SCHEDULE VII
[Reference Clause 3(g)]

DETAILS OF KEY PERSONNEL

Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur

Name of Bidder

	Requirement of Technical Staffs		Experience/Qualification		Rate of recovery per person if not appointed
	Designation	Strength	Minimum Experience (Years)	Qualification	
	Project Manager	1 No.	7 yr. (having experience of one similar nature of work)	MTech/B Tech or Equivalent	Rs. 70000/- per month
	Project / site Engineer	2 No.	3 Yr.	Civil Graduate Engineer or Diploma Engineer	Rs. 35000/- per month
	Interior Designer	1 No.	3 Yr.	Architecture Graduate	Rs. 30000/- per month
	MEP Specialist	1 Nos	3Yr	Electrical/Mechanical Graduate Engineer	Rs. 30000/- per month
	Safety Engineer/Quality Engineer	1 no's	2 Yr.	Civil Engineering Graduate	Rs 25000/- per month
	Data Analyst	1 Nos	2Yr	B.Sc./B.Tech. or Equivalent	Rs 20000/- per month

Affidavit on Non Judicial Stamp Paper of Rs. 100/- be given in support of the above information.

Signature of Bidder

ANNEXURE- I
Reference Clause 3 (i)

SELF DECLARATION

Signed Photograph of Applicant

I/We..... Proprietor/ Partner/ Authorized signatory of M/s under take the oath that the information furnished by me/us in schedule I to VI of the Technical Bid for: “Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur” is correct to the best of my/our knowledge. If any information is found to be incorrect JDA has right to reject the Bid and to take action against me/us as per rules.

Date:
signatory

Proprietor/ Partner/ Authorized

M/s

.....

(With seal)

Note:- The applicant has to enclosed a self-attested photo identity card with above affidavit.

ANNEXURE 2**Reference Clause 3 (j)****UNDERTAKING FOR NOT BLACKLISTED
(On a Non Judicial Stamp of Rs 100/-)**

I/We.....S/O Shri.....Age.....Year..... Resident
of.....
District.....State.....Proprietor/ Partner/ Authorized signatory of M/s
..... hereby declare and undertake as under.

1. I/We declare that _____ in capacity as _____ of _____ has not been charged with any prohibitory and /or penal action such as banning(for specific time or permanent)/de-registration or any other action under the law by any Government and/or Semi Government and/or Government undertaking.
2. I/We declare that I/We have perused and examined the tender document including addendum, condition of contract, specifications, drawings, bill of quantity etc. forming part of tender and accordingly, I/We submit my/our offer to execute the work as per tender documents at the rates quoted by me in capacity as _____ of _____
3. I/We declare that my/our firm have not been Black listed/debarred by any institution of Govt./Semi Govt. /Municipalities etc. for failure to pay any dues or for unsatisfactory performance.
4. I/We declare that my/our Firm has not been adjudged by any Court as insolvent, not Convicted under any law for any offence involving moral turpitude or any criminal activity.
5. I/We declare that the information provided by me/us is true and if any given time it is observed that any of the statement made above is in violation of said declaration, I/We are fully aware that contract will be terminated with immediate effect and Security Deposit/EMD shall be forfeited my/our firm shall be Black Listed or debarred from future tender of Jaipur Development Authority.
6. I/We declare that the information furnished by me/us in Technical Bid for “Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur” is correct to the best of my/our knowledge and belief and nothing has been concealed therein.
7. I/We are well aware of the fact that if the information given by me is proved false/not true, I/We shall have to face the punishment as per the law. Also all the benefits availed by me shall be summarily withdrawn and JDA has right to reject the Bid and to take action against me/us as per rules.

Enclose I.D. Proof with self-declaration/undertaking.

.....
Proprietor/ Partner/ Authorized
signatory
M/s

.....
Stamp and Signature of Authorized
Signatory

Note:

1. The undertaking shall be signed by authorized signatory of the bidder.

GENERAL INFORMATION OF TENDERER

ANNEXURE 3

A. BIDDER INFORMATION SHEET		
BIDDER s Legal Name	Sole Proprietorship Firm/Partnership Firm /Private Limited Company/Public Limited Company	
In case of single entity, ownership & control of the Tenderer		
Bidder's actual or intended country of constitution		
Bidder's legal address, telephone numbers, fax numbers, e-mail address.		
Bidder's authorized representative or person- in-charge (name, designation address)		

SIGNATURE OF
AUTHORIZED SIGNATORY
ON BEHALF OF BIDDER

ANNEXURE 3

B. JV/CONSORTIUM MEMBER INFORMATION
DELETED

SIGNATURE OF AUTHORIZED SIGNATORY
ON BEHALF OF BIDDER

SECTION-IV

PROCURING ENTITY'S

REQUIREMENTS

BRIEF PARTICULARS AND SCOPE OF THE WORK

Name of work: - Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur

The project site is located approx. 6 km from Jaipur Railway Station and approx. 20 km from Jaipur Airport, at Sector-1, Vidhyadhar Nagar, Jaipur

1. The work is to be executed on Engineering, Procurement and Construction (EPC) Mode basis. In EPC Mode, the Engineering design and drawings for the work, Procurements and Construction including interior and furnishing shall be done by EPC contractor. Necessary approvals will be given by department.
2. **The total plot area is 1350.00 Sqm.** Contractor shall be required to do all Civil Structural , Electrical, HVAC, Plumbing flooring , paints and Finishing works including paints, wooden work, doors and windows all external development works in plot area i.e. construction of Internal footpaths, parking areas, Anti termite Treatment, Main gates including its gate building structure, boundary wall of campus, Common Areas, water supply lines, sewers lines, storm drains, U.G water tanks and various Pump rooms with pumps, and Building lighting, and other lighting, power back up, DG Set and their all equipment's, firefighting lines and system, cable trenches and cable laying in trenches and underground conduits/ducts , Internal EI with wiring, CCTV and all other Civil, MEP, open parking , OAT, Terrace floor ,Retaining wall of basement ,Interior and furnishing works with development of elevation as per tender drawings as base drawings and approved final drawings by engineer in charge and JDA and also detailed working drawings, if any as per requirement of work, issued by JDA during execution of work and also as per detailed items and specifications elaborated in this bid document.
3. The scope of Construction of VIBE, Jaipur(B+G+3) floor complete with civil, development, MEP and furnishing works at Community Centre, Sector-1,Vidhyadhar Nagar, Jaipur under this contract shall also include, Detailed design and drawings for project w.r.t architectural, Civil, Structural works, also MEP works i.e. Internal EI with wiring, fan-fittings, lift, HVAC, Firefighting and Alarm, CCTV, EPABX, Data and LAN, UPS, Solar PV power generation, plumbing, sanitary and all other Civil and Electrical services in the building, landscaping works, all finishing details, furniture, machines and equipment details etc. as per tender drawings and also detailed working drawings, if any as per requirement of work, approved by JDA during execution of work and also as per detailed specifications elaborated in this bid document shall be required to be prepared by contractor, get them approved from department, execute and complete the work in all respects and hand over to Engineer- in- charge.
4. Operation & Maintenance for a period of 5 Years including upkeep of civil, electrical, MEP and firefighting systems, payment of electricity charges of common areas, deployment of security personnel, housekeeping and all allied activities.
5. Anchor Pile for basement parking: - The agency has to go for RCC Cast In-Situ anchor piles with minimum dia 450mm using min. grade of concrete M-30., the min. length of

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the pile should be at least 1.5 times from the bottom level of basement w.r.t Ground Level.

6. The RCC Retaining wall is to be constructed at the back side to Basement Piles. The design of Pile and Retaining Wall is to be wetted from MNIT Jaipur or any IIT.

Note: All the excess earth is to be disposed of at contractor's cost with all lead and lift.

7. Relevant IS codes, National Building Code 2016, and other standard specifications shall be followed in general except otherwise mentioned in bid document.

- I. The detailed Design Basis Report (DBR), Technical Specifications, conceptual drawings and conditions for each function like Civil, Electrical, Plumbing, Fire, External Development, Lift, furnishing etc. are elaborated in this tender document.

- II. The Design Basis Reports are the minimum standards that the construction agency has to fully comply with. If there is any change or departure from DBR/s, the same shall be got approved from JDA.

8. The tender is for the 1 basement + Ground+ 3 Floors with OAT for VIBE (**structure will be designed for 1 basement + Ground+ 3 Floors**) as per requirements along with outer development, interior and furnishing and other relevant service.

9. The brief scope of work is as follows:

- (i) Architectural, Structure designing, and construction of the buildings as mentioned and as per built up areas given below:

	Description	Approximate Built-up Area(to be constructed as per details given in this Tender document)
	VIBE (Ground floor, 1 st , 2 nd and 3 rd floor) etc.	<u>2257.8 Sqm</u>
	Basement	<u>824.17 Sqm</u>
	Site development	Outer development of complete plot area including OAT, Landscaping compound walls, Retaining walls and gates as per designs.
	Miscellaneous & Allied Works as per norms of NBC 2016 and mentioned in this document: i) Detailed design and drawings for this building. ii) Final Architectural, Civil, Structural, Finishing, Interior, External and Furnishing works including Elevation and OAT (Open Air Theater) iii) Plumbing & Sanitary. iv) External Water Supply & Sewerage, Storm Water Drainage System, Rain Water Harvesting including Recharge Wells and sanitation system. v) Lifts. and Machines vi) Electrical Services, HT substation Equipment 's, LT distribution system, DG sets, rising mains, UPS, aviation obstruction lights. vii) Site Development & Landscaping including pathways, Ramps, Parking Area, Walkways, Sports facilities, e-Library, Co-Working spaces, Retaining wall, C/W with gates, guard rooms, OAT(Open Air Theatre), Horticulture works.	

	xii) External Lighting, Landscape Lighting, Signage, works CCTV, BoomBarrier. xiii) External Service Connections. xiv) Arrange conferences, site visits, inaugural and handing over functions, holding meetings etc. xv) Anti-termite Treatment. xvi) Operation & Maintenance for a period of 5 Years including upkeep of civil, electrical, MEP and firefighting systems, payment of electricity charges of common areas, deployment of security personnel, housekeeping and all allied activities.
	Allied services as per requirements of service provider or regulatory body.
	viii) Fire Fighting & Fire Alarm system. ix) Installation of rooftop solar power plant with Necessary accessories and net metering Provisions. x) Internal EI with wiring, fan-fittings, HVAC System including air Conditioning, Ventilation, CCTV, EPABX. xi) Underground water tank with pump house etc.

- (ii) The Land plan forming part of this NIT are indicative only. There can be changes in the scope of work as per requirement of JDA, Fire Services etc. Agency shall carry out such changes which occur due to Building bye laws or statutory requirements.
- (iii) The following studies are to be conducted initially by the agency:
- a. Topographical survey, Geo-technical investigation
 - b. Traffic control / Diversion plan for construction period
 - c. Local Area Survey for the services (Electrical, Plumbing, Telecom and. Other required services)
 - d. Sufficient Photographs & Videography of whole campus (in four copies) for record purpose
 - e. Photographs and videos from Drone shall be taken of the complete site and nearby before and after.
- Note: Agency shall submit weekly photos of the construction site and progress in the format set and decided by Jaipur Development Authority.
- (iv) The Agency is required to complete the project on EPC basis with in controlled architectural norms as mentioned in the Scope of Work, Technical Specifications & Architectural Drawings including development of entire site area up to & including the boundary wall. The scope of work is to be carried out complete in all respect

including furnishing and services. Rates quoted by the Agency shall be considered for entire scope of work which includes all activities/work starting from the given concept to completion till handing over of completed project in functional state from all perspective. The quoted amount is inclusive of defect liabilities period of 5 years for structure and services which includes electrical installations, plumbing, firefighting, lifts STP, furnishing, machines and equipment's etc. after acceptance of project as complete and functional, by the competent authority any damage in services would be borne by the Agency till the defect liability. The Agency is required to connect all the external services like Water Supply, Sewerage, Drainage, Electric Supply, LAN/WAN, Telephone Lines etc. to the main lines of the authorities'/service providers like PHED/ Nagar Nigam Jaipur / BSNL or any other agency and this shall be considered as integral part of Scope of work and deemed to be included in the quoted price of the agency. The Agency will be obtaining all mandatory approvals for functionality and Completion, fire NOC, PHED NOC, Lift NOC, JVVNL, NNJ for disposal of waste or any other approvals required to declare all assets eligible for bringing it in use.

It shall be deemed that the Agency has satisfied himself with the nature and location of the work, general and local conditions and particularly those pertaining to transport including restriction of movement of traffic / vehicles etc., handling, availability and storage of materials, availability of labor, weather conditions at site and general ground/sub soil conditions. Agency is expected to quote their rates accordingly and nothing extra shall be payable for any reason/s what so ever it may be.

JDA shall bear no responsibility for the lack of such knowledge and also the consequences thereof to the Agency. The information and site data shown in the drawings and mentioned in the tender documents are furnished for general information and guidance only. The JDA in no case shall be held responsible for the accuracy there of or/and deductions, interpretations or conclusions drawn there from by the Agency and no claim shall be entertained whatsoever on this account; if the site conditions/information is different or otherwise incorrect. It will be presumed that the Agency has satisfied himself for all possible contingencies, situations, bottle necks and acts of coordination which may be required between the different agencies.

Neither any hindrance shall be entertained because of these constraints if so occurs at any stage.

10. The Agency is required to appoint design and execution team on site for pre and post construction works.

Requirement of Technical Representative(s) and Recovery Rates:

Applicable only for pre-construction and construction Phase work.

	Requirement of Technical Staffs		Experience/Qualification		Rate of recovery per person if not appointed
	Designation	Strength	Minimum Experience (Years)	Qualification	
	Project Manager	1 No.	7 yr. (having experience of one similar nature of work)	Mtech/B Tech Civil or Equivalent	Rs. 70000/- per month
	Project / site Engineer	2 No.	3 Yr.	Civil Graduate Engineer or Diploma Engineer	Rs. 35000/- per month
	Interior Designer	1 No.	3 Yr.	Architecture Graduate	Rs. 30000/- per month
	MEP Specialist	1 Nos	3Yr	Electrical/Mechanical Graduate Engineer	Rs. 30000/- per month
	Safety Engineer/Quality Engineer	1 no's	2 Yr	Civil Engineering Graduate	Rs 25000/- per month
	Data Analyst	1 Nos	2Yr	B.Sc./B.Tech. or Equivalent	Rs 20000/- per month

11. Contractor have to establish material testing labs and keep minimum construction equipment as per appendix I and appendix II.
12. The Agency shall hand over the assets after completion of work with as built drawings, services route plans, Maintenance manuals, Warrantees / Guarantees or any other document required by the JDA for maintaining these establishments.
13. Electrical & Mechanical Works: Details of E & M works are given in of the tender document.
14. Samples of the materials of approved make or otherwise shall be got approved from the JDA before use in the work.
15. Shifting /Removal of Services and Statutory Approvals: Contractor shall take all necessary measures required to be taken to remove any live or dead service lines running through the plot area, cutting/shifting of tress etc, without any extra cost. After completion of the work and commissioning of building(s) along with services, he shall get completion certificate from local body, NOC from fire department and any other statutory approval related to building for handing over the assets. JDA and client i.e. JDA shall extent

necessary support, as per statutory requirements, to the contractor for these approvals.

16. Topographic Survey: Contractor is advised to conduct topographical survey of the entire area land and all other services like paths, drains and water bodies are located/passes out. However topographical survey of the concerned areas where buildings and roads and other development features/items are to be located is attached with bidding documents for pre knowledge of topography of the site. Contractor has to verify authenticity of attached topographical survey himself. No claim for extra /additional payments owing to/ about the change in site condition shall be entertained in future.
17. Contractor shall prepare and submit hard and soft drawings for structural steel work based on latest software and detailed layout drawings for all civil and electrical services, duly supported with design as required by engineer in charge. (All Structural drawings shall be vetted from MNIT Jaipur or any IIT)
18. Contractor shall submit item wise detailed measurements, for record and other purposes. After completion of the work contractor shall submit as built drawings of all civil, electrical and mechanical services in Auto CAD including five sets of coloured drawings on AO / A1 size.

ESTABLISHING SITE LABORATORY AND TESTING OF MATERIALS

Equipment 's for conducting necessary tests (as per applicable codes and standards) shall be provided and installed at site in the well-furnished site laboratory by the agency at his own cost. The following laboratory equipment should be in general or as and when required be set up at site laboratory: -

	Equipment	Numbers
	100 MT compression testing machine, electrical-cum-manually operated)	1
	Slump cone, steel plate, tamping rod, steel scale, scoop	2
	Pumps and pressure gauges for hydraulic testing of pressure pipes	2
	Weighing scale platform type 100 Kg capacity	1
	Graduated glass measuring cylinder	As per requirement
	Sets of sieves of 450 mm internal dia for coarse aggregate [100 mm, 80 mm, 40 mm; 2 mm; 12.5 mm, 10 mm; 4.75 mm complete with lid and pan]	1
	Sets of sieves of 20 mm internal dia for fine aggregate [4.75mm; 2.36 mm; 1.18 mm; 600 microns; 300 microns & 150 microns, with lid and pan]	1

RFP_VIBE Centre_VDN

Sieve Brushes and sieve shaker capable of 20 mm and 300 mm dia sieves, manually operated with timing switch assembly	1
Cube mould size 70 mm x 70 mm x 70 mm	12
Cube mould size 150 mm x 150 mm x 150 mm	18
Ultrasonic Test Equipment (For concrete)	1
Hot air oven temp. Range 50°C to 300°C- sensitivity 1degree	1
Electronic balance 600g x 0.1g., 10 kg and 50 kg	2
Physical balance weight up to 5 kg	2
Digital thermometer up to 150 oc	2
Air Content of concrete testing machine	1
Measuring jars 100 ml, 20 ml, 500 ml	2 Nos each size
Digital Micrometer least count. 0.01 mm	2 each
Digital paint thickness meter for steel 500 microns Range	1
GI tray 600 x 450 x 50 mm, 450 x 300 x 40 mm, 300 x 250 x 40 mm	3 Nos. each
Rebound hammer test digital rebound hammer	1
Screw gauge 0.1mm-10mm, least count 0.05	1
Motorized sieve shaker	1
Standard Vibration Table for gauging the cubes	1
Concrete temperature measuring thermometer with Brass protection sheath 0- 100 degree centigrade	1
Mortar Cube vibrator	1
Thermometers 1-100 degree centigrade / max. and Min/ Dry and wet withtable	4
Set of box spanner ratchet	2
Hammer 1lb & 2 lb	2 each
Distance metre (of 100 metre)	2
Measuring tape (5 metre)	2
Depth gauge 2 cm	1
Steel plates 5 mm thick 75 x 75 cm	2
Plastic or G.I. Buckets 15 liter, 10 liters, 5 liters	3 each
Floor Brushes, hair dusters, scrappers, wire brush, paint brushes, shutter steel plat oil, kerosene with stove etc.	12 each
Any other equipment for site tests as outlined in BIS codes and as directed by the JDA.	-

DETAILS OF MACHINERY AND EQUIPMENTS REQUIRED TO BE DEPLOYED

	Equipment's (Owned or Leased)	Numbers
	Builders hoist	1
	Excavator cum loader (JCB 3D model or equivalent).	1
	DG set of minimum capacities of 62.5 KVA.	1
	Mini batching plant (6 cum./hr.).	1
	Transit mixers.	4
	Concrete pump	1
	Needle Vibrators.	4
	Screed leveler.	1
	Plate Vibrator	4
	Dumper/Tipper	2
	Water tanker (Minimum capacity of 5000 liters)	2
	Centrifugal mono block water pump minimum capacity 2 HP	4
	Drilling machine	2 Nos.
	Steel shuttering with necessary props	2000 sq.mt.
	Double steel scaffolding and staging materials	2000 sq.mt.
	Laptop / Desktop Computers with latest version of MS windows & office & (All in one with stabilizer) & colour inkjet printer (A3) for JDA site office.	2 Nos.
	Software- AutoCAD latest version for site office	2 Users
	Inspection Vehicles for JDA	1 Nos.
	Any other machinery required for completion of the work, interior and furnishing works as per decision of JDA.	As per Actual requirement

Note:

1. The above list is only indicative and not exhaustive. The Bidder may be deploying more T&P as per requirement of work.
2. All the above plants & equipment 's is to be deployed as and when required or as directed by JDA.

DESIGN BASIS REPORT

Architecture and Design

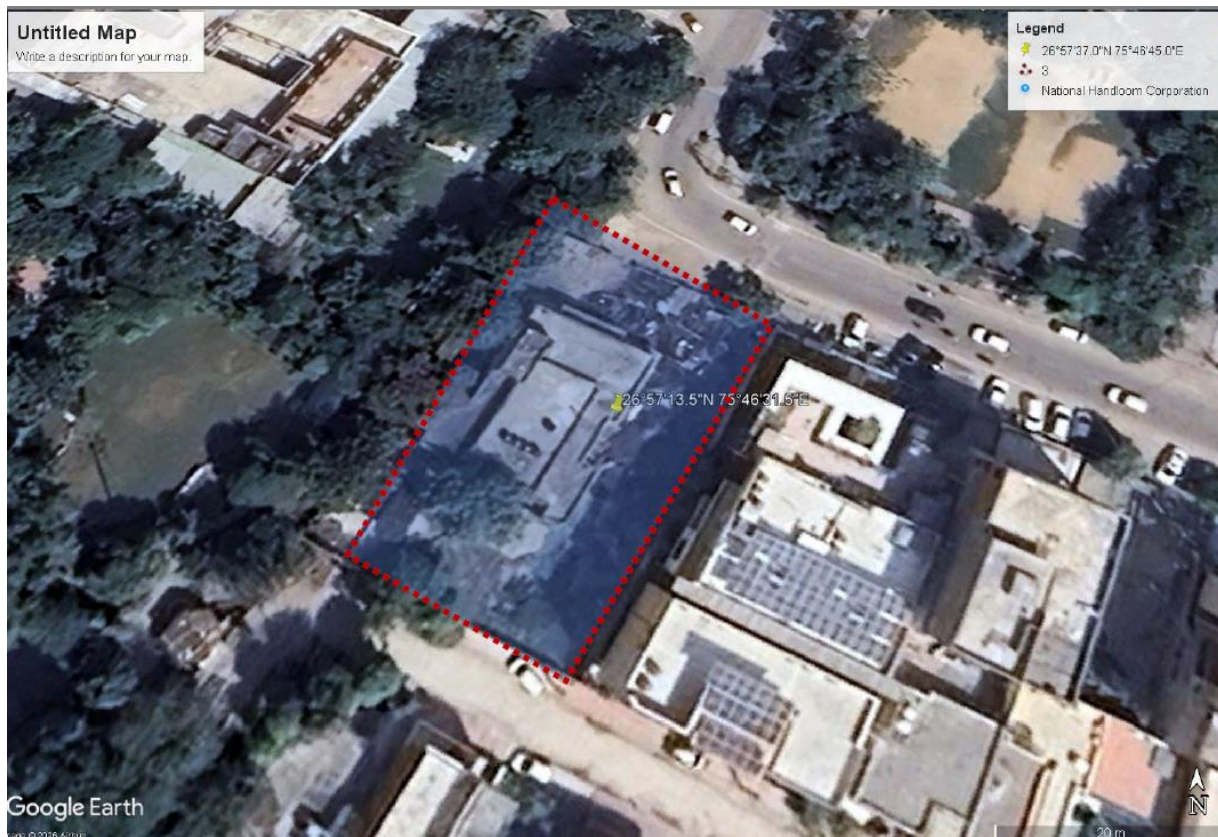
About the Project:

JDA had appointed JDA registered consultant as Architectural Consultant for Preparation of Master Plan and Designs for this Project. As per directions and approval, the project is to be executed on EPC (Design, Engineering, Procurement & Construction) basis wherein the Master Plans & Designs, DBR and General Working Drawings shall be provided to the bidders and after award of work the contractor shall be responsible for complete Detailed Final Engineering, Good for Construction drawings, Engineering, Procurement and Construction of this building.

Location

The Site is located at Vidhyadhar Nagar Jaipur and comes under Zone B of Jaipur Development Authority the coordinates are 26°57'13.5"N 75°46'31.5"E

Below is the site location and the boundary scope of the new building



Proposal drawings can be seen in the schedule attached with this tender document the total entitled plot size is 30 m X 45 m. Below mentioned are the areas planned on each floor to be constructed. The building is G plus 3 with one basement may be used for parking purpose.

S.No	Floor	Area in sqm
1	Basement	824.17
2	Ground Floor	612
3	First Floor	375
4	Second Floor	612
5	Third Floor	612
6	Mumty Floor	46.78
	Total BAR	3081.97

Design Approach

Below mentioned is the approach to the planning of the project

- Functional Change
- Change of Architectural Language
- Landscape as part of the purpose
- Sustainability
- Change of Name

The idea behind the planning was to create community spaces with a blend of modern architecture and landscapes having free flowing spaces which is now the design principle

Use of lighting design in the building such that it gives a soothing and comfortable view to the people, in accordance with the surrounding landscape and community.

Design Principle

- Use of low maintenance and cost-effective building materials, sustainable to the environment and friendly to the user.
- Balanced proportion of hardscape and softscape including water bodies reducing the concreteness of typical community centres.
- Incorporating sustainable design elements responsive to local climate like courtyards, shaded corridors, jali screens to cut direct sunlight maintaining indoor temperature.
- Spaces could be added with indoor plantation keeping areas cool and comfortable.
- Using construction materials and techniques keeping the decorative finishing elements low without compromising building aesthetics.
- open air theatre spaces for public gatherings, social events, recreational activities, a design approach which makes it an integral part of the building and landscape.
- open cafeteria design and incorporation in the space to have an interactive and active community participation, keeping the design language simple and sustainable.

Design Elements

The building shall be so designed so as to create a modern architecture blend with simplicity by incorporating spaces that are grand, well-lit and the landscape within is for a purpose over the aesthetics.

The design shall contain elements like overhanging balconies, sunken OAT's double height entrances.

The levels and floors in the building shall be such that it creates a curiosity within the user to explore and enjoy the building. The architecture is strictly to create a curiosity and use maximum natural lights and ventilation.

Note: The successful bidder has to submit the final planning and working drawings of approved plan (drawings and specifications) and get approved by the consultant appointed for this project and all structural drawings shall be vetted from MNIT Jaipur or IIT at his own cost. The structural designs should be prepared using latest software's. The same vetted drawings will need approval by JDA before execution.

DESIGN BASIS REPORT

Structural

1. STRUCTURAL WORK

The basic Design Considerations shall be followed for structural design. All building shall be of RCC framed structure constructed with traditional form work. The height of VIBE building is up to 3 Floors in addition to one basement and Ground Floor. For height of various floors and building conceptual architectural drawings shall be referred.

Structural design:

The main considerations followed for the design of structure are:

- a) Structure safety and stability.
- b) To meet the demands of aesthetics conceived by the JDA.
- c) Availability of material, equipment and expertise.
- d) Constructability and ease of maintenance.
- e) Durability.
- f) Economy.

Design Approach:

1. **Foundation System:** Raft foundation may be adopted below the Tower with basement + Ground+3 Floors. The raft shall be analysed and designed by finite element techniques. It shall be modelled as plate elements in SAFE Software.
2. The columns and the beam depths shall be so designed that clear roof height obtained is maximum.
3. Banquets and passages shall be column free ensuring structural safety
4. Aesthetic Cantilevers overhangs like balconies and elevation items shall be considered for extra factor of safety

Note All final structural drawings shall have to be vetted by MNIT or any IIT and get approved by Engineer in charge and JDA officials after which only construction may start.

Structural System:

All the Buildings will be designed with RCC monolithic slab and shear wall system. **RCC Slabs, Beams, Columns and Brick/AAC block wall will be cast simultaneously by using Traditional formwork system. All building will be designed in accordance with** the relevant Indian Code of Practice for civil works viz.IS: 456:2000, IS875, IS1893:2016, IS4326-1976. Final approval must be taken from JDA with vetting MNIT Jaipur or any IIT

Ductility and Durability:

Besides the strength to ensure durability of structure, minimum Concrete Mix of M25 will be used for Foundations and Floor (slab/ beam) system. M25 grade of concrete for walls/columns confirming with

relevant IS codes shall be used. Water connected units will be of M 30 grade. Higher grades of concrete may be used if required from design considerations.

Steel Reinforcement:

Fe 550D Grade (TMT - bars) conforming with IS: 1786 to be used.

a. Design Standards:

All the relevant BIS codes & specification are to be followed. Some of the important codes are listed below:

- a) IS: 456: -2000, Code of practice for Plain and Reinforced Concrete
- b) IS: 875 (Part-I, II), Code of practice for Design loads (other than earthquake)
- c) IS: 1893:2016 (Criteria for Earthquake Resistant Design for Structure)
- d) IS: 4326:1993 (Earthquake Resistant Design & Construction of Building)
- e) IS: 13920-2016 (Ductile Detailing of Reinforced Concrete Structures Subjected to Seismic Forces)
- f) SP:16 (Design aids to IS:456)
- g) SP:34 (Concrete Reinforcement & Detailing).
- h) IS: 16700: 2017 (Criteria for Structure Safety of Tall Concrete Buildings)

Structural Steel Elements

IS: 800-2007 Code for general construction in steel-code of practice

IS: 4000, ASTM A325 Bolts, Nuts and Tightening method

IS: 814, 816, 6560 Electrodes for welding IS: 9595, AWS Welding procedures

ASTMA325 Structural Bolt

IS: 7215 Fabrication tolerance for steel

IS: 2062, ASTM A572 Material for steel

IS: 7205 Safety during erection of steel work

IS: 814 Covered electrodes for welding

SP: 6-(1)-1964 Handbook on structural steel sections

IS: 432 (Part-1)-1982 –Specification of Mild Steel and Medium Tensile Steel bars and hard drawn Steel Wire for concrete reinforcement-Mild Steel and

Medium Tensile Steel Bars

IS: 816 Metal Arc Welding

IS: 1395 Code for manual metal arc welding

IS: 1641 Fire safety grading & classification

IS: 1642 Fire safety: Detail of construction

IS: 1643 Fire safety: Exposure hazard

IS: 6560 Bar electrode for gas shielded welding

IS: 6610 Heavy washers for steel structures

IS: 6623 High strength structural nuts

IS: 6639 Hexagonal bolts for steel structures

IS: 6649 Washers for high strength bolts and nuts

IS: 12843 Tolerances for erection of steel structures

IS: 7307(Part-1) Approval test for welding procedure

IS: 7310(Part-1) Approval test for welders

IS: 7318(Part-1) Approval test of welders for WPS+

Earthwork

IS: 3764 Code of safety for Excavation work

Soil and Foundation

IS: 8009-1976 Code of practice for calculation of settlements of foundation

IS: 1904-1986 Indian Standard Code of practice for Design & Construction foundations in

Soil: General Requirements.

IS: 2950(Part1)-1981 Indian Standard Code of Practice for Design &Construction of raft foundation -(Part -1)

IS: 3370(Part-1)-2009 Concrete Structures for Storage of Liquids- code of Practice

Fire Safety of Building

IS: 1642-1989 Indian Standard Code of practice for Fire Safety of Buildings General): Details of Construction

ANSI/UL263 Fire resistance rating

Masonry Wall

The detailing of the masonry walls to the RCC/Steel elements both vertical and horizontal along with RCC bands shall be detailed by architects in drawings. Grade for the masonry shall be specified in architectural drawings. This shall be complying with IS 1905: 1987. The masonry wall shall be constructed using Autoclaved Aerated Concrete (AAC) blocks of approved quality and grade. Before plastering, chicken wire mesh shall be fixed on both sides of the wall, covering the complete surface of AAC masonry. The mesh shall be securely anchored using approved fasteners or GI nails at suitable intervals to prevent detachment.

Concrete

Compressive Strength of concrete

Keeping the durability and structural requirement, the proposed strength of various elements of structure will be as follows:

Durability provisions for structures shall be as per “Moderate” conditions of environment in accordance with IS 456:2000

Structural concrete for RCC structure elements shall have characteristic compressive strength as per relevant IS code.

Plain cement concrete shall have a grade of M15 shall have the characteristic compressive strength of M15 Grade

Design life

The design life of the building is assumed 50 years as per IS code recommendations satisfying for the criteria of environmental conditions. This requirement is applicable only for concrete works and not applicable to replaceable finishing materials, water proofing membrane and thermal insulations (if any). Hence periodic maintenance/refurbishment is required for all replaceable material for longer life.

Fire Safety

Fire resistance shall be taken as per latest NBC Code, local authority and any other relevance local fire byelaws.

Minimum cover shall be as per beam clause 26 of IS: 456:2000 and NBC2016.

Liquid Retentions

Following are the design considerations for the liquid retaining structures as per IS 3370 Part -2 (2009)

Crack width-The maximum calculated surface width of cracks for direct tension and flexure or restrained temperature and moisture effects shall not exceed 0.2mm with specified over and for STP it shall be less than 0.1 mm.

Normal Cover to the Reinforcement according to the Provisions of the

Indian Code

The appropriate grade of concrete and nominal cover to reinforcement is governed by the following main considerations:

- i) Durability of Concrete
- ii) Corrosion Protection of the reinforcement
- iii) Bar Size
- iv) Nominal maximum aggregate size

From Durability requirement, exposure condition is assumed as Moderate for Structural elements above ground level and moderate for Structural elements below ground level.

The nominal cover to the reinforcement shall be provide as per Clause 26.4 of IS:

456:2000

Foundation 50mm

Slab and Walls 25mm or bar dia. If greater

Beams 30 mm (Top & Bottom) and 25 mm side cover

Column/Pile 40 mm

Under Ground Water tank wall 30 mm

Retaining wall 30mm

Structural System and Dimensioning

In addition to the requirements governed by loads and forces the minimum structural dimensions are also governed by other considerations like size of aggregates, reinforcement detailing etc.

Load Combinations

All structural designs are carried out by Limit State method of design. For this purpose, the Load factor for various load combinations indicated in IS-875(Part 5)-1987 areas follows:

- 1) $1.5 \cdot DL + 1.5 \cdot LL$
- 2) $1.5 \cdot DL \pm 1.5 \cdot EL/WL$
- 3) $1.2 \cdot DL + 1.2 \cdot EL/WL$
- 4) $0.9 \cdot DL \pm 1.5 \cdot EL/WL$
- 5) $0.75(1.4 DL \pm 1.4 TL + 1.7 LL)$

Whenever imposed load is combined with earthquake load, the appropriate part of imposed load as specified in IS:1893-2016 is used both for evaluating earthquake effect and for combined load effects used in such combination. Live Load Reduction shall be done as per procedure give in Appendix-A of IS 875 Part 2 for the design of columns and foundations

In addition, following load combinations are considered for calculating the forces at serviceability limit states:

- 1) $\pm EL_x \pm 0.3 EL_y \pm 0.3 EL_z$,
- 2) $\pm EL_y \pm 0.3 EL_z \pm 0.3 EL_x$, and
- 3) $\pm EL_z \pm 0.3 EL_x \pm 0.3 EL_y$

Loads

DEAD LOAD (herein after referred as DL)

Dead load shall mean the self-weight of structures and/or foundations, and all materials permanently attached thereto or supported thereby. The unit weight of materials shall conform to IS 875- Part- I.

The allowance for the floor finish is considered as 75 mm for typical floor apartments, Lobbies, Ground Floor and Arrival Level including Upper basements. The toilets and balconies are considered 50mm sunk and light weight material is taken for filling.

The self-weight of structure is automatically calculated by the analysis software depending upon the cross-sectional area and density of each member as follows.

Density of R.C.C Members =25.0 KN/m³

Density of P.C.C Members =24.0 KN/m³

Density of Structural Steel =78.5 KN/m³

Density of Brick Masonry Walls (230 /115 mm Thick) =20.0 KN/m³

Density of AAC Concrete (200 /150mmThick) =8.5 KN/m³

Dry density of Soil =18.0 KN/m³

Density of Saturated Soil =20.0 KN/m³

Density of Water =10.0 KN/m³

Density of Floor finish =24.0 KN/m³

Density of Plaster =20.4 KN/m³

Terrace water proofing loads

Average finishing on terrace=150mm

Total finishing water proofing load on terrace =(0.15)X20 =3.0 KN/m²

230mm thk AAC Block wall load

125mm thk AAC Block wall load

Design Loads

The following loads shall be taken for consideration while designing the structural elements the building and the development.

The imposed and super imposed loads shall be considered as per IS: 875 (Part 2) 1987 depending upon the finishes and occupancy classifications. The Equipment load on the roof of the buildings shall be as per Vendor's data

Water tank loads shall be as per MEP Consultants requirement

The minimum super imposed load/live load

Sl. No.	OCCUPANCY CLASSIFICATION	UNIFORMLY DISTRIBUTED LOAD (UDL)	CONCENTRATED LOAD
(1)	(2)	(3) kN/m ²	(4) kN
iv) ASSEMBLY BUILDINGS			
a) Assembly areas:			
1) with fixed seats‡		4'0	—
2) without fixed seats		5'0	3.6
b) Restaurants (subject to assembly), museums and art galleries and gymnasia		4'0	4.5
c) Projection rooms		5'0	—
d) Stages		5'0	4.5
e) Office rooms, kitchens and laundries		3'0	4.5
f) Dressing rooms		2'0	1.8
g) Lounges and billiards rooms		2'0	2.7
h) Toilets and bathrooms		2'0	—
j) Corridors, passages, staircases including fire escapes		4'0	4.5

Seismic Map of India

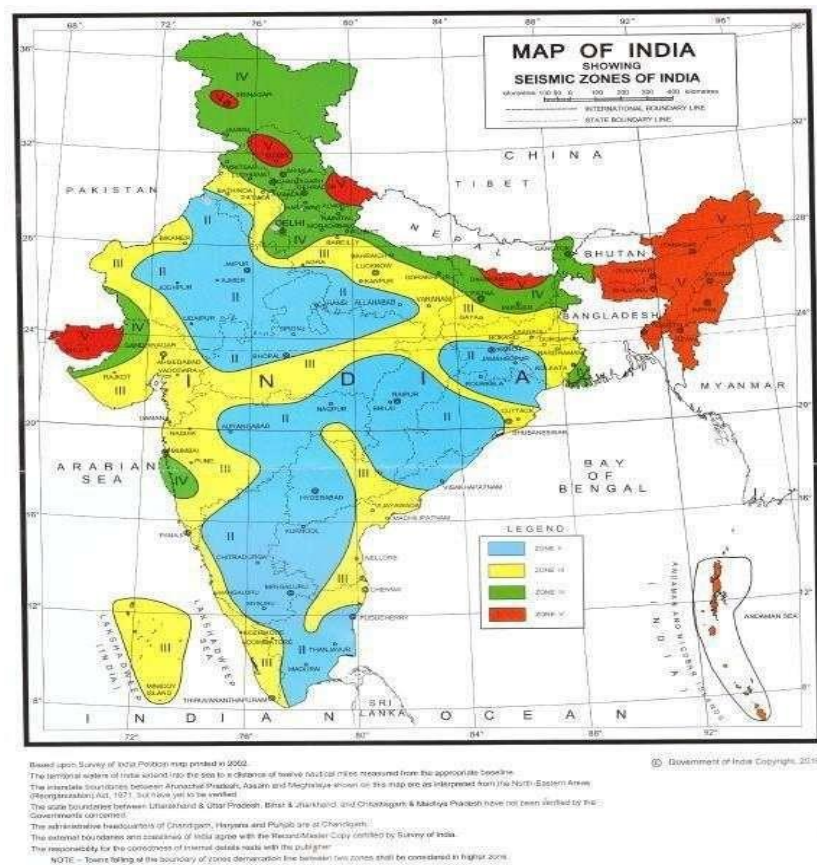


FIG. 11 SEISMIC ZONES OF INDIA

Bureau of Indian Standards, based on the past seismic history, grouped the country into four seismic zones, viz. Zone-II, III, IV and V of these, Zone V is the most seismically active region, while zone II is the least. The Modified Mercalli (mm) intensity, which measures the impact of the earth quakes on the surface of the earth, broadly associated with various zones, is as follows

SEISMIC ZONE INTENSITY ON MM SCALE

ZONES	INTENSITY
II (Low intensity zone)	VI (or less)
III (Moderate intensity zone)	VII
IV (Severe intensity zone)	VIII
V (Very severe intensity zone)	IX (and above)

Design & Detailing for Seismic Forces

The proposed structure is in forced beam slab structure with column. The seismic aspects will be accounted for as per IS:1893-2016 which are applicable for Indian conditions. As per the code the project site falls in Zone-II. Earthquake resistance is offered by ductile frames.

Category of Structures will be as per Table 5 of IS: 1893 Part4: 2005

Importance factor will be as per Table2 of IS: 1893 Part4: 2005

Response Reduction factor will be considered as 5.0 (Refer Table 3IS:1893 Part4-2005). All other relevant factor to be taken from IS code accordingly

***Earthquake forces shall not be considered to act at the same time as wind forces.**

***Wind forces are not governing in the design. However, wind load shall be considered in design whenever it governs the design of any element.**

Analysis

For this purpose, well-known computer software STAADPRO shall be used for carrying out Static analysis and Dynamic analysis using IS1893-2016. Building shall be modeled as space framed structures. All the vertical loads are included in the same analysis.

Member forces corresponding to all load combinations as indicated in section 4.6 of this report are obtained through STAADPRO which is used for final design. Design of most of the beams and columns are and output from STAADPRO.

6.0 The salient parameters relating to Seismic Analysis used in the design will be:

- a) Zone : II
 - b) Importance Factor I : 1.0 (Refer Table-2.1 of IS 1893(Part_1): 2016)
 - c) Soil type : II/III
 - d) Seismic Zone Factor : 0.1 (Zone-II)
 - e) Response reduction factor (R): 5.0 (Dual system of ductile shear walls SMRF)
- Note: Seismic Zone Parameters shall be as per IS1893 (Part-1): 2016

Time Period

Time period shall be considered as $=0.09h/\sqrt{d}$ or

$0.075h^{0.75}$ Where,

h =Height of building, in m

d =Base dimension of the building at the plinth level along the considered direction of Earthquake shaking in m

Expansion Joint

Expansion joints are recommended when structure exceeds 40 mtr length. The width of the joints is being calculated as per IS-1893-2016, clause 7.11.3.

Expansion joints have been provided since buildings length are more than 40 m.

Shrinkage Strip in sub and super structure shall be provided at suitable locations.

Dynamic Analysis

Dynamic analysis is being performed by the Response Spectrum Method. The design base shear (V_B) shall be compared with a base shear (V_{BT}) calculated using fundamental period, T_a . In case V_B is less than V_{BT} , all the response quantities are multiplied by scale factor. Time period shall be as per point 4.10.

Percentage of Live Loads to be considered in Seismic Weight Calculations:

Shall be taken as per the Table 10 of IS 1893(Part 1): 2016.

Structural Analysis

General

The structural analysis is carried out by finite element method using the commercially available software STAAD PRO for the load combinations as per standards.

The designs of the RCC elements are made using the Limit State method with appropriate load factors as per IS:456-2000 & IS800-2007 using MS office and excel spread sheet etc., Designs of structural steel/Composite members are made using elastic method as per IS: 800 with relevant allowable stresses.

Method of Analysis

As per clause 7.1 & 7.8, IS 1893 (Part1):2016, if structures irregular with respect to mass and stiffness of structure, also total height of the structure is more than 15 m in seismic zone II, accordingly 3D dynamic analysis shall be carried out

Concrete Structure will be RCC Framed Structure

- Concrete Structure will be modelled, analysed in STAAD PRO.
- All Beams and Columns will be mainly designed in STAAD PRO in Limit State as per IS: 456-2000
- Roof/Floor Slabs will be designed in Limit State as per IS:456 -2000 using

Excel Spread Sheet.

- Foundations will be designed in Limit State as per IS: 456-2000 using Excel Spread Sheet.
- Water Retaining Structures will be designed as per IS:3370
- All Reinforcement bar will be Fe 500.

Serviceability Limit State (SLS)

Permissible sway/Drift: As per IS456, the lateral sway due to wind at the top of the structure shall not exceed **0.002 H** where H is the height of the building.

As per IS1893:2016(part-1) the story drift due to minimum specified lateral force with partial load factor of 1.0 shall not exceed **0.004h_s** where h_s is the story height under consideration.

The vertical deflection under imposed load should be limited as follows:

L/250 taking into accounts all imposed loading, including temperature and creep /shrinkage. **L/350** taking into accounts all imposed loading, including temperature and creep/shrinkage after erecting the finishes. Or 20mm whichever is less.

ANALYSIS & DESIGN

Concrete Design

The buildings shall be analyzed as 3-D structures with columns as vertical Members and Beam and slab as horizontal members. Analysis will be carried out both for vertical (dead and live loads) as well as horizontal loads (earthquake/wind loads) for different load combinations. The analysis & design of idealized model shall be carried using “STAAD PRO” computer program. Response spectrum analysis shall be done for the structural performance of these towers. The slab panels shall be designed for Dead and Live loads as per IS 456-2000.

Load Factors &Combinations in Concrete Design

All structural designs are carried out by Limit State method of design. For this purpose, the Load factor for various load combinations indicated in IS: 456-2000, IS-875 (Part5)-1987, IS-1893-2016 and SP24 -1983 are as follows:

(1) LOADS AND LOAD COMBINATIONS

When the lateral load resisting elements are oriented along orthogonal horizontal directions, the structure shall be designed for the effects due to full design earthquake load in one horizontal direction at time (Clause 6.3.2.1 of IS 1893(Part- I):2016)

LOADS PRIMARY LOADS

1. Earth Quake Load ($\pm$ Xdirection)
2. Earth Quake Load ($\pm$ Zdirection)
3. Wind Load ($\pm$ Xdirection)
4. Wind Load ($\pm$ Zdirection)
5. Dead Load
6. Live Load

LOADCOMBINATIONS-FOR FOUNDATION

7. (DL+LL)
8. (DL+LL+EQ (+X DIR))
9. (DL+LL+EQ (-X DIR))
10. (DL+LL+EQ (+ZDIR))
11. (DL+LL+EQ (-ZDIR))

LOADCOMBINATION-FORSTRENGTHDESIGN

12. 1.5 (DL+LL)
13. 1.5 (DL+EQ(+X DIR))
14. 1.5 (DL+EQ(-X DIR))
15. 1.5 (DL+EQ(+ZDIR))
16. 1.5 (DL+EQ(-ZDIR))
17. 1.2 {DL+LL* +EQ (+X DIR)}
18. 1.2 {DL+LL* +EQ (-X DIR)}
19. 1.2 {DL+LL* +EQ (+ZDIR)}
20. 1.2 {DL+LL* +EQ (-ZDIR)}
21. 0.9(DL) +1.5EQ (+X DIR)
22. 0.9(DL) +1.5EQ (-X DIR)
23. 0.9(DL) +1.5EQ (+ZDIR)
24. 0.9(DL) +1.5EQ (-ZDIR)

Note: - When the lateral load resisting elements are not oriented along the orthogonal horizontal directions, the structures shall be designed for the effect due to full design earthquake load in one horizontal direction plus 30 percent of the design earthquake load in the other direction.
(Clause

6.3.2.2 of IS1893(Part-I):2016)

LL* reduced load

CODAL COMPLIANCE

Drift & Deflection limits for earthquake and wind

The story drift in any story due to the minimum specified design lateral force arrived with fundamental time period, with factor of 1.0, shall not exceed 0.004 times the story height. In flat slab system the story drift in any story due to the minimum specified design lateral drift at the roof under design lateral force shall not exceed 0.1 percent. The deflection at the top shall be limited to $h/250$ for earthquake and $h/500$ for wind forces. Vertical deflection of beams / slabs will be limited to following:

The final deflection due to all loads including the effects of temperature, creep and shrinkage and measured from the as-cast level of the, supports of floors, roofs and all other horizontal members, should not normally exceed $\text{span}/250$.

The deflection including the effects of temperature, creep and shrinkage occurring after erection of partitions and the application of finishes should not normally exceed $\text{span}/350$ or 20mm whichever is less.

Although, this criterion is generally satisfied by providing span/depth ratios given in clause 23.2.1 of IS 456, deflection of critical members will be checked by calculating actual deflections.

Column Beam junction

Columns shall have higher grade than the beams. Site shall take care to concrete the column beam junction with the column grade only.

Min. percentage, max. & min. spacing of reinforcement in Structural members

The design shall be as per IS 456-2000 and detailing as per IS 13920: 2016.

Crack width in water retaining structures:

For water tank and underground sumps, crack width shall be limited to 0.2 mm shall be limited to 0.1mm as per Clause 35.3.2 of IS456:2000. Minimum Concrete grade shall be M55 for water tanks.

Punching shear checks in flat plates and Raft foundation: Shall be as per clause 31.6 of IS 456:2000.

Slab depth requirements: Shall be confirming to the clause of 23.2 of IS: 456.

Minimum Percentage in shear walls/ columns: 0.8% of area of column section (Min R/f) for columns and 0.25/0.4% of total cross-sectional area in both directions. 0.4% for Fire compliance shall be included horizontal and vertical directions and 0.25% for each direction for shear wall.

Deformation capability: Gravity columns in structural wall buildings shall be designed as per requirements of deformation compatibility on non-seismic member given IS 1893 (Part 1).

Overturning and Sliding: A factor of safety of 1.5 shall be provided against overturning and sliding under:

Un-factored design wind and gravity loads.

2.5 times design

Note: JDA at any point of time can ask for STADD model of the complete structural design and drawings vetted from MNIT or IIT and an explanation of the load calculation which would be finally decided by Engineer In charge and approved for construction.

DESIGN BASIS REPORT

Electrical

ELECTRICAL & MECHANICAL WORK Internal Electrical Installation (IEI)

- 1.** independent site of the project, Electrical Power Supply and Distribution System are essential for the safe operation of the building during utility normal power, utility power failure and emergency operation periods.
- 2.** The key design objectives of the electrical supply and distribution system for this project are listed below to achieve the following:
- 3.** Provide cost effective, energy efficient and easily maintainable systems
- 4.** Provide reliable and adequate power supply to maintain the development's operation at all time
- 5.** Develop safe, reliable, maintainable, energy efficient, user-friendly controls, and economical electrical installation for the project.
- 6.** Maintain occupant's safety and comfort, client's personnel and equipment in a safe operating environment.
- 7.** Ensure the design and installation is safe for operation and in compliance with the Codes of Practice at par with the National Building Code of India and all relevant Codes and Standards. Promote a consistent and uniform design approach and standardize the types and quality level of equipment to be specified.
- 8.** Establish a uniform basis for selection and specification of equipment and materials.
- 9.** Present uniform methods for identifying and maintaining material and equipment inventories required for preparation of drawings and specifications.
- 10.** Provide a means of interdisciplinary design interfacing through the use of standardized approaches.
- 11.** Provide a means of incorporating Client's input with respect to items of preference and operating requirement.
- 12.** Produce a design that will be easy to build and economical to construct and operate.

Wiring shall be done in recessed ISI rated PVC conduit with FRLS multi strand copper cable. Modular type switch, socket, fan regulator, T.V. & telephone socket outlet with GI box and double door MCB/DB shall be used.

Design of wiring shall be based on relevant IS Codes in accordance with Loading as per NBC.

Sufficient light points to be provided in various area to meet illumination level as per IS 3646 (Part-I) 1992 with up-to date amendments. Lighting design shall be adopted to ensure illumination level as per IS 3646 and also meets the LPD (light Power density) as specified by relevant IS Codes in accordance with Loading as per NBC specification. Final approval must be taken from JDA.

Recommended Values of Illumination as per BIS: 3646 (Part-I) in coherence with NBC 2016.

S.No.	Area	Illuminance In Lux
1.	Entrance Halls, Lobbies, Reception	200
4.	Gate houses	200
5.	Lift Lobby	150
6.	Corridors, Passage way, Stairs	100
7.	Escalator, Travellators	150
10.	Rest Room	150
12.	Changing Locker and Cleaner Room, Clock rooms,100 Lavatories	100
13.	Canteens, Cafeterias,	200
14.	Control Rooms	300
15.	Mechanical Plant room	200
16.	Electrical Power supply and distribution Room	200
17.	Store Room	100
18.	General Office	500
19.	Library	300
21.	Laundries	300
22.	Assembly Hall	300
23.	Banquet	100
25.	Conference Hall / Meeting Room	500

REFERENCE BIS CODE

S.No.	ITEM	BIS Code
1.	Steel Conduit	IS:9537 Part-II (Medium)
2.	FRLS PVC insulated flexible (multi-stranded) copper conductor wires	IS:694-1990
3.	M.C.B.s	IS:60898: Part-12002
4.	Phenolic laminated sheet	IS:2036-1974
5.	C.I Junction Boxes	IS:2667
6.	PVC Junction Boxes	IS:3419
7.	MS Bend, coupler & elbow	IS: 2667
8.	PVC Bend, coupler & elbow	IS:3419
9.	Modular type Switches (6A/16A)/ bell push	IS:3854-1997
10.	Modular type Three / Six Pin Socket Outlet (6A/16A)	IS: 1293-2005
11.	Piano type Switches (6A /16A)/ bellpush	IS:3854- 1997
12.	Piano type Three / Six pin socket outlet(6A /16A)	IS: 1293-2005
13.	Piano step type fan regulator double moduletype	IS: 11037-1984
14.	Metal Boxes	Galvanized as per IS: 277 as amended up to the date of tender.
15.	GI Boxes	Galvanized as per IS: 277 part class P-1 as amended up to the date of tender.
16.	Telephone Cable	ITD Specification No. WS-113C
17.	MCB type sub- distribution Boards of double door construction with hinged cover in front	IS: 13032-1991

1. SUB-STATION & LT NETWORK

11/0.433 KV substations will be installed at basement. Each substation shall include: -

- a) Dry type cast resin transformer
 - b) HT Panel (VCB)
 - c) LT panel with withdraw-able type ACBs, MCCBs.
 - d) Essential Supply Panel.
 - e) Power factor improvement panel (Thyrister based)
 - f) HT Panel (for ring main)
 - g) Earthing
 - h) Safety requirements
-
- a) From LT Panels (Non-Essential & Essential) nos. of feeder cables shall be laid for meter rooms/ risers, feeder pillars for external lighting & main panels of E & M Services.
 - b) Design of substation will be based on relevant IS Codes in accordance with Loading as per NBC. Scheme of substations shall be as per approval of JVVNL.
 - c) The electrical load shall be worked out as per NBC And Relevant IS code or as per JVVNL norms and must be got approved by JDA.
 - d) Building Diversity Factor – as per NBC and Relevant IS Code.
 - e) Power Factor for calculating KVA load = as per NBC and Relevant IS Code Transformer Loading Factor = as per NBC And Relevant IS Code
 - f) Future Expansion taken should be 10%
 - g) Transformer stand by capacity should be minimum 33%

1. Common services

- I. All Lifts
- II. Ventilation System (Lift lobby, Lift well & fire shaft)
- III. (Normal + Fire)
- IV. Basement & Parking – Minimum 1.25 KW/1000 Sq.ft (Lighting & Power load)
- V. Fire Fighting Pumps
- VI. Water Supply Pump
- VII. Common Area (Stair Case, Lobby) Light & Power

Diversity factor – 0.8 Power Factor – 0.8 Loading Factor – 0.8

The rating of transformers shall not be less than 1500 KVA. Final approval must be taken from JDA.

REFERENCE IS CODE

11KV Breaker for MV Distribution network shall be vacuum circuit breaker type with minimum 350MVA short circuit breaking capacity and conforming to IEC 62271-100.

Distribution Transformer (11/0.433KV) shall be either oil type or Dry cast Resin type depending upon location of sub-station / Transformer.

Dry cast Resin type Transformer (11/0.433KV) shall confirm to IS- 11171-1985/ IEC 60726.

Oil type Distribution Transformer (11/0.433KV) shall confirm to IS 1180- Part-I (Energy Efficiency Level-2).

Air Circuit Breaker molded case circuit breaker shall confirm IS- 13947-1, Miniature circuit Breaker shall confirm to IEC /60947-2 or IS8828.

ESCAPE ROUTE EMERGENCY LIGHTING SYSTEM:

Emergency lights through centralized UPS system with 20-30-minute battery backup (As per NBC) shall be provided for 50% of the Stairways and 10% of circulation space, corridor, lift lobby, indoor car parking, plant room and all the aviation lamps shall be provided. Self-illuminated Exit Signs shall be provided on all entry and exit locations.

Computer /LAN Networking/ Wi - fi / CCTV points: -

LAN networking shall be done for Data / Voice / Wi Fi & CCTV system. For Preparing LAN networking bidder shall provide Data / Voice / Wi Fi & CCTV point as per data sheet attached, If extra point required by RSRDC / Client department other than data sheet then bidder has to provide the same without any extra cost.

Cat 6 cable shall be used for LAN (Data / Voice / Wi Fi) networking, Cat 6 A cable shall be used for CCTV networking. Main communication Rack to Floor distribution communication Rack shall be connected through optical fibre cable. Various building shall be connected through optical fibre network.

For Internet & Sec Lan connectivity bidder has to provide required hardware & cabling work up to network provider tapping point without any extra cost.

POE + Switch shall be used for CCTV/ Wi-Fi / LAN networking.

All the networking point shall be laid through race way if required as per site condition

POINT WIRING:

- i. Internal point wiring for light point/Fan point/ Exhaust fan point/Call bell point shall be done with 1.5 sq.mm FRLS PVC insulated single core multi strand flexible copper conductor & 1.5 sq.mm FRLS PVC insulated single core multi strand flexible copper conductor as earth wire ISI

marked with 20 mm / 25 mm dia non-metallic medium duty PVC conduit with high end Modular accessories ISI marked mounted on metal box having front Modular cover of suitable size, metal box (18 gauge) with 1.5 sq.mm FRLS PVC insulated single core multi strand copper conductor as earth wire including all accessories and connection. **6A on board plug point shall be provided for each switch board.**

ii. Lighting in external areas shall be installed using 1.1kV multi core armoured Al / copper cable of suitable sizes.

iii. Small Power Outlets:

- Switched single phase three pin 13 A and 16A receptacles shall be provided throughout. In

offices and control rooms, they shall be the decorative modular type. The number of such outlets shall be as per attached data sheet.

- The location of outlets shall be approved by the Engineer-in-charge. The spacing of 13 A and 16 A outlets shall be arranged to suit the intended location of equipment, desks etc
Receptacles for outside areas shall have a degree of protection of minimum IP 65 Outdoor receptacles shall be provided in the landscaped area for grass cutting and other maintenance functions.
- The 13A light plug with 10A switch shall be installed with 2 x 2.5 sq.mm FRLS PVC insulated single core multi strand copper conductor of ISI marked with 20mm dia non-metallic medium duty PVC conduit along with 1 x 1.5 sq.mm FRLS PVC insulated single core multi strand copper conductor for loop earthing as required.
- The 16A power plug shall be installed with 2 x 4 sq.mm FRLS PVC insulated single core multi strand copper conductor of ISI marked with 20mm dia non-metallic medium duty PVC conduit along with 1 x 2.5 sq.mm FRLS PVC insulated single core multi strand copper conductor for loop earthing.
- Lighting control System shall be designed as per Lighting Automation in the Auditorium area (DSI / Dali system)
- 3 / 4 aluminium blade BLDC ceiling decorative fan BEE 5 Star Rating as per IS 374:2019, Service Value-7.10m³/ Min (At turbo Speed)/ 28 to 31Watt full load power at turbo speed. 220m³/min air delivery at turbo speed and other fans like Exhaust, wall fan etc also as per BEE 4- to-5-star rating shall be in the scope of the bidder.

EARTHING SYSTEM:

Considering the hazardous nature of electrical energy, safety measures in using this energy is of paramount importance. Earthing system shall be provided in accordance with Indian Standards IS-3043-1987 / BS 7430 and other statutory regulations.

All non-current carrying metal parts forming the Electrical System shall be connected to the Copper Plate Earthing System as per the requirements. The earthing system shall be so designed that the resistance of the earthing network shall be less than 1.0 ohm at any point of the system.

All the Cable Trays shall be provided with suitable size of 2 Nos. G.I. strip in full length. Separate Earthing shall be provided for Computers/UPS Network and entire earthing shall be insulated with PVC sleeve.

The high tensile low carbon steel rod molecularly bonded with 99.9 % Copper thickness (250 microns) and confirming to UL 467, IS/IEC 62561-2 of 25 mm thick and 3 Mtr Long earthing, 600 mmx600mmx6mm copper plate earthing of transformer & DG set neutral are proposed as follows:

Substation Equipment's:

- a. Each Transformer Neutral Earthing: Copper 2 no's (600 mmx600mmx6mm copper plate) with required size copper strips from Electrode to load.
- b. Each Transformer Body Earthing 2 nos earthing with required size GI strips from Electrode to load.
- c. Each H.T. Switch-Gear / VCB Panel / HT Metering Cubical Earthing: 2 nos earthing with

required size GI strips from Electrode to load.

d. Each D. G. Set Neutral Earthing: Copper 2 no's (600 mmx600mmx6mm copper plate) with required size copper strips from Electrode to load.

Each D.G. Set Body Earthing: Copper 2 no's earthing with required size GI strips from Electrode to load

LIFTS

Provision of lifts in the VIBE will be kept as per National Building Code-2016 / Unified Building Bylaws considering no of floors, height of the building and speed of elevators which shall be submitted to JDA for approval before commencement of work. The lifts be made barrier free as per Unified Building Bylaws & passengers' capacity to minimum 13 passengers.

Note: Load calculation sheets, wire diameter tables, switched and MCB locations with ampere details shall have to be submitted by the agency to Jaipur Development Authority and get approved before purchase and execution itself.

Design Basis Report

Fire Fighting

FIRE FIGHTING (Wet Riser & Sprinkler)

Firefighting system for the VIBE Building shall be designed as per prevailing guidelines of NBC 2016 and requirement of unified building bylaws Rajasthan. Guidelines from JDA must be followed while designing.

It shall include following: -

- I. Providing Heavy Duty M.S _C 'class pipe for external fire lines in ground including Valves, Fire Hydrants, Excavation for Pipes, laying of pipes, painting of pipe and Making Connection to supply system.
- II. Heavy Duty M.S _C 'Class Pipe exposed inside the building, Mains Laterals, Branches, Valves Hangers and Appurtenances.
- III. Hose Reels, Rubberized fabric lined hose pipes, Hose cabinets & Landing Valves.
- IV. Portable Fire Extinguishers.
- V. Fire Fighting Pumps.
- VI. A Static Underground Water Tank.
- VII. Terrace tank on Various Buildings as per NBC.
- VIII. All electrical works related with firefighting works.

Design Basis:

Type of the Building – Various types of buildings proposed can be classified as per NBC- 2016 as follows.

Max. height of Buildings- The heights of building is 15 m. References & Design Guideline

The firefighting system shall be provided as per National Building Code of India 2016 (Part IV), other relevant I.S codes and according to unified building bylaws Rajasthan.

The proposed provisions are as follows.

- I. Centralized Static Underground storage fire tanks as per NBC for VIBE. Terrace tank as per NBC shall be provided.
- II. Fire ring main as per NBC should be provided. Connected to external yard hydrants placed @ maximum 30m c/c distance.
- III. Wet Riser for Hydrant & Sprinkler System shall be taken in separate hydraulic zones to control the pressure from Main Header in the Plant room as per requirement. Pumps of Multi stage, multi outlets with low and high head shall be provided as per requirement.

Internal Hydrants

Each Fire Hose Cabinet shall be as per NBC-2016 and its latest amendments, shall also Conform to the following IS Codes.

IS: 636 Type BIS: 903

IS: 884-1985

Hose Cabinet shall be provided in lift lobby / Podiums / Basement and will be covered with fixed glazed door.

Fire Pumps

Considering large basement area, it is recommended to provide the following minimum Fire Pumps (The number of Hydrants connected with each set of fire pumps will not be more than 100) in firefighting pump room.

<u>S.No.</u>	<u>DESCRIPTION</u>	<u>DISCHARGE</u>	<u>HEAD</u>	<u>LOCATION</u>	<u>QTY</u>
<u>1)</u>	<u>Main fire pump</u>	<u>2850LPM</u>	<u>Residual head of 3.5 kg/cm2 at farthest Point</u>	<u>Plant room</u>	<u>1 Nos.</u>
<u>2)</u>	<u>Sprinkler fire pump</u>	<u>2850LPM</u>		<u>Plant room</u>	<u>1 Nos.</u>
<u>3)</u>	<u>Jockey pump</u>	<u>180LPM</u>		<u>Plant room</u>	<u>2Nos.</u>
<u>4)</u>	<u>Diesel Fire Pump</u>	<u>2850LPM</u>		<u>Plant room</u>	<u>2Nos.</u>
<u>5)</u>	<u>Electrical operated Water Curtain pump</u>	<u>2850LPM</u>		<u>Plant room</u>	<u>1 Nos.</u>

All fire pumps shall be with positive suction arrangements.

All main fire pumps shall be multi-stage, multi outlet type for creating pressure zones or VFD pumps shall be provided to maintain uniform pressure. All the fire pumps shall cut-in automatically based on the pressure settings, so as to ensure that the entire fire main line, risers etc. are pressurized on a continuous basis.

The jockey pump shall automatically cut-out based on the pressure settings. However, the remaining fire pumps shall be off only in the manual mode.

Fire Pump Motors shall be provided with soft starters or variable frequency drive starter.

One set of pumps shall be provided for each 100 hydrants or part thereof, with a maximum of two sets. In case of more than one pump set installation, both pumps sets shall be interconnected at the delivery headers.

Sprinkler System

- i. Sprinkler System shall be provided for all the basement areas, Podium Parking 's, Ground floor common areas and lobbies etc.
- ii. Pendant sprinklers shall be used @ 9 m² of built up area, with a centre to centre spacing not to exceed approximately 3.0 meters.
- iii. Upright sprinklers shall be provided for any false ceiling areas in lobbies/common areas etc. of basement and similar voids which are greater than 800mm in height, if any.
- iv. The sprinklers shall be automatically activated at 68⁰C by breaking of the glass bulb in the event of fire.
- v. The sprinkler lines shall be always being pressurized by automatic system consisting of an Electrical sprinkler pump. The sprinkler pump shall be backed up by the main electrical and diesel fire pumps and a separate jockey pump.
- vi. Necessary accessories such as installation control valves, Flow Switches, Inspection Test Assemblies etc. shall be provided as per the detailed requirements.
- vii. Generally, for sprinkler system design, IS 15105:2002 shall be followed (Indian Standard for Design & Installation of Fixed Automatic Sprinkler Fire Extinguishing Systems) and where required as nbc-2016 as well as relevant NFPA Codes shall be consulted.
- viii. Sprinkler Flow switches shall be monitored by Fire Alarm Panel.
- ix. Ramps at all levels shall be protected with sprinklers.

Fire Brigade Connections: -

All connections for Fire Brigade for inlet, draw out shall be provided as per NBC- 2016 and as per unified Building Bylaws.

Fire Extinguishers

The following type of portable fire extinguishers shall be provided at all levels of the towers, at strategic locations as per requirements, generally to follow IS- 2190: 1992):

- a. Water expelling type as per I.S: 15683 -2006
- b. ABC Powder Type as per I.S: 15683 -2006
- c. 4.5 kg, CO2 type as per I.S: 15683 –2006
- d. Mechanical foam type fire extinguisher.

Fire detection & Alarm System: -

Each floor shall have addressable monitor modules which will link microprocessor controlled addressable main panel of each towers/buildings. Detectors in common area shall be intelligent type.

Fire detection & alarm system in non-residential buildings shall be designed and provided as per NBC- 2016 (Part-IV, Fire & Life Safety).

Valves & Accessories: -

PN rating of all valves and accessories shall be selected as per application. All valves shall have supervisory switch with signaling to fire alarm panel.

WATER REQUIREMENTS:

Water services for Hydrants and sprinkler system shall be stored in underground / overhead tanks. (150000Liters 2 Compartment of 75000 Liter+50000 for Water curtain system)

Underground reservoir shall be provided as per latest NBC-2016 requirement/ Local Fire Authority Bye laws.

Fire Signage: -

Various types of signage are proposed in the complex as per NBC 2016 Part -4. Material of signage shall be of acrylic/aluminum of required dimensions. At every floor near Lift landing diagram showing stairways shall be provided mentioning instructions -'IN CASE OF FIRE USE STAIRS UNLESS INSTRUCTED OTHERWISE'.

The signage shall be above call push button in Lift Lobby. Floor Signage will be provided in each floor within the staircase & should easily readable. Each corridor of every floor will have directional signage indicating Fire Escape route. These Signage may be LED lit with UPS power backup or of photo Luminescent paint. So that they will be visible in dark in case of power failure.

Note: Fire safety plans with complete details and items mentioned above and calculations as per codal provisions shall have to be submitted by the agency to Jaipur Development Authority and get approved before purchase and execution itself.

Design Basis Report

HVAC

MECHANICAL VENTILATION & SMOKE EXTRACTION DESIGN BASIS

The scope of this section comprises the supply, erection testing and commissioning of Heat pump type VRV System with indoor FCU, AHU's, cassette units. (along with other equipment's) (Specifications attached) conforming to these specifications and in accordance with the requirements of Drawing. Building shall be air conditioned as per list of area attached. Centralized control unit shall be used as per OEM requirements. To ensure smooth and uninterpreted A/C of the Auditorium, class rooms and hostel building. Air washer & scrubber units shall be provided for Kitchen area.

Air curtain shall be used at the entrance area to stop leakage of cold air. In the common toilets in line fan with ducting shall be provided.

450 mm height suitable design MS stand with red oxide & enamel paint shall be used for the installation of ODU.

The copper piping & electrical cable from IDU to ODU at terrace floor shall be laid on 2mm thick GI raceway on 350-400 mm height on MS stand with red oxide & enamel painted. Copper pipe shall be insulated with suitable thickness Al cladded nitrile rubber insulation.

The system shall be provided as per National Building Code of India 2016 and, unified building bylaws Rajasthan and other relevant I.S codes.

Following parameters shall be adopted for mechanical ventilation (if required) of the specific areas:

1.	Basement Car Parking	
	i) Normal Mode	6 ACPH
	ii) Fire Mode	Additional 6 ACPH (Total 12 ACPH)
2.	Services Rooms (LT & HT Room, Pump Rooms)	20 ACPH
3.	Transformer Room	Shall be calculated based on Transformer heatdissipation nor 20 ACPH whichever is more
4.	STP Room	30 ACPH

Note:

Planning of lift well, lift lobby & Staircase pressurization shall be as per NBC 2016 if required.

In calculation of pressurization, leakage area, open & close door consideration shall be as per latest addition of ASHRAE standard / NFPA / NBC 2016 if required. 15% safety margin shall be considered in selection of pressurization fans.

In fire tower; all the staircases, lift wells & lift lobbies shall be mechanically pressurized in accordance with fire authority 's approval if required.

All the pressurization system shall be designed as per fire authority approval if required.

System Description:

Basement Ventilation:

All common areas like car parking area, sub-station, pump rooms etc. shall be mechanically ventilated.

Car Park ventilation system shall be designed to give at least 6 ACPH during normal mode and during fire mode additional 6 ACPH (total 12 ACPH in case of fire) proposed as per National Building Code of India-2016 and Unified Building bylaws.

The mechanical ventilation system shall comprise of axial fans for extraction of normal exhaust air / smoke with the help of exhaust duct & MS grilles. Make up air may be drawn from ramp and cut- outs which shall be suitably located. MS powder coated louvers shall be provided at the inlet of fresh air and exhaust. If required, make up air fans shall be provided to supply fresh air through supply air GI duct & MS grilles. Make-up air shall be supplied at floor level i.e. 300 mm above the floor level having dropper from main duct by the side of column and exhaust air shall be from ceiling level.

Design Parameters:

(i) Duct design:		
Max. flow velocity in ducts for ventilation in Car Parking (normal mode)	:	9.2 m/sec (1800 fpm)
Max. flow velocity in ducts for ventilation in Car Parking (fire mode)	:	12.2 m/sec (2400 fpm)
Maximum flow velocity in ducts for ventilation in services areas (pump rooms, sub-station etc.)	:	9.2 m/sec-10.2 m/sec (1800 – 2000 fpm)
Maximum flow velocity at ventilation grilles in car parking (normal mode) & services areas (pump rooms, substation etc.)	:	2.5/sec (500 fpm)
Maximum flow velocity at pressurisation grilles Maximum friction	:	3.8 m/sec (750 fpm) 1cm WG/100 m run
ii) Ventilation Fan		
Max. fan outlet velocity for Normal mode fans (car parking, plant/ pump rooms, & Max. fan outlet velocity for Normal mode fans (car parking, plant/ pump rooms, & Max. fan outlet velocity for fire mode fans (car parking, public area smoke extraction & pressurisation fans)	:	10.2 m/sec (2000 fpm) 12.2 m/sec (2400 fpm)
Fan Speed	:	Not more than 1450 RPM

Note:

All the normal mode fans shall be selected for maximum efficiency & minimum sound level.

All fans shall be AMCA certified for air flow, sound and performance. Normal mode fans shall be not less than 65% efficient.

All car parking ventilation & smoke extraction fans shall be selected for static pressure at 12 ACPH.

All fans shall be operated automatically, manually locally and remotely from central location with visual indication of status of fans.

Contractor shall perform detailed heat load calculation considering all design factors. And submit detailed heat load calculation with all supporting documents to engineer in charge for approval. After getting approval from department, contractor shall prepare detail shop drawing of the project indicating indoor unit, copper piping, drain piping, ducting, and outdoor unit location & submit to engineer in charge for approval, Contractor also prepares lats of the system and submit to engineer in charge for approval.

The contractor shall submit drawing to the engineer in charge in soft and hard copy. After completion of the project contractor shall submit as built drawing to the engineer in charge in soft and hard copy and get approved from JDA before execution

Design Basis Report
Plumbing and Drainage Works

PLUMBING WORKS

The scope of work which the contractor will be required to carry out is detailed as under.

(a) External Water Supply System

- Obtaining necessary approval and connection/s from PHED forentire water requirement of building proposed for work as per scope of this NIT as per Annexure-P1
- Storage
- Water pumping & water distribution system
- Garden Hydrant System (Irrigation system)
- Water supply system should be of Heavy-Duty GI pipes with matching heavy-Duty fittings.

(b) Sewerage System

- Collection and Conveyance
- Connection to external Sewerage line
- Sewage System of humbles C.I piping & fittings

(c) Storm Water Drainage System

- Collection and conveyance
- Disposal to external Storm Water line.

(d) Rain Water Harvesting

- Construction of Rain water harvesting recharging wells as per rainwater harvesting Manual/NBC
- Construction of desilting Chamber.
- Design as per rainwater harvesting manual considering 90 mm peakhourly rainfall.

(e) Internal Plumbing Works

- Internal water supply system.
- Soil, Waste, vent & Rain water pipes.
- Disposal to 1st Manhole/ storm water drain.
- All Sanitary Fixtures and fittings.

Pumping, Overhead Storage & Distribution System

Water from the Domestic UG tank shall be re-lifted to the overhead tanks of the towers through the required set of pumps. The pumps shall be multiple innumber and will be selected as N+N combination i.e. 100 % standby. The discharge will be selected for 4hrs of pumping for each zone in two shifts of 2hrs each. Each building shall have its own O.H. tank (on terrace) as per requirement.

Water supply to overhead tanks shall be filled by multiple pumps. Operation of pumps shall be based on manual operation twice a day for each zone. Operating time during each operation will be 2 hours. Water supply pumps will be designed to supply water through two zones.

From the overhead tanks, distribution of domestic water shall take place by adopting the gravity system. Water shall be supplied by gravity to all user points. Pressure reducing valves and pressure breakers shall

be provided for the lower floors as per NBC-2016 and unified building bylaws. The system shall be designed to ensure requisite pressures available in all outlets.

For Flushing of WC 's & Urinals, a separate water supply system shall be provided, consisting of separate Overhead tanks on Terrace, and gravity supply through separate down-tank. This separate system for flushing shall ensure that the treated effluent from the STP is re-used. Emergency connection for normal potable Water supply shall also be made to this system.

Water supply to flushing overhead tanks will be automatic operation of pumps. The automatic operation of pumps shall be maintained with the help of diaphragm type motorized butterfly valves installed near overhead water tanks coupled with float type level controllers installed within the tanks.

Transfer pumps for flushing water shall be of variable frequency drive hydro- pneumatic system.

All water supply transfer pumps / hydro-pneumatic system shall be provided with bye-pass connection with flow meters before non-return valves to bye- pass the water into underground tank for pressure balance.

All mechanical equipment 's shall have 100 % backup to prevent any breakages in the system.

Materials for Water Supply

- All external water supply rising mains laid in ground shall be double flanged ductile iron pipes conforming to IS:8329 and class K-9. The specials for ductile iron pipes shall be as per IS:9523 and class K-12.
- All external water supply rising main in basement ceiling and shafts shall be high grade CPVC of required dia as per design.
- All water supply piping at terrace & in shafts shall be high grade CPVC composite pipes could be used if required.
- All water supply distribution pipes laid within toilets in ceiling or in concealed chases shall be high grade CPVC pipes and heavy duty fittings as approved by JDA if required or SS-316 L could also be used.
- All the external garden hydrant system piping shall be uPVC 10 kg/cm² conforming to IS 4985.

Valves

a) Butterfly valves (80 mm and above)

Butterfly valves shall be of centric disc construction with single piece body of Cast Iron with disc of CF 8 Stainless steel with nitrile seat,

Stem shall be stainless steel. Butterfly valve shall conform to PN 10/16 rating and shall be provided with suitable matching flanges compatible with PN 10/16 rating of valves.

b) Non-return valve (80 mm and above)

Cast iron Non-return valves of diameter 80 mm and above shall be dual plate non-return valve of PN 10/16 rating with ductile iron disc and SS 304 spring & hinge in.

c) Ball valves (65 mm and below)

Ball valves shall be lever operated, screwed type of gun metal ball valve of PN 10/16 rating as per IS:318 with SS ball and SS stem with mild steel lever.

d) Non-return valve (65 mm and below)

Non-return valves and 65 mm and below shall be metal non-return valve of PN 10/16 rating (class 2) as per IS:778 with screwed ends.

Special type of control valves like, pressure reducing valves (PRV) and Solenoid valves shall be provided as per requirement to control and Regulate the flow of water PRV 's shall be provided at easily accessible location, to enable repair / maintenance.

NOTE:-

- 1) OH Tank for Fire as per NBC will be provided on each Tower.
- 2) Capacities of OH Tanks for Domestic & Flushing Water will be decided as per ~~apmt~~

SEWERAGE SYSTEM

The domestic sewage generated shall be disposed by gravity system into the first manholes around the building, which shall be finally connected to the external sewerage system as per the Master Plan. The external sewage network shall collect the sewage, and flow by gravity for further treatment in the proposed sewage treatment plant. It is proposed to provide STP to meet the total requirement.

Type of distribution

Generally, all flow shall be by gravity up to the final disposal points. Wherever gravity flow from the discharging units into the external sewer line is not possible (i.e. wet areas in basements etc.), a local sewage pumping system shall be provided either directly to the final disposal point, or into the external sewer line.

Appurtenances & Material Specifications for the Sewerage System

i) Pipes

i) PVC Pipes

For dia 150mm and 200mm Grade depending on site conditions with laying, jointing and bedding as per IS code.

ii) R.C.C. Pipes Class NP2

Minimum dia 250mm and above to be provided as per IS:458, for normalslopes and general site conditions.

(i) R.C.C Pipes Class NP3

For road crossing 300mm dia and above as per IS:458, for normal slopes and general site conditions.

(ii) Ductile iron pipes

For exposed pipes running along the basement ceiling for final disposal to external sewerage system Ductile iron pipes conforming to IS:8329 and class K-9. The specials as per IS:9523 and class K-12. Jointing for these pipes shall be socket and spigot tyton joints.

(iii) Manholes

The manholes shall be constructed of brick masonry as per standard specifications of National Building Code and shall be having details as follows:

Type _A' — Rectangular

- i) Rectangular of size 900 x 800 mm upto 0.90 meter depth.
- ii) Rectangular of size 1200 x 900 mm upto 2.5 meter depth.

Type _B'— Circular

- i) Circular of size 910mm dia for depth upto 1.65 meter.
- ii) Circular of size 1220mm dia for depth above 1.65 m and upto 2.3-meterdepth.
- iii) Circular of size 1520mm dia for depth above 2.30 meter & up to 9~~mt~~ depth.

Depths of Manhole

- | | |
|---------------------------|-----------------|
| i) On branches | — 1.0 M |
| ii) On lateral sand mains | — 1.5 M – 2.0 M |

Spacing

- i) Manholes shall be provided at all junctions, change of directions, change in diameters, as per connection requirement from every unit.
- ii) A distance of 30 meters on the main sewer lines, depending on dia of pipe and local conditions.

Manhole Covers (Material CI/DI)

- i) Medium duty for manholes on service roads, having approximate total weight of frame and cover as 116Kg.
- ii) Heavy duty for manholes on main roads, having frequent heavy traffic, having approximate total weight of frame and cover 170-208 Kg.

PROPOSED STORM WATER DRAINAGE SYSTEM

The system to be proposed after studying the site conditions and considering the following factors:

- The slope pattern of site terrain.
- The existing conditions of site and surrounding.
- The final levels and patterns of different type of roads.
- The need for incorporation of rainwater harvesting within the site area.
- Final disposal to external drainage system as per site.

Planning of drainage system shall be as follows:

- i) The rainwater from the terraces and related clean paved areas of individual Buildings shall be collected in the collection chambers and shall be ultimately connected to the main storm-water drainage system.
- ii) The network of storm water system shall be mostly catch basins and RCC pipe network, as per requirements.
- iii) For Roof Drainage: Rain water pipes for roof drainage shall be designed as per NBC-2016, Table-23 of Part-9
- iv) For design of storm water drainage system, 25mm/hr average rainfall will be considered.

For surface and sub-surface drainage of the basement area, and for disposal of the rainwater pipes coming from the terraces, a minimum average fill of 750 mm shall be required, ranging 900mm all-around to 600mm at to the edge of the basement retaining wall. This is recommended with a view to dispose the storm water drainage through the catch-basins and pipe system, to the external main storm water network, without entering inside the basement.

Parameters for Rainwater Calculations

(I) Areas

Total area of the Site...	As per Site m ²
Terrace /Roof area...	As per Site m ²
Paved/Pavement/Road area...	As per site m ²
Greens/Landscaped/Lawn areas.....	As per site m ²

(II) Intensity of rainfall

25 mm/hr average rain fall will be considered for design of stormwater drainage system.

(I) Co-efficient of runoff factors to be adopted

Type of catchment	Co efficient
Roof catchments	
- Tiles	0.8 -0.9
- Corrugated metalsheets	0.7 -0.9
Ground surface coverings	
- Concrete	0.6 – 0.8
- Brick pavement	0.5 – 0.6
Untreated ground catchments	
- Soil on slopes less than 10 per cent	1.0 – 0.3
- Rocky natural catchments	0.2 – 0.5

(II) Coefficient for Calculation for Capacity for Collection Wells forHarvesting

INTERNAL PLUMBING SYSTEMS

Sewerage/Drainage System Adopted: two pipe (stack) systems as recommended in code of practice for soil and waste pipes above ground (I.S: 5329 – 1983). This implies there are separate vertical stacks as per the following:

- i) Soil Pipes shall carry the wastes from WC 's & Urinals. Soil pipes shall connect directly to manhole outside the building. High grade PVC Pipe system will be installed in the whole premises.
- ii) Waste Pipes shall carry the wastes from Wash Basins, Sinks, Floor Drains, etc. Waste pipes shall connect to Gully Traps outside the building, which shall in turn be connected to theexternal manholes. High grade PVC Pipe in accordance with IS 15905 & ISO 6594 and UPVC Silent pipe system adaptable to IS 13592 and IS 14735 will be installed in the whole premises.
- iii) Rainwater Pipes shall also be provided which shall dispose outside the building into the external catch – basin chambers / external drains.

To ensure that the plumbing system is unhindered, all wet – areas shall be designed with the following structural provisions:

	Details	Requirements/Recommendation
	Wet Areas slab to be properly hidden in false ceiling	No sunk should be in wet areas. For balconies, 100 mm sunken area is required. All Traps & Soil & Waste pipes shall be hanging at ceiling level below, by hanging the pipes with G.I structural supports/dash fasteners and proper clamping etc. with proper slope (1:60). Cleanout plugs shall be provided at the ceiling level below as per detailing. All structural Beams at ceiling level should be inverted (Upwards oriented) for balcony areas only. Cutouts for traps and WC soil pipes shall be marked and provided for execution.
		This option is recommended for most wet areas from the point of view of easy cleaning and maintenance of the plumbing systems, as all pipe shall be accessible from below. Water resistant, grid false ceiling (NRC .95) shall be provided. High grade PVC Pipe and UPVC Silent pipe system will be installed in the whole premises.

Requirements of Internal Shafts

	Shafts	Size / Details
	Main Fire Hose Cabinets for sprinkler pipes, firefighting and drainline to terrace level	Niche of 1200 (W) x 900 (D) x 2100 (H) mm size Cut out of min. size 400 x 600 with in niche V AreaV for V Verticals V for Tower up to 2B + G + 8 Floors. Cabinet of above size may be provided in M.S.(Pre- fabricated) Alternately, FHC may be designed of above size incivil works as per arch/ interior finishing details and only M.S. Door provided.
	Plumbing shafts for Main Internal Toilets	Exact Shaft size as per detailing of individual wet areas, so that all vertical pipes are exposed and approachable within the shaft. Appropriate Shaft sizes to ensure service access must be provided for plumbing shafts of all toilets. Access Doors/panels need to be provided forevery shaft, at every level, for necessarymaintenance / cleaning purposes. Shafts to bedesigned to be sealed at all floor levels.
	Rainwater Pipe Shafts	Terrace/Balcony Rainwater pipes to be located in separate boxing / main plumbing shafts. Appropriate Shaft sizes to ensure service for each250 mm, 200 mm internal,150 mm internal Dia. Pipes And 100 mm internal Dia. Pipe.

Fixtures and Fittings

- i) Sanitary fixtures shall be off premium quality and make, as per make list in the tender document.
- ii) All CP fittings shall be of standard quality and make, as per make list in the tender document.

Materials for Internal Plumbing Soil, Waste & Rainwater Pipes

Double stack system shall be proposed for drainage system with separate pipes for soil, waste disposal and rainwater. The soil, waste, vent & rain water pipes shall be designed as per NBC-2016.

Waste pipe from sinks, wash basins, urinals, all suspended and underground soil, waste and vent pipes and fittings shall be Centrifugallyspun high grade PVC Pipe

18. DRAINAGE OF BASEMENT

The proposed basements and ground shall be catering to the Parking requirements for the project, and the services areas such as Plumbing & Fire Fighting Plant Room, etc. shall also be coming in the podium & basements. It is also possible that future wet areas such as Maintenance Offices, Drivers Rest areas are also provided in the ground. Provision for drainage is also to be made in case of operation of Sprinkler System. Therefore, it is necessary to do the proper planning of drainage of the basement, to cater to the following circumstances:

- i) All necessary precautions shall be taken to prevent any external storm water from entering into the ground & basement. The site levels shall be decided in such a way that the surface flow takes place away from the entry points of ramps staircases etc. All cut outs/openings into the basement shall be closed/ protected.
- ii) Channels shall be provided at the starting and end points of all ramps into the basements.
- iii) All upper basements shall be provided with Floor Drains, and these drains shall discharge into the drains/channels in the basements below.
- iv) The basement shall be provided with a network of drain channels, with the following details:
 - a. Minimum 250-300s MM Width.
 - b. Minimum 150 MM deep at start and a general slope of 1:250 to 1: 300. Accordingly, a minimum filling of approx. 450 mm is required and the final location / layout of channels shall be depending upon the architectural plans and the proposed structural details.
 - c. Maximum length of channels shall be approx. 80 meters.
 - d. The drain channels shall be provided with proper grating as per architectural details.
- v) The drain channels in basement shall be discharging into drainage sumps, which shall be having the following details:
 - a. Minimum 1800 MM Depth. (300mm free board)
 - b. Minimum size of 2000 x 2000 MM
 - c. The Sump shall be equipped with fixed type submersible sump drainage pumps (1+1 Combination), which shall automatically operate based on a level indicator and controller system.
- vi) The sump pumps shall discharge the drain water outside the building into the external storm water drainage system. Any wet areas for toilets shall be identified by the JDA in the planning stage itself and the locations confirmed on the drawings. For such areas, a sewerage sump with automatic submersible sewage sump pumps shall be provided.
- vii) Dedicated Sumps with automatic submersible sewage sump pumps are recommended for the Plumbing & Fire Fighting Plant Rooms, DG Rooms etc. if located in the basement levels.

19. WATER SUPPLY PUMPS

Work under this sub-head consists of furnishing all labour, with appropriate T&P scaffolding & staging as required to completely install pumping system for various water supply services.

Without restricting to the generality of the foregoing, the work of pumps shall include the followings:

- a) Centrifugal pumping system for Domestic Water Supply
- b) Pumping system for Soft Water Supply
- c) Pumping system for Garden Hydrant System
- d) Sump pumps for disposal of Drainage from Basements
- e) Sump pumps for disposal of Sewage from Basements
- f) Controller & Indication System for Tanks & Pumps
- g) Motor control panels, power and control cabling and allied electrical works.

- h) Pipes, valves, accessories, hangers, supports, delivery and suctionfeeders and connection to proposed pipe work.

REFERENCE FOR WATER REQUIREMENT CALCULATION

Table 1 Water Requirements for Buildings Other than Residences (Clause 4.1.2)				
Sl No.	Type of Building	Domestic Per Day litre	Flushing Per Day litre	Total Consumption Per Day litre
(1)	(2)	(3)	(4)	(5)
i)	Factories including canteen where bath rooms are required to be provided	30 per head	15 per head	45 per head
ii)	Factories including canteen where no bath rooms are required to be provided	20 per head	10 per head	30 per head
iii)	Hospital (excluding laundry and kitchen) (see Note 2):			
	a) Number of beds not exceeding 100	230 per head	110 per head	340 per head
	b) Number of beds exceeding 100	300 per head	150 per head	450 per head
	c) Out patient department (OPD)	10 per head	5 per head	15 per head
iv)	Nurses' homes and medical quarters	90 per head	45 per head	135 per head
v)	Hostels	90 per head	45 per head	135 per head
vi)	Hotel (up to 3 star) excluding laundry, kitchen, staff and water bodies	120 per head	60 per head	180 per head
vii)	Hotel (4 star and above) excluding laundry, kitchen, staff and water bodies	260 per head	60 per head	320 per head
viii)	Offices (including canteen)	25 per head	20 per head	45 per head
ix)	Restaurants and food court including water requirement for kitchen:			
	a) Restaurants	55 per seat	15 per seat	70 per seat
	b) Food court	25 per seat	10 per seat	35 per seat
x)	Clubhouse	25 per head	20 per head	45 per head
xi)	Stadiums	4 per head	6 per head	10 per head
xii)	Cinemas, concert halls and theatres and multiplex	5 per seat	10 per seat	15 per seat
xiii)	Schools/Educational institutions:			
	a) Without boarding facilities	25 per head	20 per head	45 per head
	b) With boarding facilities	90 per head	45 per head	135 per head
xiv)	Shopping and retail (mall)			
	a) Staff	25 per head	20 per head	45 per head
	b) Visitors	5 per head	10 per head	15 per head
xv)	Traffic terminal stations (see Notes 3 and 4)			
	a) Airports	40 per head	30 per head	70 per head
	b) Railway stations (Junctions) with bathing facility	40 per head	30 per head	70 per head
	c) Railway stations (Junctions) without bathing facility	30 per head	15 per head	45 per head
	d) Railway Stations (Intermediate) with bathing facility	25 per head	20 per head	45 per head
	e) Railway Stations (Intermediate) without bathing facility	15 per head	10 per head	25 per head
	f) Interstate bus terminals	25 per head	20 per head	45 per head
	g) Intrastate Bus Terminals/Metro Stations	10 per head	5 per head	15 per head
NOTES				
1 For calculating water demand for visitors, consumption of 15 litre per head per day may be taken.				
2 The water demand includes requirement of patients, attendants, visitors and staff. Additional water demand for kitchen, laundry and clinical water shall be computed as per actual requirements.				
3 The number of persons shall be determined by average number of passengers handled by stations, with due considerations given to the staff and vendors who are using these facilities.				
4 Consideration should be given for seasonal average peak requirements.				
5 The hospitals may be categorized as Category A (25 to 50 beds), Category B (51 to 100 beds), Category C (101 to 300 beds).				

REFERENCE FOR UG &OHT STORAGE TANK CAPACITY

In case of intermittent water supply, the following guidelines should be adopted for calculation of capacity:



- 1) When the supply is from main OHT, the capacity of individual OHT may be taken as half a day demand.
- 2) In case of all the other buildings (apartments, hotels, hospitals, and commercial), the capacity of UGT and OHT may be taken as one and a half days and half a day demand. Wherever raw water and treated water are stored in separate UGTs, the combined storage capacity shall be of one and a half days demand.
- 3) In case of sewage treatment plant, for treated water storage in respect of flushing, one day flushing demand shall be stored in UGT or treated effluent storage tank which is part of the plant, and half a day demand shall be stored in OHT.

For additional requirement of water storage for fire fighting purposes, reference may be made to Part 4 'Fire and Life Safety' of the Code.

NOTE — Minimum requirements for calculation of capacity of these storage tanks are as follows:

- a) In case only OHT is provided, it may be taken as 33.33 to 50 percent of one day's requirement;
- b) In case only UGT is provided, it may be taken as 50 to 150 percent of one day's requirement; and
- c) In case combined storage is provided, it may be taken as 66.6 percent UGT and 33.33 percent OHT of one day's requirement.

4.4.11 Where the water supply distribution system is catering for separate potable water and flushing water supply, and where reclaimed or recycled treated water is being used within the building, it shall be considered as dual water supply system. In such cases, storages for flushing/reclaimed/recycled water shall be separated proportionately. Adequate measures and precautions shall be taken for physical segregation for sanitary purposes and to avoid cross-contamination in the distribution system and to prevent back contamination of water supply sources (see 4.5).

4.4.12 When only one communication pipe is provided for water supply to a building, it is not necessary to have separate storage for flushing and sanitary purposes for health reasons. In such cases when only one storage tank has been provided, tapping of water may be done at two different levels (the lower tapping for flushing) so that a part of the water will be exclusively available for flushing purposes.

4.5 Protection of Water Supply

contamination from non-potable liquids, solids or gases being introduced into the potable water supply system through cross-connections or any other connection to the system.

4.5.2 Plumbing Fixtures

The water supply lines and fittings for plumbing fixtures shall be installed so as to prevent back flow and shall provide required back flow protections in accordance with 4.11.

The devices, appurtenance intended for special function such as sterilization, processing, distillation, etc, shall be provided with back flow protection devices.

The water supply for hospital fixtures shall be protected against backflow with a reduced pressure principle back flow assembly, an atmospheric or spill resistant vacuum breaker assembly, or an air gap. Vacuum breakers for bed pan washer hoses shall not be located less than 1 525 mm above floor. Vacuum breakers for hose connections in health care or laboratory areas shall not be less than 1 800 mm above floor.

4.5.3 Cross-Connection Control

Cross-connections shall be prohibited, except where approved back flow prevention assemblies/devices are installed to protect the potable water supply (see 4.11). Potable water outlets and combination stop and waste valves shall not be installed underground or below grade. Freeze proof yard hydrants that drain the riser into the ground are considered to be stop and waste valves.

Back flow prevention can be achieved by means of providing proper air gap, reduced pressure principle back flow prevention assemblies, back flow preventer with intermediate atmospheric vent, barometric loop, pressure vacuum breaker assemblies, atmospheric type vacuum breakers, double check back flow prevention assemblies, spill resistant pressure vacuum breaker, dual check back flow preventer, etc.

4.5.4 Identification of Non-Potable Water Systems

Where non-potable water systems are installed, the piping conveying the non-potable water shall be identified either by colour marking, metal tags or tapes in accordance with the relevant standards and good engineering practices.

4.6 Materials, Fittings and Appliances

4.6.1 Standards for Materials, Fittings and Appliances

All materials, water fittings and appliances shall conform to Part 5 'Building Materials' of the Code.

4.6.2 Materials for Pipes

Pipes may be of any of the following materials:

- a) Cast iron, vertically cast or centrifugally

Note: Agency shall have to submit design calculation table for water supply, sewerage, storm water systems and rain water harvesting that shall comply to the right code and get it approved from JDA before execution.

20. SIGNAGE (Internal & External)

SITC of following signage's shall be in the scope of the agency, fabricated from the material specified and as shown in the architectural drawings no. SNP/A/DT- 101:

	Signage	Size	Location	Material	
	Unit Signage	150 x 300	Above entry door of every unit	SS	
	Floor Signage	300 x 450	At every floor level	Glass lit	
	Service area signage	600 x 200	At every floor level	Glass lit	
	Basement & Ground Directional signage	450 x 150	At all Entry & Exit locations including Ramps	Glass lit	
	Fire Signage	500 x 150	As per NBC	Glass Lit	
	Main Building Block Signage	As per Design & Drawing	Ground Floor/Terrace	LED complete as per design drawing approved by JDA.	

Note: Sign S-1 in SS plates, S-2 & S-3 shall be in glass lit signage.

- Scope of the work includes preparation of the shop drawings (based on the architectural drawings), fabrication, supply, installation and protection of the Signage, till completion and handing over of the work.
- The item of work for the respective signage shall be conforming to Specifications and shall cover all operations, fabrications and their installations and materials required for finished product.
- The signage work shall be got executed through specialized fabricator having experience of similar works. The Contractor shall submit the credentials of such fabricator for the approval of the JDA.
- The Contractor shall submit the Design, Size and installation procedure along with samples to JDA for approval. Approved samples will be kept at site till the whole work is completed. JDA has right to modify the design of the approved samples and contractor is bound to follow these written instructions /changes in design/size etc. from JDA.

The Contractor shall procure and submit to the JDA, samples of various materials for the signage work, for approval. After approval of samples of materials, the Contractor shall prepare sample(s) for approval of JDA. The material shall be procured and the mass work taken up only after the approval of the mock up by the JDA. The mock-up shall be dismantled and removed by the contractor as per the directions of the JDA.

Design Basis Report

Interior Works

Oil Emulsion (Oil Bound) Washable Distempering

Materials

Oil emulsion (Oil Bound) washable distemper (IS 428) of approved brand and manufacture shall be used. The primer where used as on new work shall be cement primer or distemper primer as described in the item. These shall be of the same manufacture as distemper. The distemper shall be diluted with water or any other prescribed thinner in a manner recommended by the manufacturer. Only sufficient quantity of distemper required for day's work shall be prepared.

The distemper and primer shall be brought by the contractor in sealed tins in sufficient quantities at a time to suffice for a fortnight's work, and the same shall be kept in the joint custody of the contractor and CPWP SPECIFICATIONS 2009 554 the Engineer-in- Charge. The empty tins shall not be removed from the site of work, till this item of work has been completed and passed by the Engineer-in-Charge.

Providing and applying two or more coats of plastic emulsion paint of matt finish: 50-60 micron each coat of approved brand, manufacturer and shade to give a smooth finish on new concrete surfaces over a coat of approved primer including the cost of preparing the surfaces with approved filling materials, along with sand papering wherever required, scaffolding etc. complete.

Preparation of the Surface

For new work the surface shall be thoroughly cleaned of dust, old white or color wash by washing and scrubbing. The surface shall then be allowed to dry for at least 48 hours. It shall then be sand papered to give a smooth and even surface. Any unevenness shall be made good by applying putty, made of plaster of paris mixed with water on the entire surface including filling up the undulations and then sand papering the same after it is dry.

In the case of old work, all loose pieces and scales shall be removed by sand papering. The surface shall be cleaned of all grease, dirt etc. Pitting in plaster shall be made good with plaster of paris mixed with the color to be used. The surface shall then be rubbed down again with a fine grade sand paper and made smooth. A coat of the distemper shall be applied over the patches. The patched surface shall be allowed to dry thoroughly before the regular coat of distemper is applied.

Application

Priming Coat:

The priming coat shall be with distemper primer or cement primer, as required in the description of the item. The application of the distemper primer shall be as described in 13.18.4.

Note: If the wall surface plaster has not dried completely, cement primer shall be applied before distempering the walls. But if distempering is done after the wall surface is dried completely, distemper primer shall be applied.

Oil bound distemper is not recommended to be applied, within six months of the completion of wall plaster. However, newly plastered surfaces if required to be distempered before a period of six months shall be given a coat of alkali resistant priming Paint conforming to IS 109 and allowed to dry for at least 48 hours before distempering is commenced.

For old work no primer coat is necessary.

Distemper Coat:

For new work, after the primer coat has dried for at least 48 hours, the surface shall be lightly sand papered to make it smooth for receiving the distemper, taking care not to rub out the priming coat. All loose particles shall be dusted off after rubbing. One coat of distemper properly diluted with thinner (water or other liquid as stipulated by the manufacturer) shall be applied with brushes in horizontal strokes followed immediately by vertical ones which together constitutes one coat.

The subsequent coats shall be applied in the same way. Two or more coats of distemper as are found necessary shall be applied over the primer coat to obtain an even shade.

A time interval of at least 24 hours shall be allowed between successive coats to permit proper drying of the preceding coat. For old work the distemper shall be applied over the prepared surface in the same manner as in new work. One or more coats of distemper as are found necessary shall be applied to obtain an even and uniform shade.

15 cm double bristled distemper brushes shall be used. After each day's work, brushes shall be thoroughly washed in hot water with soap solution and hung down to dry. Old brushes which are dirty and caked with distemper shall not be used on the work.

Exterior Painting on Wall Material

The paint shall be (Textured exterior paint/Acrylic smooth exterior paint/premium acrylic smooth exterior paint) of approved brand and manufacture.

This paint shall be brought to the site of work by the contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a for night's work. The materials shall be kept in the joint custody of the contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge.

Preparation of Surface

For new work, the surface shall be thoroughly cleaned off all mortar dropping, dirt dust, algae, fungus or moth, grease and other foreign matter of brushing and washing, pitting in plaster shall make good, surface imperfections such as cracks, holes etc. should be repaired using white

The work in general shall consist of supplying and/or erecting and installing of all doors, windows, ventilators, louvers, rolling shutters, glazed partitions, etc. as shown on drawings with all materials complete including supply and fixing of glass and glazing.

The scope shall also include the assembly and erection of all doors, windows, louvers, glazed partitions, etc. Supplying and/or fixing of all door and window accessories and hardware are also included in the scope.

Applicable Codes and Specifications

The following codes, standards and specifications are made a part of this specification. All standards, specifications, codes of practices referred to herein shall be the latest edition including all applicable official amendments and revisions.

In case of discrepancy between this specification and those referred to herein, this specification shall govern.

IS: 4021	Timber door, window and ventilator frames.
IS: 2202	Wooden flush door shutters (Solid core Type) Part – I.
IS: 1003	Timber paneled and glazed shutters. (Parts I & II)

IS: 4020	Methods of tests for wooden flush doors: Type tests.
IS: 1761	Transparent sheet glass for glazing and framing purposes.
IS: 4351	Steel door frames.
IS: 1038	Steel doors, windows and ventilators.
IS: 1361	Steel windows for industrial buildings.
IS: 1081	Code of practice for fixing and glazing of metal (Steel and Aluminum) doors, windows and ventilators.
IS: 5807	Method of test for clear finishes for wooden furniture (Part I to III)
IS: 1477	Code of practice for painting of ferrous metals in buildings and allied Finishes (Part I & II)
IS: 2338	Code of practice for finishing of wood and wood-based materials (Part I).
IS: 1948	Aluminum doors windows and ventilators
IS: 1949	Aluminum windows for industrial buildings.
IS: 3548	Code of practice for glazing in building.

Wood works:

Timber used for joinery shall be of good approved quality or Teak wood unless otherwise specified (Ref.IS:4021) and shall be well seasoned (IS:1141) cut square, of natural growth, uniform in texture, straight grained, free from excess wane, from sapwood dead knot or other defects and blemishes (Ref.IS:3364).

All timber for carpentry, joinery, rough frame work, backings, grounds, fixing strips and the like shall be treated with an approved wood

preservative (Ref.IS:401) and the Contractor shall strictly observe the manufacturer's instructions for using this material. The maximum permissible moisture content in timber shall be in accordance with IS: 287-latest.

All workmanship shall be of the best quality (IS: 6534) Scantlings and boarding's shall be accurately sawn and shall be of uniform width and thickness throughout. All carpenter's work shall be left with a sawn surface except where otherwise specified. Work shall be framed together and securely fixed in the best possible manner and with properly made joints. All brads, nails, screws, plugs, pin, etc. to be provided as necessary and as directed and approved.

Timber of approved quality is to be purchased at the commencement of the contract for further seasoning on the site. The preparation of timber is to commence simultaneously with the beginning of the work generally and to proceed continuously until all the wood work is prepared and stacked on or near the site. All the timber of large scantlings is to be sawn immediately on arrival at site to allow for any shrinkage that may take place. All timber brought to site shall be given anti-termite treatment.

Joints in various members forming any timber frame shall be provided only as shown in the drawings or as directed by the Engineer. Two millimeters will be allowed for each wrought face of the sizes specified except when described as finished in which case they shall hold to the full dimensions specified.

All work is to be properly tenoned, shouldered, wedged, pinned, braded, etc. to the satisfaction of the Engineer and all properly glued with best quality glue. All joinery shall be finished off in a proper manner, planed and sand papered as required (IS: 2338).

Any joiner's work which shall be split, fracture, shrink, or show flaws or other defects due to unsoundness, inadequate seasoning or bad workmanship, shall be removed and replaced with sound material at the Contractor's expense.

Use of nails shall not be permitted. Fixing of members shall be done by using screws or round brads, heads of which shall be properly punched in ends of timbers built into walls shall have air space left between themselves and the walls.

All exposed faces of woodwork shall be sand papered once before erection for approval of the Engineer. No color or other preservatives shall be applied without prior approval of the Engineer.

Doors, windows and ventilator frames, transoms and mullions shall be rebated. All dimensions shall be as per drawings. The top framing member of doors and top and bottom framing of windows and ventilators shall project about 150 mm in brick work. The verticals of door frames shall project about 50 mm below finished floor.

Frames for doors and windows will be provided with Mild Steel holdfasts made of 40 mm x 3mm thick flats 200 mm long and fixed into jambs M-15/10 P.C.C. 1200 mm high frames with 6 Nos and frames above 2000

mm with 8 Nos holdfasts. Each holdfast will be fixed to the frame with 3 Nos 50 mm GI screws.

The doors shall be paneled or solid flush doors as described in the item of work. All flush doors shall be supplied with approved fittings such as hinges, mortice lock of approved make with handles on sides, oxidized brass tower bolts and latch arrangements, door stops etc. and as shown in drawings but exclusive of door closer. Door closers, where separately specified shall be of heavy-duty hydraulic type to be approved by Engineer/Architect.

Doors shall generally have no sills but if a few have to be provided; the CONTRACTOR shall do so at no extra cost to the OWNER.

For fixing timber frames to concrete, raw plugs and screws of 16 gauges shall be used wherever specified. Rawle plugs and screws of gauge 16 shall also be used for fixing raw rough grounds, framing, hangers, hat hooks, curtain rails etc. Unless otherwise specified, screws used for the work shall be galvanized.

All timber surfaces coming into contact with masonry or concrete shall be given two coats of wood preservative or so lignum approved by the Engineer.

Paneled and glazed shutters, styles and rails shall be as shown in the drawing, molded and mortised together (Ref IS: 1003). The shutters shall be square and free from twist. All glazing is to be of sheet glass of selected quality and approved by the Engineer/Architect.

It shall be clear and free from defects. It shall be cut to the required size and fixed to frame either with spring clips, with approved quality, or with teakwood beading as per details.

The Engineer may order any timber frame to be put together on the ground and submitted to suitable tests to his satisfaction before being placed in position. The cost of any such test shall be borne by the Contractor.

All surfaces of timber resting on or bedded in masonry or concrete shall be well coated with coal tar.

All fixing holes shall be pelleted and concealed from view. 35 mm thick flush type block board (IS:2202) shall be manufactured from selected timber well-seasoned and shall be of solid particle board core construction with 25 mm thick teak wood lipping all around the edge. The stiles and rails shall be of one piece or alternatively, two or more pieces glued together. The thickness of the cross band shall not be less than 3mm and the thickness of the facing shall be of best quality commercial ply thickness not less than 1.5mm. Where veneer finish, or Formica finishes or any other type is specified they shall be glued separately. All the plywood shall be glued under pressure. Glue used shall be phenol formaldehyde resins.

Flush door shutter with paint finish

Providing and fixing ISI marked flush door shutters conforming to IS:2202 (Part I) nondecorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters. Flush door panel shall be 35 mm thick, with 25 mm thick teak wood lipping

on all edges, including fixing with stainless steel butt hinges, screws and painting in approved color. Size and design of doors to be as per detailed door drawings. Painting shall include applying approved wood primer and 2 or more coats of paint of approved make and color.

Fixtures:

All doors and windows shall be provided with best quality fixtures as specified in the drawing. Samples of all fittings shall be submitted for approval by the Engineer. Unless otherwise specified, hinges, tower bolts, AL drops, handles, baby latches, etc. shall be of best quality of specified size. Mortise lock, hydraulic closer and other fixtures shall be of approved make.

Painting:

Painting shall be carried out only after the joinery has been inspected and approved by the Engineer. The surface preparation and applying of primer coats of paint and final coats of paint shall be carried out as per specifications for painting. Unless otherwise specified a minimum of 2 coats of primer paint and 3 coats of final paint to be applied. Where polishing or varnishing is specified, the surface to be varnished or polished shall be protected from contamination such as inadvertent painting and surface damage. The polishing or varnishing shall be according to the specifications for varnishing or polishing under the section Painting.

The contractor shall submit samples of each type of hardware to the Engineer. The approved samples shall be retained by the Engineer for comparison of bulk supply. The samples shall be returned to the Contractor towards the end for incorporation in the job. The frames shall be erected in accordance with manufacturer's instructions. The frame shall be aligned and kept plumb by suitable supporting arrangement. As the masonry is being constructed the holdfasts are embedded in concrete mix 15/10. Where required for fixing with concrete member, raw plug and GI screws shall be used. The joints between the steel frame and masonry work, after being finished with plaster shall be finished with approved bitumen mastic. Glass panes, unless otherwise specified shall be of 6mm thickness and shall be free from flaws, specks and bubbles. It shall have properly squared corners and straight edges, and shall be fixed to frame with glazing pins and approved putty.

PVC DOOR & uPVC WINDOW MOLDED PVC DOOR (WOOD FREE)

Description: This item shall govern the provision of fabrication, supply and installation of 30 mm thick factory-made molded PVC door (Wood free) as per drawing approved by Engineer-in-charge

General Requirement: The 30 mm thick factory-made molded PVC door (Wood free) shall be fabricated in accordance with design requirement and detailed as per drawing, in conformity with the requirements of this specification.

Feature: Feature of molded PVC door are as follows:

1. 100% Water Proof
2. Dimensionally stable
3. Acid/Alkali Resistant
4. 100% Termite Proof

5. Maintenance Free

6. Flame Retardant

Fabrication description:

30 mm thick factory-made molded PVC door (Wood free) consisting of frame made out of M.S. tubes of 19-gauge thickness and size of 20 mm x 40 mm for stiles as well as top, bottom & lock rail. M.S. frame shall have a coat of metal primer of approved make & manufacturer. The inside panel shall consist of 20 mm thick multi-chamber hollow PVC section of 1mm wall thickness, bonded using solvent cement / cyanoacrylate adhesive with 5 mm (+0.25) thick molded PVC sheet of density 600 kg/cbm with 2, 4, 6 raised panel

design in plain / prelim colors after routing the molded design on one side of the inside panel. 5 mm (+0.25) plain / prelim PVC sheet to be pasted using solvent cement / cyanoacrylate adhesive on other side of the hollow PVC section.

All the four edge of the panel to be sealed with lipping of 10 mm thick & 20 mm wide PVC sheet baton made by sticking 2 nos. foam PVC sheets of 5 mm (+0.25) thickness using PVC solvent cement adhesive. Door edge lipping to be painted with PVC ink of matching color of Plain/Prelim molded PVC sheet of door 20 mm thick (5 mm x 4 nos.) thick PVC sheet to be given for lock provision at lock height. Door to be fixed with frame with 3 nos. stainless steel butt hinges of size 100 mm x 25 mm x 2mm and 50 mm long steel screws drilled suitable to pass through both the walls of the

M.S. tube other hardware should be fixed with 25 mm x 8 mm size steel screws etc., complete as per manufacturer's specification and drawing or direction of Engineer-in-charge. Finish: All the surface of molded PVC door (Wood free) should be uniform smooth finish and free from crack and seam. Passing joints shall be finished ensuring that no gaps are visible. **Tolerance:** All Dimensions (except thickness of profile sections) shall be as per drawing $\pm 0.25\text{mm}$.

Test: Molded PVC door shall be subjected to the following test: -
Edge Loading Test as per IS 4020 Part 7

Slamming test as per IS 4020 Part 10

Shocking resistant test for soft body and heavy body as per IS 4020 Part 8

Measurement: The unit of measurement shall be in square meter.

General Steel Door:

Fixing 50 mm thick steel door shutter with double skinned with 0.8 mm (22 gauge) galvanized steel sheets (bending radius 1.2) mm spangle free of size to fit the above frame, stressed-skin design, (no visible joint on faces), lock seam joint (without any visible weld joints on the vertical edges also) and flush top with inverted channel; and with paper honey-comb infill bonded to the skin with PU/Co-polymer resins, pre-punched /pre-drilled to receive ironmongery as per the manufacturer specification. Suitable reinforcement is to be provided in the door shutter to receive the hardware and hardware to be fixed on the door including vision panel fasteners. The doors with double shutters are to be provided with astragals on both sides

& astragals to be fitted to the door without any fasteners. The shutter to be fixed with SS hinges 304 grades (size 100x75x3mm). The door frame (section size 143x57) will be made from 1.6mm thick GI steel /GP steel pressed to double rebate profile for better structural strength. Frames are to be fixed with fasteners.

1. GI – Sheet

GI-Sheets 1.6mm /120 gsm of Zinc Coating plus 40 micron of Primer / 40 micron of finish paints or powder coating upto 80 Micron, having 3 mm thick base plate and duly reinforced; pre-machined for receiving latch/lock; with recessed pre-drilled 3 mm hinge plates, Ready- to-receive specified hardware/ironmongery, to be supplied in CKD condition & to be jointed at site Butt & bolted as per kitty design.

2. Handling and Storage of Fabricated Materials

All doors, windows, etc. shall be packed and crated properly before dispatch, to ensure that there shall be no damage to the fabricated materials. Loading into wagons and trucks shall be done with all care to ensure safe delivery of materials at site in undamaged condition. While taking delivery of items supplied by Owner, the Contractor shall satisfy himself that the items supplied are upto the specified standard. Any defect detected shall promptly be brought to the notice of the Engineer.

All doors, windows etc. shall be stored under cover in a way to prevent damage or distortion. Special care shall be taken to prevent staining of aluminum products by rust, mortar etc.

3. Assembly & Erection at Site

In general, the fixing of steel doors, windows, ventilators, louvers, etc. shall conform to IS: 1081 and as shown on drawings. The contractor shall assemble and install all steel doors. Sashes, fixed metal louvers etc. including transoms and mullions for composite units in respective places as shown on drawings, keeping proper lines and levels, and in approved workmanship manner, to give trouble free and leak-proof installations. The installation shall be done according to the instructions of the manufacturer, and/or as approved by the Engineer. If required by the Engineer, the installation shall be carried out under the supervision of the manufacturer's representative. The contractor shall take every precaution against damage of the components during installation. Necessary holes, chases, etc. required for fixing shall be made by the Contractor and made good again as per original, after installation, without any extra charge. After installation of steel doors all abrasions to shop-coat of paint shall be retouched and made good with the same quality of paint used in shop coat.

All coupling mullions, transoms, frame, etc. in contact with adjacent steel and other members, shall be well bedded in mastic. The Contractor shall bring to the site the mastic cement in original sealed containers of manufacturer and shall apply it as per the instructions. For all frames supplied by either the Owner or the contractor, mastic shall be supplied by the Contractor and caulking done properly as per drawings, Specifications and as per instructions of the Engineer. Door

shutters partition hardware fixtures etc. shall be fixed only after major equipment has been installed in rooms. Wherever required, nylon cords of approved quality shall be supplied along with pivoted sashes and shall be of adequate length to terminate one meter from the floor. Loose ends of cards shall end in metal or plastic pull as approved by the Engineer.

4. Acceptance Criteria

- **For Fabricated Items**

Overall dimensions shall be within ± 1.5 mm of the size shown on drawings.

Mullions, transoms etc. shall be in one length and permissible deviations from straightness shall be limited to ± 1.5 mm from the axis of the member.

Door and window shutters shall open without jamming. The clearance at head and jamb for door shutters shall not exceed 1.5 mm. For double leaf doors, the gap at the meeting stiles shall not be more than 1.5 mm.

Door leaves shall be undercut where shown on drawings.

Doors, windows, frames etc. shall be on a true plane, free from warp or buckle.

All welds shall be dressed flush on exposed and contact surfaces. Correctness of location and smoothness of operation of all shop installed hardware and fixtures.

Provision for hardware and fixtures to be installed at site.

Glazing beads shall be cut with mitered corners.

Glazing clips, fixing devices etc. shall be supplied in adequate numbers.

Shop coats shall be properly applied.

Exposed aluminum surface shall be free from scratches, stains and discoloration;

Anodized surfaces shall present a uniform and pleasing look.

- **For Installed Items**

Installations shall be at correct location, elevation and in general on a true vertical plane.

Fixing details shall be strictly as shown on drawings.

Assembly of composite units shall be strictly as per drawings, with mastic caulking at transoms and mullions, gaskets, weather strips etc. complete.

All frames on external walls shall be sealed with polycopid or mastic caulked to prevent leakage through joint between frames and masonry.

All openable sections shall operate smoothly without jamming.

Locks, fasteners etc. shall be unique (one to one) positively. Keys shall be noninterchangeable.

Cutting to concrete or masonry shall be made good and all abrasions to shop paint shall be touched up with paint of same quality as shop paint.

Aluminum doors, windows etc. shall be free from scratches, stain or discoloration.

Hinges, Tower bolts, locks.

Hard ware shall include handle pull / push indicator plates etc., as specified.

- **Information to Be Submitted with Tender**

Names of manufacturers for doors, windows etc.

Manufacturer's catalogue for all hardware and fixture proposed to be used.

- a) **After Award**

Before starting fabrication of all metal doors, windows etc. the Contractor shall submit detailed fabrication drawings to the Engineer for approval. The fabrication shall be started only after approval of drawings.

Before bulk supply, he shall submit for the approval of the Engineer, samples of all bought out items and samples of each type of fabricated item. The samples shall be retained by the Engineer for comparison of bulk supply and returned to the Contractor towards the end for the final incorporation in the job.

- 5. **Rates**

Shall be unit rates for items described in schedule.

Integral Cement Based Treatment for Water Proofing on Horizontal

A. Preparation of Surface

The Water Proofing Treatment over the lean concrete/levelling course surface should adhere to the surface firmly, the surface of levelling course should be roughened properly when the concrete is still green. In case the surface is not made rough before the concrete is set, the work of water proofing should not be executed till proper key is provided for the base layer of Cement Mortar 1:3.

B. Blending Cement/Water with Water Proofing Compound

The required quantity of cement bags to be used for a particular portion of work should be emptied on a dry platform. Water proofing compound bearing ISI mark and conforming to IS 2645 should then be mixed properly with the cement. The quantity of water proofing compound to be mixed should be as prescribed by the manufacturer but not exceeding 3% by weight of cement. The quantity of cement and water proofing compound thus mixed should be thoroughly blended and the blended cement should again be packed in bags.

For the water proofing compound in liquid form, the blending is to be done with water. This can be done by taking the just required quantity of water to be mixed in the particular batch of dry cement mortar.

The required quantity of water thus collected per batch of dry cement mortar to be prepared should be mixed with liquid water proofing

compound from sealed tins with ISI mark. The water thus mixed with water proofing compound shall be thoroughly stirred so that the water is blended with water proofing compound properly.

C. Laying Water Proofing Course

Before laying the base course of cement mortar 1:3, the lean concrete surface shall be cleaned neatly with water. Cement slurry. (ii), shall be applied only on the area of the concrete surface, that can be covered with the cement mortar (1:3) base course within half an hour. The cement slurry should cover every spot of the surface and no place shall remain uncovered. Just after the application of cement slurry on the surface, the cement mortar prepared as per clause 5.6.11.2.1 (v) should be used for laying the base course. Base Course should be laid to a perfect level with wooden/aluminum straight edge of at least 2 mtrs. long. The top surface of cement mortar should be finished neatly and later scratched when green with a suitable instrument before the base course dries and gets hard that is just before the base course takes up initial set.

When the 25-mm thick base course is just getting set the cement slurry prepared as per clause 5.6.11.2.1 (iv) should be spread over the base course up to the area that shall be covered with just two to three stone slabs. The cement slurry shall be spread in such a way that the area of base course to be covered immediately shall be covered with slurry without any gap or dry spots. Immediately on applying cement slurry on the base course the Rough Kota Stone slab shall be laid over the base course and pressed gently so that the air gap can be removed.

The slurry applied on the surface which gets spread when the stone slab is pressed shall get accumulated in the joints of adjacent stone slabs and if any gap still remains between the stone slabs the same should also be filled with additional quantity of cement slurry. For laying the stone slabs in perfect level, two stone slabs at adjacent concerns/ends shall be fixed firmly to the required level and a string stretched over the two slabs, the intermediate slabs shall then be set to the level of the string.

D. Curing

Immediately after completing the fourth layer, arrangements shall be made for the top RCC slab as quickly as possible and in the meantime till the top slab is casted the water proofing treatment shall be kept wet continuously. In case the concreting of slab gets delayed for more than 2 weeks the curing can be stopped after 14 days.

E. Measurement

Length and breadth shall be measured along the finished surface correct to a cm and the area shall be worked out to nearest 0.01 sqm.

F. Rate

The rate shall include the cost of all labour & materials involved in all the operations described above. The cost of grading with cement concrete / cement mortar shall be paid for separately.

Water Proofing Treatment to Vertical and Horizontal Surface of Depressed Portion of WC, Kitchen and The Like

1) Before the Water Proofing Treatment

Before the water proofing treatment, the internal plaster of ceiling and walls of WC block leaving the portion for dado/skirting should be completed. Grooving / chasing for doing the concealed work of GI/CI pipes/Electrical conduits should be completed. Cleaning the depressed/sunken portion of WC of all debris, extra mortar sticking to the vertical and horizontal surface etc. Necessary holes for 'P' trap /Nhani trap/Water escape pipe etc. should be completed.

2) **Preparing Surface and Fixing Pipes and Fittings**

Before the water proofing treatment work, proper key in the concrete surface should be provided. The depressed/sunken portion should be hacked by a hacking tool, after the concrete slab is cast and when this concrete is still green. The vertical surfaces of the depressed /sunken portion should be hacked with a hacking tool just after the shuttering is removed. In case of old work, the water proofing treatment on such surfaces shall be permitted after making proper spatter dash key. Fixing the 'P' trap in position and all other pipes work including the water escape pipe shall be fixed properly and the holes should be plugged carefully before taking up the water proofing work.

- **1st Course**

Cement duly blended with water proofing compound as explained shall be used for preparing the cement slurry.

The consistency of the slurry should be such that 4.4 kg. of blended cement with water proofing compound is used per sq. meter area of surface to be treated. The slurry should be started from the vertical faces towards the bottom of the floor. Particular care should be taken to see that the slurry is applied to corners without leaving any gap.

- **2nd Course**

Immediately on applying the blended cement slurry on the surface to be treated cement plaster 20 mm thick in CM 1:3 (1 blended cement: 3 coarse sand) shall be applied both on vertical and horizontal surfaces taking particular care to complete the entire depressed/ sunken portion of WC within a day so that the plaster can be done without any joint. Junctions shall be properly rounded. The surfaces of the plaster shall be left rough but finished in one plain and cured for a week.

On completion of the curing period both horizontal and vertical surfaces shall be cleaned properly and gently and allowed to dry.

- **3rd Course**

Only after the surface is completely dried the blown or residual bitumen shall be applied @ 1.7 kg. of bitumen per sqm area.

- **4th Course**

PVC sheet 400 micron thick shall be spread evenly without any kink immediately, so that the PVC sheet sticks to the surface firmly. PVC sheet shall be continued to be laid over the main slab up to 100 mm.

Overlapping of PVC sheet should be done with a minimum overlap of 100 mm, duly pasting the overlapped sheet with an application of bitumen @ 1.7 kg. / sqm.

The projections of pipes and 'P' trap outlet etc. inside the depressed/sunken portion of WC shall also be cladded with water proofing treatment layer up to a height of 150 mm, using a coat of bitumen with PVC sheet complete.

The surfaces of depressed/sunken portion of WC shall not be left without covering with specified filling material and base concrete, otherwise the PVC sheet layer may be tampered by the labour working in the vicinity.

Fixing up of WC pan, filling specified material and the top base concrete should be done as early as possible and the top horizontal layer of water proofing may be taken up later i.e. just before laying the floor tiles.

3) Measurement

Length and breadth shall be measured along the finished surface correct to a cm. and area shall be worked out to nearest 0.01 sqm. No payment however shall be made for the 100 mm overlap of PVC Sheet over the roof slab.

4) Rate

The rate shall include the cost of labour and materials involved in all the operations described above.

FLOORING / ALLIED WORK & ACOUSTICAL WORK

Scope

This specification covers furnishing, installation, finishing, curing, testing, protection, maintenance till handing over various types of floor finishes and allied items (trades, risers, sills, cladding, dado etc.) of work as listed below:

Applicable Codes

IS:269 Specification for ordinary and Low Heat Portland Cement

IS:383 Specification for Coarse and Fine Aggregates

IS: 777 Specification for Glazed Earthenware Tiles

IS:1237 Specification for Cement Concrete Flooring

Tiles

IS:1443 Code of Practice for Laying and Finishing of Cement Concrete Flooring Tiles

IS: 2571 Code of Practice for Laying In-situ Cement Concrete Flooring

Tiles IS: 457 Specification for Ceramic Unglazed Vitreous Acid Resisting

Tiles IS: 2114 Code of Practice for laying in situ Terrazzo Floor Finish

IS: 4860 Specification for Acid Resistant Bricks

IS: 5491 Code of Practice for laying in situ Granolithic Floor Topping

Vitrified Tiles in Flooring / Skirting

The base shall be cleaned and the bedding mortar 20 mm to 25 mm shall be laid. A neat cement grout shall be spread before laying tiles. The tiles shall be cured for 5 days. The joints shall be filled with cement slurry tinted to match the colour of tiles. For fixing the tiles in skirting the bedding mortar shall be 12 mm. The tiles shall conform to relevant I.S. code. The contractor shall produce test certificate for the tiles.

Polished Kotah, Cudappah, Shahabad & Tandur Stone Flooring.

Skirting and Facing:

Materials

Stones shall be of the best variety to be approved by the Engineer and shall be of specified thickness and size.

The stone slabs shall be sound, durable and uniform in size, thickness and color. They shall be free from soft veins, cracks or flaws and their edges shall be true and square and shall be machine cut and the surface double machine polished, if require as per item description. Sorting of stones of one-color shade shall be done prior to fixing to avoid color variation in the work.

Workmanship

The surface on which the stone slabs to be laid shall be cleaned of all dust and saturated with water.

The stone slabs shall be set in cement slurry over 20 mm thick lime mortar 1:2/cement mortar 1:4 bedding and tamped with wooden mallet. The joints shall be flushed with cement and cured for 7 days.

The final cutting / polishing shall be done as directed after the completion of curing period.

Marble / Granite Flooring, Skirting & Facing

Materials

Marble slabs shall be of the type mentioned in the item and of the color and quality approved by the Engineer. Slabs shall be hard, dense, uniform and homogenous in texture. They shall have even crystallizing grain and be free from defects and cracks.

The surface shall be machine polished to an even and perfectly plain surface and edges machine cut, true and square.

No slab shall be thinner than the specified thickness at its thinnest part. The dimensions of the slab shall be as specified in item. A few specimens of the finished slabs shall be deposited by the Contractor in the Engineer's office for reference.

Workmanship

They shall be laid to the pattern shown in the drawings or as directed by the Engineer.

The surface on which the marble / Granite slab is to be laid shall be cleaned of all dust and saturated with water.

The marble slabs shall be set in cement slurry over 20mm thick lime / cement mortar 1:1:2 bedding and tamped with wooden mallet. The joints shall not exceed 1 mm in thickness and shall be flushed with white cement and cured for 10 days.

Finishing shall be done as per IS:2114-1962. Normally polishing shall be done for flooring by machine. Hand polishing shall be allowed only for skirting and facing. A smooth polish shall be obtained in either case to the entire satisfaction of the Engineer.

Trimix Concrete Flooring

Trimix concrete is a method of producing high wear resistant & high compressive strength concrete minimizing water permeability & dusting.

The specification of work should conform to those specified by the manufacturer, as to achieve the desired results but in no case, shall be lesser than as mentioned hereunder

Concrete in floor

The surface where the trimix concrete method of laying the floor is to be adopted, shall be thoroughly cleaned of all dust, loose particles etc. It shall then be wetted to have just a moist surface & sprinkled with cement slurry. Then two side track rails on which leveling beam & a surface vibrator be mounted, shall be erected to proper/desired levels & gradient as to have the specified thickness of concrete. A stop ends then be placed at the starting end. Both track rails & stop ends should be preferably of mild steel. The concreting then be started with desired/specified grade of concrete. However, it is advisable to use M20 grade concrete minimum for better final results. The placing of machine mixed concrete begins from starting end & is continued to horizontal manner. Poker vibrators will be used to vibrate the laid concrete thoroughly with minimum 50 mm dia. needles. On completion of laying of approximate 5/6 m² area the surface vibrator then be run over the concrete surface to achieve better overall compaction of concrete. This process is continued & the surface vibrator be run the second time along with leveling beam on the finished concrete surface.

Then the vacuum mat be placed on this leveled concrete & the excess water from the concrete is sucked off. A time of approximate 1.5 to 2.0 minutes per centimeter thickness of concrete slab is normally adopted for vacuum treatment. However, care to be taken at this stage is curling at ends due to excess use of vacuum mats. Immediately thereafter normal floating operation should begin or if special topping is specified then the same is worked into the concrete surface with the float disc. The floater suggested here are power operated skin floaters. The floating is continued till desired finish is obtained. The curing of the surface shall be done by ponding method for at least 15 clear days prior to putting the surface to use. M.S. reinforcement 8 dia. at 250 mm c/c both ways shall be placed in concrete approx. 50 mm below the top surface of concrete. This mesh shall be for individual panels formed by side construction joint & expansion joint.

Joints in floor and sealing

- i. The Construction joints in concrete shall be spaced at approx. 40 m² area and /or as per item & will be made by sawing the already laid & finally cured concrete to obtain 3 mm to 4 mm by 30 mm to 40 mm deep joints. These joints shall be cleaned of all dust & be filled in with clear sand 3 mm by 26 mm to 36 mm deep & then the top be sealed properly by polysulphide joint sealant approx. 3 mm to 4 mm by 4 mm deep.
- ii. The Expansion joints shall be spaced at approx. 120 m² area and/or as per item & shall constitute formation of 20 mm to 25 mm clear joint between the two concrete. This joint be formed by placing the

Shalitex board in position against the old concrete leaving 20 mm x 10 mm joint at top, which shall be filled in by polysulphide joint sealant.

HEAT RESISTANCE ON COMPLETE TERRACE & PORCH ACOUSTICAL WORK

According to classic acoustics theory there are five requirements which, when met, result in good acoustics (Classified for Fire class 'A' as per ASTM E-84):

- Appropriate reverberation time depends on the size of the room. W. Furrer's recommendations can be used in rooms which are between 200 and 20,000 cubic metres. Unless it concerns a concert hall for classical music, the reverberation time must in so far as possible be the same throughout the entire frequency range.
- Uniform sound distribution is important in large rooms and halls, where the sound must be able to be heard equally well everywhere. It is important to take sound distribution into account in the architecture. A variation of max. ± 5 dB anywhere in the room is an appropriate requirement.
- Appropriate sound level for normal conversation is 60-65 dB, and in a busy street 70-85 dB. In large gatherings, a public address system in a dampened room can be used to ensure an appropriate sound level.
- Appropriate, low background noise is one of the most important acoustic criteria – especially in concert halls and theatres. In a room, the background noise may come from technical installations or ventilation systems.
- No echo or flutter echoes must occur for the acoustics to be good. It is easy to prevent echo by installing a little sound-absorbing material on the wall.

In addition, ensuring that the sound field in the room is diffuse is another fundamental rule. This can be achieved by distributing the sound absorbers on several non-parallel surfaces, by avoiding spherical, cuboid or cylinder shapes in for the room and by using as many sound-spreading elements as possible. In addition, it must be ensured that control rooms, listening rooms and cinemas in particular are built up symmetrically around a vertical plane bisecting the central space.

ACOUSTICAL / FALSE CEILING /

- i. Different type of ceiling tiles shall have smooth laminated visual with Humidity Resistance (RH) of 95%, NRC 0.85 – 0.95 (Average value of Absorption Coefficient readings taken at 250 Hz, 500 Hz, 1000 Hz and 2000 Hz) as per ASTM C423 standard, , Light Reflectance $\geq 85\%$ as per ASTM E-1477, Colour Black, Fire Performance of Class 0/1 as per BS 476 Part 6/7 complete in all respect as per direction given by the Engineer-In-Charge.
- ii. 12.5 mm thick tapered edge gypsum board conforming to IS 2095- Part I at all height false ceiling including providing and fixing of frame work made of special sections power pressed from M.S. sheet and galvanised in accordance with zinc coating of grade 350 as per IS : 277 complete in all respect as per direction given by the Engineer-In-Charge.
- iii. The thickness of POP ceiling shall be maximum 12mm & will include all the curves, coves, etc as per architectural design. The frame work shall be treated with one coat of primer of zinc coating of grade 350 as per IS 277 and shall be

true to planers or slopes as specified. The joints in the expanded metal shall be provided only under the main steel frame work. The plaster of Paris shall be of calcium sulphate semi-hydrate variety, its fineness shall be such that when sieved through a sieve of IS sieve designations 0.05 mm for 5 min after drying the residue left on it shall not be more than 1% by weight complete in all respect as per direction given by the Engineer-In-Charge.

Sanitary Fixtures & Fittings: -

Scope

The scope of this section consists of but is not necessarily limited to supply, installation, testing and commissioning of following items:

- Sanitary/ Kitchen appliances and fixtures.
- Chromium plated brass fittings
- Accessories e.g. towel rods, soap dish, Grab bar, etc.

Whether specifically mentioned or not the Contractor shall provide for all appliances and fixtures all fixing devices, nuts, bolts, screws, hangers as required.

All exposed pipes within toilets and near appliances/fixtures shall be of chromium plated brass or copper unless otherwise specified.

General Requirement

Sanitary appliances and fixtures for toilets and kitchens, chromium plated brass fittings, stainless steel sinks, bathroom accessories like towel rods, toilet paper holders, soap dish, towel rails, coat hooks, mirrors etc. as listed in the relevant items in the Schedule of Quantities shall be supplied by the contractor. Contractor to take prior approval from the engineer / client for the make, model, type and color etc.

All appliances, fixtures and fittings shall be provided with all such accessories as are required to complete the item in working condition whether specifically mentioned or not in the Schedule of Quantities, specifications, and drawings. Accessories shall include proper fixing arrangements, brackets, nuts, bolts, washers, screws and required connection pieces.

The sanitary fixtures and fittings shall be installed at the correct assigned position as shown on the drawings and as directed by the Architect / Owner's Site Representative and shall fully meet with the aesthetic and symmetrical requirements as demanded by the Architect / Interior Designer.

All fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles or interior finish as per Architect requirements. Wherever necessary, the fittings shall be centered to dimensions and pattern as called for.

Fixing screws shall be half round head chromium plated (CP) brass screws, with CP brass washers unless otherwise specified.

Fixtures shall be installed by skilled workman with appropriate tools according to the best trade practice.

All appliances, fittings and fixtures shall be fixed in a neat workman like manner true to level and to heights shown on the drawings and in accordance with the manufacturer's recommendations. Care shall be taken to fix all inlet and outlet pipes at correct positions.

Faulty locations shall be made good and any damage to the finished floor, tiling, plaster, paint, insulation or terrace shall be made good by the Contractor at his own cost. Fixtures shall be mounted rigid, plumb and true to alignment.

All materials shall be rust proofed; materials in direct or indirect contact shall be compatible to prevent electrolytic or chemical (bimetallic) corrosion.

Wall flanges shall be provided on all walls, floors, columns etc. wherever supply and disposal pipes pierce through them. These wall caps shall be chromium plated brass fittings and the receiving pipes shall be large enough to cover the punctures properly.

Sanitary appliances, subject to the type of appliance and specific requirements, shall be fixed in accordance with the relevant standards and the following:

During the entire period of installation and afterwards contractor shall protect the appliances by providing suitable cover or any other protection so as to absolutely prevent any damage to the appliances until handing over (The original protective wrapping shall be left in position for as long as possible) The appliances shall be placed in correct position or marked out in order that pipe work can be fixed or partially fixed first.

The appliance shall be fixed in a manner such that it will facilitate subsequent removal if necessary.

The appliance shall be securely fixed. Manufacturer's brackets and fixing methods shall be used wherever possible. Compatible rust-proofed fixings shall be used. Fixing shall be done in a manner that minimizes noise transmission.

Appliances shall not be bedded (e.g. WC pans, pedestal units) in thick strong mortar that could crack the unit (e.g. ceramic unit)

Pipe connections shall be made with demountable unions. Pipe work shall not be fixed in a manner that it supports or partially supports an appliance. Appliances shall be fixed true to level firmly fixed to anchor or supports provided by the manufacturer and additional anchors or supports where necessary.

Sizes of sanitary fixtures given in the Specifications or in the Schedule of Quantities are for identification with reference to the catalogues of make considered. Dimensions of similar models of other makes may vary within + 10% and the same shall be provided and no claim for extra payment shall be entertained NOR shall any payment be deducted on this account.

The contractor shall fix all plumbing fittings such as water faucets, shower fittings, mixing valves etc. in accordance with manufacturer's instructions and connect to piping system. The contractor shall supply all fixing materials such as screws, raw plugs, unions, collars, compression fittings etc., as required.

Joints / gaps between all sanitary appliances / fixtures and the floor / walls shall be caulked with an approved mildew resistant sealant, having antifungal properties, of color and shade to match that of the appliances / fixture and the floor / wall to the extent possible.

European Water Closet

Water Closet shall be wash down or symphonic wash down type wall mounted set only, as shown in the drawings, designed for low volume flushing from 5-7 liters of water, flushed by means of a porcelain flushing cistern concealed type (as detailed in the drawings or as directed by the Owner's Site Representative) 32 mm size CP brass flush valve with regulator valve. Flush pipe / bend shall be connected to the WC by means of a suitable rubber adaptor. Wall hung WC shall be supported by CI floor mounted chair which shall be fixed in a manner as approved by the Owners Site Representative.

Each WC set shall be provided with approved quality of seat, rubber buffers and chromium plated hinges. Seat shall be so fixed that it remains absolutely stationary in vertical position without falling down on the WC. Each WC shall be provided with 110 mm dia (OD) PVC Pan Connector connecting the ceramic outlet of WC to CI pipe. For common toilets or otherwise mentioned Indian style WC is proposed.

Final WC selection will be as per drawings & architects' comment or as per Owners site representative.

Low level flushing cistern (exposed or concealed) shall be provided for WC in specified toilets. Contractor shall install cistern in accordance to the manufacturer's specification to the satisfaction of the Owner Site Representative. Provision of flush valve shall be made for Public / Staff toilets.

Final selection will be as per drawings & architects' comment or as per Owners site representative.

Urinals

Urinals shall be lipped type half stall with glazed vitreous China of size as called for in the Bill of Quantities or other mentioned in the BOQ.

Half stall urinals shall be provided with 15 mm dia CP spreader, 32 mm dia CP domical waste and CP cast brass bottle trap with pipe and wall flange and shall be fixed to wall by CI brackets, CI wall clips and CP brass screws as recommended by manufacturer complete as directed by the Owner's Site Representative.

Flushing for urinals shall be by means of no hand operation, infrared electric flush valve with complete kit of plumbing, electrical and electronic items, infrared photo cells, solenoid valve transformer and electrical connection. The automatic flush sensor plate shall be flush and press fitted and is of high-quality mirror polish finish. Each urinal shall be provided with one flush valve unit.

Flush pipes shall be GI pipes concealed in wall chase but with chromium plated bends at inlet and outlet.

Final Urinal selection will be as per drawings & architects comment or as per Owners site representative.

Urinal Partitions

Urinal partitions shall be white glazed vitreous china of size specified in the Schedule of Quantities.

Porcelain partitions shall be fixed at proper heights with CP brass bolts, anchor fasteners and MS clips as recommended by the manufacturer and directed by the Owner's Site Representative.

Final Urinal partition selection will be as per drawings & architects comment or as per Owners site representative.

Cisterns / Flush Valve

Low level flushing cistern (exposed or concealed) shall be provided for WC in specified toilets. Contractor shall install cistern in accordance to the manufacturer's specification to the satisfaction of the Owner Site Representative. Provision of flush valve shall be made for Public / Staff toilets. Final selection will be as per drawings & architects comment or as per Owners site representative.

Wash Basin

Wash basins shall be white glazed vitreous china of size, shape and type specified in the Schedule of Quantities. All Wash basins should be Wall mounted type or as per architecture comments if specified.

Each basin shall be provided with painted GI or CI brackets and clips and the basin securely fixed to wall. Placing of basins over the brackets without secure fixing shall not be accepted.

The CI brackets shall be provided with two coats of red oxide primer and two coats of synthetic enamel paint of make, brand and color as approved by the Owner's Site Representative. The cost of fixing the basin shall be inclusive of supply and installation of brackets as described above. Each basin shall be provided with 32 mm dia CP waste with overflow, pop-up waste or rubber plug and CP brass chain as specified in the Schedule of Quantities. Final selection will be as per drawings & architects comment or as per Owners site representative.

Chromium Plated Fittings

Stop Cock

A stop cock is a valve with suitable means of connection for insertion in a pipe line for controlling or stopping the flow. They shall be push button type & of brass chromium plated & of diameter as specified in the description of the item. They shall conform to IS 781-1977 & shall be polished bright.

Angle Valve

Angle Valve / Angular Stop Cock shall be chromium plated brass or powder coated brass of size, shape and type specified in the Schedule of Quantities. Angle Valve / Angular Stop Cock shall be fixed all with CP wall flanges of approved quality all as specified in the Schedule of Quantities. and shall include cutting and making good as required or directed by the Site Representative.

Pillar Cock

Pillar Cock shall be chromium plated brass of size, shape and type specified in the Schedule of Quantities.

Bib Tap

A bib cock is a draw off tap with horizontal inlet & free outlet. They shall be push button type & of brass, chromium plated & of diameter as

specified in the description of the item. They shall conform to IS 781-1977 & shall be polished bright.

Gun Metal Gate Valve

The gun metal gate valve shall be approved quality & shall be gun metal fitted with wheel & shall be of gate valve opening full way & of the size as specified. These shall conform to IS 778 with latest updates & amendments.

Double Coat Hook

Twin coat hook shall be chromium plated brass or of stainless steel or powder coated brass of size, shape and type specified in the Schedule of Quantities. Twin coat hook shall be fixed with screws/capping having finish similar to the towel ring in wall with raw plugs or nylon sleeves and shall include cutting and making good as required or directed by the Site Representative.

Towel Ring

Towel ring shall be chromium plated brass or of stainless steel or powder coated brass of size, shape and type specified in the Schedule of Quantities. Towel ring shall be fixed with screws/capping having finish similar to the towel rail in wall with raw plugs or nylon sleeves and shall include cutting and making good as required or directed by the Site Representative.

Toilet Paper Holder

Toilet paper holder shall be of chromium plated as specified in the schedule of quantity.

Soap Dish

S.S Soap dish shall chromium plated brass or of stainless steel or powder coated brass of size, shape and type specified in the Schedule of Quantities. S.S Soap dish shall be fixed to wall with CP brass screws, etc.

S.S Soap dish shall be fixed with screws/capping having finish similar to the towel ring in wall with rawl plugs or nylon sleeves and shall include cutting and making good as required or directed by the Site Representative.

Toilets for the Disabled

Where specified, in washroom facilities designed to accommodate physically disabled, accessories shall be provided as directed by the Owners Site Representative. Stainless steel grab bars of required size suitable for concealed or exposed mounting and opened non-slip gripping surface shall be provided in all washroom. The flushing cistern/valve shall be provided with chromium plated long handles. Final selection will be as per drawings & architects comment or as per Owners site representative.

Mockup and Trial Assembly

The installation of the sanitary fixtures and fittings shall be as per the shop drawings approved by the Architect/Consultant. The contractor shall have to assemble at least one set of each type of sanitary fixtures and fittings in order to determine precisely the required supply and disposal connections. Relevant instructions from manufacturers shall be followed as applicable. This trial assembly shall be developed to determine the location of puncture holes, holding devices etc. which will

be required for final installation of all sanitary fixtures and fittings. The above assembly shall be subject to final approval by the Architect / Interior Designer. The fixtures in the trial assembly can be re-used for final installation without any additional payments for fixing or dismantling of the fixtures.

Supporting and Fixing Devices

The contractor shall provide all the necessary supporting and fixing devices to install the sanitary fixtures and fittings securely in position. The fixing devices shall be rigidly anchored into the building structure. The devices shall be rust resistant and shall be so fixed that they do not present an unsightly appearance in the final assembly. Where the location demands, the Architect may instruct the contractor to provide chromium plated or other similarly finished fixing devices. In such circumstances, the contractor shall arrange to supply the fixing devices and shall be installed complete with appropriate vibration isolating pads, washers and gaskets.

Final Installation

The contractor shall install all sanitary fixtures and fittings in their final position in accordance with approved trial assemblies and as shown on drawings. The installation shall be completed with all supply and waste connections. The connection between building and piping system and the sanitary fixtures shall be through proper unions and flanges to facilitate removal/replacement of sanitary fixtures without disturbing the built-in piping system. All unions and flanges shall match in appearance with other exposed fittings.

Fixtures shall be mounted rigid, plumb and to alignment. The outlets of water closet pans and similar appliances shall be examined to ensure that outlet ends are butting on the receiving pipes before making the joints. It shall be ensured that the receiving pipes are clear of obstruction. When fixtures are being mounted, attention shall be paid to the possibility of movement and settlement by other causes. Overflows shall be made to ensure that necessary anchoring devices have been provided for supporting water closets, wash basins, sinks and other appliances.

Protection against Damage

The contractor shall take every precaution to protect all sanitary fixtures against damage, misuse, cracking, staining, breakage and pilferage by providing proper wrapping and locking arrangement till the completion of the installation. At the time of handing over, the contractor shall clean, disinfect and polish all the fixtures and fittings. Any fixtures and fittings found damaged, cracked chipped stained or scratched shall be removed and new fixtures and fittings free from defects shall be installed at his own cost to complete the work.

Testing

All appliances, fixtures and fittings shall be tested before and after installation. Water seals of all appliances shall be tested. The contractor shall block the ends of waste and ventilation pipes and shall conduct an air test.

QUALITY ASSURANCE & QUALITY CONTROL

Testing of all materials and works as mentioned in the JDA/PWD publications or stipulated in the codes or as directed by the Engineer shall be carried out by the Contractor and test reports shall be submitted regularly to the Engineer for his perusal. The Contractor is to notify the Engineer the program of such tests well in advance, so that such tests, either conducted in his own laboratory, laboratory established at the site or any accredited laboratory or at Manufacturer's place can be witnessed by him / his representative or Third Party, if appointed by the Procuring Entity. Also establish an office for uses of client at site.

The Contractor is to abide by the stipulations/clauses appearing in the QA & QC Manual published by the JDA/PWD.

Scope of Work, Planning, Designing & Safety

Scope of Work, Planning, Designing & Safety

SCOPE OF WORK

The scope of work has been elaborated here broadly but this shall be read with details given elsewhere in this document and drawings attached herewith.

1. Scope of Architectural Work:

1. **The qualified bidder has to submit the final Architectural and working drawings, structural drawings, HVAC, MEP layouts etc. Of approved concept plan and finally get all structural drawings vetted from MNIT Jaipur or any IIT at contractor's cost. The structural designs should be prepared using latest software's. The contractor shall have to get all drawings (and vetted structural drawings) approved by JDA before execution.**
2. The agency shall submit final Architectural and working drawings, structural designs, HVAC, MEP layouts, Interior works, façade 3d and working drawings etc.
3. Detailed drawings for the complete works shall follow unified bylaws Rajasthan 2017(or latest applicable bylaws at the time of design finalization)/ National Building code 2016 and as per Specifications/ Conceptual drawings given in this document.
4. Preparation of interior design and Room Wise Equipment/furniture layout / furnishing plans. Equipment layout drawings to be at 1: 100 scale or any other suitable scale as per prior approval of the JDA and Any other designing and detailing required for comprehensive planning and designing of the proposed project

Note: The design shall be prepared based on the design approach, design principles as mentioned in the DPR chapter 1 the language of design shall be so kept that matches the base and objective of the projects mentioned earlier and within the compliance of the finishes and specifications mentioned in this document.

Structural Design & Construction

The Structural design should be prepared using latest version of software used for structural design. Reinforced Cement Concrete Structural Works/ pre stressed concrete structure construction of the building.

The scope consists: RCC/ Prestressed concrete structural Design, preparation of drawings for the buildings, basements for all required elements of building as per scope of work and Architectural Drawings as approved by JDA.

The Agency shall give the presentations and at least three final Interior drawings to JDA after award of work on the design-schemes to be adopted before taking up the actual design work. A kick off meeting shall be organized by Agency for the same.

The procuring entity requirements (section IV) is the part of the tender document. Based on this section, the detail design and drawings shall be prepared by the Agency.

Design calculations along with drawings shall be submitted by Agency for due vetting by the Design Consultant approved by JDA. The Agency shall get the design proof checked/vetted by IIT or MNIT.

The fees / charges of proof checking/vetting of designs etc. is to be borne by Agency.

The Agency has the obligation to make as many changes /modification(s) as required in Architectural drawings on instruction of JDA/Local Statutory Authorities.

The Agency shall provide the structural stability certificate to JDA. However, the checking and vetting of design/drawings shall not absolve the Agency from the responsibilities of any failure in the structural design and RCC design during construction as well as during the specified life period of the structures.

The Agency shall submit all the submittals like designs, drawings, documents, reports, schedules etc. in minimum six number of hard and six number of soft (pen drive) copies. The Agency shall also submit minimum six number of hard and six number of soft copies of drawings and designs, after vetting of designs, for issue of good for construction (GFC) drawings.

It shall be the responsibility of bidder to carry out the Geo-Technical investigation at his own cost as per relevant IS code.

Agency shall get topographic survey done for their use in planning and designing of the campus. The Agency shall collect data/information, which may be needed for completing the job.

Agency has to prepare Framing and preparation of structural system on STADD for which JDA can ask for presentation.

Building/structure wise structural analysis and design using latest Software which shall be made available to JDA.

3D Model minimum size 6'X 4', and walk through of the project also to be provided by contractor.

The structural design shall be carried out in terms of latest editions and up-to-date correction/amendment/errata of BIS Codes (Bureau of Indian Standards), other relevant seismic/other codes for making Building Earthquake Resistant, sound engineering practices and as desired by the Employer. The Consultant will assist the agency in proof checking of structural drawings with Reputed Engineering Institutes like a) IITs b) MNIT as appointed by the JDA for proof checking of structural drawings / proposals. The fee for proof checking shall be borne by the agency. The consultant will provide relevant drawings and documental support with such Institute approved by JDA as and when required and as per the direction of JDA.

Submission of all design calculations in hard and soft copies as per the direction of JDA. Any other designing and detailing required for comprehensive planning and designing of the proposed building.

Minimum six sets of all Drawings shall be submitted in hard copies free of cost. However, incase additional sets of drawings in hardcopy are essentially required, the same shall also be provided free of cost and nothing extra shall be payable.

Design and Drawings prepared by the Agency shall be the property of JDA and Agency cannot issue the same to any other person / organization or use for any other project.

JDA will not be responsible for any lapse/s and /or losses, if so occurs, due to absence of any data /knowledge. The information and site data given in the drawings or mentioned in this tender document are furnished for general information and guidance only and JDA does

not take responsibility for their accuracy. It is advised that the Agency get itself satisfied for all possible contingencies, situations, bottlenecks and acts of co-ordination, which may be required between the different agencies and due to site conditions. It shall be deemed that agency has satisfied itself as to the nature and location of work, general and local condition and particularly, those pertaining to transport, handling, availability and storage of materials, availability of workforce, weather conditions at site, general grounds/ sub-soil conditions and all other conditions required to execute and complete the work. The agency shall have to quote its offer/rates accordingly and no claim in this regard will be allowed.

Bearing Capacity

It shall be the responsibility of bidder to carry out the Geo-Technical investigation at his own cost as per relevant IS code and based on the geotechnical reports, allowable safe bearing capacity is to be considered for structural design.

Plumbing & Sanitary

Scope of work consists of: Detailed Designing/preparation of plumbing and sanitary drawings and its approval (reference of DBR shall be taken); Supply, fabrication, Construction, Installation and Commissioning and obtaining Approval and Connection from PHED/ Nagar Nigam

/JVNL/Traffic police/etc. Jaipur

The Plumbing/Sanitary Design & Schematic/Line drawings are part of Scope of work. Detailed fabrication/execution drawings & shop drawings, as required at site are to be prepared by the Agency and got approved from JDA before proceeding with the work.

The preparation of Sanitary/Plumbing fabrication, & shop drawings expressly (but not limited to) includes:

- i. Integration of detailed drawings with Civil/Structural details prepared by Agency for each building and obtaining approval of JDA.
- ii. Preparation of fabrication & shop drawings on a software like AutoCAD etc. of each and every part of building having a sanitary/plumbing aspect within Scope of work on suitable scale.

The Execution of Plumbing/Sanitary work for buildings /spaces as per Scope of the work read with Technical Specifications and Drawings. The Sleeves, cut out, Drainage arrangement,

embedment, concealed piping, hot & cold-water arrangement, overhead tanks, water recycling system etc. and connecting the service to the main line of PHED/ Nagar Nigam Jaipur are expressly included (but not limited to) in the scope of work.

The toilets in all floors to be completely fitted & finished with all plumbing & sanitary fixtures and fitting, completely ready for use.

External Water Supply & Sewerage, Storm Water Drainage System, Drainage System, Rain Water harvesting pits.

The scope of work of the Agency shall consist of: -Detailed Designing/preparation of all drawings (integration of above systems with shop drawings) and its approval; Supply, fabrication, Construction, Installation and Commissioning and Obtaining Approval from JDA/ Local Body.

The External Water Supply & Sewerage, Storm Water Drainage System, Drainage System, Rain Water Harvesting pits, Design & Schematic/Line drawings is part of the scope of work.

However, detailed fabrication/execution drawings & shop drawings, as required at site are to be prepared by the Contractor and shall be got approved from JDA before execution of the work. External Water Supply & Sewerage Work for this area shall be executed by the Agency.

The execution of work for above scope of the work read with Technical Specifications and Drawings and connecting the services from first manhole to the main line of the Agency like PHED/ Nagar Nigam Jaipur including approval from the PHED/ Nagar Nigam Jaipur.

Design, installation, testing, commissioning and handing over of the above services with all services in running condition is included in Contractor 's scope of work.

Site Development

The scope of work of the Agency shall include:

Work to include built in planters & seating, large tree planters in stone, bush / ground covers in planters, street furniture in mono lithic stone benches.

Ramp entrances & exits and all cut-outs /shafts to have MS Trellis with Multiwall polycarbonate canopies as per detailed design so as to shelter the entrances.

Basement Fire exits to be made as landscaped features by enclosing in Trellis & planters at Ground level.

Detailed Design for works such as Stainless-Steel works/Art works etc.

water connection

The scope of work consists of detailing and calculating water demand for the project. Agency shall obtain water connection of suitable from service provider i.e. PHED Jaipur. The agency shall execute all necessary piping etc. to bring the water supply to the collecting tank to be constructed by the agency as a scope of work. Alternate arrangement to maintain water supply by providing tube wells shall also be done by agency with due approvals.

Diversion of Services

All works pertaining to services including rerouting/diversion of services, routine testing, installation etc., embracing in one or more than one process shall be subject to examination and approval to each stage thereof by the JDA or concerned department as would be notified by the JDA or accredited representative when such stage is ready. In default of such notice, the JDA shall be entitled to appraise the quantity and extent thereof and the decision of JDA or his accredited representative in this regard shall be final and binding.

The Agency will not have any claim in case of any delay in removal of trees or shifting, raising, removing of telephone or electric lines (overhead or underground), water and sewer lines and other structures etc., if any, which may come in the way of the work.

Water Supply and Electricity

The Agency shall carry out construction activities while maintaining and permitting the access & use of all amenities, services.

Arrangement of water for drinking purpose in addition to the water required for construction work is also to be made by the Agency at his own cost. The Agency shall also make his own arrangement for obtaining electric connection (s) and make necessary payment directly to the department concerned. JDA will however make all reasonable recommendations to the authority concerned in this regard.

The Agency shall make his own arrangement of water for completion of work and nothing will be paid on this account. The Agency shall get the water tested with regard to its suitability and conforming to the relevant IS Code. The Agency shall obtain written approval from the JDA before he proceeds by using the same for execution of work. In case the above supply is short of total requirement of water for construction purpose, then the Agency shall arrange suitable water at his own cost.

Services and Miscellaneous work

Schematic planning and designing of Internal Electrification, Automatic Fire Alarm System, wet risers, fire-fighting system, Sprinklers, Fire sensing Fire egress pathways, security system, CCTV, access control system, TV, Point wiring, Dish , call bell system, Lifts, Electric Sub Station building with all equipment's, external lighting, car parking, solar power generation over building and any other essential services as per requirement of the JDA and also required for satisfactory completion of project.

Interior and Furnishing work

Schematic planning and designing of complete interior and furnishing work of all component of building complete with specification as per requirement of JDA and also required to make complete VIBE Building functional.

Operation and Maintenance Work

Operation & Maintenance for a period of 5 Years including upkeep of civil, electrical, MEP and firefighting systems, payment of electricity charges of common areas, deployment of security personnel, housekeeping and all allied activities.

Tree Cutting Permission

All necessary approvals required for tree cutting, shall be taken by the Agency. The compensation fee, cost of compensatory plantation or any other such fee payable to Government Body shall be borne by agency. However, the efforts shall be made to Transplant maximum trees on the site in consultation with Forest Department. The cost of transplantation shall be borne by the agency.

Adherence to Approved plans

The agency shall adhere to the building plan which has been approved by various Authorities and plan accordingly.

JDA Site Office

The Agency shall construct site office for JDA officers and staff, which should be equipped with all necessary equipment's required for functioning the office. The area of this office should be sufficient to cater meetings and ventilated comfort sitting with a meeting room, toilets and other requisite facilities. Site office shall be Completed by the agency within 15 days after award of work a after approval of JDA.

The Agency shall provide necessary Air Conditioners, lighting and fixtures i/c fan, RO etc. Four office attendants and four data entry operators shall also be provided by the agency during the whole agreement period. AMC charges, Electricity bill, water supply bills, RO/drinking water billsetc. shall be borne by the agency. The agency shall provide the following furniture (new) for use of JDA staff at site office.

S.No.	Articles	Quantity
1.	Executive table (wooden) with side racks	2 Nos.
2.	Executive Chair	4 Nos.
3.	Office Tables	2 Nos.
4.	Office Chairs	5 Nos.
5.	Steel Almirah	4 Nos.
6.	Conference table (for 30 seats)	1 Nos.
7.	Conference chairs	8 Nos.
8.	Digital display arrangement & sound system	1set

2. SAFETY, HEALTH AND ENVIRONMENT (SHE) Protection of Environment

The Agency shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or other resulting from pollution, noise or other causes arising as consequence of his methods of operation.

During continuance of the contract, the Agency and his sub-agencies shall at all times, abide by all existing enactments on environmental protection and rules made there under,

regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, by-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. However, Salient features of some of the major laws that are applicable are given below:

Water Pollution is to be prevented as per **The Water (prevention and Control of Pollution) Act, 1974** which provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

Environment is to be protected as per **The Environment (Protection) Act, 1986** which provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human being, other living creatures, plants, micro-organism and property.

The public Liability Insurance Act, 1991: This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

Conditions of National Green Tribunal

The agency shall not store/ dump construction material or debris on the metalled road.

The agency shall get prior approval from JDA/NNJ/Traffic department for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic /inconvenience to the pedestrians/public in

general. It should be ensured by the agency that no accidents occur because of such permissible storage.

The agency shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area to ensure that no construction material dust fly outside the plot area.

The agency shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand, earth and other allied material are fully covered. The agency shall take every necessary precaution that the vehicles are properly cleaned and dust free to ensure that reroute their destination, the dust, sand or any other particles are not released in air/contaminate air.

The agency shall provide mask to every worker on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.

The agency shall compulsorily use wet jet in grinding and stone cutting.

The agency shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 Kmph. Speed bumps shall be used to ensure speed reduction. In case where speed reductions cannot effectively reduce fugitive dust, the agency shall divert traffic to nearby paved areas.

The agency shall ensure that the construction material is covered by tarpaulin. The agency shall take all other precaution to ensure that no dust particles are permitted to pollute air quality because of such storage.

The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.

Any violation of orders of MoEF including guidelines of State Government, SPCB or any officer of any department shall lead to stoppage of work for which Agency shall be responsible and no hindrance shall be accounted in this regard.

Prevention of Nuisance and Pollution

The Agency shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution. He shall make good at his own cost

and to the satisfaction of the JDA, any damage to roads, paths, drainage works or public or private property whatsoever caused by the execution of the work or by traffic brought thereon by the Agency. All waste or superfluous materials shall be cleaned away by the Agency without any reservations entirely to the satisfaction of the JDA at no extra cost.

The site shall be kept clean of all debris, rubbish and dirt & surplus/waste material all the time. It also includes maintenance, cleaning & de-silting the pipe lines laid by the agency for all internal services etc. executed by the agency to the entire satisfaction of the JDA during the maintenance periods. Cleaning and de-silting will also be done by the agency before handing over the completed structures to JDA. All machines, equipment and labour for this purpose will be arranged by Agency at no extra cost to JDA.

Security of the Site

The Agency shall be wholly responsible for security of site and works. The Agency shall be responsible for keeping unauthorized persons off the Site; and Authorized persons shall be limited to the Employees of the Agency, Sub Agency or persons authorized by the JDA.

Lighting: The contractor shall provide sufficient lighting at project site, of the right type and at the right place / location for it to be properly effective. Lighting ought not to introduce the risk of electric shock. Therefore, 230V supplies should be used for those fittings, which are robustly installed, and well out of reach e.g. flood lighting or high- pressure discharge lamps. The contractor shall ensure that luminaries should always be so placed that no person is required to work in their own shadow and that the local light for one person is not a source of glare for the others. Strongly made clamps should be available for attaching luminaries to poles and other convenient supports.

Luminaries shall be robust, resistant to corrosion and rain proof especially at the point of the cable entry. The correct type of lamp for each luminary should be used and when lamps need to be replaced, it shall be in accordance with the supply voltage. Lamp holders not fitted with a lamp should be capped off. The contractor shall take every effort to illuminate the work site as per the direction of JDA.

Traffic Management:

The basic objective of the following guidelines is to lay down procedures to be adopted by contractor to ensure the safe and efficient movement of traffic and also to ensure the safety of workmen at construction sites.

All construction workers should be provided with high visibility jackets with reflective tapes as most of construction activities shall be done within right-of-way of the roads. The conspicuous of workmen at all times shall be increased so as to protect them from speeding vehicular traffic.

The Agency shall provide safety helmet, safety shoe and high visibility clothing for all employee including workmen, traffic marshal and other employees who are engaged for any work under this contract as per the following requirement:

All employees of the Agency including workmen	Traffic marshals
i) Hard hat with company Logo ii) Safety boots iii) Hi-visibility waistcoat covering upper body and meeting the following requirements as per BS EN 471:1994: i) Background in florescent orange red in colour. ii) Two vertical green strips of 5cm wide on front side covering the torso at least 5cm. iii) Two diagonal strips of 5 cm wide on back in an 'X' pattern covering at least 5cm iv) Horizontal strips not less than 5cm wide running around the bottom of the vertical strip in front and 'X' pattern at back. v) The bottom strip shall be at a distance of 5cm from the bottom of the vest.	i) Hard hat with company Logo ii) Safety boots iii) Hi-visibility jacket upper body and meeting the following requirements as per BS EN 471:1994: i) Background in fluorescent orange-red in colour ii) Jackets with full-length sleeves with two bands of retro reflective material, which shall be placed at the same height on the garment or those of the torso. The upper band shall encircle the upper part of the sleeves between the elbow and the shoulder; the bottom of the lower band shall not be less than 5 cm from the bottom of the sleeve. iii) Two vertical green strips of 5cm wide on front side covering the torso at least 500 cm iv) Two diagonal strips of 5cm wide on front side covering the torso at least 500 cm
vi) Strips must be retro reflective and fluorescent vii) Waistcoat shall have a side adjustable fit and a side and front tear away feature on vests made of nylon.	v) Horizontal straight not less than 5cm wide running around the bottom of the vertical strip in front and 'X' pattern at back. vi) The bottom strip shall be at a distance of 5cm from the bottom of the vest. vii) Strips must be retro reflective and fluorescent

The guiding principles to be adopted for safety in construction zone are to Warn the road user clearly and sufficiently in advance, provide safe and clearly marked lanes for guiding road users and marked buffer and work zones. The agency shall provideadequate measures that control driver behavior through construction zones.

Regulatory signs impose legal restriction on all traffic and they are to be used only after consulting the local police and traffic authorities.

Incidental Works Such as Bailing-Out Water, Shoring etc.

For execution of any items of work where incidental works such as bailing out water, shoring etc. are actually required but not specifically stated in the scope of item and/ or tender document, it is to be understood that the contract amount quoted by the agency shall cover such charges also and nothing extra on account of such incidental charges, if any, shall be paid.

The barricading as approved by JDA (or as directed by NGT from time to time) all along the periphery of the project site shall be constructed by the Agency with G.I./Galvalume profiled sheet with structural steel framework, as per design & drawings, for full length of the periphery and around construction area. The barricading shall be aesthetically maintained by regular cleaning and painting by the Agency as directed by the JDA, cost of which is deemed to be included in the rate quoted by the Agency. The structural dimension of the barricade, material and composition, its colour scheme, JDA logo and other details shall be in accordance with the direction of JDA, for which nothing extra will be paid to the Agency.

Cleaning of barricading every fifteen days with water and detergent so as to ensure that there is no dirt or splashes on the barricading. The dust accumulated along the barricades on the carriageway shall be removed every week.

Repainting of the barricading after regular interval as directed by JDA and Proper maintenance of the barricading till completion of the work by repairing/replacing the damaged barricade. They shall be maintained in one line and level.

Existing Services & Storage/Labour Camps within Site.

- a) Land for Storage/Labour Camps/RMC

Agency shall manage all activities within the land portion, JDA is not obliged to make any other land available for Batch Mix Plant, Store, Preserving Top Soil etc.

Agency's care of the Works

The Agency shall bear full risk in and take full responsibility for the care of the Works and Materials, goods and equipment for incorporation therein from the Commencement Date until the Completion Certificate is issued, except and to the extent that any loss of or damage to the same shall arise out of any default or neglect of the Employer.

The Agency shall throughout the execution of the Works including the carrying out of any testing, commissioning (including Integrated Testing and Commissioning), or remedying of any defect;

Take full responsibility for the adequacy, stability, safety and security of the Works, Plant, Goods, Agency's Equipment, Temporary Works, operations on Site and methods of manufacture, installation, construction and transportation;

Have full regard for the safety of all persons on or in the vicinity of the Site (including without limitation persons to whom access to the Site has been allowed by the Agency), comply with all relevant safety regulations, including provision of safety gear, and in so far as the Agency is in occupation or otherwise is using areas of the Site, keep the Site and the Works (so far as the same are not completed and occupied by the Employer) in an orderly state appropriate to the avoidance of injury to all persons and shall keep the Employer indemnified against all injuries to such persons.

Provide and maintain all lights, guards, fences and warning signs and watchmen when and where necessary or required by the JDA or by laws for the protection of the Works and for the safety and convenience of the public and all persons on or in the vicinity of the Site; and

Where any work would otherwise be carried out in darkness, ensure that all parts of the Site where work is being carried out are so lighted as to ensure the safety of all persons on or in the vicinity of the Site and of such work.

Agency is required to take note of all the necessary provisions in Employer's Safety, Health and Environment Manual (SHE Manual) and the Agency's price shall be inclusive of all the

necessary costs to meet the prescribed safety standards. In the case, the Agency fails in the above, the Employer may provide the necessary arrangements and recover the costs from the Agency.

House keeping

Housekeeping is the act of keeping the working environment cleared of all unnecessary waste, thereby providing a first-line of defense against accidents and injuries. General House-keeping shall be carried out by the Agency and ensured at all times at Work Site, Construction Depot, Fabrication Yard, Workshop, Batching Plant, Labour Camp, Stores, Offices and toilets/urinals etc. The Agency shall be responsible to provide segregated containers for disposal of debris at required places and regular cleaning of the same.

All stairways, passageways and gangways shall be maintained without any blockages or obstructions. All emergency exits passageways, exits fire doors, break-glass alarm points, fire-fighting equipment, first aid stations, and other emergency stations shall be kept clean, unobstructed and in good working order.

No parking of trucks/trolleys, cranes and trailers etc. shall be allowed on roads, which may obstruct the traffic movement.

Roads shall be kept clear and materials like: pipes, steel, sand boulders, concrete, chips and brick etc., shall not be allowed on the roads to obstruct free movement of road traffic.

Water logging or bentonite spillage on roads shall not be allowed.

Proper and safe stacking of material are of paramount importance at fabrication stores, stores and such locations where material would be unloaded for future use. The storage area shall be well laid out with easy access and material stored/stacked in an orderly and safe manner.

Safety

Minimum one Safety Officer/ Manager is required to be at site at all times.

Qualifications of Safety Coordinator/ Manager should not be less than those prescribed in local regulation in building and other construction workers (regulation of employment & conditions of service) central Rules, 1998.

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Agency shall arrange for initial Site orientation / induction of all Workmen / Supervising personnel on Safety practices before beginning of work at site. This shall include a briefing about project, safety policy, site safety rules and site facilities.

Agency shall conduct a daily toolbox talk for all workers previous to starting to work.

These tool box talks should include topics related to ongoing work activities and precautions to be taken on daily activities.

Agency shall ensure participation of his site in-charge and the safety coordinator in the safety meetings arranged at intervals decided by the JDA.

Agency shall also submit a Health & Safety report on monthly basis or as directed to JDA.

Information to Be Provided By Agency

- i) Health, Safety and Environment policy
- ii) A detailed Health, Safety and Environment plan.
- iii) Names of the Safety personnel.
- iv) Employers' liability insurance policy.
- v) Work method statements for critical operations such as lifting etc.
- vi) Test Certificates for lifting gear, lifting equipment and accessories.
- vii) Information related to hazardous materials used and corresponding MSDS (Materials Safety Data Sheets).
- viii) Daily labour returns
- ix) Copies of all Statutory Records.
- x) Copies of the Agency Safety's reports

Personal Protective Equipments (PPEs)

The Agency shall provide required PPEs to workmen to protect against safety and/or health hazards. Primarily PPEs are required for the following protection.

- i) Head Protection (Safety helmets)
- ii) Foot Protection (Safety footwear, Gumboot etc.)
- iii) Body Protection (High visibility clothing (waistcoat/jacket, Apron etc.)
- iv) Personal fall protection (Full body harness, Rope-grap fall arrester etc.)
- v) Eye protection (Goggles, Welders glasses etc)
- vi) Hand protection (Gloves, finger coats etc.)
- vii) Respiratory Protection (Nose mask, SCBAs etc.)
- viii) Hearing protection (Ear plugs, Ear muffs etc)

The PPEs and safety appliances provided by the Agency shall be of the standard as prescribed by Bureau of Indian Standards (BIS). If materials conforming to BIS standards are not available, the Agency shall procure PPE and safety appliances, as approved by the JDA.

Safety Helmet Colour Code	Person to use
White	JDA/JDA staff
Grey	All designers, Architect, Consultants etc.
Violet	Main Agencies (Engineers/Supervisors)
Blue	All Sub-Agencies (Engineers/Supervisors)
Red	Electricians (both Agency and sub-Agency)
Green	Safety Professionals (Both Agency and sub Agencies)
Orange	Security Guards/Traffic Marshals
Yellow	All workmen
White (with -Visitor sticker)	Visitors

***(Every Helmet should have the LOGO affixed/painted).**

In addition to the above, any other PPE required for any specific jobs like, welding and cutting, working at height, tunneling etc. shall also be provided to all workmen and also ensure that all workmen use the PPEs properly while on the job. The Agency shall not pay any cash amount in lieu to PPE to the workers/sub- Agencies and expect them to buy and use during work.

Sanitation and Hygiene Measures

In order to provide adequate sanitary conditions for all personnel at site, the following provisions as a part of the temporary facilities to be provided by the Agency:

- i) Provision for an adequate supply of potable water
- ii) Provision for toilets and hand wash basins
- iii) Garbage disposal and regular collection
- iv) Proper drainage and sewer disposal
- v) Other special hygienic operations viz. Fumigation, pest controls etc.
- vi) Worker's Rest Space:
- vii) Smoking hut
- viii) Sunshade and/or site canteen

Smoking on site is not allowed, No smoking« signs shall be displayed at prominent location including stores/ storage places.

Work at heights

During construction of buildings/towers safety net (horizontal and vertical) shall be used by Agency to check/control falling of any object. The Agency/vendor shall also take the other safety measures used during construction, for e.g. Personal Protective Equipment's (PPEs), safety during working at heights etc.

The Agency shall provide proper scaffolding and working platforms with handrails to work at higher elevations and Tools and loose material should not be left on the scaffolding from where they are likely to fall. Persons should use safety belts while working near open edge where it is not possible to provide handrails.

Things should not be thrown from heights and should be brought down or taken up with the help of ropes. While work is being carried on at higher elevations, warning notices should be posted below or barricade the area so as to draw the attention of persons and prevent them from coming under the falling objects.

Defective scaffoldings, damaged ladders, insufficient working platforms etc. shall not be permitted. Wherever necessary, light weight mobile tower scaffolds or hydraulic platforms should be used.

Proper access should be available to the work spot. Nobody should jump over open area between equipment, pipes and rails etc. from where they may slip. Walking over beams, narrow pipes etc. should be prohibited.

The area from where the materials are pulled up with ropes etc. should have hand railings and the person should keep firm footing. They should not lean over the handrails and should use safety belts to protect themselves from fall due to body imbalance.

The Agency should reduce the hazards associated with falls first through engineering controls and Have a formal fall protection program in accordance with Factories Act requirements. Agency should Institute personal fall arrest systems, administrative controls and training when engineering controls are not feasible.

The Agency shall have the necessary fall protection equipment to safely perform the job and properly train workers in the use of fall protection equipment and supervisors (or competent personnel) shall ensure the use of fall protection equipment as required. Agency shall obtain work permit from the Consultant prior to starting of activities requiring fall protection.

Should Use powered access safely and Protect holes and leading edges, e.g. with hand rails and toe boards.

The construction waste from the height should be transferred through closed chutes.

All other measures to be taken for the safety at project shall be ensured by the Agency.

It shall be deemed that rates quoted by the Agency are inclusive of all the expenditures incurred in the safety procedures. No extra payment on this account shall be payable to Agency.

Unforeseeable Difficulties

Except as otherwise specifically stated elsewhere in the Contract:

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The Agency shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works;

By signing the Contract, the Agency accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works; and The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs.

JDA shall not provide any material either on chargeable or on free issue basis to the Agency for execution of the project.

Sec IV (C)

Conditions & Specifications of Civil Works

Additional Conditions of Civil Works

The work in general shall be carried out in accordance with the specifications mentioned with this tender document.

The order of preference in case of any discrepancy shall be as following:

Scope of work, If any services required to make the VIBE building. habitable and completely functional is not covered in the scope of work, interior and services same shall either be pointed out in pre-bid meeting else, it shall be presumed that the same shall be provided within the quoted cost and nothing extra shall be paid on this account.

It shall be noted that the scope of work mentioned here can be altered i.e. additions and deletions can be done by Jaipur Development Authority the additional cost for additions and reduced cost for deletions in scope of work will be decided based on the rates mentioned in prevailing JDA BSR and in case of market rate it will be decided by JDA committee. No Compensation or alternative cost shall be paid for scope alterations except the work executed.

Specifications and Conditions, Additional Conditions mentioned in this document.

JDA Specifications for Civil and Electrical as applicable.

Indian Standard Specifications of BIS including modifications /amendments Relevant Sections of

National Building Code 2016 with up-to-date amendments Sound engineering practice as per directions of the JDA.

Agency(s) shall provide permanent bench marks, flag tops and other reference points for the proper execution of work and these shall be preserved till the end of the work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings. On Completion of work, the Agency(s) shall submit six prints of —as built drawings to the Engineer- in-Charge (Hard & soft copy both)

The Agency (s) should engage approved, licensed plumbers for the work and get the materials (fixtures/fittings) tested, by the municipal Body/Corporation authorities wherever required at his own cost. The Agency(s) shall submit for the approval of the JDA, the name of the plumbing Agency proposed to be engaged by him.

The agency shall give performance test of the entire installation(s) as per the specifications in the presence of the JDA or his authorized representative before the work is finally accepted and nothing extra what-so-ever shall be payable to the agency for the test.

The work shall be carried out in accordance with the Architectural drawings and structural drawings, interior and finishing drawings approved by the JDA.

Before commencement of any item of work the agency shall correlate all the relevant architectural and structural drawings, and specifications etc. and satisfy himself that the information available is complete and unambiguous. The agency alone shall be responsible for any loss or damage occurring by the commencement of work based on any erroneous and or incomplete information and no claim whatsoever shall be entertained on this account.

The work of services will be executed simultaneously. The agency shall minimize the scope of making recesses, holes, opening etc. as the same shall be planned and necessary grooves/niches shall be provided in shuttering of RCC.

The agency shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other agency(s) or by the JDA and shall as far as possibly arrange his work and shall place

and dispose of the materials being used or removed, so as not to interfere with the operations of other agency simultaneously working or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.

If the work is carried out in more than one shift or during night, no claim on this account shall be entertained. The agency must take permission from the police authorities etc. if required for work during night hours, no claim /hindrance on this account shall be considered if work is not allowed during night time.

The agency shall be responsible for the watch and ward / guard of the buildings safety, fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.

Sample of building materials, fittings and other articles required for execution of work shall be got approved from the JDA before use in the work. The quality of samples brought by the agency shall be judged by standards laid down in the relevant JDA/ BIS specifications. All materials and articles brought by the agency to the site for use shall conform to the samples approved by the JDA which shall be preserved till the completion of the work.

BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the JDA besides testing of other materials as per the specifications described for the item/material. Wherever BIS marked materials are brought to the site of work, the agency shall, if required, by the JDA, furnish manufacturer's test certificate or test certificate from approved testing laboratory to establish that the material / procured by the agency for incorporation in the work satisfies the provisions of specifications / BIS codes relevant to the material and / or the work done.

The agency shall procure the required materials in advance so that there is sufficient time to testing of the materials and clearance of the same before use in the work. The agency shall provide at his own cost suitable weighing and measuring arrangements at site for checking the weight / dimensions as may be necessary for execution of work.

Regarding testing of civil & electrical materials, the testing of materials shall be conducted in Govt. Laboratory/ Govt. colleges/ IITs/NITs or from the laboratory approved by JDA. The charges of testing of materials in approved laboratory shall be borne by the agency.

Agency shall submit minimum -Quality Assurance plan within 45 days after award of work which shall be consisting of:

Lot size, number of required tests and frequency of testing. While deciding these criteria JDA Specifications & Provisions of BIS Code and Standard Practices may be referred. Volume of work, Practical Difficulties and Site Conditions etc. may also be kept in view. The lot size, number of tests and frequencies of testing can be altered or modified by the JDA from the prescribed limits.

It should clearly indicate the Machinery and other Tool & Plants required to be deployed at site by the agency. Entire Machinery and T&P may not be required at the start of work, therefore, a proper time schedule by which each Machinery & T&P is to be brought at site should also be indicated.

Receipt of Material, testing of the same & Maintenance of Register of Tests.

All the registers of tests carried out at Construction Site or in outside laboratories shall be maintained by the agency. Which may be inspected by JDA or his/her designee at any point of time.

The Agency shall allow access to Third Party Quality Assurance Agency (TPQAA) engaged by JDA to have a control on quality and methodology of execution. At least 25% of Samples of materials including Cement Concrete Cubes shall be taken jointly by Agency and TPQAA / JDA/quality control wing of JDA or his authorized representative. All arrangements for transporting and getting them tested shall be made by the Agency.

All the test in field lab setup at Construction Site shall be carried out by the Quality control team to be engaged by the Agency which can be witnessed by JDA or his/her designee. A daily report of Tests to be conducted on a day shall be submitted to JDA or his/her designee.

All the entries in the registers will be made by the designated Engineering Staff of the Agency.

Agency shall be responsible for safe custody of all the test registers.

Submission of copy of all test registers, Material at Site Register and hindrance register along with each alternate Running Account Bill and Final Bill shall be mandatory.

All material received at site shall be entered in MAS Register and copy of Supply order, MTC & Bill-invoice shall be maintained in order. The MAS Registers including Cement and Steel Registers shall be maintained by a qualified staff of Agency which may be inspected by JDA or his/her designee at any time. The daily report of receipt of material shall be sent to JDA or his/her designee.

The agency shall submit a 'Methods statement' for each important activity for the approval of the JDA soon after the award of work to him. The 'Methods statement' is a statement by which the construction procedures for any activity of construction are formulated and stated in chronological order. The 'Methods statement', should have a description of the item with elaborate procedures in steps to implement the same, the specifications of the materials involved, their testing and acceptance criteria, equipment to be used, Precautions to be taken, steps of measurement etc.

As and when any important item is taken up for execution, the Agency shall submit the specifications and develop a checklist and Pour card. This sample checklist should be got approved from the JDA and should be used at site. This check list should be shown to the JDA or his/her designee during inspection. This procedure is to be followed for all hidden items, CC/RCC work, Steel-reinforcement, shuttering, cast-in-situ mosaic flooring, doors & windows, plumbing, including water supply pipe lines, roof treatment, earth filling etc.

The agency shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. nothing extra shall be payable to the agency on this account.

TECHNICAL SPECIFICATIONS

NOTE: Normally all the required specifications are given below but if any how some specifications is/are left out or in case of any discrepancy, then guidelines of PWD Specification./ ISI / or other relevant specifications of the product shall be followed as per direction and satisfaction of JDA.

1. CIVIL WORKS

A. EXCAVATION AND FILLING IN FOUNDATION AND PLINTH

1.0 SETTING OUT

- 1.1 It shall be the responsibility of the contractor to install substantial reference marks, bench marks etc. and maintain them as long as required by the JDA. The contractor will assume full responsibility for proper setting out, alignment, excavation and dimension of each and all parts of the work.

2.0 EXCAVATION AND PREPARATION OF FOUNDATION FOR CONCRETING

- 2.1 The Foundation shall be dug to the dimensions as shown on the drawings or as directed by the JDA. The excavated material shall be stacked at a sufficient distance away from the edge of the excavated pit so as not to endanger the stability of the sides.
- 2.2 If excavation is carried out to greater depth than specified, extra depth shall be made up by filling in lean concrete. Cost of such extra filling required therein as specified above shall be borne in full by the contractor.
- 2.3 If required to protect the sides of pits and trenches, timber shoring and strutting shall be erected. The timbering shall be closed or open depending on the nature of the soil and work and the arrangement of timbering including sizes and spacing of members used shall be as approved by the JDA. No extra charges shall be admissible on this account.
- 2.4 The bottom of all excavation shall be leveled in accordance with the drawings/directions of the JDA.
- 2.5 The contractor shall report to the JDA when the excavations are ready to receive concrete. No concrete shall be placed in foundations until the contractor has obtained the approval of JDA.
- 2.6 After the excavation is passed by the JDA (and before laying concrete) the contractor shall get the dimensions of the excavation and levels recorded jointly with the Engineer of the JDA.

3.0 BACK FILLING

- 3.1 Back filling in sides of foundation shall be done with soil approved by the JDA taken from excavation or from outside the site. The backfilling shall commence only after the approval of the JDA.
- 3.2 Fill shall be of well compactable, well graded earth or sand and shall be free from tree stumps, organic matter, seed, peat etc. Where earth or sand from source other than excavation at site is used, the quality of such earth or sand shall be the same as that obtained from excavation at site, or superior to it.

4.0 DEWATERING

4.1 Rate for excavation shall include bailing or pumping out water which may accumulate in the excavation during the progress of work either from seepage, springs, rain, curing or any other cause and diverting surface flow if any by bunds or other means.

4.2 The excavation shall be kept free from water
a) During inspection and measurement.

b) When concrete and/or masonry are in progress and till they come above the natural water level and,

c) Till the JDA considers that the concrete/mortar is sufficiently set.

5.0 DISPOSAL OF EXCAVATED MATERIALS

The excavated material certified as surplus and not useful shall be removed by the contractor from the site in an approved manner. However, this is to be noted that any finds of archaeological interest such as relics of antiquity, coins, fossils or other articles of any other materials of value shall be delivered to the Raj. Housing Board. The decision of the JDA as to the nature of find shall be final and binding. The contractor shall have to dispose off the excavated materials as per the local bylaws of the relevant authority and in conformity with the instructions/rules of the local bodies/government in this regard to a site/location of his choice. Any permission/approval of the Competent Authority in this regard is the responsibility of the contractor and nothing extra shall be paid to him on this account. The earth/rock will be removed, carted and disposed off by the contractor at his own cost and under his own arrangement and nothing extra shall be paid to him on this account.

6 RATES TO INCLUDE

Apart from other factors mentioned elsewhere in this contract, item of excavation shall also include for the following:

- a) Cleaning of the site
- b) Setting out works as required and setting up bench marks and other reference marks.
- c) Providing shoring and strutting and subsequently removing the same.
- d) Bailing and pumping out water as required and directed.
- e) Excavation at all depths and removal of all materials
- f) Backfilling the trenches alongside masonry or concrete up to the natural ground level including water and ramming.
- g) Necessary protection including labour, materials and equipment to ensure safety and protection against risk or accident.

7.0 PLANKING AND STRUTTING

In case of deep trenches where the soil is soft and not capable of being retained without the help of support, planking and strutting as required shall be carried out. It shall be the responsibility of the contractor to take steps to prevent slide / collapse. Method of planking / strutting will be largely influenced by the type of soil encountered and as approved by the JDA.

8.0 MEASUREMENTS AND EXCAVATION

- a) Measurements of earthwork in excavation shall be done as per the dimension of foundation shown in the drawings.
- b) The total quantity of earthwork in excavation shall be determined by taking the existing ground levels at various places and the final excavated levels.

B ANTITERMITE TREATMENT

I. Indian Standards

Indian Standards to be followed are

- | | | |
|----|--------------------|---|
| 1] | IS 6313 (Part I) : | Code of practice for Anti-termite measures in buildings constructional measures. |
| 2] | IS 6313 (Part II) | Code of practice for anti-termite measures in Building (pre constructional chemical treatment). |

II Materials

One of the following chemicals in water emulsion shall be used.

Chemical	IS No.	:	concentration by weight, percent.
IS 8944	:	1%	Chloropyrifos
Lindane	IS 632	:	1%

III. Workmanship

- a. Barrier shall be complete and continuous under the whole of the structure to be protected. All foundation shall be fully surrounded by and in close contact with the barrier of treated soil. Each part of the area treated shall receive the prescribed dosage of chemical.

Time of application.

- b. Soil treatment should start when basement/foundation trenches and pits are ready to take mass concrete in foundations. Laying of mass concrete should start when the chemical emulsion has been absorbed by the soil and the surface is quite dry. Treatment should not be carried out when it is raining or when the soil is wet with rain or sub-soil water. The foregoing applied also in the case of treatment to the filled earth surface within the plinth area before laying the sub-grade for the floor.

- c. Disturbance

Once formed, treated soil barriers shall not be disturbed. If by chance, treated soil barriers are disturbed, immediate steps shall be taken to restore the continuity and completeness of the barriers-system.

- d Termite mound treatment

if termite mounds are found within the plinth area, these shall be destroyed by pouring into the mounds at several places, after breaking open the earthen structure and making holes with crow-bars, at the rate of approximately 4 litres of emulsion per cubic meter of mound.

e Soil treatment

Treatment of column pits foundation, trenches and basement excavations:

The bottom surface and the sides (upto a height of 300 mm above concrete foundation level) of the excavations made for column pits, wall trenches and basements shall be treated with the chemical at the rate of 5 litre per sqm of surface area. After the column foundation and retaining walls of the basement come up, the back fill in immediate contact with the foundation structure shall be treated at the rate of 15 litres per sqm of the vertical surface of the substructure for each side. If water is used for ramming the earth fill the chemical treatment shall be carried out after ramming operation is done by rodding the earth at 150 mm centres close to wall surface and spraying the chemical with the above dose. As earth filled in layers the treatment shall be carried out in similarstages. The chemical emulsion shall be directed towards the concrete or masonry surfaces is well treated with the chemicals. In the case of RCC framed structure with columns and plinth beams and RCC basements, the treatment shall start at the depthof 500 mm below ground level. From the depth the back fill around the columns beams and RCC basement wall shall be treated at the rate of 15 litres per sqm of vertical surface. The other details of treatment shall be as described below:

a. Treatment to top surface of plinth filling:

After the earth filling is completed in the plinth area and before the rubble packing or subgrade is laid, the entire surface of the filled earth shall be treated with the chemical emulsion at the rate of 5 litres per sqm. Light rodding may be carried out in the soil surface to facilitate absorption saturation of the soil with chemical emulsion.

For buildings, where construction has advanced already for facility of construction, the treatment could also be done effectively, over the base concrete (lean mix) under the floor taking care that the emulsion, at the rate of 5 litres per sqm soak fully into the concrete. The above application effectively prevents entry of termites through the floor structure.

b. Treatment of soil along external perimeter

Finally the earth around the external perimeter of the building upto a depth of 30 cm. shall be treated at the rate of 5 litres per running metre of the external wall. To facilitate this treatment solid MS rods should be driven into the soil as close possible to the plinthwall at intervals of 15 cm and upto a depth of 30 cm. and the rods moved backwards and forwards in a direction parallel to the wall to break up the earth so that the emulsionmixes intimately with the soil.

c. Treatment of soil surrounding pipes, wastes and conduits

When pipes, wastes and conduits enter the soil inside the area of the foundation, the soil surrounding the points of entry shall be loosened around each such pipe, waste or conduits for a distance of 15 cm and upto a depth of 7.5 cm before the treatment is commenced. When they enter the soil external to the foundations, they shall be similarly treated unless they stand clear of the walls of the building by about 7.5 cm for a distance over 30 cm.

d. Treatment for expansion joints:

Expansion joints at ground floor level are one of the biggest hazards for termiteinfestation. The soil beneath these joints should receive special attention. This treatment should be supplemented by treating through the expansion joint after the sub-grade has been laid at the rate of 2 liters per linear meter.

e. Spraying equipment:

A pressure pump shall be used to carry out spraying operations to facilitate uniform spraying and penetration of chemical into the earth. The chemicals, concentration and dosage for horizontal and vertical surfaces are based on the IS code of practice for Anti-termite measures in Buildings. IS 6313 (Part II).

Measurements:

Measurement, if required in case of preconstruction treatment as detailed above shall be for actual area covered by building at ground level in plan in sqm.

Free service guarantee:

The contractor shall note that termite proofing work, is subject to a free service guarantee from the date of completion of the treatment. The contractor shall give an undertaking in writing to the effect that during the guarantee period any infestation of subterranean termites will be eradicated and necessary treatment carried out to prevent infestation, free of cost to the employer. The guarantee shall allow a minimum period of 10 (ten) years for pre-construction treatment.

Tenderers must ensure that the work will be done through the professional Pest Control operator. They should be members of Indian Pest Control Association or any other recognized professional body. They should furnish a list of termite control jobs carried out by them successfully for Government Department, Statutory bodies or large private organizations to prove that they are capable of handling anti termite work.

C MORTARS:

Mortars shall be prepared by mixing graded fine aggregate with cement, in proportion specified for respective items of work as detailed in specifications or drawings. Mixing of mortars shall be done by mechanical mixers only. Hand mixing may be permitted on specified cases on written permission from the engineer.

Mortars shall be classified by proportion only. They shall not be specified by strength. Volumetric mixing shall be based on dry volumes of each ingredient. For convenience, measurement shall correspond to volume of one cement bag i.e. 0.035 cum boxes shall be made of size 40x35x25 cm. these shall be marked as mortar mixing boxes by red paint and shall be used throughout the contract. Hand mixing or mechanical mixing proportioning shall be done with use of these boxes.

Cement mortar shall be prepared by mixing cement and sand in specified proportions. Proportioning shall be carried out as detailed above. Sand shall be added suitably to allow for bulkage. Bulkage shall be determined as specified in I.S. cement and sand added to the mixer shall be thoroughly mixed and water shall be added to it gradually. Mixer after addition of water shall run for minimum 3 minutes. Mortar mixed shall be consumed within 30 minutes of mixing.

CONCRETE MIX AND MORTAR:

Whenever not specified in the specifications or on the drawings, use following mixes:a] plain concrete under foundations and floor etc.

Cement concrete 1:3:6 [1cement:3 coarse sand:6 stone aggregate 40 mm size].

b] Plain concrete for bed block, concrete blocks to anchor door and windows hold fasts, gate posts, grill blocks coping and anchor foundations of overhead water tank decking etc.

c] Reinforced cement concrete mix M-25

d] Precast concrete memberconcrete mix M-15

e] Mortar for block work, stone masonry:

i] Cement mortar 1:5 [1cement:5 coarse sand] for 200 mm or thicker sections.

ii] Cement mortar 1:4 [1 cement: 4 coarse sand] for sections thinner than 200 mm.

f] Mortar for plastering:

Crystal Growth Technology Based Curing Free Ready-Mix Plaster 1:3 [1 cement: 3 sand].
For members in contact with soil or plinth filling.

Ready Mix mortar 1:5 [1 cement: 5 sand] for internal plaster.

Ready Mix mortar 1:4 [1 cement: 4 sand] for external plaster

E. CAST IN PLACE REINFORCED CEMENT CONCRETE

1.0 GENERAL

1.1 DESCRIPTION

This section covers the requirements for furnishing of cement concrete including materials, proportioning, batching, mixing, testing, placing, compacting, finishing, joining, curing and all other work as required for reinforced cement concrete. Cement concrete shall be composed of cement, fine aggregate, coarse aggregate, and water with or without admixture as approved, proportioned and mixed as specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

a) Steel reinforcement

b) Formwork

1.3 APPLICABLE CODES AND STANDARDS

The codes and standards generally applicable to the work of this section are listed hereinafter.

IS:269 Ordinary and low heat Portland Cement.

IS:383 Coarse and fine aggregates from natural sources for concrete.IS: 455 Portland slag cement.

IS: 456 Code of Practice for plain and reinforced concrete. IS: 516 Methods of test for strength of concrete.

IS: 1119 Methods of sampling and analysis of concrete IS: 1489 Portland Pozzolana cement.

IS: 1838 Performed fillers for expansion joints in concrete non extruding and resilient type.

IS: 1946 Code of practice for use of fixing devices in walls, ceiling and floors of solid construction.

IS: 2386 Methods of test for aggregates for concrete. (PART I TO III)

IS: 2645 Integral cement waterproofing compound.

IS: 3414 Code of practice for design and installation of joints in building. IS: 3535

Methods of sampling hydraulic cement

IS: 3558 Code of Practice for use of immersion vibrators for consolidating concrete. IS:

4031 Methods of physical test for hydraulic cement

IS: 4032 Methods of chemical analysis of hydraulic cement

IS: 4082 Recommendations on stacking and storage of construction materials at site.

IS: 6925 Methods of test for determination of water-soluble chlorides in concrete admixtures.

2.0 SUBMITTALS:

2.1 MATERIALS REPORT

2.1.1 Prior to start of delivery of materials required for cement concrete, the following shall be submitted by the Contractor to the JDA for approval:

- a) Recommended supplier and/or sources of all ingredients for making concrete including cement, fine and coarse aggregate water and additives.
- b) Quality inspection plan to ensure continuing quality control or ingredients by periodic sampling, testing and reporting to the JDA on the quality of materials being supplied.

2.2 MIX DESIGN

2.2.1 The contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified.

2.2.2 Prior to commencement of concreting work the Contractor shall submit the mix design as a report for the approval of JDA. This report shall compare the proposed mix design with specified requirements and shall be summarized on a form similarly to that shown in Appendix-I.

2.3 PLANT AND EQUIPMENT

2.3.1 The Contractor shall submit the following to the JDA well in advance:

- a) The proposed programmed, methods and details of plant and equipment to be used in testing ingredients, mix design and concrete samples.
- b) The proposed programmed, methods and details of plant and equipment to be used for batching and mixing of concrete.

2.4. CERTIFICATES

2.4.1 With each mix design, the Contractor shall submit laboratory test reports, and manufacturer's certificates test reports and manufacturer's certificates attesting that ingredients are conforming to specifications.

2.4.2 In case the source, brand or characteristic properties of the ingredients need to be varied during the term of the contract, a revised laboratory mix report shall be submitted.

2.5 REPORT FOR INSPECTION AND TESTING

During concreting operations, the Contractor shall conduct inspection and testing, and all reports there on shall be submitted in summary form to the JDA.

2.6 SCHEDULES

During Contractor shall prepare working schedules for dates and rate of placing of concrete for each item of work and submit the same to the JDA when requested.

3.0 MATERIALS:

3.1 Before bringing to the site, all materials for cement concrete shall be approved by the JDA. All approved samples shall be deposited in the office of the JDA before placing orders for the materials with suppliers. The materials brought on to the works shall conform in every respect to their approved samples.

3.2 Fresh samples shall be deposited with the JDA whenever type or source of any material changes. The Contractor shall check each fresh consignment of materials as it is brought on to the works to ensure that they conform to the specifications and/or approved samples.

3.3 The JDA shall have the option to have any of the materials tested to find whether they are in accordance with specifications at the Contractor's expense. All bills, vouchers and test certificates, which in the opinion of the JDA, are necessary to convince him as to the quality of materials of their suitability shall be produced for his inspection when required.

3.4 Any materials which have not been found to conform to the specifications and not approved by the JDA shall be rejected and shall be removed from the site by the Contractor at his own cost within the time stipulated by the JDA. The JDA shall have the powers to cause the Contractor to purchase and use materials from any particular source, as may be in his opinion for the proper execution of work.

3.5 AGGREGATES

3.5.1 Aggregates from natural sources shall be in accordance with IS:383. The Contractor shall submit to the JDA certificates of grading and compliance from the suppliers for all consignments of aggregate. In addition, from time to time, the Contractor shall test the aggregates at site in accordance with IS: 2386, part I, II and III. The Contractor shall allow for and provide all necessary apparatus for carrying out such tests and for supplying test records to the JDA.

3.5.2 For fair faced concrete, the Contractor shall ensure that aggregates are free from iron particles and impurities, which may cause discoloration.

3.5.3 FINE AGGREGATE

3.5.3.1 The fine aggregate shall be pit sand, stone dust or other approved sand. It shall be free from clay, loam, earth or vegetable matter and from salt or other harmful chemical impurities. It shall be clean, sharp, strong, angular and composed of hard siliceous materials.

3.5.3.2 The grading of sand as determined by the methods prescribed in IS: 2386 Part I shall be within the limits of Grading Zone III given in table 1. When the grading falls outside their percentage limits given for sieves other than 600 micron, 300 micron and 150-micron (I.S) sieves but not more than 5 percent, it shall be regarded as falling within this zone. The 5% it shall be regarded as falling within this zone. The 5% can be excess summation on one or more sieves.

TABLE - FINE AGGREGATE

I.S Sieve DESIGNATION	PERCENTAGE PASSING FOR GRADING		
	ZONE-I	ZONE-II	ZONE-III
10 mm	100	10 0	1 0 0
4.75mm	90-100	90-100	90- 100
2.36mm	60- 95	75-100	85- 100
1.18mm	30- 70	55-90	75- 100
600micron	15- 34	35-59	35- 60
300micron	5- 20	8-30	8- 30
150 micron	0- 10	0-10	0- 10

3.5.3.3 The maximum quantity of silt as determined by the method prescribed in IS: 2386 Part II shall not exceed 8 percent.

3.5.3.4 Stone dust shall be obtained by crushing hard stone and the grading as determined by the method prescribed in IS: 2386 part I shall be within the limits of Grading falls outside the percentage limits given for the sieves other than 600 micron and 300 micron (I.S) sieves by not more than 5% and on 150 micron sieve by not more than 20% can be excess summation on one or more sieves.

3.5.4 COARSE AGGREGATE

3.5.4.1 The Coarse aggregate shall be crushed stone, river shingle or approved pit

gravel.

3.5.4.2. Coarse aggregate obtained from crushed or broken stone shall be angular, hard, strong, dense, durable, clean and free from soft, friable, thin, flat, elongated or flaky pieces.

3.5.4.3. River shingle or pit gravel shall be rounded, sound, hard, clean, non-porous, suitably graded in size with or without broken fragments and free from flat particles of shale, clay, silt, loam and other impurities.

3.5.4.4. Except where it can be shown to the satisfaction of the JDA that a supply of properly graded aggregate of uniform quality can be maintained over the period of works, the grading of aggregate shall be controlled by obtaining the coarse aggregate in different sizes and blending them in correct proportions as and when required.

3.5.4.5. The maximum size of coarse aggregate shall be such that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and fill the corners of formwork.

3.6 WATER

3.6.1 Water used in the works shall be potable water and free from deleterious materials. Water used for mixing and curing concrete as well as for cooling and/or washing aggregate shall be fresh and clean, free from injurious amounts of oil, salts, acids, alkali, other chemicals and organic matter.

3.6.2 Water shall be from the source approved by the JDA and shall be in accordance with clause 4.3 of IS: 456.

3.6.3 Before starting any concreting work and wherever the sources of water changes, the water shall be tested for its chemical and other impurities to ascertain its suitability for use in concrete for approval of the JDA. No water shall be used until tested and found satisfactory. Cost of all such tests shall be borne by the Contractor.

3.7 ADMIXTURES AND ADDITIVES

3.7.1 Chemical admixtures are not to be used until permitted by the JDA. In case their use is permitted, the type, amount and methods of use of any admixture proposed by the Contractor shall be submitted to the JDA for approval.

3.7.2 The Contractor shall further provide the following information concerning each admixture to the JDA.

- a) Normal dosage and detrimental effects if any of under dosage and over dosage.
- b) The chemical names of the main ingredients in the admixture.
- c) The chloride ion content if any expressed as a percentage by weight of admixture.
- d) Whether or not the admixture leads to the entrapment of air when used in the manufacturers recommended dosage.
- e) Where two or more admixtures are proposed to be used in any one mix, the manufacturers written confirmation of their compatibility.

- 3.7.3 In reinforced concrete, the chloride ion of any admixture used shall not exceed 2 percent by weight of the admixture as determined in accordance with IS:6925 and the total chloride in all admixtures used in concrete mix shall not exceed 0.30 percent by weight of cement.
- 3.7.4 The admixtures when used shall conform to IS:9103 Trial mixes shall verify the suitability of all admixtures.
- 3.7.5 The addition of calcium chloride to concrete containing embedded metal will not be permitted under any circumstances.
- 3.7.6 Retarding admixtures when used shall be based on lingsulphonates with due consideration to clause 5.2 and 5.3 of IS: 7861.
- 3.7.7 Water proofing admixtures shall comply with IS:2645.
- 3.7.8 High Performance Curing Free Concrete powder that eliminating the need for external water curing or curing Compound.

4.0 PLANT:

- 4.1 The Contractor shall obtain the approval of the JDA for all plant items he proposes to use for the manufacture and placing of concrete.
- 4.2 The arrangement and siting of plant for the manufacture of concrete shall be agreed with the JDA.
- 4.3 The Contractor shall maintain all items of plant at all times in a clean and efficient working condition.

5.0 STORAGE:

All goods and products covered by these specifications shall be produced well in advance and stored as specified below:

5.1 CEMENT

- 5.1.1 Cement shall be stored on a raised floor in dry weatherproof and drought free but well ventilated shed.
- 5.1.2 Cement bags shall be stacked close together away from external walls and in stacks not more than ten bags to avoid lumping under pressure.
- 5.1.3 Cement stored during monsoons or cement expected to be in store for more than eight weeks shall be completely enclosed in 700 gauge polythene sheet so arranged that the flap closes on the top stack. The Contractor shall ensure that protective polythene sheet is not damaged at any time during use.
- 5.1.4 Cement of different types shall be stored in separate sheds or separate compartment of a shed. If different types of cement are mixed, the JDA will have the discretion to condemn all the cement concerned.
- 5.1.5 Consignments of cement shall be used in order of delivery. A record shall be kept of the batch numbers of cement deliveries in such a form that the part of the works in which the cement is used can be readily identified.
- 5.1.6 The Contractor shall be responsible for the storage of cement at the site and no claim will be entertained in the event of any damage occurring to cement due to faulty storage by the Contractors or on account of his negligence.
- 5.1.7 Cement stored on site for a period longer than eight weeks shall be tested to the

satisfaction of the JDA before it is used in the works.

- 5.1.8 Cement which has so deteriorated in quality that it no longer conforms in all respects to the requirements of this specification will be condemned by the JDA and shall not be used in the works. The Contractor shall immediately remove from the site all cement that has been so condemned.

5.2 AGGREGATES

- 5.2.1 Aggregates shall be stored on a suitable well-drained raft of concrete, timber, metal or other approved material. The storage of aggregate on the ground will not be permitted.
- 5.2.2 Each size of aggregate shall be stored separately in such a manner as to prevent spillage and mixing of one aggregate with an adjacent aggregate. The dividing walls of any bins shall be of sufficient height and the aggregate shall be so deposited that a distance of 300 mm shall be left between the top of the division wall and any part of the aggregate slack.
- 5.2.3 When slack piling, the aggregate shall not form pyramids resulting in segregation of different size particles the slacks shall be regular and of a height not exceeding two meters.

6.0 CONCRETE MIX PROPORTIONS:

Cement concrete used in the works shall be either or the two categories given below:

6.1 ORDINARY CONCRETE

All cement concrete not designated by strength shall be treated as ordinary concrete of nominal mix as specified. The aggregates and cement shall be as specified. The aggregates and cement shall be measured by volume. Mixing water shall be measured in graduated litre cans.

6.2 CONTROLLED CONCRETE

- 6.2.1 All cement concrete designated by strength shall be treated as controlled concrete. The controlled concrete shall conform to one of the grades specified herein or on the drawings. The aggregates and cement shall be measured by weight in approved weight batching equipment. Mixing water shall be measured in graduated liter cans. One or more complete bags of cement shall be used for each batch of concrete.
- 6.2.2 The controlled concrete shall meet with the strength requirement laid down in table 2. The aggregate cement ratio and water cement ratio to be used for obtaining the specified cube strengths given in Table 2 shall be determined in accordance with the design of determined in accordance with the design of the mix.
- 6.2.3 The Contractor shall be responsible for designing mixes of the specified performance to suit the design of workability and characteristic strength, required for the various parts of the works.
- 6.2.4 Alternative mixes may be designed by the Contractor for use in both thin and narrow sections and thick sections. Special mixes using finer aggregates may be designed by him for infilling pockets and narrow spaces and for regions of congested reinforcement.
- 6.2.5 The minimum cement content for controlled concrete shall not be less than the amounts given in Table 2 for the particular grade of concrete.

TABLE - 2

Group	Grade Designation	Specified Strength of 150 mm Cube at 28 days in N/mm sq.	Characteristic
Ordinary concrete	M 10	10	
	M 15	15	
	M 20	20	
Standard Concrete	M 25	25	
	M 30	30	
	M 35	35	
	M 40	40	
	M 45	45	
	M 50	50	
	M 55	55	
High Strength Concrete	M 60	60	
	M 65	65	
	M 70	70	
	M 75	75	
	M 80	80	

7.0 WATER CEMENT RATIO

- 7.1 The quantity of water added to the cement and aggregates during mixing shall be such as to produce concrete having sufficient workability to enable it to be properly compacted to be worked into the corners of the shuttering and around reinforcement.
- 7.2 Due account shall be taken of the variation of moisture content within any consignment of aggregate and any variations due to watering, exposure to rain or drying weather. The content tests in accordance with IS: 2386 Part III on stacked aggregates as directed by the JDA and results submitted to him.
- 7.3 In case of ordinary concrete the maximum value of water cement ratio shall be 0.50 and in the case of controlled concrete the water cement ration is determined by the mix design.
- 7.4 The Contractor shall exercise particularly tight control on the water content for fair faced concrete the colour of which is sensitive to small variation of water in mix.
- 7.5 When a suitable water cement ratio has been determined and agreed with the JDA, it shall be maintained throughout the corresponding part of works. Approved tests shall be undertaken periodically by the Contractor to satisfy the JDA if the Contractor is able to demonstrate that such a reduction is consistent with producing concrete of the required workability and characteristic strength.
- 7.6 The Contractor shall frequently test the concrete for slump-cone test. The slump at the point of placing as measured in accordance with the methods laid down in IS: 1199 shall not be more than 75mm and not less than 20mm except for concrete containing a retarding/ plasticizer admixture when the initial slump shall be 100mm to 125mm.

8.0 REQUIREMENT OF CONTROLLED MIXES

- 8.1 The measure of quality control exercised by the Contractor in the manufacture of the Concrete mix shall be the standard deviation derived from the analysis of cube results tested in accordance with IS: 516.
- 8.2 The contractor shall design each concrete mix to have mean strength greater than the

required characteristic strength by at least the current margin defined as 1.64 times the standard deviation. In the first instance the Contractor shall assume as Standard Deviation of 5.5N/mm.

- 8.3 Should the analysis of the first 30 cube test results of concrete of nominally similar proportions of similar materials and produced over a period exceeding 5 days but not exceeding 6 months by the same plant under similar supervision show the standard deviation to be less than 4.5 N/sq.mm the mix may be re-designed assuming a standard deviation of 4.25 N/sq.mm in which case the Contractor shall submit details of the proposed new mix proportions to JDA for his consideration.
- 8.4 Should the further analysis of the next 100 cube test results of concrete of nominally similar proportions of similar materials and produced over a period not exceeding 12 month by the same plant under same supervision show the standard deviation to be less than 3.75 N/sq.mm the Contractor may redesign the mix assuming a standard deviation of 3.5 N/sq.mm. and shall submit the details of the proposed new mix proportions to the JDA for his consideration.
- 8.5 If at any time the statistical minimum strength of the concrete defined as the mean strength minus 1.64 times the actual standard deviation as determined from cube test results falls below the characteristic strength, the mix shall be redesigned by the Contractor. Details of the new mix proportions shall be submitted to the JDA for his comments and the Contractor's supervision and degree of control over mix proportions shall be required.
- 8.6 APPROVAL OF DESIGNED MIXES
- 9.0 The Contractor shall submit to the JDA for comment sufficient evidence based on trial mixes that for each grade of concrete the intended workability, the proposed mix proportions and the method of manufacture will produce concrete of the required quality.
- 9.1 The Contractor shall obtain from the JDA his written approval on the mix design for each grade of concrete before any concrete of that grade is placed in the works.
- 9.2 For each grade of concrete, three separate batches of concrete shall be made by the Contractor using materials typical of the proposed supply and under full-scale site condition.
- 9.3 The workability of each of the trial batches shall be determined and 6 specimen preliminary test cubes shall be produced from each trial batch. Three cubes of each set shall be tested at 7 days and the remaining 3 cubes of each set shall be tested at 28 days.
- 9.4 The trial mix proportions for each grade of concrete shall be considered satisfactory if the mean strength of the 9 cubes tested at 28 days exceeds the specified characteristic strength by between 0.6 and 1.2 times the current margin and the least cube strength is greater than the specified characteristic strength and the concrete contains the correct amount of cement and the free water cement ratio is below the maximum specified value.
- 9.5 Following agreement with the JDA on the trial mix proportions should the Contractor wish to make substantial changes in the materials or in the proportions of the materials to be used in a mix, the JDA will require further trial mixes to be made and their results submitted for the comments prior to such materials or proportions being adopted by the Contractor, except that no such trial mixes will be required under sub Cause 8.3 and 8.4 of this specification.

10.0 CONCRETE TESTING

10.1 TEST CUBES

- 10.1.1 The strength of concrete either in assessing the suitability of the trial mixes or when placed

in the works shall be determined from 150mm cubes made, cured, stored, transported and tested in accordance with IS: 516.

10.1.2 Test cubes shall be made as, where and when the JDA may require.

10.1.3 Test cubes shall be made under the direct supervision of the competent person appointed by the Contractor to supervise all stages of the preparation and placing of concrete. They shall be made by the Contractor in the presence of the JDA generally from concrete taken at the point of discharge from the mixer and the Contractor shall provide suitable facilities in the form of a hut or other covered protection as agreed with or directed by the JDA for the storing and curing of the test cubes during the first 24 hours after making them and until they are dispatched to the testing laboratory.

10.1.4 Test cubes shall be marked and dated in such a manner that the grade and the part of the works in which the concrete they represent has been placed can be readily identified.

10.1.5 Testing shall be done at an approved laboratory at the site itself and the results shall be submitted promptly by Contractor to the JDA.

10.2 WORK TEST

10.2.1 When concrete of a particular grade is first used in the works, 2 cubes shall be taken from 3 separate batches during each of the first 7 days of using that grade. Of these 6 cubes 9 each cube representing concrete made of a different batch shall be tested at 7 days and the remaining 3 cubes shall be tested at 28 days.

10.2.2 For every subsequent 20 cum of concrete or for every days concreting be the less in column, 6 cubes shall be made for each grade of concrete and tested at 7 and 28 days as for sub-clause 10.2.1

10.2.3 If the mean concrete strength determined from such 28 day cube tests does not reach the characteristic strength for that grade, the materials and/or their proportions for that grade shall be modified by the Contractor to the satisfaction of the JDA.

10.2.4 Regarding testing, measurement and rates and any other item not specifically mentioned under these specification, the provision of PWD (Raj.) specifications 1998 with up to date correction slip shall apply.

10.2.5 In addition the Contractor at his own expense take such action as the JDA may consider necessary on the concrete placed in that part of the works represented by the set of cubes so found to be below the characteristic strength.

11.0 WEIGHT BATCHING

11.1 Unless otherwise agreed with the JDA all concrete ingredients except water for controlled concrete shall be weight batched using a platform (similar to one used for weighting luggage at railway station) weighting upto 200 kg to the nearest 100 gm or any other approved type of weight batcher.

11.2 Batching shall be of an accuracy of not less than 1/2 kg and the weigh batching equipment shall have an accuracy of + 3 percent. The weigh batches shall be tested for accuracy of calibration before commencement of work and at least once a fortnight thereafter, or more frequently, if so required by the JDA.

12.0 CONCRETE MIXING

- 12.1 All concrete whether ordinary or controlled, shall be mixed in an approved mixer for the minimum time necessary to ensure adequate quality and uniform distribution of the materials. The cement and aggregates shall normally be first mixed dry until all particles of aggregate are coated with cement after which the water shall be added.
- 12.2 Allowance shall be made for the moisture content of the aggregates when calculating the amount of water to be added for each mix.
- 12.3 The temperature of the aggregate, water and cement when added to the mixer shall be such that the temperature of the concrete at the time of placement is less than 40 C.
- 12.4 Materials for concrete shall be deposited into the drum while it is in rotation. Mixers shall not be loaded beyond their rated capacity and each batch shall be completely discharged from the drum before recharging takes place.
- 12.5 Facilities shall be provided to spray the mixer drum with cool water between batches and on the completion of concreting the drum shall be washed down. The surface of the mixer drum shall be maintained in a clean condition at all times.
- 12.6 Retempering and/or mixing of concrete which has partially HARDENED and set will not be permitted under any circumstances.

13.0 TRANSPORTING

- 13.1 The period between mixing the concrete and placing it in the final position shall be kept to a minimum and the delivery of concrete shall be co-ordinated with the rate of placement to avoid delays in delivery and placement.
- 13.2 Concrete shall be handled from the place of mixing to the place of final deposit by methods that prevent segregation, loss of ingredients and contamination and maintain the required workability.
- 13.3 Should any segregation have occurred in any batches arriving at the place of deposition, such batches shall be deposited and thoroughly turned over by hand before placing in the works.
- 13.4 Where concrete is conveyed by chutes, the chutes shall be made of metal or fitted with metal linings. The approval of the JDA shall be obtained for the use of chutes in excess of 3 metres long and in such cases the concrete shall be remixed if so required by the JDA.
- 13.5 All plant and equipment used in the transportation of concrete shall be thoroughly cleaned before and after each working period and at all changes of concrete mixes. Water used for this purpose shall be discharged well clear of formwork or the concrete already in place.

14.0 PREPARATION BEFORE CONCRETING

- 14.1 The inside surface of the forms against which concrete is to be placed shall be clean and free from dried or hardened spattering or coatings of concrete. The forms shall be well wetted before placing concrete.
- 14.2 When the work has to be resumed on a surface, which has hardened, such surface shall be roughened. It shall then be swept clean, thoroughly wetted and covered with 12mm layer of freshly mixed mortar composed of cement and sand (in the same ratio as the cement and

sand in the concrete mix) immediately before placing of concrete.

15.0 PLACING

- 15.1 Concreting of any portion of the works shall be done only in presence of the representatives of the JDA.
- 15.2 Concrete shall be carried out continuously between construction, contraction or expansion joints, shown on the drawings or agreed with JDA. The Contractor shall closely follow the sequence of concreting where such is specified on the drawings. If concreting is interrupted before reaching the predetermined joint an approved construction joint shall be provided.
- 15.3 Immediately before placing of concrete for columns and walls, the reinforcement within and the old concrete at the bottom of the formwork shall be given a coating of cement sand mortar of the identical materials and proportions to be used in the subsequent concrete, to prevent the loss of fine material from the initial concrete pour.
- 15.4 Concrete shall be deposited as nearly as is practicable to its final position and shall not be dumped in a large quantity at any point to be run or worked along the formwork manually or with vibrators. Concrete shall not be deposited at a faster rate than it can be placed and compacted.
- 15.5 Concrete shall be thoroughly worked into the forms so that they are entirely filled, reinforcing bars so that they are entirely filled, reinforcing bars adequately and tightly surrounded and entrained air released from the mass of concrete. Placing shall be carried out by hand prodding as well as vibrators in a manner directed by the JDA.
- 15.6 The concrete shall be placed in layers not greater than 300-mm thickness any thoroughly compacted before succeeding layers are placed. Concrete shall be placed in single operation to the full thickness of slabs, beams and similar members. No concrete shall be placed on concrete which has set sufficiently to cause the formation of planes of weakness and where these is likely to occur due to unforeseen circumstances the procedure to be followed shall be as for clause 14.2 of this specification.

16.0 COMPACTION

- 16.1 Each layer of concrete whilst being deposited shall be compacted by approved methods to form a dense material with all surface free from honey combing, airholes or other blemishes. The Contractor shall use mechanical vibration for all concrete and shall take care that internal vibrators shall not be brought into contact with the reinforcement or the formwork. Where external vibration of the forms is not adopted for fair faced surfaces, the concrete shall be manually vibrated adjacent to such surface in addition to internal vibrating.
- 16.2 An adequate number of vibrations shall be used to ensure that compaction of concrete is achieved within 10 minutes of placing. Particular attention shall be given to the compaction of the concrete around the water bars to ensure that no voids or porous areas are left.
- 16.3 Compacting shall cease as soon as excess water appears on the face of concrete. Any water accumulating on the surface of newly placed concrete shall be removed by approved methods and no further concrete shall be placed there on until such water has been removed.
- 16.4 Notwithstanding the requirements regarding mix design, should it be found that the proportion of water in the mix is such that laitance forms before compaction (i.e. completion of expulsion of air) is complete the quantity of water in the mix shall be reduced. No water shall be added to concrete after mixing has been completed, but where the proportion of

water in the mix is such that it is impossible to achieve complete compaction, the quantities of cement and water. Whenever either of the aforesaid procedures is to be adopted, an additional set of 6 cubes for testing at 7 or 28 days shall be made from the adjusted mix.

- 16.5 The time elapsing between the discharge of the concrete from the mixer and the completion of compaction shall not exceed 30 minutes.
- 16.6 A sufficient number of spare vibrators shall be kept readily accessible to the place of deposition of concrete to assure adequate vibration in case of breakdown of those in use.

17.0 FINISHES

- 17.1 All concrete surfaces shall have a good, dense finish. Except for slabs the exposed faces of concrete for which formwork is not provided shall be smoothed with a steel or wooden towel to provide a finish equal to that face where formwork is provided.
- 17.2 The top surfaces of all floor and roof slabs specified as smooth shall be leveled and trowelled before the concrete begins to set to a smooth finish at the levels or falls shown on the drawings. The troweling shall be done at such a time and in such a manner that an excess of mortar is not brought to the surface of concrete nor the aggregate displaced. The top surfaces of concrete slabs specified to receive an integral finish shall be uniformly roughened by deep hacking before the finish is laid.
- 17.3 Immediately after striking the formwork and removing any superficial water, honeycombed areas in normal unfinished concrete shall be inspected by the JDA and, where directed, the Contractor shall immediately make good at his own expense such honeycombing whilst the concrete is green to the satisfaction of the JDA. All air holes shall be similarly filled in.
- 17.4 The Contractor shall be responsible for providing an adequate key in concrete where plastering or rendering is specified to be applied. Hacking of the concrete surface immediately after striking the formwork will be permitted.
- 17.5 The faces of all fair faced concrete shall be of even colour throughout, free from air bubbles, cracks, honeycombing or other blemishes and will be inspected by the JDA immediately after the formwork has been struck. Such faces shall not be rubbed down after striking the formwork to remove fins, excrescencies or any similar imperfections without the prior permission of the JDA.
- 17.6 Concrete surface finishes shall accord to the requirements and all instructions by the JDA with regard to the method of achieving such finishes shall be implemented.

18.0 CURING AND PROTECTING

- 18.1 Walling on concrete shall not be permitted for at least 24 hours after it has been placed in position or for such additional length of time as the JDA.
- 18.2 Immediately after compaction and completion of any surface finishes, the concrete shall be protected from the evaporation of moisture by means of polythene sheeting, wet hessian or other similar material kept soaked by spraying. As soon as the concrete has attained a degree of hardening sufficient to withstand surface damage moist curing shall be implemented and maintained for a period of at least 15 days after casting.
- 18.3 Method of curing and their duration shall be such that the concrete will have satisfactory durability and strength and members will suffer efflorescence and will not cause by its shrinkage undue cracking in the works.

- 18.4 The top surfaces of slabs and other horizontal surfaces shall be cured by impounding water in cement mortar bunds. Steeply sloping and vertical formed surfaces shall be kept completely and continuously moist prior to and during the striking of formwork by applying water to the top surfaces and allowing it to pass down between the formwork and the concrete.
- 18.5 The Contractor shall give careful consideration to the curing methods and conditions for fair faced concrete. Components, which are specified to have exposed concrete finish, shall receive the same curing treatment. Moreover water used for curing shall be clean so as not to discolour the concrete.
- 18.6 All fair-faced concrete shall be protected from damage from the time of striking the formwork. All edges and surfaces of such concrete shall be protected from chipping using notched timber corner pieces or other suitable covers, which shall be maintained, in place until the completion of the work.
- 18.7 The Contractor shall be responsible for ensuring all fair faced concrete free of stains from concrete materials and shall clean all such staining as may occur at his own cost as soon as possible to the satisfaction of the JDA.

High Performance Curing Free Concrete powder that eliminating the need for external water curing or curing Compound.

Vacuum Dewatering

C.C. pavement of minimum mix M-35 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer- in-charge.

Material

All materials of construction like cement, aggregate, sand, water etc.

Cement is particularly suitable as binding agent. Cement content shall be at the lowest limit. The total filler content consisting of cement and fine particle, shall be limited to a minimum. This factor is of foremost importance both for the vacuum and for the reduction of shrinkage.

Grade of Concrete

Minimum grade of concrete used shall be M-25 conforming to IS-456. Only Design Mix Concrete shall be used. For other details like proportioning, batching, mixing, placing, curing etc.

Special Requirement

All works covered by this specification shall be carried out by an experienced agency having expertise in vacuum dewatering concrete system after getting the same approved. Only skilled and experienced operators shall be employed for the purpose. Prior approval of the agency shall be obtained from the JDA before starting the work. All the equipment shall be of approved and proven types and suitable for the work involved.

Concrete laying pattern shall be decided in consultation with the JDA and with his approval. The maximum width of a slab strip shall not generally exceed 4 meters and

minimum number of construction joints shall be used. Alternate slab strips shall be sequentially laid. Any damage to the already finished top surface shall be avoided. At construction joints no overflow of mortar or slurry on the already hardened surface shall be allowed while concreting the intermediate slab strip. Such construction joints shall be marked with a thread in a straight line while the concrete is still green. Continuity of reinforcement shall be maintained while laying concrete in slab strips. Edges at expansion joints shall be protected and proper arrangement of shear-transfer shall be provided standards.

For Concrete compaction after placing concrete in position, it shall be vibrated thoroughly using poker/ needle vibrators and thereafter leveled with surface vibrators to produce a homogeneous and smooth concrete surface. In order to achieve a smooth surface to the satisfaction of the Engineering-in-Charge, surface vibrators shall be very carefully used by skilled operators. Over vibration resulting in excess mortar near the surface shall be avoided.

Dewatering

Suction mats shall be spread over the leveled fresh concrete surface and shall be connected by suction hose to the vacuum pumps for De-watering of surplus water in the concrete. During De-watering it shall be ensured that no cement/ cement slurry is pumped out.

Floating and Troweling

This shall be done after De-watering by using skim floater (power floater. After this, surface shall be troweled with minimum two passes of power trowel to achieve a wear resistant surface to the satisfaction of the JDA.

Curing

However, all care shall be taken to avoid any stain any permanent stain on the surface. Any stain or permanent marking on the top surface shall be removed by approved means.

Approach Working Platform & Form work

The Agency shall arrange all approaches, scaffolding, working platforms etc. for carrying out the entire operation safely and in a work-man-like manner. The working area shall be nearly maintained and all the facilities required by the JDA for proper supervision of the work shall be provided.

The specification and method statement shall be submitted by the agency well in advance before the start of execution. The execution shall be allowed only after due approval of JDA.

19.0 CONSTRUCTION JOINTS

- 19.1 Construction joints shall be made only where shown on the drawings. Where the Contractor wishes to form joints in concrete other than those shown on the drawings, he shall submit his proposals giving the position, form and treatment of such joints to the JDA for his approval.
- 19.2 Vertical construction joints shall be formed against a stop board and horizontal construction joints shall be level.
- 19.3 Except where shown otherwise on the drawing, reinforcement shall continue through construction joints.

- 19.4 As soon as possible after the formwork has been struck for vertical joints or after the concrete has set in horizontal joints, the surface laitance of the hardened concrete on the face of the joint shall be removed to expose the coarse aggregate in such a manner that the loosened particles of aggregate and damaged concrete are not left on the surface. The exposed face shall be swept clean of foreign matter and laitance. Feathered construction joints will not be permitted. Immediately before placing the new concrete, neat cement grout shall be poured over the old concrete followed for horizontal joints by a 12mm thickness of sand cement mortar of the same materials and proportions to be used in the new concrete.

20.0 CONTRACTION JOINTS

- 20.1 Contraction joints required will be as shown on the drawings.
- 20.2 Construction joints shall not be hacked, wetted or mortared before concrete is placed against them.

1.0 EXPANSION JOINTS

Floor Joint of 50mm Gap (modular) Expansion joint system shall be related with floor location as per drawings and wherever directed by Engineer-In- Charge. The joints system will be of extruded aluminum base members, self-aligning /self-centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor/floor to wall expansion control system for various vertical locations in load application areas that accommodates multi directional seismic movement without stress to its components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates/ moves in all directions. The Self-centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufacturer's design and as approved by JDA. (Material shall conform to ASTM 6063). Roof Joint of 50 mm gap

Expansion joint system of approved make and manufacture for various roof locations shall be provided as per approved drawings and wherever directed by JDA. The joints shall be of extruded aluminum base members with, self-aligning and self-centering arrangement support plates as per ASTM B221-02. The system shall be such that it provides water tight roof to roof /roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates/ moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement. The Joint System shall resist damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall conform to ASTM 6063.)

Application Procedure Expansion joint shall be provided as shown in the approved drawing and as per direction of JDA. All joints shall be cleaned and free from loose

aggregates, the edges shall be in proper line. The joint shall be of the appropriate width as per the drawings. Provide continuous frame on each side of the joint, designed to support gasket and center plate where required. After installing the frames at both sides, place the center plate in between the two frames and finally flush the gasket on the top of the frames. Fixing of the joint after proper assembly of the components shall be through the proper stainless-steel counter sunk screws, which shall be drilled to the base concrete slab beams with a bonding agent.

The specification and method statement shall be submitted by the agency well in advance before the start of execution. The execution shall be allowed only after due approval of JDA.

Armour Board for Expansion

S. No.	Parameters	Units	Test Result	Tested as per
1.	Water Absorption	Kg/Sq. Mtr	0.45 Max	ASTM-1575
2.	Density	Kg/Cu.Mtr	28 Min	Do
3.	Compression Strength (25% Deflection)	Kg/Cm Sq	0.21 Min.	Do
4.	Compression Set	%	25% Max	Do
5.	Tensile Strength	Kg/Sq.Cm	1.8 Min.	Do
6.	Elongation	%	60 In	Do

Joint Providing armor Board of approved colour shall be provided between expansion joints, thickness built up using 10mm specifically extruded high performance sheet minimum density 28 kg per cum and compression strength 0.21 Kg./Sqm when tested as per ASTM D-3575 including using double sided adhesive tape of 25x25x2 mm at four places per Sqm to the casted surface to form the expansion joint and will become one side of the shuttering while the expansion joint is being created, including cost of all materials, Transportation, cutting and placing to the required size, labour charges, sundries, wastage etc. at all levels complete as per drawings and as per direction of JDA.

(50 mm thick) Technical Specification of Armour Board Laying Procedure

While creating expansion joint the armour board will become one side of shuttering. To hold two free sides of shuttering a MS bolt of 12mm dia with both sides threaded will be used at every 1 Mtr interval with matching nuts with concrete sleeve 50mm x 50 mm. This bolt shall be taken out & hole of sleeve be grouted afterwards with cement mortar.

When forming expansion joint with armour board in in-situ concrete, joint- sealing slots

shall be formed in the following manner.

The armour board is to become one side of shuttering. Cut off a strip of armour board equal to D. Further, cut the strip along the joint length into two.

The depth of top strip shall be = $(1.25 W \text{ or } W + 5\text{mm whichever is less}) + (W/2 \text{ or } 15\text{mm whichever is less})$ and the bottom strip = $(D - \text{topstrip})$, where D=slot depth in MM & W=slot width in MM

Pin the top strip back on to the bottom strip using nails at two-inch intervals. Ensure that the slot is clean and dry. Install a strip of filler material on top of armour board flush with finished surface using either a separation Tape/synthetic rubber-based adhesive.

Just prior to sealing pull off the top strip to create an uncontaminated sealing slots ready for preparation & sealing.

21.4 OPEN JOINT FILLERS

21.4.1 Where shown on the drawings open joints in the structure shall be filled with one of the following of expansion joints fillers:-

- a) In internal areas a material conforming to IS: 1838 containing bitumen emulsion fibres or cock granules bound together with natural resin.
- b) In external areas a material comprising closed cell rubber or containing cock granules bound together with natural resin.

21.4.2 The joint filler shall be easily and uniformly compressible to its original thickness, stoppable, easily cut or sawn robust durable, resistant to decay due to termite or weathering unaffected by water and free of any constituent which will bleed into or stain the concrete.

21.4.3 The joint filler shall be of same thickness of the joint width, it shall extend through the full thickness of the concrete unless otherwise specified and shall be sufficiently rigid during handling and placing to permit the formation of straight joints.

21.5 JOINT SEALING COMPOUNDS

21.5.1 Joint sealing compounds shall seal joints in concrete against the passage of water, prevent the ingress of grit or other foreign material and protect the joint filler. The compound (Silicone sealant Nitoseal 125 or equivalent) surface shall be resistant to flow and weathering.

22.0 INSERTS

22.1 The Contractors shall fix all necessary inserts such as steel plates, pipe sleeves, bolts etc. and make provision of holes, pockets, dowels etc. in the formwork to enable subsequent fixing of supports, brackets, ceilings precast members etc. As indicated on the drawings, or as required by the JDA.

22.2 In-situ concrete inserts shall be as per IS:1946 and of a type approved by the JDA unless otherwise specified elsewhere.

22.3 Nothing extra over and above the provision as per the priced schedule of quantities shall be paid to the Contractor on this account.

22.4 With the prior agreement of the JDA expansion type fasteners may be used by the Contractor in hardened concrete.

23.0 CRACKS

- 23.1 If any cracks develop in the reinforced cement concrete construction which in the opinion of the JDA may be detrimental to the strength of the construction, the Contractor at his own expense shall test the structural element in question. If under these test loads the cracks shall develop further the Contractor at his own expense shall dismantle the construction, cart away the debris, replace the construction and carry out all consequential work there to at no extra cost.
- 23.2 If the cracks are not detrimental to the stability of the construction in the opinion of the JDA, the Contractor at his own expense shall grout the cracks with pneumatically applied mortar or epoxy grout. At his own expense and risk he shall also make good all other building works such as plaster, mouldings, surface finish of floors, roofs, ceilings etc. which in the opinion of the JDA have suffered damage either in appearance or stability owing to such cracks.
- 23.3 The repair work shall be carried out to the satisfaction of the JDA. The decision of the JDA as to the extent of the liability of the contractor in the above matter shall be final and binding on the Contractor.

24.0 LOAD TESTING ON COMPLETED STRUCTURES

- 24.1 During the period of construction or within the defect liability period the JDA may at his discretion order the load testing of any completed structure or any part thereof if he has reasonable doubts about the adequacy of the strength of such structure for any of the following reasons:
- a) Results of compressive strength on concrete test cubes falling below the specified strength.
 - b) Premature removal of formwork.
 - c) Inadequate curing of concrete.
 - d) Over loading during the construction of the structure or part thereof.
 - e) Carrying out concreting of any portion without prior approval of the JDA.
 - f) Honey combed or damaged concrete, which in the opinion of the JDA is particularly weak and will affect the stability of the structure to carry the design load, more so in important or critical areas of the structure.
 - g) Any other circumstances attributable to alleged negligence of the Contractor, which in the opinion of the JDA, may result in the structure or any part thereof being of less than the expected strength.
- 24.2 All the loading tests shall be carried out by the Contractor strictly in accordance with the instructions of the JDA. Such tests should be carried out only after expiry of minimum 28 days or such longer period as directed by the JDA.
- 24.3 The structure should be subjected to a superimposed load equal to 1.25 times the specified superimposed load assumed in the design. This load shall be maintained for a period of 24 hours before removal. During the test, test strong enough to take the whole load shall be placed in position leaving a gap under the members as directed.
- 24.4 The deflection due to the superimposed load shall be recorded by sufficient number of approved deflectmeters capable of reading upto 1/500 of a cm and located suitably under the structure as directed by the JDA. If within 24 hours of the removal of the superimposed load the structure does not recover atleast 75% of the deflection under the superimposed load, the test loading shall be repeated after a lapse of 72 hours. If the recovery after the second test is less than 80% of the maximum deflection shown during the second test, the structure shall be considered to have failed to pass the test and shall be deemed to be

unacceptable.

- 24.5 In such cases the part of the work concerned shall be taken down or cut out and reconstructed to comply with the specifications. Other remedial measures may be taken to make the structure secure at the discretion of the JDA. However such remedial measures shall be carried out to the complete satisfaction of the JDA.
- 24.6 All costs involved in carrying out the tests and other incidental expense there to shall be borne by the Contractor regardless of the result of the tests. The Contractor shall take down or cut out and reconstruct the defective works or shall make the remedial measures as instructed at his own cost.
- 24.7 In addition to the above load test, non destructive test methods such as core test and ultrasonic pulse velocity test shall be carried out by the Contractor at his own expense if so desired by the JDA. Such tests shall be carried out by an agency approved by the JDA and shall be done under expert guidance using only recommended testing equipment. The acceptance criteria for these test shall be mutually agreed between the JDA and the Contractor.

25.0 SUPERVISION

- 25.1 All concreting work shall be done under strict supervision of the qualified and experienced Engineer of the Contractor as well as those of the JDA. The Contractor's Engineer and supervisor who are in-charge of concreting work shall be skilled in this class of work and shall personally superintend all the concreting operations.
- 25.2 Special attention shall be paid to the following:
- a) Proportioning, mixing and quality testing of the materials with particular control on the water cement ratio.
 - b) Laying of material in place and thorough compaction of the concrete to ensure solidity and freedom from voids and honeycombing.
 - c) Proper curing for the requisite period.
 - d) Reinforcement positions are not disturbed during concreting and consolidation by Vibration.

26.0 QUALITY CONTROL

- 26.1 The JDA reserves the right to make changes in the mix proportions including the increased cement content or/and a change in the Contractor's control procedure, should the quality control during progress of the works prove to be inadequate in his opinion.
- 26.2 All the concrete work shall be true to level, plumb and square within the acceptable tolerance. The corners, edges and arrises in all cases shall be unbroken and finished properly and carefully.

27.0 TOLERANCES

- 27.1 The acceptable tolerances for formed concrete surfaces shall be as given below:
- a) Variation from plumb for
 - i) Columns and walls to be rendered - 6mm in 3 metres
 - ii) Exposed columns and walls - 3mm in 3 metres
 - b) Variation in cross sectional dimensions of column and beams and in the thickness of slabs and walls - 6mm+12mm.

28.0 TESTING ROOM

28.1 A testing room of not less than 10 sq.m equipped with the following apparatus and qualified concrete technician, labour and materials required for carrying out tests therein shall be provided by the Contractor at his own cost:

- 1) Sieve set (For aggregate 20mm down) 40mm dia 45 cms
 - 20mm dia 45 cms
 - 16mm dia 45 cms
 - 12.5mm dia 45 cms
 - 10mm dia 45 cms
 - 4.75mm dia 45 cms 600 micron dia 20 cms
 - 300 micron dia 20 cms
 - 150 micron dia 20 cms
 - 75 micron dia 20 cms
- 2) Weighting
 - a) Physical balance cap. 200gms with weight box (accuracy 0.5gms)
 - b) Counter scale cap. 20 kg
 - c) Weights
 - 5 kg....1 no. 500 gms.....1 no.
 - 2 kg....2 nos. 200 gms.....2 nos.
 - 1 kg....1 no. 100 gms.....1 no.
- 3) Slump cones12 nos.
- 4) 15 cms moulds. 18 nos.
- 5) Electric kerosene heater
- 6) Pans etc. as directed by JDA
- 7) Vicat Apparatus with needles, test tubes, beakers thick glass plate etc.
- 8) Measuring cylinders..... 1000 ml, 500 ml, 100 ml, 10 ml.
- 9) Wash bottles.. Cap. 500 ml .. 2 nos.
- 10) Sink
- 11) Workbenches, shelves, desks and any other furniture and lighting as required by the JDA.
- 12) Spring balance dial type cap. 100 kg
- 13) Litre measures
 - a) 10 lit1 no.
 - b) 5 lit1 no.
 - c) 2 lit2 nos.
 - d) 1 lit1 no.
 - e) 1/2 lit1 no.

29.0 RATE

The Contractor rate shall include the cost of materials and labour required for all the operations described above at all depths and heights.

APPENDIX - I

STANDARD CONCRETE MIX DESIGN PRESENTATION

Grade of Concrete	:	
Cement Content & Type	:	
Water - Cement Ratio	:	
Free Water	:	
Specified strength @ 28 days	:Current Mean Strength	:
Current standard deviation	:	
Admixture type	:	
Admixture dosage	:Slump @ 30 minutes/Slump @	:60 minutes (in laboratory)
Air Content	:	
Chlorides (as NaCL)*	:	
Sulphates (as SO3)*	:Combined Aggregate grading	:

Sieve	75	38.1	19	9.5	4.75	2.36	1.18	0.60	0.30	0.15	75
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	micron

% Passing

* Total in mix, expressed as a percentage by weight of cement.

E. FORMWORK

1.0 GENERAL

1.1 DESCRIPTION

This section covers the requirements for providing, fabricating and erecting of formwork including propping, bracing, shoring, strutting, tying, bolting, wedging and all other temporary supports to the concrete during the process of setting subsequent removal of forms.

1.2 RELATED WORK SPECIFIED ELSE WHERE

- a) Cast-in-place reinforced concrete
- b) Pre-cast concrete

1.3 APPLICABLE CODES AND STANDARDS

The codes and standards generally applicable to the work of this section are listed hereinafter.

IS: 456 Code of Practice for plain and reinforced concrete
IS: 4990 Plywood for concrete shuttering work.

2.0 SUBMITTALS

2.1 TYPE OF FORMWORK

Prior to start of delivery of material for formwork, the contractor shall prepare samples of different types of about 10 sq.m. and obtain approval of the JDA.

2.2 DESIGN OF FORMS

Before fabricating of forms, the contractor shall submit shop drawings and design calculations for proposed formwork to the JDA for his approval. However, the approval of the formwork design in no way will relieve the contractor of his responsibility for adequately constructing and maintaining the forms so that they will function properly.

3.0 MATERIALS

- 3.1 Formwork shall be of timber, plywood, steel or any other material capable of resisting damage to the contact faces under normal conditions of erecting forms, fixing steel and placing concrete. The selection of materials suitable for formwork shall be made by the contractor based on the maximum quality consistent with the specified finished and safety.

3.2 TIMBER

Timber used for formwork shall be easily workable with rails without splitting. It shall be stable and not liable to warp when exposed to sun and rain or wetted during concreting.

3.3 PLYWOOD

Plywood used for formwork shall be 12mm thick phenol-bonded shuttering, quality plywood complying with IS: 4990 and of make approved by the JDA.

3.4 STEEL

Steel formwork shall be made of 4mm thick black sheets stiffened with angle iron frame made out of M.S. angles
40 mm x 40 mm x 6 mm.

3.5 VERTICAL PROPS

Vertical props used for formwork shall be of steel pipes adequately braced. These shall be strong enough to bear the load during concreting operations without buckling.

4.0 DESIGN CRITERIA

- 4.1 Formwork shall be designed for the loads and lateral pressures due to dead weight of concrete, superimposed live loads of workmen, materials and plants and for other loads as indicated on the drawings.
- 4.2 Forms shall be designed to have sufficient strength to carry the hydrostatic head of concrete as a liquid without deflection tolerances exceeding the acceptable limits.
- 4.3 Where necessary to maintain the tolerances indicated on the drawings, the formwork shall be cambered to compensate for anticipated deflections due to the weight and pressure of the fresh concrete, and also due to any other construction loads. Unless otherwise shown or specified, the camber shall be provided as below:

Types of member	Compression steel as % of tensile steel	Camber coefficient
Simple span	0%	0.066
50%		0.037
Continuous	0%	0.032
Restrained span	50%	0.020
Cantilever	0%	0.086
50%		0.046

$$\text{Camber in cms} = K \times L \times 2.54/D$$

Where K = Camber coefficient

L = Length of member in meter D = Depth of member in meter

5.0 ERECTION OF FORMWORK

- 5.1 Forms shall be used wherever necessary to confine concrete during vibration and to shape it to the required lines. The formwork shall conform to shapes, lines, levels and dimensions of the concrete shown on the drawings.
- 5.2 Form shall have sufficient strength to withstand the pressure resulting from placement and vibrations of concrete and shall be maintained rigidly in position. Formwork shall be adequately supported by adequate number and size of struts, braces, ties and props to ensure rigidly of forms during concreting. Where props rest on natural or filled up ground, to avoid any settlement, the soil shall be thoroughly compacted and bases of props shall be of sufficient size so as to restrict the bearing pressure on the ground to 5T/sqm.

- 5.3 Forms shall be tight enough to prevent loss of mortar from the concrete and to produce dense, homogeneous and uniformly coloured concrete completely free from honeycombing or surface roughness. Joints in formwork shall be designed to prevent leakage, not only between individual elements forming the panels but also from the horizontal and vertical junction between the panels themselves.
- 5.4 If formwork is held together by bolts, or wires, those shall be so fixed that no iron shall be exposed on surface against which concrete is to be laid. The JDA may at his discretion allow the contractor to use tie bolts running through the concrete at his own cost. Holes left in the concrete by these tie bolts shall be filled as specified by JDA at the contractor's expense.
- 5.5 Formwork shall be constructed so as to facilitate loosening and permit removal without jarring the concrete. Wedges, clamps and bolts shall be used wherever practicable instead of nails.
- 5.6 All formwork erected shall be approved by the JDA before concreting is started.

6.0 CLEANING AND OILING OF FORMS

- 6.1 At the time concrete is placed in the forms, the surface of the forms in contact with the concrete shall be free from encrustation of mortar, grout or other foreign material. Temporary openings shall be left at the bottom of formwork to enable sawdust, shavings, wire cutting and other foreign material to be worked out from the interior of the forms before the concrete is placed.
- 6.2 The surface of the forms to be in contact with the concrete shall be coated with an approved coating that will effectively prevent sticking and will not stain the concrete surface. After each use the surfaces of forms in contact with concrete shall be cleaned, well wetted and treated with form oil approved by the JDA. Lubricating (machine) oils shall not be used.
- 6.3 Immediately before concreting is commenced the formwork shall be carefully examined to see that all dirt, shavings, sawdust and other refuse have been removed and the formwork shall be wetted thoroughly to prevent absorption of water from concrete. The formwork shall be kept wet during concreting and for the whole time that it is left in place.

7.0 REMOVAL OF FORMWORK

- 7.1 Formwork shall be removed carefully so as to prevent damage to the concrete. Wooden wedges only shall be used between the concrete surface and the form where force is necessary to separate the form from the concrete. Metal wedges, bars or tools shall not be used for this purpose. Any concrete damaged in the process of removing the forms shall be repaired in accordance with the provision of concrete specifications.
- 7.2 All non-supporting forms shall be loosened and removed during regular working hours, and as soon as the concrete has hardened sufficiently to prevent damage from the removal of the forms. All falsework and forms supporting concrete beams and slabs, or other members subject to direct bending stress, shall not be removed or released until concreting operations, the contractor shall conduct inspection and testing, and all reports thereon shall be submitted in summary form to the JDA.

- 7.3 Unless otherwise permitted in writing by the JDA, the forms shall not be stripped in less than the minimum periods specified in IS:456. However, the JDA may increase the above if he considers it necessary for structural stability.
- 7.4 No construction loads exceeding the combination of superimposed dead loads plus specified live load shall be supported on any unshared portion of the structure under construction, unless analysis indicates adequate strength to support such additional loads.
- 7.5 Formwork shall be removed in such a manner so as to impair safety and serviceability of the structure. It shall be removed gradually to prevent sudden application of loads to the concrete. All concrete to be exposed by form removal shall have sufficient strength so as not to be damaged thereby.

STRIPPING TIME:

Forms shall not be struck until the concrete has reached a strength at least twice the stress to which the concrete may be subjected at the time of removal of form work. The strength referred to shall be that of concrete using the same cement and aggregates, with the same proportions and cured under conditions of temperature and moisture similar to those existing on the work. Where possible, the form work shall be left longer as it would assist the curing.

In normal circumstances and where ordinary Portland cement is used, forms may generally be removed after the expiry of the following periods:

A]	Walls, columns and vertical faces of all structural members	24 to 48 hours as may be decided by the JDA.
B]	Slabs (props left under)	3 days.
C]	Beam soffits	7 days
D]	Removal of props under slabs: 1. spanning upto 4.5 M 2. spanning over 4.5 M	7 days 14 days
E]	Removal of props under beam and arches: 1. spanning upto 6 m 2. spanning over 6 m	14 days 21 days
F]	For cantilevers slabs and beams	28 days

For other cements, the stripping time recommended for ordinary Portland cement may be suitably modified.

The number of props left under, their sizes and disposition shall be such as to be able to safely carry the full dead load of the slab, beam or arch as the case may be together with any live load likely to occur during curing or further construction.

8.0 REUSE OF FORMS

- 8.1 Immediately after the forms are removed, they shall be cleaned with a jet of water and a soft brush before they are reused.
- 8.2 The contractor shall not be permitted reuse of any forms, which in the opinion of the JDA has worn out and has become unfit for formwork. The JDA may, in his absolute discretion, order rejection of any forms he considers unfit for use in the works, and order their removal from the site.

9.0 RATES

- 9.1 Rates quoted by the contractor shall apply to work at all floor levels/depths.
- 9.2 Regarding modes of measurement, rates and any other items not specifically covered under these specifications, nomenclature of items and other conditions for this tender, the provisions of latest PWD (Raj) Specification BSR, JDA BSR shall apply.

F. STEEL REINFORCEMENT

1.0 GENERAL

- 1.1 This section covers the requirement for providing fabricating, delivering and placing in position and securing at locations by binding or welding, of reinforcements for in-situ and precast non-prestressed reinforced concrete work.
- 1.2 Reinforcements for concrete may be from any of the "Grades" of steel indicated below, conforming to the relevant Indian Standards mentioned against each item:

GRADE	DESCRIPTION	CONFORMING TO
Fe 250	Mild Steel	IS: 432 (Part I)
Fe 490	Hard drawn steel wire	IS: 432 (Part II)
Fe 415	High strength deformed/ Ribbed Steel	IS: 1786
Fe 500	High strength deformed/ Ribbed Steel	IS: 1786
Fe 550	High strength deformed/ Ribbed Steel	IS: 1786

- 1.3 Reinforcing steel may be any of the following types: Type-I : Plain round bars (PR)
Type-II : Welded wire fabrics (WWF)
Type-III : Cold twisted deformed bars (CTD)
Type-IV : Thermo Mechanically treated ribbed bars (TMT)
Type-V : Thermo Mechanically treated ribbed corrosion resistant bars (Copper Bearing) (TMT-CR)
- 1.4 Unless specifically shown in drawings or instructions issued in writing by JDA, steel of any grade or type other than those specified in Clauses 1.2 and 1.3 stated above, shall NOT be used for the purpose of concrete reinforcement.
- 1.5 Type and grade of steel to be used in the work shall be verified by the JDA and relevant contract documents before procuring such steel.
- 1.6 All steel shall be procured only from original producers. Re-rolled steel shall not be procured for the purpose of using these as reinforcement in concrete work.
- 1.7 Every consignment of steel brought to the site of work for use in reinforced concrete work, shall be accompanied by a certificate from the manufacturer giving the following details:
- Process of manufacture.
 - Grade and type on steel.
 - chemical composition of steel.

- d) Identification mark on steel.
- e) Results of tests giving yield strength, ultimate tensile strength, elongation percentage on gauge length of 5 times the diameter of the bar, bend and re-bend on minimum mandrel diameter, bond strength values, corrosion test results and fatigue test results. All such certificates should be deposited with the JDA for his record and reference.

1.8 Steels of Grade Fe 415, Fe 500 and Fe 550 may be Type - III (CTD bars), or Type - IV (TMT bars), or Type - V (TMT-CR bars), depending on the process employed by the manufacturer. Depending on the process, the chemical composition of steel may vary from manufacturer to manufacturer. However, the manufacturer shall give a guarantee that when combinations of different grades and different types of steel are used in conjunction and are placed in contact, there is no bimetallic action causing enhancement of the process of corrosion.

1.9 Some tests to re-confirm the mechanical properties of steel will have to be conducted on every consignment of steel received on site. Frequency of such tests shall be as follows:

For every consignment of steels upto 100 tonnes or part thereof:

TESTS TO BE CONDUCTED		NO. OF TESTS
i)	Tensile strength test	1 no. for each size with a minimum of 2 tests.
ii)	Bend Test for:	
	Bars smaller than and including minimum of 3 tests.	1 no. for each size with minimum 20mm dia a
	Bars larger than 20mm dia	1 no. for each size with a minimum of 5 tests.
iii)	Elongation Tests	Minimum 2 nos. choosing one no. from any two different sizes, if applicable.
iv)	Mass Tolerance Tests	Minimum 3 tests with one number from different sizes, if applicable.

1.10 Steel brought to site shall be free from mill scales, rust, grease, oil, paint or any other coatings, which have deleterious effect on the performance. Bars and wires shall be cleanly rolled and shall be free from all surface defects detrimental to its use. However, rust, seams, mill scales or minor surface irregularities shall not be the cause for rejection. Such bars shall be properly cleaned and re-tested as directed by the JDA. Tests shall be conducted in accordance with the relevant Indian Standard Specifications.

- 1.11 Based on test results of field tests, specified in Clauses 1.9 and 1.10 above, the JDA will be the sole authority to accept or reject the consignment of steel and such decisions shall not be influenced by the results of tests as per manufacturer's certificate mentioned in Clause 1.7 above.
- 1.12 Steels of all grades and all types shall have maximum carbon content of less than 0.25% by mass for guaranteed weld ability.
- 1.13 Steels of Type-V shall have a maximum copper content of 0.30% by mass.
- 1.14 Steel of Type -II shall be manufactured in conformity with provisions of IS: 1566 and shall be certified by the manufacturer as such.
- 1.15 For acceptability of steel, test results shall comply with the values given below:

STEEL GRADE(Clause 1.2)	Fe250	Fe490	Fe415	Fe500	Fe550
Yield Strength/ 0.2% Proof stress (Min)	250	490	415	500	550
Ultimate Tensile Strength (Min)	410	580	485	550	585
Elongation on gauge length 5 dia (Min)	23%	10%	14.5%	14%	12%
Mandrel dia for bend test (Max) a) For bars upto & incl.20mm	2 dia	2 dia	3 dia	4 dia	5 dia
b) For bars above 20mm	3 dia	2 dia	4 dia	5 dia	6 dia
Mandrel dia for re- bend test (Max)					
a) For bars upto & incl.20mm	(Not applicable) 5 dia			5 dia	7 dia
b) For bars above 20mm	(Not applicable) 7 dia			7 dia	8 dia
Tolerance on nominal mass of 7.85 g/cc.	+2 %	+2%	+2%	+2% +2 %	
	-	-	-	- -	

dia - denotes diameter

2.0 BINDING WIRES

- 2.1 Binding wire for steels of all grades and types shall normally be black annealed steel wire conforming to IS: 280.
- 2.2 When reinforcing bars are galvanised for corrosion protection, the binding wires to be used in conjunction with such steel shall also be galvanised as wires to be used in conjunction with such steel shall also be galvanised as per relevant specifications given elsewhere.

- 2.3 Binding wires that are to be used in conjunction with fusion bonded epoxy coated reinforcing bars shall be plastic coated as per specifications given elsewhere.
- 2.4 Nominal size of binding wires shall be as under:
- a) For bars of size less than and including 20mm : 20 gauge
 - b) for bars of size over 20mm : 18 gauge

3.0 COVER BLOCKS

- 3.1 Cover blocks for reinforcements shall be made out of cement mortar. Crushing strength of such cover blocks shall be one grade richer than the concrete in the member where such cover blocks are to be used.
- 3.2 Cover to reinforcements may also be provided with reinforcing bars forming "Chairs" for seating of bars. Such chairs shall be fabricated out of scrap steel of lengths, which cannot be efficiently used as reinforcements. Unless specifically indicated in drawings or permitted by JDA, Type - V bars or bars treated for corrosion resistance shall not be used for fabricating such "Chairs".
- 3.3 Cover blocks made out of Neoprene or high strength plastic may be used subject to written approval being obtained from the JDA.

4.0 STORAGE OF STEEL

- 4.1 Reinforcing steel shall be handled and stored in a manner such that bending and distortion of the bars is avoided.
- 4.2 All reinforcing steel shall be stored horizontally above ground level on platforms or other approved support, clear of any running and/or standing water. Contact with soil shall not be permitted.
- 4.3 Bars of different grades, types and sizes shall be stored separately.
- 4.4 Reinforcing bars treated with a corrosion resistant protective coating of any kind shall be handled and stored with utmost care so as not to cause any damage to the protective coating. Such bars shall be stored separately from others.
- 4.5 Every stack of reinforcement stored shall be provided with a distinctively displayed identification board carrying the following information:
- a) Grade of Steel as per Clause 1.2.
 - b) Type of steel as per Clause 1.3.
 - c) Nominal size of steel.
 - d) Type of corrosion treatment to steel, if provided.
 - e) Delivery batch number and date.

5.0 FABRICATION

- 5.1 Contractor shall prepare "Bar Bending Schedules" for all structural components based on drawings issued for construction. Such schedules shall be submitted to the JDA for his approval. Fabrication of reinforcements shall commence only on receiving approval of "Bar Bending Schedule" from the JDA.
- 5.2 Reinforcement steel shall be carefully cut/bent and formed to the dimensions and configurations shown in the drawings and Bar Bending Schedule.

- 5.3 All cutting, bending, fixing, binding, etc. shall be done generally in accordance with IS: 2502 unless otherwise specified herein.
- 5.4 Bending dimension tolerances shall be as specified in IS: 2502. However, cutting tolerances for all sizes of bars and for all lengths shall be limited to plus-minus 10mm.
- 5.5 All bars shall be bent cold using appropriate mandrel sizes. Dimensions of bends and hooks shall be as indicated in the schedules.
- 5.6 It shall be ensured that bars are not bent or straightened in any manner that will injure the material. Any incorrectly bent bar shall be used only when the bends are set right, provided that during straightening and re-bending the bar, the bar is not damaged in any way including formation of twisted necks.
- 5.7 No bar shall be bent or straightened when in position on the works without approval of the JDA, whether or not such bars are partially embedded in hardened concrete.
- 5.8 Reinforcing steel having a reduced section, visible cracks, peels or any other defects shall not be used for the purpose of reinforcing the concrete.

6.0 PLACEMENT

- 6.1 All reinforcement shall be placed accurately and secured in position as indicated in drawings.
- 6.2 Tolerances on placing of reinforcements shall be as under:

i)	Overall Thickness of member	tolerance in spacing of bars	
	a) Members of thickness	+ 5mm 300mm or less	-
	b) Members of thickness	+ 10mm more than 300mm	-
	c) Beam and column elements	+ 2mm	-
ii)	Tolerance to clear concrete cover dimensions shall be plus-minus one-third the specified cover or 5mm whichever is less.		
- 6.3 Contractor shall provide approved type of supports to reinforcing bars for maintaining the bars in position and to ensure required spacing and correct cover as called for in the drawings. Precast cement mortar cover blocks, chairs and spacer bars shall be used as appropriate for this purpose. For fair faced concrete work, temporary spacers shall only be used and these shall be removed or withdrawn as compaction of concrete proceeds. Spacers shall not be permitted to be left in fair faces of concrete.
- 6.4 All intersections of reinforcements shall be securely tied with stands of binding wires as required, and twisted tight to make the skeleton or network of steel a rigid frame so that the bars do not get displaced during transportation, placement or vibration of concrete. Tack welding of reinforcements in place of binding with wire may be permitted by the JDA after ensuring the weld ability of steel.
- 6.5 Contractor shall take all necessary precautions to ensure that during handling and erecting of steel, no damage is done to the finished concrete.
- 6.6 Temporary walkways and galleries shall be placed across reinforcements laid in position for purpose of movement of men and material. Such walkways and galleries shall be independent of the reinforcement. No movement of men and material shall be permitted on reinforcements laid in and secured in position.
- 6.7 Without relieving the contractor of the responsibilities for the correctness of placing of

reinforcements in accordance with drawings, the reinforcements as placed and secured in position shall be got inspected and approval obtained from the JDA in writing before any concrete is placed in the form. Contractor shall allow for sufficient time to get the reinforcement work inspected and any subsequent remedial measures to be carried out.

7.0 COVER TO REINFORCEMENTS

- 7.1 Unless shown on drawings or otherwise specified or instructed by the JDA, minimum clear concrete cover to reinforcements shall be maintained as per IS: 456 for normal structures, and as per IS: 3370 for water retaining structures.
- 7.2 Care shall be taken to maintain the covers to tolerance limits specified earlier in Clause 6.2 above.

8.0 SPLICING

- 8.1 As far as practicable, bars of maximum available lengths shall be used. All bars shall preferably be in single lengths. Where such arrangements are not possible, bars shall be spliced together.
- 8.2 Splices may be lapped splices or welded splices unless specifically shown on drawings or conveyed in writing by the JDA, welded splice shall not be provided.
- 8.3 Where welded splices are indicated in drawings or instructed by the JDA, such welding shall be provided as specified in approved drawings.
- 8.4 Where details and specific locations of splicings are not shown in drawings, lap splices shall be so provided that:
- 8.4.1 At any section not more than 50% of total number of bars are spliced together at any face of the member.
- 8.4.2 From the end of one splice to the beginning of the next splice in two continuous bars, there is a clear distance of 300 mm or 12 times the diameter of the bar whichever is greater.
- 8.5 Lengths of such lap splices shall be as given in Table 6.5.1

TABLE 6.5.1

STE EL GR AD E	STE EL TYP E	SPLICE LENGTHS FOR GRADES OF CONCRETE IN MULTIPLES OF NOMINAL BAR DIAMETER				
		M- 20	M - 25	M- 30	M- 35	M-40
Fe 250	I	4 5	40	36	32	30
Fe 490	II	8 9	76	71	63	56
Fe 415	III/I V/V	4 7	40	38	33	30
Fe 500	III/I V/V	5 7	50	45	40	36
Fe 550	III/I V/V	6 2	53	50	44	40

- 8.6 Splice lengths given in Table 6.5.1 are for steels that do not have any coating on the surface affecting its bond strength.
- 8.7 Irrespective of values obtained from Table 6.5.1, minimum splice length shall be 300 mm.
- 8.8 When bars of two different diameters are spliced, the splice length shall be based on the smaller of the two diameters, unless otherwise shown in drawings.

READY MIX CONCRETE

Batching of Concrete ingredients : For all structural concreting, only Ready Mixed Concrete (RMC) manufactured with weigh batching plant or obtained from approved R.M.C. supplying agencies or produced at site using mechanical mixers and weigh batchers as per item description, will be used. The R.M.C. supplying agency will supply mix design details in advance before start of delivery. Transporting, placing, compacting, finishing and curing of concrete shall be in accordance with IS:456-2000.

For all RMC concreting, the concrete after discharge from batching plant will be loaded in transit mixers and kept continuously agitated while mix is in transit. At destination the mix will be unloaded into the hoppers of concrete pump. For site made concrete suitable prescribed methods shall be adopted.

The concrete produced in RMC plant/batching plant, when discharged from transit mixer in pump hopper shall be kept continuously agitated and pumped to destination placing point. Site made concrete shall be placed by approved method of placing. The height of any single lift of concrete shall not exceed 1.5 m for walls and 2.0 m for columns. For columns where the height of pour is more than 2.0 m, suitable arrangement in formwork should be made so that the vertical drop of concrete is restricted to less than 2.0 m. Any such arrangement should be approved from the engineer in advance before execution.

High velocity discharge of concrete causing segregation of mix shall be avoided. The concrete shall be placed in the forms gently and not dropped from the height exceeding 1.5 m except in columns where the maximum allowed will be 2.0 m. Each batch of concrete will be placed in layer. Each layer of concrete shall be compacted fully before the succeeding layer is placed and separate batches shall be placed and fully compacted before the layer immediately below has taken initial set. The layers should be sufficiently shallow, to permit stitching of two layers together by vibration.

Concreting of any portion or section of the work shall be carried out in one continuous operation and no interruption of concreting work will be allowed without approval of the Engineer.

Plain concrete in foundations shall be placed, in direct contact, with the bottom of excavation, the concrete being deposited in such a manner, as not to get mixed with the earth. The concrete placed below the ground level shall be protected from falling earth during and after placing. Concrete placed in ground containing deleterious substances, shall be kept free from contact, with such ground and with water draining there from during placing and for a period of 7 days or otherwise instructed thereafter. Approved means shall be taken to protect immature concrete from damage by debris, excessive loading, abrasion, vibrations, deleterious ground water, mixing with earth and other materials and other influences, that may impair strength and durability of concrete.

Before starting of work contractor will get the concrete pouring programme and its sequence approved by Engineer to avoid cold joints.

Proper planning of concrete supply, pump locations, line layout, placing sequence and the entire pumping operation shall be made. The concrete production, transportation and placing shall be planned in such a manner that duration between addition of water during mixing and placing of concrete in desired location is well within time limits prescribed by the RMC manufacturer, however, this is subjected to fulfillment of slump and other properties of concrete as specified in tender. On failure to adhere to the time schedule by the supplier the Engineer may reject the concrete.

The pump wherever used should be as near the placing area as practicable, and the entire surrounding area shall have adequate bearing strength to support concrete delivery pipes. Lines from pump to the placing area should be laid out with a minimum of bends. For large placing areas alternate lines should be installed for rapid connection when required. Standby power and pumping equipment should be provided to replace initial equipment, should breakdown occur. The placing rate should be estimated so that concrete can be ordered at an appropriate delivery rate.

As a final check, the pump should be started and operated without concrete to be certain that all moving parts are operating properly. A grout mortar should be pumped in to the lines to provide lubrication for the concrete, but this mortar shall not be used in the placement.

When the form is nearly full and there is enough concrete in the line to complete the placement, the pump shall be stopped and a go-devil inserted and shall be forced through the line by water under pressure to clean it out. The go-devil should be stopped at a safe distance from the end of the line so that the water in the line will not spill in the placement area. At the end of placing operation, the line shall be cleaned in the reverse direction.

1.0 STONE MASONRY:

1.1 Jaipur is surrounded by a belt of Aravali hills having good quality of building stone.

Stones available from quarries called SAIWAD, located in Tehsil Amer, at a distance of about 20 Km from the site, has good quality of stones available in different colours.

GENERAL SPECIFICATION OF STONE MASONRY:

Normally, stones used should be small and uniform to be lifted and placed by hand. The length of the stones should not exceed three times the height and the breadth of base should be greater than 3/4 of the thickness of the wall, not less than 150 mm.

The height of the stones may be up to 300mm. Stones with round surface should not be used. All stones should be wet before use. Percentage of water absorption shall not be more than 5%. Minimum crushing strength of building stones shall be 200 Kg/sq.cm.

1.2 RANDOM RUBBLE MASONRY BUILT IN COURSES:

The stones are hammer-dressed on bed and top surface unless natural cleavage of the stone give parallel faces. No face of stones to be narrower or shorter than its height and no such stones shall, tail into the wall less than its height and at least 1/3 of the face stones shall tail into the wall twice their height.

Random Rubble stone masonry for foundation and plinth should be in Cement Sand Mortar 1:6 (1 Cement :6 Sand) for above 300mm thick wall.

Hammer dressed exposed Random Rubble masonry to be built in courses with stone of approved quarry for superstructure above ground level in cement sand mortar 1:6 (1

cement :6 Sand) including filling the joints in white cement marble powder (1:2) with an admixture of pigment matching the stone shade for 30 cm. thick wall.

1.2.1 BED & JOINTS:

Not to exceed 12mm thick. The stones shall break joints on the faces for at least half the height with those of courses above and below.

1.2.2 HEIGHT OF COURSES:

Not less than 150 mm in height and brought upto level beds and shall be laid at right angle. Refer JDA's detailed drawings in this respect.

1.2.3 BONDS OR THROUGH STONES:

In the interior thickness of the wall bond stones of at least 450mm long shall be given so as to approximately provide through-bond of long stones at every 1500 mm distance.

1.2.4 HEARTING

Stones to be not less than 150 mm in any direction, carefully laid, hammered down with wooden mallet into place and solidly bedded with mortar, chips and spalls being wedged into void thick beds of joints and mortar.

2.0 BRICK MASONRY

2.1 Brick should be soaked in water for at least one hour before use for works in cement mortars. The bricks should be sufficiently soaked before use but not excessively so. The absence of bubbling when the soaked brick is immersed in water is the test for thorough soaking.

2.2 Brick work shall be laid in English Bond using first class bricks designation 75. Half cut bricks shall not be used except where necessary to complete the bond. All courses shall be laid truly horizontal and all vertical joints shall be truly vertical. The thickness of mortar shall be kept uniform, keeping the bricks frog upwards.

3.0 HALF BRICK MASONRY:

Half brick work – plain or reinforced.

115 mm thick brick work shall be called as half brick work. It shall be built by laying bricks in stretcher bond. Mortar shall be as specified in the Schedule of Rates.

These walls may be used for forming cavities or partition walls inside buildings. Brick work shall be reinforced with either of following methods:

- 1] with 6 mm dia. Bars, 2 bars at every third layer.
- 2] GI metal lath / GI hoop iron 25mm x 1.6 mm shall be used at every third layer as detailed by layer as detailed by the manufacturer.
- 3] Patti Beams of 115 x 150 mm high in M 20 grade concrete shall be casted. Beam shall be reinforced with 2 nos. 8 mm dia Tor bars and 6 mm dia. MS links at 300 mm C/C. Patti beams shall be at every 1000 mm interval in height.

Embedding of reinforcement shall be done very carefully. All precautions shall be taken so that edges are not exposed, lapping of bars and lath shall be proper and staggered.

Measurements shall be in square meters. Reinforcement and shuttering shall not be measured separately.

RATE:

The following operations shall be included in the brick work :-

- A] Raking out joints for plastering or for pointing done as a separate process or for finishing joints flush as work proceeds.
- B] Preparing tops and sides of existing walls and the like for raising.
- C] Rough cutting and waste for forming gables, cores of arches, splays at caves and the likes and all rough cutting in the body of brick work, unless otherwise stated.
- D] Plumbing to angles and battered surfaces.
- E] Forming reveals to jambs where fair cutting on exposed faces is not involved.F]
Leaving holes for pipes etc.
- G] Building-in holdfasts, air bricks, fixing bricks etc.
- H] Building-in ends of beams, joists, slabs, lintels, sills, trusses etc.I] Forming opening and flues for which no deduction is made.
- J] Bedding wall plates, lintels, sills, roof tiles, corrugated sheets, etc. in or on walls, if not covered in their respective trade.
- K] Leaving chases of section not exceeding 50 cm in girth.

4.0 WOOD WORK

4.1 PLY/BLOCK BOARD

All ply or block board shall be of best quality of DURO/NATIONAL/ GREENLAM make or equivalent. All exposed block board edges shall have lipping of timber as directed and nothing extra is payable for the same.

When decorative ply/block board is used for funneling or ceiling etc. the same shall be of matching grains.

4.2 SCREWS

All screws shall be of best quality chromium plated. Brass or steel screws of Nettle fold made or equivalent.

4.3 LAMINATE

Laminate where specified shall be of matt finish of 1.5mm thickness of approved make.

4.4 PAINTS

The paints used shall be of approved shade of make-Berger/Dulux/ICI/Asian or equivalent.

4.5 TIMBER:

4.5.1. TEAK WOOD:

Superior class Teak Wood, such as Balarshah Malabar or Dandeli. It shall be

of best quality available in market and well-seasoned. It shall be free from dead knots, warps, cracks, shakes and sap wood. Wherever the word "teak wood" is specified in the schedule and/or drawings shall mean superior class teak wood as specified herein above.

4.5.2. IST CLASS DEODAR WOOD:

Timber shall be of good quality and well-seasoned. It shall have fairly uniform colour, reasonable uniform grains and shall be free from dead knot, cracks, shakes and sap wood.

4.5.3. KAIL WOOD:

It shall be well seasoned out of sleepers devoid of any knots and should be of uniform grains.

4.5.4. TITO CHAP WOOD:

It shall be well seasoned. It shall have fairly uniform colour, grains and shall be free from dead knot, cracks, shakes and sap wood.

i. GENERAL:

- a. All block boards and plywood shall be National/Duro make In case due to non-availability or otherwise any other make is to be used, JDAs prior approval should be obtained.
- b. All the exposed internal and external commercial face shall be painted with two coats of synthetic enamel paint, over a coat of wood primer.
- c. All the wooden surfaces touching the wall, floor and ceiling shall be treated with anti-termite treatment as per ISI / PWD specifications.

ii. PROCEDURE OF WORK:

- a. The contractor shall arrange his operations such that they are convenient and agreed to by the JDA.
- b. He shall adhere to the time schedule presented by him and shall complete to all satisfaction of the JDA.

iii. BUILT-IN-JOINERY:

Where joinery work is specified to be built in, it shall be the responsibility of the contractor to ensure that the joinery works are set in plumb and true in line and shall not be damaged or displaced by subsequent operations.

iv. PROTECTION OF WORK

The Contractor shall be responsible for the temporary doors and closing in of openings necessary for the protection of the work during progress. He shall also provide and maintain any other temporary covering required for the protection of finished/unfinished wood work that may be damaged during the progress of the work if left unprotected.

v. MAKE GOOD DEFECTIVE WORK:

The contractor shall be responsible for any shrinkages or warping or any other defects which

may appear in any joinery work.

All defective or damaged work shall be taken down and renewed or repaired to the satisfaction of the JDA/Interior Designers without any extra charges.

vi. **ANTI TERMITE TREATMENT:**

All the surfaces shall be treated with anti-termite treatment as per ISI specifications.

5.0 STEEL WORK IN DOORS / WINDOWS /VENTILATORS / BALUSTRADES, STILLS, GATE,PARTITIONS AND GLAZING ETC.

Steel doors

Material

Steel used in the manufacture of rolled steel section shall conform to IS 1977 .Dimension and weight of rolled sections shall be as per IS 1038/IS 7452. rolled steel sections shall be free from rolling defects and shall be suitable for punching and welding. Cord-eyes, pulleys, brackets and catch plates for spring catches may be of malleable iron or mild steel. Pivots and spring catches shall be of non-ferrous metal.

Couplings for building section shall be as detailed in IS1038. they may be manufactured from M.S. plate 1.6 mm thick and conforming to dimensions of IS 1038. also tubular sections as detailed in IS 1081 may be used for coupling at varying angles.

Machine screws used for building shall conform to relevant IS codes. Wood screws used shall conform to IS 451.

All bolts, nuts, screws, washers, fixing lugs etc. shall be suitably anti-corrosion treated.All peg stays, handles and other fittings shall be brass oxidized or as specified.

Frames shall be fabricated from sections approved sections cut to length and joints mitred. Framed shall be square and flat. Flash butt welding shall be adopted. The glazing sections tennoned and riveted into frames. Intersections with vertical shall be broached and intersection closed by hydraulic pressure.

Welds shall be continuous and throughout the joint. No tack weld permitted. Welds shall be ground properly. Weld shall be without any cavities, cracks, cuts etc.

Composite units shall be coupled with coupling sections. These joints shall be sealed with mastic sealants to make water and air tight.

Glazing shall be fixed from outside of frame with glazing clips in slots already provided. Glass shall be held in position by using putty conforming to IS 419. putty shall be well worked behind and above glass to secure glass suitably. Putty shall be cut neatly.

Door shall be securely fixed in position to correct line, level and plumb. Position of unit shall be as approved by EIC. Normally frames shall be 12 mm less allround than opening provided. They shall be fixed within masonry and concrete by grouting holdfast screw / welded to frames.

Frames fabricated, checked cleaned and primed at shop. On fixing in position and completion of civil wet work, fixing of glazing and due cleaning they shall be painted with one coat of primer, two under coats and one finished coat of enamel paint system.

STEEL WORK FOR GRILLS, BALUS TRADES ETC.STEEL

All finished steel shall be well and clearly rolled to the dimensions and weight specified by ISI subject to permissible tolerance as per IS 1852-1973. The finished materials shall be free from cracks, surface flaws laminations, rough and imperfect edges and all other defects. Steel sections shall be well protected.

The decision of Engineer regarding rejecting any steel section on account of any of the above defects shall be final and binding on contractors. Structural steel work shall conform to relevant I.S. Specifications.

FABRICATION

The steel sections as specified and as required, shall be straightened and cut, square and correct lengths and measured with a steel tape. The cut ends exposed to view shall be finished smooth. No two pieces shall be welded or otherwise jointed to make up the required length of a member. All straightening and shaping to forms, shall be done by pressure. Bending or cutting shall be carried out in such a manner as not to impair strength of the metal.

WELDING AND FIXING:

Wrought iron or mild steel work shall be forged clean from the anvil and neatly, soundly and perfectly finished to the dimensions specified. All welds, turns or sets shall be sound. Screwed work shall have full internal and external threads. Holes shall be punched clean and burrs cleaned off. All counter sinks shall be concentric. Edges shall be filled square and smooth. All welds shall be cleaned of slag and other deposits after completion including grinding to square neat joints.

GLAZING:

The glazing work shall be applicable to the wood / steel work. The contractor shall provide all labour, materials and equipments required to complete the installation of all glass glazing and related items. The glass shall be of the type and quality as specified and directed by the Engineer and as per the relevant I.S. Specifications. The contractor shall cut the glass to the sizes as per approved drawings. Cracks, chipped or disfigured glasses shall not be accepted. The contractor shall have to replace all the broken glasses if any at the time of completion of the work without any extra cost. If not specified 4 mm thick glass panes shall be provided.

PUTTY:

Special metal sash putty of approved make conforming to IS:420-1953 shall be used for fixing for glass panes. Putty shall be applied between glass panes and glazing bar. Putty shall then be applied over the glass panel, which shall stop 2 to 3 mm from the sight line of the back rebate to enable the painting to be done up to the sight line, to seal the edge of the putty to the glass. The oozed out back putty shall be cleaned and from putty cut to straight line. Putty shall be painted within 2 to 3 weeks, after glazing is fixed to avoid its cracking.

GLAZING CLIPS:

Four glazing clips shall be provided per glass pane for a size larger than 30 cm x 60 cm for all types where the glass panes, size exceed 80 cm x 200 cm. 6 glazing clips shall be used. In case of doors, windows and ventilators without horizontal glazing bars, the glazing clips may be spaced according to the slots, in the vertical members provided the spacing does not exceed 30 cm, otherwise the spacing shall be 30 cms.

Wherever glass panel are to be provided in wooden members, the same shall be fixed with teak wood beading including necessary screws and putty etc. as per drawings.

6.0 ALUMINIUM WORK:Material:

Aluminium alloy standard extruded sections manufactured in the country by major manufacturers and are used for fabrication of Aluminium doors, windows, ventilators and partition. Tee/angle sections are used for frame work of false ceiling. The chemical composition and mechanical properties of these extruded sections should comply with the requirement of IS 733, IS 1285, IS 737. Aluminium is corrosion resistance, it is inert to sulphur.

Aluminium alloy extruded sections in different forms used in the manufacture of frames and shutters of doors and windows and supports for hand rails, wall facings, partitions and similar other applications, where surface finish is important and medium strength would suffice shall conform to IS:733 and IS 1285.

Anodising:

In india, standard aluminium extrusion products are manufactured by a very few large companies and the product mix includes a wide range of solid and hollow profiles with different functional shapes for architectural, transport, structural glazing, curtain walling, textile, electrical industries, micro light, air craft etc. and also the products used in irrigation industry as tubes for sprinkler system and for transporting water etc.

The extrusion are anodised up to 30 micron in different colours like silver, champagne, bronze and black. A fool proof scaling system ensures durable finish for long lasting applications.

Aluminium work for Doors, windows, ventilators and Composite Units:

The aluminium doors, windows and ventilators shall be fabricated by reputed local work-shops using the aluminium extrusions manufactured by the renowned manufacturers., Mysore or similar concerns. Fabrication of doors, windows etc. on site by local labour employed by the contractor shall not be permitted. The fabricated materials in ready to fix position are subject to inspection by the JDA, who may call for necessary documents to confirm that only materials from reputed manufacturers have been used for the fabrication.

Doors:

Aluminium Alloy Extruded Sections:

Dimensions and weight per metre run of extruded sections shall be used for manufacturing aluminium doors, windows, ventilators etc. as recommended in IS: 1948-1961.

General Specification and Tolerances for Aluminium Extrusions manufactured by renowned manufacturers:

Circumscribing Circle Diameter (CCD)

[I] the product range can be broadly categorized as follows:

a] for solids up to 190 mm. b] for hollows up to 135 mm.

[II] Sections with higher CCD can also be produced as per special inquiry.

Manufacturing tolerances:

Dimensional extrusions are normally manufactured as per Indian Standard / British Standard Specifications. Special tolerances shall be mutually agreed upon:

Tolerance on cut length:

[I] The standard cut length is 3.66 M. the tolerance on cut length shall be as follows:

Length	up to 6 metres	over 6 metres
Tolerance	+ 5.00 mm	+ 7.00 MM

[II] Section can also be supplied in random lengths between 1500 mm to 5000 mm.

Tolerance in weight:

Actual weight of sections depend upon the functions like tolerances and alloy. Generally a section will be supplied $\pm 10\%$ weight tolerances.

Glazing:

Sheet Glass, Frosted Sheet Glass:

Sheet glass shall be flat, transparent and clear as judged by unaided eye. It may, however possess slight tint when viewed edge wise. Sheet glass shall be of selected quality [SQ] or ordinary quality [OQ] as per IS:2835. glass shall be free from cracks. Unless otherwisespecified ordinary quality sheet glass shall be used.

Dimensions:

Normal thickness and range of thickness of sheet glass shall be as per standard norms. Tolerance on cut size [length and width] shall be ± 2 mm.

Thickness and weight of sheet glass

Normal thickness [mm]	Range of thickness [mm]	Weight [kg/sqm]
3.0	2.8 to 3.2	7.5
4.0	3.8 to 4.2	10.00
4.8	4.6 to 5.1	11.9
5.5	5.2 to 2.8	13.5
6.3	6.0 to 6.6	15.5

Sheet glass of 6.3 mm nominal thickness weighing not less than 15.5 kg/sqm shall be used for glass panel of area up to 0.5 sqm. for panel exceeding 0.5 sqm in area, the nominal thickness of glass to be used shall be as specified.

Glass panes shall weigh at least 7.5 kg/sqm and shall be free from flaws, specks or bubbles. All panes shall have property squared corners and straight edges. The glass panes shall be socut that it fits slightly loose in the frames. In doors, windows and clerestory windows of bath, WC and lavatories frosted glass panes shall be used which shall weigh not less than 10 kg/sqm.

Glazing shall be provided on the outside of the frames unless otherwise specified.

Fixing of glass panes shall be done with aluminium beading. Fabriucator shall drill appropriate holes for screws. Normally the beadings are fixed with screws spaced not more than 10 cm from each corner and intermediate not more than 20 cm apart. When the glass panes are fixedwith aluminium beading having mitred joints, epoxy resin or silicon sealent shall be applied between glass panes and sash bars and also between glass panes and the beading.

Paneling:

Different types of paneling such as ply wood, block board, veneered particle board, fibre board paneling can be used for aluminum doors, windows and ventilators.

Measurement:

Frame work:

Only after ascertaining that the aluminum doors, windows and ventilators fixed on site are manufactured by reducing the width by 2.5 cm and height by 1.25 cm than the specified size of doors in the drawings issued for construction, the length of each extruded section used for fabrication of the door shall be measured correct to 1 mm. In case the sizes of doors that are manufactured, happen to be the sizes specified in the drawings, only the theoretical dimensions arrived by reducing the overall sizes should be considered.

The weight of material used shall be calculated on the basis of actual weight of extruded sections used for fabrication and shall be compared with the weights given in the manufacturer's catalogue. Subject to the condition that the variation in actual weight should not exceed $\pm 10\%$ than the weights specified in the manufacturer's catalogue. Payment shall be made for the actual weight of the extruded section. The final weights shall be calculated in kgs. Upto two places of decimal.

Glazing:

Length and width of opening for glazing inserts shall be measured correct to a cm.

7.0 FLOORING

CEMENT CONCRETE:

Cement concrete of specified mix shall be used and it shall generally conform to the specification for concrete.

BASE:

Proper base to required slopes shall be prepared for laying the flooring. In case of flooring under layer shall be of hard core and or cement concrete. If the cement concrete flooring is to be laid directly on RCC slab, the surface of the RCC slab shall be roughened with brushes while the concrete is green. Before laying the concrete the laitance shall be removed, the surface shall be hacked and a coat of cement slurry at 2.75 kg/sqm on the floor area shall be applied to get a good bond between concrete and slab.

The hard core shall consist of broken stones./ stone blast of 50 mm and under size. These shall be spread and laid on the prepared base and initially compacted manually. The surface shall then be checked for proper grade. The hard core shall be then compacted by mechanical compactors.

LAYING:

The specified thickness of cement concrete shall be laid in the pattern as approved by the Engineer and ISI Specification. Wherever not specified minimum thickness of 40 mm be provided.

The flooring shall be laid to the level except where slopes are called for in the drawings in which case the slope shall be uniform and arranged to drain off in the indicated outlets. Particular care shall be taken to ensure that all flooring Skirting / dado to perfectly match for colour / texture / finish.

CURING:

Curing for cement / metal hardened flooring shall be done for a period of 10 days after the top layer has hardened. Curing shall be done by flooding with water.

POLISHED KOTA FLOORING:

STONE SLAB:

The slabs shall be of selected quality, hard, sound and homogeneous in texture, free from cracks, decay, weathering and flaws. They shall be hand or machine cut to the requisite thickness (25 mm, if specified), size and shape as specified.

They shall be of even colour and free from soft veins, cracks and broken flaws on top.

DRESSING:

Every slab shall be cut to the required size and shape and fine chisel dressed on the side to the full depth so that a straight edge laid along the side of the stone shall be in full contact with it. The side (edges) shall be table rubbed with coarse sand or machine rubbed before paving. All angles and edges of the slab shall be true, square and free from chippings and the surface shall be true and plane.

PREPARATION OF SURFACE AND LAYING:

The bed mortar should be of cement mortar 1:4 (1cement;4 coarse sand) of 20 mm thick average thickness having a minimum of 12 mm thickness and not more than 28 mm thickness anywhere. This should be laid on the sub-base of floor, after cleaning the same and thoroughly wetting. Neat cement grout of honey like consistency shall be spread on the mortar bed on as much area as could be covered with the flooring slabs within half an hour.

The edges of the slabs to be fit jointed as required and the joints shall be buttered with grey cement, with admixture of pigment to match the shade of the slab. The flooring shall be laid without variation in colour and the stones to be graded to achieve desired uniformity.

POLISHING & FINISHING:

- A] First grinding with coarse grade carborundum stone shall be done.B] Second grinding shall be done with carborundum stone 120.
- C] Final cutting with fine stone of 220-350 grade.

GRANITE / MARBLE STONE :

Granite / marble stone shall be hard, sound, homogeneous in texture with crystalline texture and shall be uniform in colour and free from cracks, stains and weathering. The quality shall be as specified and approved by the Engineer. The slab shall be cut to the required shape and size, fine dressed on all sides to the full depth. Front edge of the stone be rounded. The surfaces shall be machine cut or table rubbed and all edges and angles shall be true, square and free from clippings. The laying, curing, polishing and finishing shall be as per specifications duly approved by the JDA . the mortar bedding thickness shall be 20 mm.

GLAZED CERAMIC TILES

Glazed ceramic tiles shall be laid on structural concrete slab or floor concrete slab. These will be to specification.

Tiles do not require any special bedding as per terrazzo and stone floor tiles. But to achieve required slopes it is advisable to provide, average 20 mm thick bedding cement layer. Over this, tiles shall be laid on neat cement slurry. Tiles for skirting and dados shall be laid on cement mortar 1:3 backing

plaster of 12 mm thickness.

8.0 PLASTERING

All plaster work shall be executed in a workman like manner and shall be of the best workmanship. All plastering shall be finished to true plane, without imperfections and square with adjoining work and shall form proper foundations for finishing materials such as paint etc. Grooves in plaster as specified in the drawings shall be provided.

Masonry and concrete surface to which plaster is to be applied shall be clean, free from efflorescence damp and sufficiently rough and keyed to ensure proper bond.

MORTAR

The mortar shall be used as specified in the nomenclature / drawings. In the absence of any specific mention it should be cement mortar 1:5 for internal and 1:4 for external walls and 1:3 for ceiling plaster.

At all joints between concrete frames and masonry wire netting of required width shall be installed as required by the Engineer before plastering. Groove shall be provided between the ceiling and wall plaster, if so desired by the

Engineer. Edges of all plastered surfaces shall be protected. The contractor shall prepare samples of each type of plaster work for approval by the Engineer before the commencement of plaster work.

All plaster shall be commenced from the top and worked towards the ground and no patchwork shall be permitted.

Mortar shall be applied to the surface in uniform layers slightly more than the specified thickness.

FINISHING:

The surface shall be made even and finishing shall be completed with plaster's trowels as soon as possible. In any case, it shall not take more than half an hour after water has been added to dry mortar. The finished thickness shall be 12 mm on smooth faces of internal walls and 15mm average on the rough faces of walls and external walls. Thickness of ceiling plaster to be minimum 6 mm and may be increased to get even and level surface.

All corners, angles and junctions shall be truly vertical or horizontal as the case may be carefully and neatly finished.

Rounding of corners and junctions where required shall be done without any extra payment.

No portion of the surface shall be left out initially to be patched up to later on, work shall be continuously taken up. The work include provision of all grooves, between various surfaces.

WORKMANSHIP:

Preparation of mortar mix:

The material used in preparation of plastering mixes shall be measured by volume using gauge-boxes or by weight.

When cement is measured by weight, 1440 kg. of material shall be taken equivalent to one cubic meter.

Mixing:

Mixing shall be done mechanically. Each mortar batch shall be used within half an hour. Hand mixing if permitted as special case shall be carried out on a clean watertight platform. The mixing operation shall be continued with addition of necessary quantity of water until a uniform appearance and consistency of mortar is obtained.

Cement and sand shall be mixed dry in required proportion to obtain a uniform colour and water shall then be added to get the required consistency of the plaster.

Method of plastering:

Surfaces to be plastered must be clean and free from dust, loose material, oil, grease, mortar droppings, sticking of foreign matter, traces of algae etc. it is very important to ensure that there should not be any chance of the plaster getting abandoned due to presence of materials harmful for bonding.

Raking out of joints is expected to be carried out alongwith masonry but it should be checked thoroughly so as to receive good key.

Walls should be sufficiently damp prior to plastering. Water from plastering mortar must not be observed by masonry under any condition.

Any unavoidable projections in masonry and concrete surfaces shall be chiseled back. Care shall be taken that surrounding surfaces are not damaged and reinforcement is not exposed.

Thickness of one coat should not be more than 15 mm and less than 8 mm for single coat finished plaster.

In case of multi coat plaster, sufficient time shall be allowed for the undercoat to harden (cured, dried and shrunk properly) before subsequent coats are applied.

Undercoats shall be scratched or roughened before they are fully hardened to form a mechanical key.

The method of application is also important and hence it is recommended that the mix be thrown on the surface rather than stuck with trowel. This increases the adhesion.

Scaffolding should be rigid allowing free and safe movement on the platform and it should be at sufficient distance or height from the working area. Scaffoldings with railing gives more confidence to workers and improve the quality of work.

Actual plastering shall be undertaken only on the approval of the JDA. Plaster work should only follow the steps mentioned below:

- A] Surface must be thoroughly cleaned.
- B] Plaster area must be provided with level dabs or spots allowing working and checking with 2-3m straight edge. Depth of plaster must not be less than 8 mm at any point.
- C] Required concealing services must be completed and tested.D] No further cutting of masonry must be required.
- E] Repairs carried out to masonry or concealing work must be cured and dry.F] Surface must be sufficiently damp.
- G] Plaster dabs are checked for plumb and level by the EIC or his representative.
- H] Joints, concealing and repairing areas must be covered with 20 gauge GI chicken meshas per the JDA's instructions.

Corners, external or internal shall be finished alongwith final coat. It is advisable to have rounded corners.

Plaster shall be cured for 14 days by wet curing except in neeru finish plaster. During this period plaster shall be protected from exposure to extremes of temperature and weather.

Plaster shall be leveled and lined by aluminium hollow section, 2-3 m long (this will give even and leveled surface). There shall not be more than 2 mm difference in level when checked with 3 m straight edge. It is important that enough pressing and beating is done to achieve compact filling of joints and that the area is fully compacted.

Finishing of plaster may be carried out with wooden float (randhas) or trowelled smooth with sheet metal trowels as specified. Care shall be taken to avoid excessive trowelling and overworking of the wooden float.

All corners, internal or external, shall be truly vertical and horizontal. These shall be finished with a proper template to achieve best workmanship for rounding and chamfering as specified or directed.

Plaster shall be cut to correct horizontal or vertical line at the end of the day or if work requires to be suspended for any reason.

It is advisable to limit the area of plaster to 15 sqm to avoid cracks due to thermal movements of dissimilar material in contact, it is advisable to provide joints treated with groove or any other details as suggested by the Architect / Engineer. These joints if not specified shall be treated with 150 mm wide reinforcing chicken mesh (approved by the JDA) fixed over joints by GI nails and the area plastered.

MEASUREMENT:

Thickness of plaster shall be the average depth of plaster as specified. But if extra thickness occurs due to bad quality of bricks, stones or blocks or due to bad workmanship, then the repairs required to be carried out shall be at the cost of the contractor.

- A] Grooves, pattas in continuation of large areas or plaster areas shall be considered as part of the plaster and not measured separately.
- B] Isolated areas and width below 300 mm shall be specified and detailed separately in the Schedule of rates and measured in running meter.
- C] Ceiling plaster, including ribbed beam slab shall be measured in square meters.
- D] Beams and columns in continuation of masonry shall be measured in square meter.

Jambs, sills, coves, cornices etc. shall be a part of plaster and not separate payment shall be made towards these items.

Deductions:

- A] Deductions for an opening in plaster shall not be for area less than 0.5 sq.m.
- B] In case the opening area is 0.5 sq.m. to 3.0 sq.m., only 50% area shall be deducted from each side.
- C] In case the width of door or window frames are equal to masonry, full area of opening shall be deducted.
- D] In case of opening of area above 3 sq.m. each deduction shall be made for opening on each face and jambs, soffits, sills shall be measured.

RATE : (If applicable)

Description of item, includes wherever necessary, conveyance and delivery handling, unloading, storing, fabricating, 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.

Levels and heights shall be as indicated in the Schedule .Preparation of surface shall be as approved by the JDA.

Trimming off the projections on masonry shall be included in the price.Scaffolding and working platform shall be included in the price.

Materials as detailed and as required to complete item as specified shall be included in the price.

Curing of plaster shall be included in the price.

Cleaning of adjacent areas, windows, door frames etc. including masonry surface in exposed masonry work, shall be included in the price.

Forming grooves for joints between beams / columns and masonry etc. shall be included in the price. Any special treatment if detailed shall be measured separately and billed in Schedule of Rates.

Providing and fixing chicken mesh at junction of RCC , brick work, edges, corners, chiseled and repaired brick work prior to plaster over concealed conduit etc. shall be as directed by the JDA. It shall be considered as per of item and no separate charge will be payable.

CURING:

Curing shall be started as soon as the plaster has hardened sufficiently. The plaster shall be kept wet for a period of a minimum of seven days or as directed. The finished surfaces shall be suitably protected from sun, rain and other damages.

SCAFFOLDINGS:

For all plaster and pointing work double scaffolding having two sets or vertical supports shall be provided. The supports shall be sound and strong tied together with horizontal pieces over which scaffolding planks shall be fixed.

Any cracks which appear in the surface and all portions which should be hollow or are found to be soft or otherwise defective shall be cut and redone as directed by the Engineer to match with the surrounding surfaces.

NEERU PLASTER FINISH:

Neeru plaster is done to have better finished plaster surface. The mortar for punning shall consist of one lime palti and one fine sand unless other-wise specified. The lime palti shall be made using fat lime. The mortar shall be grinded in a mechanical mortar mill. The surface of the undercoat on which the Neeru plaster is to be done shall be left rough. The finishing shall be applied when the under coat is still green. The mortar for finishing shall be applied in a uniform layer slightly more than 3 mm thick between gauged pads, with which to ensure an even and uniformly thick surface by frequent checking with a wooden straight edge. It shall be finished to an even and smooth surface with trowels.

All corner, angles and junctions shall be truly vertical and horizontal as the case may be and shall be carefully and neatly finished. Rounding or chamfering comers, arises, junctions etc. where required shall be made without any extra payment.

No portion of the surface shall be left out initially to be patched up later on. The thickness of the finished mortar shall not be less than 3 mm thick.

9.0 PAINTING:

The following specifications cover the painting and finishing of all surface throughout the interior and exterior of the building. Refer to schedule of finishes, for type of interior finish, exterior finish to surface etc. contractor shall supply all labour, materials, tools, ladders, scaffolding and other equipment necessary for the completion and protection.

All colour, tints as approved in the colour schedule shall be approved by the Engineer. The contractor shall use pre-mixed manufacturer's colours and shall prepare painted samples of the colours selected and submit the same for approval by the Engineer. No work is to proceed until the Engineer has given his approval of the colour samples. For mixing of various shades and colour no extra shall be payable.

All materials used in the work shall be specified in brand and quality, as approved by the Engineer. Paints shall be ready mixed and all paints, varnishes, enamels, lacquers, stains, paste, fillers and similar materials must be delivered to the job site in the original containers, with the seal unbroken & label intact. Each container shall give the manufacturers name, type of paint, colour or paint and instruction for reducing. Thinning shall be done only in accordance with manufacturers directions.

All surfaces to be painted and floors in the rooms being painted shall be cleaned free of all loose dirt and dust before painting is started. All work where a coat of material has been applied must be inspected and approved before application of the succeeding specified coat.

Each under coat shall be a distinct shade of the approved colour. All interior and exterior trim, door frames, door windows, ventilators, shelving, cabinet work shall be thoroughly and carefully painted on all surfaces and edges which will be concealed when installed. Such surfaces shall be clean, dry sanded and properly prepared to receive the paint, tops, bottoms and edges of doors shall be finished same as the rest of the door.

Where walls are specified to be painted, all columns arises, groove rough surfaces, reveals, soffits returns etc. shall be included and no extra shall be payable.

WOOD:

Sand paper to a smooth even surface and then dust off and wipe clean. Touch up all knots and pitch pockets with shellac on interior wood and outside with sealer or exterior work. After priming coat has been applied thoroughly fill all nail holes, irregularities and cracks. Use plasterwood filler for stained or natural finish and putty for painted work.

PLASTER WORK:

Fill all holes, cracks and abrasions with plaster of paris, properly and applied cut smoothed off to match adjoining surfaces. Do not use sand paper on plaster surface. Plaster shall be allowed to dry for atleast 3 weeks.

STEEL & IRON:

All surfaces shall be washed with mineral spirits to remove any dirt or grease before applying paint. Where rust or scale is present, it shall be wire brushed and emery prepared clean. Shop coats of paint that have become marred shall be cleaned off, wire brushed, and spot primed over the effected

areas.

Brick tile / brick work / concrete shall be allowed to dry for at least 30 days, then shall be prepared for paint by thoroughly removing all dirt, dust, oil lacquer, efflorescence and other deleterious materials cracks, faulty joints and cavities in concrete shall be filled by applying a cement and sand grout and cement to produce a uniform even surface.

No exterior painting shall be done in damp foggy or rainy weather, surface to be painted shall be clean, dry smooth and adequately protected from dampness. Each coat shall be applied in sufficient quantity to obtain complete coverage, shall be well brushed and evenly worked out over the entire surface and into all corners, angles, and crevices, allowed to thoroughly dry. Second coat shall exactly match final coats is started. Allow for at least 48 hours drying time between coats for interior and 7 days for exterior work and if in the judgement of the Engineer more time is required it shall be allowed.

Finished work shall be uniform, of approved colour, smooth and free from runs, sags, defective brushes and clogging. Make edges of paint adjoining other materials or colour sharp and clean, without overlapping plaster wood filler when it shall be wiped across the grain of the wood and then with the grain to secure a clean surface.

All under coats of paint shall be tinted to the same or approximately the same shade as of the final coat.

All interior plastered surfaces shall be washed down with solution consisting of 3 pound of zinc sulphate per gallon of water.

Enamel or varnish finish / oil finish applied to wood or metal shall be sanded between coats with fine sand paper to produce a smooth even finish. Varnished surfaces must be protected from dampness and dust until completely dry.

WHITE WASHING & COLOUR WASHING:

PREPARATION OF SURFACES:

The surfaces shall be prepared thoroughly cleaned of mortar drops and foreign matter.

LIME WASH:

The wash shall be prepared from fresh stone white lime or manual or equivalent quality. The lime shall be thoroughly slaked on the spot, mixed and stirred with sufficient water to make a thin cream. The cream shall be screened through a clean coarse cloth and of chhatas of gum dissolved in hot water added for each of the cream. Water shall be added at the rate of about one gallon per kg. of lime to produce a milk solution. In case of colour wash pigment of approved quality and shade be added with the lime wash.

Wherever white washing with whiting is to be applied, same shall be as per I.S. code.

WHITE WASHING / COLOUR WASHING:

The wash shall be applied with a brush. The coats being laid on vertically and horizontally alternatively, each coat being allowed to dry before next coat is applied. When dry, the wash should show no sign of cracking.

No portion in the surface shall be left out initially to be patched up later on.

For new work, 3 or more coats shall be applied till the surface present a smooth and uniform finish, the last coat being applied vertically.

DRY DISTEMPERING:

Dry distemper of the approved brand and manufacturer shall be used. The shade shall be got approved from the Engineer before application. The dry distemper shall be prepared and mixed as per approved manufacturers specifications and instructions.

The surface shall be thoroughly brushed free from mortar dropping or other foreign matter and sand prepared smooth. New plaster surface shall be allowed to dry before applying as per direction and satisfaction of Engineer. Filling in plaster shall be made good with plaster of paris mixed with dry distemper of the colour to be used. The surface shall be rubbed down again with fine grade sand paper and a coat of distemper shall be applied over the patch.

A priming coat of whiting shall be over the prepared surface in case of new work, if so stipulated in the description for the item. No white washing coat with lime shall be used as a priming coat. The treated surface shall be allowed to dry before the distemper coat is given.

The treatment shall consist of a priming coat of white washing followed by the application of two or more coats of distemper till the surface shown an even colour. The application of each coat shall be as follows:

The entire surface shall be coated with mixture uniformly with proper distemper brushes in horizontal strokes followed immediately by vertical one which together shall constitute one coat. The subsequent coats shall be applied after the previous coat has dried. The finished surface shall be even and uniform and shall show no brush marks and wavy surfaces. Enough distemper shall be mixed to finish one room at a time and application of a coat in each room shall be finished in one operation. After each day's work the brushes shall be washed in hot water and hung down to dry.

WATER PROOFING CEMENT PAINT:

Water proofing cement paint of approved brand and manufacture shall be used. The paint shall be brought in sealed bags and the shade etc. shall be got approved from the Engineer. The surface shall be prepared thoroughly cleaned of foreign drops & foreign matter. All loose particles shall be dusted off after rubbing. One coat of water proofing cement paint properly diluted rubbing with thinner (water or other liquid) as stipulated in horizontal stroke followed immediately by vertical one, which together constitute one coat. Subsequent coat shall be applied in the same way after a time interval of at least 24 hours between consecutive coats until an even shade is obtained. The surface shall be cured by keeping it wet by sprinkling water for at least 7 days.

TEXTURE FINISH:

High quality acrylic based texture spray applied in approved pattern applied as intermediate finish in desired pattern to form film thickness 1-1.2mm after scrapping and proper cleaning the surface to remove loose particles from the plaster/RCC surface over a priming coat of exterior primer applied at 0.8 litres

/10 sqm, followed by minimum two top coats with premium acrylic smooth exterior paint with 100% acrylic content UV resistant properties, anti-algae additives and dirt pick-up resistance of required shade complete as per manufacturer's specification. All layers should be of single manufacturer approved brand.

The agency shall supply all materials, labour, tools, ladders, scaffolding and other equipment necessary for the completion and protection of all texture work as herein specified shall be applied to all surfaces requiring texturing throughout the exterior of the building as given in the schedule of finishes or elsewhere. The texturing shall be carried out by a specialist sub-contractor, approved by the JDA. Care is to be taken that all surfaces to be textured are thoroughly cleaned and dry.

Storage of materials to be used on the job shall be only in a single place approved by the JDA. Such

storage place, shall not be located within any of the buildings included in the contract.

The paint shall be continuously stirred in the container so that its consistency is kept uniform throughout.

The painted surfaces shall present uniform appearance and semi- gloss finish free fromsteaks, blisters etc.

For new work, the surface shall be thoroughly cleaned off all mortar dropping, dirt dust, algae, fungus or moth, grease and other foreign matter of brushing and washing, pitting in plaster shall make good, surface imperfections such as cracks, holes etc. shall be repaired using whitecement. The prepared surface shall have received the approval of the Engineer -in- charge after inspection before painting is commenced.

Before pouring into smaller containers for use, the texture shall be stirred thoroughly in its container, when applying also the texture shall be continuously stirred in the smaller containersso that its consistency is kept uniform.

The specification and method statement shall be submitted by the agency well in advance before the start of execution. The execution shall be allowed only after due approval of JDA.

PAINTING WITH SYNTHETIC ENAMEL / READY MIXED / EXTERIOR PAINT:

Synthetic enamel paint (conforming to IS :1932-1964) / ready mixed paint / exterior paint shall be of approved brand and manufacture and of the required colour shall be used for the top coat and an under coat of shade to match the top coat as recommended by the manufacturer shall be used.

Preparation of surface shall be as specified for painting earlier:

Application: the number of coats including the undercoat shall be as under:

- a) Under coat: One coat of the specified paint of shade suited to the shade of the top coat shall be applied and allowed to dry overnight. It shall be rubbed next day with the finest grade of wet abrasive paper to ensure a smooth and even surface, free from brush marks and all loose particles dusted off.
- b) Top coat: top coats of specified paint of the desired shade shall be applied after the under coat is thoroughly dry. Additional finishing coats shall be applied if found necessary to ensure proper uniform glossy surface.

10.0 WATER PROOFING: INDIAN STANDARDS

Indian standards to be followed are:

- | | | |
|----|----------|---|
| 1. | IS 3384 | Specification for Bitumen primer for use in water proofing and damp proofing. |
| 2. | IS 269 | Specification for 33 grade ordinary and low heat Portland cement. |
| 3. | IS 383 | Specifications for coarse and fine aggregates from natural sources. |
| 4. | IS 2645 | Specification for integral cement water proofing compound. |
| 5. | IS 3495 | Method of Test for burnt clay building bricks. |
| 6. | IS 8112 | Specification for 43 grade ordinary Portland cement. |
| 7. | IS 12118 | Specification for two part polysulphide based. |

Part I General Requirements.

PROPRIETARY TREATMENTS:

Terrace water proofing (brick bat)

Various experienced water proofing specialists shall carry out the following or similar types of water proofing treatments. Terraces and roof slabs shall be treated with integral cement based waterproofing consisting of brick bat concrete laid to slope. The treatment shall be taken over vertical surfaces as required / specified. Final finished surfaces may be laid with paving tiles, stones as finished smooth in cement and marked with false chequered marking. Points given below are just for guidelines. The actual steps and details shall be submitted by the contractor for approval of the Engineer. Work shall be carried out as per approved method by the Engineer.

The surface to be treated shall be cleaned and well-defined cracks grouted by making 'V' notches with the cement slurry.

Average 110 mm thick brick bat coba cement concrete treatment shall be installed. Surface shall be cleaned, grouted and cured brick bat of required sizes shall be layed on grouted area to slopes as shown in drawing. Further joints shall be grouted with cement sand mortar of mix 1:6 and then finished with cement sand mortar mixed with waterproofing compound. Surface shall be finished smooth and false marking of 300x300mm tile pattern made. If other finishes are to be installed surfaces shall be prepared to receive the same.

Rainwater inlets, pipes and other obstructions protruding shall be properly treated to ensure that leakage / seepage does not take place.

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 and carried out right into the rain water pipes.
- C] Edges and corners are rounded or chamfered to a minimum of 75 mm radius.
- D] The top edge shall be finished in a neat horizontal line and tucked in a groove in the wall / parapet, about 300 mm above the finished surface.

The treatment shall also be carried out over parapet walls about minimum 300 mm in height or sill all around as case may be.

The surface shall be finished neatly with cement mortar in a ratio of 1:4 and marked with false marking. It may be covered with paving precast cement tiles or other specified tiles or stones in specified sizes. These shall be bedded in 12 mm thick cement sand mortar. Joints shall be pointed with CM in a ratio of 1:3, mixed with 5% water proofing compound by weight.

Testing:

Treatment shall be tested by pending water about 250 mm high for 72 hours. Surfaces shall be examined for leakage seepage, dampness, sweating etc.

Measurements shall be in square metre for finished surface area. Rates shall include all items right from cleaning of surface to completion and required guarantee against defects such as leakage, seepage, dampness, sweating etc. for a period of 10 years.

Sunken Portions:

All the sunken portions and vertical faces shall be treated in the following process:

1. Surface shall be cleaned and first coat of cement slurry applied @ 4.4 kg./sq.m. mixed with water proofing compound 'Impermo' of Snowcem or equivalent conforming to IS

2645 in recommended portions.

2. then the 2nd coat of barrier consisting of 20 mm cement plaster 1:3 cement mortar mixed with water proofing compound 'Impermo' of Snowcem or equivalent conforming to IS 2645 in recommended portions.
3. After proper curing for 3 days and proper drying the surface, the 3rd and final course of bitumen shall be applied hot at 1.7 kg. per sqm of area and PVC sheet of 400 micron thick (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm) shall be applied.

Proper slope with outlet, plastering etc. as detailed in the sketch to be provided by the civil contractor.

Waterproofing with Fully Bonded HDPE membrane

Fully Bonded HDPE membrane type water proofing is to be carried out in raft /s in foundation work (only if found necessary as per directions of engineer-in –charge)..

1.2 mm thick Fully bonded HDPE membrane (Smooth Type) shall provide an intimate bond to the underneath of the poured concrete used as base/ raft slab to resist water migration. Membrane shall be supplied with original manufacturer's Material Test Certificate (MTC) & membrane shall be installed in strict accordance with original manufacturer's instructions, Agency shall prepare the method statement.

The fully bonded HDPE sheet membrane shall consist of a multi-layer composite film which consists of highly resilient HDPE film, self-adhesive polymer layer and a trafficable weather resistant layer.

Fully bonded HDPE sheet membrane shall be chemically resistant in all types of soil or water and is unaffected by ground settlement beneath slabs. The fully bonded HDPE sheet waterproofing membrane shall have following typical properties:

Peel Adhesion to concrete > 800 N/M (as per ASTM D903) Elongation > 400%

Tensile strength: >27 Mpa

Thickness: 1.2mm with HDPE thickness, HDPE – 0.8 mm min Thickness Puncture

Resistance - 1000 N

Pre-applied fully bonded HDPE membrane shall be installed with self-edge laps, and end laps executed with supplier instructions. Pre-applied fully bonded HDPE membrane shall be laid over the entire area and returned on to the diaphragm/retaining wall & terminated as per manufacturer instructions till the level of raft slab.

Purpose of this technical specifications is to establish, monitor and control all activities to execute the waterproofing of basement raft and Reinforced concrete retaining walls including, sampling, inspections & execution without any safety hazard. This procedure is exercised in order to meet the requirements specified in drawings, project specifications and up to the satisfaction level of JDA & consultant.

Scope of this work covers installing minimum 1.2mm thick with minimum 0.8mm HDPE, pre-applied, fully bonded HDPE Waterproofing membrane on uniform and regular PCC surface for basement base slab. and 1.5mm thick with minimum 0.35 mm HDPE lamination.

Controlling Specifications shall be of Original Manufacturer Shop Drawings (Private Label Supplier Shop Drawings not acceptable) and Original Manufacturer Method Statement (Pvt Label Supplier Method Statement not acceptable) after due approval of JDA.

Waterproofing with Styrene Butadene Styrene-HDPE membrane

Waterproofing of all retaining walls / Basement Walls shall be done with StyreneButadene Styrene-HDPE membrane.

Supply & Installation

The Self-Adhesive SBS-HDPE membrane shall be 1.5mm thick self-adhesive, cold applied, flexible waterproofing membrane comprising of a self-adhesive rubberized asphalt with minimum 0.2mm HDPE lamination. Membrane shall be supplied with original manufacturer's Material Test Certificate (MTC) & membrane shall be installed in strict accordance with original manufacturer's instructions (private label supplier is not allowed) and agency shall produce method statement from original product manufacturer. The self-adhesive membrane shall have following minimum properties:

- a) Lap Adhesion: >650 N/M
Thickness: 1.5mm, HDPE min. Thickness -0.20 mm
- b) HDPE lamination: 0.2 mm minimum
- c) Elongation (to ultimate failure of rubberised asphalt): >210%
- d) Puncture Resistance: 250N Laying of membrane

The protective release paper shall be peeled back and the adhesive surface of the self- adhesive membrane unrolled onto the prepared surface as described. The membrane shall be brushed onto the surface to ensure that air is excluded from under the membrane. Adjacent rolls of self-adhesive

membrane shall be provided with minimum 75mm overlap at the edges and 50mm at ends to ensure complete continuity. Pressure shall be applied at the laps with a roller to ensure complete adhesion between both layers. All joints to be well rolled until complete waterproofing is obtained. Where membrane is expected to be left exposed at the top of a wall for any length of time the top edge is to be batten fixed to secure the edge and prevent slumping. The perimeter of membrane placed in any given day's operation shall have the free edges sealed by rolling down tightly to prevent entry of moisture and cleaned before continuing with the following day application.

Top of retaining wall

Where the self-adhesive membrane is terminated at the top of a wall, a chase shall be provided of dimensions 20 x 20mm. The self-adhesive membrane shall be dressed into the chase and pointed prior to backfilling.

Inspection and protection

Immediately prior to covering the membrane careful inspection shall be made for accidental damage, any damaged areas shall be cleaned and patched with membrane extending 100 mm beyond the damaged area. On vertical applications where abrasive backfill is to be used the membrane shall be protected with other approved protection boards.

Controlling Specifications shall be of Original Manufacturer Shop Drawings (Private Label Supplier Shop Drawings not acceptable) and Original Manufacturer Method Statement (Pvt Label Supplier Method Statement not acceptable) after due approval of JDA.

Solvent Based PU Waterproofing

Water proofing treatment to Basement Deck Slab (Terrace of basement) shall be done with Solvent Based PU.

Surface area shall be cleaned up to visible of hair cracks / aggregate texture. Cleaning of RCC member shall be done by hacking tool, wire brush & air blower etc. Open cracks & construction joints shall be sealed with cement mortar. All clean & treated area shall be tested for water tightness by flooding water. All wet spots & water leakage area shall mark for treatment.

Providing and applying high performance, low odour, fast curing, high solids, cold applied polyurethane elastomer waterproof membrane over uniform surface of slab to achieve the required minimum DFT of 1.2mm. PU shall be solvent based pure polyurethane elastomer & shall not contain bitumen or tar and will not bleed or stain. Solvent based PU shall have following minimum properties:

- a) Solid % Vol: 88
- b) Tensile Strength > 2 Mpa
- c) Elongation > 440%
- d) Chemical Resistance - Excellent shall be applied as per manufacturer specification.

Providing & laying rolled matrix soil filter cum drainage system of minimum 8mm thickness having a compressive strength of 180 KN/sqm of 8mm height with geotextile on top, as per manufacturers specification, complete as directed.

Component Polyurethane shall be installed as per original manufacturer's instructions (private label supplier is not acceptable). Membrane system is designed to be mindful of the environment, having very low VOC.

PU waterproofing membrane is well suited for use in most areas of application in industrial, commercial and civil design. It has been formulated using the latest moisture curing polyurethane technology and offers the particular benefits of, low tensile modulus, high tear and adhesive strengths, plus high elongation and puncture resistance.

PU waterproofing membrane shall not be exposed to direct sunlight for extended periods of time – to protect the membrane from UV exposure within 2 to 3 days. In addition, the membrane shall be covered by tiles, toppings or membrane protection to prevent damage by other trades.

Controlling Specifications shall be of Original Manufacturer Shop Drawings (Private Label Supplier Shop Drawings not acceptable) and Original Manufacturer Method Statement (Pvt Label Supplier Method Statement not acceptable) after due approval of Engineer- in- charge.

Crystalline Waterproofing:

Water proofing of all water retaining structures such as Underground Tanks / Sumps, STP sumps, Overhead Tanks etc. shall be done by using crystalline chemical by mixing it in concrete.

Water proofing of all water bodies / Water falls etc. shall also be done by using crystalline waterproofing chemical by mixing it in concrete.

Crystalline chemical shall be mixed in manufacturers dosage at the time of production of concrete in plant.

Controlling Specifications shall be of Original Manufacturer Shop Drawings (Private Label Supplier Shop Drawings not acceptable) and Original Manufacturer Method Statement (Pvt Label Supplier Method Statement not acceptable) after due approval of JDA.

GUARANTEE

The contractor shall propose the system, giving full descriptions for approval from JDA.

The system shall be guaranteed for 10 years against all defects and liabilities thereof from the date of completion of project. The guarantee shall be on Stamp paper of Rs. 100/- in proforma to be approved by the Employer / JDA. [the contractor shall submit proforma to JDA for approval of Employer / JDA before being written on stamp paper}. The cost of stamp paper shall be to the contractor's account.

Work shall be carried through approved specialist agency as per method of working approved in writing by the JDA.

11. FALSE CEILING

The false ceiling shall be provided as per schedule of finishes and scale of amenities.

12. Floor Tiles/ Wall Tiles / Engineered marble, Quartz, Granite etc.

The Engineered marble, Quartz, Granite in flooring is to be provided shall be as per relevant IS code/ JDA BSR specifications and scale of amenities given in this document.

13. MS Fire Check door of 120 Minutes fire rating.

This specification covers the design, supply of materials manufactured and installation of factory made single/ double leaf metal fire doors and frames of approved make, design, finish tested and ISO 9001-2000 Certified Company and the manufacturer must be approved manufacturer of supply and fixing of CE/UL certified metal steel fire doors at all levels with all accessories and including supply and installation of hardware. The fire check door shall be complete in all respect as per specifications and direction of Engineer-In- Charge.

Door frame shall be Single rebate Grooved profile of size 125 x 60 mm made out of 1.60mm (16gauge) minimum thick galvanized steel sheet confirming to IS 2260 & 4351 with grooved seal. Frames shall be Mitered and field assembled with self-tabs. All provision shall be mortised, drilled and tapped for receiving appropriate hardware. Rubber door silencers shall be provided on the striking jamb. Frames shall be provided with back plate bracket and anchor fasteners for installation on a finished plastered masonry wall opening. Once frame installed shall be grouted with cement & sand slurry necessary for fire doors on the clear masonry opening.

Door leaf shall be 46mm thick fully flush double skin door with or without vision lite. Door leaf shall be manufactured from 1.2mm (18gauge) minimum thick galvanized steel sheet. The internal construction of the door shall be rigid reinforcement pads for receiving appropriate hardware. The infill material shall be resin bonded honeycomb core with fire rated proprietary insulation filler bonded to both faces of sheet with lock seam joints at style edges. All doors shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers. The edges shall be interlocked with a bending radius of 1.4mm. For pair of doors astragals has to be provided on the meeting stile for both active and inactive leaf. Vision lite wherever applicable shall be provided as per manufacturers recommendation with a beading and screws from inside.

The door frames and door shutters shall be primed with 'H' primer and finished with PU/Powder coated. The shutter would be mounted with SS Ball Bearing Hinges of size 100mm x 75mm x 3.0mm of Becker Fire Solutions (4 Nos per leaf), appropriate openings for vision panel glass. Prototype Test certificate for a test carried out earlier at CBRI Roorkee for fire rating of doors, shall be attached along with manufacturers test certificate.

All door shall be factory made and rate to include installation, Fire rated hardware like hinges, panic bar, door closer, Vision Panel 300x 200, Glass, lock, handles, coordinator etc. as desired with necessary reinforcement and direction of Engineer incharge.

Door closer confirming to CE & EN 1154 and B.S. – 476, Part-22, two hours' fire door.

Panic Exit Device – Single / Double leaf confirming to CE & EN 1154 and B.S. – 476, Part-22, two hours' firerated.

Mortice Lock with lever handle confirming to CE & EN 122090 / DIN 18251 and B.S.- 476, Part-

22, two hours' fire rated.

Stainless steel ball bearing hinges 4 nos. on each side of shutters size 100 mm x 100 mm x 3 mm with screws etc. complete.

Vision panel: 6 mm thick borosilicate toughened glass 120 min fire rated glass on each leaf of size 300 x 200 mm.

All doors shall be factory made and deemed to include installation, all hardware like hinges, panic bar, door closer, Vision Panel 300x 200, Glass, lock, handles, coordinator etc. as required with necessary reinforcement and direction of JDA.

Applicable codes and standards shall be all the latest editions of standards, specifications, acts, and codes of practice referred to herein including all applicable official amendments and revisions. However, the applicable standards and codes shall be as per but not limited to the list given below: IS: 277 Galvanized steel sheets (plain and corrugated) of GPL Grade with Z 120 Coating. IS: 3614 Metallic and non-metallic fire check doors—Resistance test and Part-2 performance criteria.

The following information shall be submitted by the agency for obtaining approval of the JDA before start of work

Product Data : Manufacturer's data sheets on each product to be used, including preparation instructions and recommendations. Storage and handling requirements and recommendations. Details of construction and fabrication. Installation methods.

Shop Drawings: Detailed plans and elevations, details of framing members, anchoring methods, clearances, hardware, and accessories clearly shown.

Manufacturer's Certificates: Certifying that products meet or exceed specified requirements.

Operation and Maintenance Data: Submit lubrication requirements and frequency, and periodic adjustments required.

Name of installer: Approved by the manufacturer, specializing in performing work of this section with minimum three years' experience.

Delivery, Storage and Handling Fire rated door set shall be delivered and stored in manufacturer's unopened packaging until ready for installation. It shall be protected from exposure to moisture and shall be stored in a dry, warm, ventilated weather tight location

The Agency shall furnish all materials, labour, operations, equipment, tools & plant, scaffolding and incidentals necessary and required for the completion of all metal work in connection with steel doors, as called for in the drawings, specifications which cover the major requirements only. Anything called for in the tender documents shall be considered as applicable to the items of work concerned. The supply and installation of additional fastenings, accessory features and other items not specifically mentioned, but which are necessary to make a complete functioning installation shall form part of this contract.

The Agency shall submit the details of manufacturers from the list of approved makes from which he intends to procure the doors. The agency shall procure the doors only after the approval of the manufacturer from the JDA.

All metal work shall be free from defects, impairing strength, durability and appearance and shall be of the best quality for purposes specified made with structural properties to withstand safety strains, stresses to which they shall normally be subjected to. All fittings shall be of high quality and as specified and as per approval. The Agency shall strictly follow, at all stages of work, the stipulations contained in the Indian Standard Safety Code or its Equivalent British Standard and the provisions of the safety code and the provision of the safety rules as specified in the General Conditions of the Contract for ensuring safety of men and materials. Any approval, instructions, permission, checking, review, etc. by JDA, shall not relieve the Agency of his responsibility and

obligation regarding adequacy, correctness, completeness, safety, strength, quality, workmanship.

Testing: The fire doors shall be tested by CBRI or any Test Lab approved by the competent authority. Galvanized steel to be used conforming to IS: 277.

Mock-up: Before proceeding for mass production of all units, the agency shall fix typical mock-up units of each type to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution. The agency shall proceed for mass production only after approval of Mock-ups by JDA or his authorized representative.

The specification and method statement shall be submitted by the agency well in advance before the start of execution. The execution shall be allowed only after due approval of JDA.

14. Wooden chowkhats and Shutter

The wooden chowkhats, shutters, magic eye in front door etc. are to be provided shall be as per relevant IS code/ JDA BSR specifications and scale of amenities given in this document.

15. Hardware for Door & Windows

The stainless-steel fittings and fixtures shall be in SS Grade 316, machine made and free of fabrication marks, residual effects of welding/ riveting etc.

The fitting shall be finished in a Satin finish (brushed finish-satin's commercial purpose) except wherever specified otherwise. The brush effect shall be uniform and without any variations.

Irrespective of the stipulations contained above, the agency shall produce samples for all the fitting in advance and a written approval for the chosen sample shall be obtained from the JDA. The decision of the JDA in respect of the specification, quality and make of fitting to be used at site shall be final and binding on the agency. Nothing extra shall be payable on this account.

All the fittings shall provide with all such accessories as are required to complete the item in working condition whether specifically mentioned or not in the Bill of Quantities, specification & elsewhere in this tender document. The quoted rates shall be deemed to be all inclusive for a complete item fit for use including all

material. Labour, T & P, Specials, fixing arrangements, nuts, bolts, screws, bushes, all required connection pieces etc. as well as making good the surface wherever required.

All the accessories including brackets, nuts, bolts, screws, bushes etc. shall be of the quality and make specified by the manufacturer of the fitting.

All the fitting shall be got fixed through the authorized Fixing Agency on the approved list of manufacturers of fitting. The said Fixing Agency shall be got approved before start of fixing at site.

All the fitting including accessories shall be accompanied with certificate of origin and representative test certificate of conformance with relevant code form the manufacturer with each lot supply. The test certificate shall clearly indicate the lot numbers of the supplied fittings.

The specification and method statement shall be submitted by the agency well in advance before the start of execution. The execution shall be allowed only after due approval of JDA.

SS Railing

All SS railings shall be of grade 304 which shall be provided as per scope of work /relevant drawings, scale of amenities mentioned elsewhere in this tender document.

Sanitary fittings

The sanitary fittings such as W.C., wash basin, tap etc. are to be provided shall be as per relevant IS code/ JDA BSR specifications according to scale of amenities and drawings attached.

UPVC windows (Double glazed)

COMPOSITION : Un-plasticized PVC (Polyvinyl Chloride) meeting the requirement of ASTM D 1748 / BS 7413/ EN 12608 shall be used. No reworked material is to be used in any profile; whether used internally or externally.

PROFILE MARKING : The main frame profile shall be permanently marked at approximately 1 meter intervals with an identifying mark which enables the name of the profile Systems supplier, date of manufacture and extruder to be identified without extraction of the window.

DURABILITY : The Systems shall be resistant to chemicals, and be fungal and vermin proof. The profiles must be colorfast, being able to withstand weather and light resistance test of 4000 hours on xenon and weathering apparatus.

COLOUR : The Systems color should be uniform and consistent as approved by JDA. **FIRE RESISTANCE :** The UPVC should be classed as self-extinguishing to prevent support or enhancement of accidental fires.

QUALITY CONTROL : The extrusion process must be quality controlled and the appropriate standards relating to impact strength, technical performance and consistency.

PROFILE CONSTRUCTION : The profile depth should be minimum of 58mm with a nominal wall thickness, internally and externally of 2.8mm. The profile shall have a minimum of two sealed chambers for transoms and mullions and 3 sealed chambers for frames and sashes.

INTERNAL PROFILE DRAINAGE :The internal drainage shall be isolated from chambers into which reinforcements can be placed or through which frame fixing pass. Drainage shall be either through the base or alternatively to the face, concealed by facedrainage caps.

PRESSURE EQUALIZATION :Pressure equalization for glazing rebates and for frame rebates shall be carried out in accordance with the recommendation of the profile Systems supplier to ensure efficient drainage in adverse conditions.

WINDOW PERFORMANCE: Windows must meet the requirements with respect to air permeability, water tightness and wind resistance upto 2400 pa.

STRENGTH AND SAFETY OF MOVING PARTS:The moving parts of the Windows must have sufficient strength and robustness to withstand accidental Static and Dynamic loads in use, without any permanent deflection or breakage. The overallevaluation will be based on the experience from use and subject to approval by the Design Consultant/ Client.

GLAZING BEADS : Glazing beads shall be of the one foot snap in design and shall be extruded UPVC mitred at the corners. All glazing beads shall be with a co-extruded gasket of a multi-fin design to maintain security and weather performance. Gasket material shall be thermo Plastic Elastomer.

GLAZING GASKETS:All glazing gaskets as well as weather seals are to be extruded from non migratory EPDM . Glazing gaskets shall be a continuous length. Gasket may be subjected to random testing and shall be obtained from the profile Systems supplier.

WEATHER SEALS :Weather seals shall consist of a double sealing Systems. Seals on the sash and the frame shall be continuous length and for outward opening windows the seal on the sash shall be joined to a 50mm length of pressure relief seal at the bottom of the opening whereas the seal on the frame shall be joined on the top of opening.

Weather seals and pressure relief seals, which shall be obtained from the profileSystems supplier, shall be capable of removal without disturbing the glazing Systems orremoval of the frame or sash.

GLAZING :All double glazing shall be internally beaded. The windows shall be constructed in such a manner that the glazing or deglazing can take place without the removal of the sash or frame.

WELDED JOINTS:All corner joints shall be homogeneously fusion heat welded inaccordance with the instructions of the profile Systems supplier. The resulting joints shall be finished by the grooving/knifing method. Solvent welded joints shall not be allowed.

REINFORCEMENT :All transoms and mullions shall be fully reinforced, irrespective of size, with corrosion resistant galvanized steel. All other profiles to be reinforced as per the specification of the profile Systems supplier which shall suit the proposed style application relative to exposure, elevation and height above the ground level. Reinforcing shall be secured by suitable screws in accordance with the instructions of the profile Systems supplier.

All galvanized steel reinforcing profiles shall comply with BS 2989 1982 Grade G 275N /IS 4759-1996 or equivalent.

MECHANICAL JOINTS: The mechanical jointing of mullions and transoms shall be carried out in strict accordance with the instructions/recommendations of the profile Systems supplier using only approved mechanical coupling components.

HARDWARE GENERAL : All hardware shall be manufactured from corrosion resistant material and be approved by the profile Systems supplier.

All ferrous screws, nuts, bolts and other fastening or fixing shall be of stainless grade or of a suitable coated steel recommended for use in the fabrication of UPVC windows. Metal that are in contact with each other shall be compatible so as to prevent galvanic corrosion of dissimilar metals by electrolytic action. All hardware should ideally be fixed by attachments through the UPVC to the reinforcement; alternatively it should be fixed in purpose designed screw ports or at least two thickness of UPVC.

Hardware with provision for adjustment shall be accessible for adjusting after the window has been installed. Hardware used to open and close the window shall be replaceable without removing the outer frame from the structure.

FRICTION HINGES: Top hung and side hung opening out lights shall have two friction stays per light and be of stainless steel construction.

The size of the friction stay will depend on size, weight, hanging and exposure of the relevant sashes. This will be determined from table provided by the hinge manufacturer. All side hung friction stays are to be incorporate a riser block to allow the sash to be supported in its closed position.

BUTT HINGES : Where external butt hinges are used they must be of the security pin type which do not allow removal of the hinge pin from outside.

ESPAGNOLETTE HANDLES : All espagnolette striking plates are to be purpose designed and secured to the outer frame by approved screw fixing. The espagnolette mechanism shall be of multi locking points depends on size. All ironmongery where possible shall be screwed into frame reinforcing, or fixing screws must penetrate a minimum of two wall thickness or an equivalent screw port, to obtain sufficient purchase.

FIXING THE FRAME TO THE BUILDING: The gap between the structural opening and the uPVC frame shall be between 5 to 10mm all round, which should be filled by injectable PU foam after completion of fixing for best frame and wall bonding, and for sound and thermal insulation and finally applying neutral cure low modulus Silicone sealant to make joint water proof.

Fixing points shall be to all four sides of a frame, spaced 150mm to 250mm from corners and not more than 600mm apart elsewhere. Fixing shall be by direct drilling 10mm hole through UPVC frame to building wall. Each fixing shall penetrate into building structure by no less than 40mm. and ultimate fixing with anti corrosive plated anchor bolts through these holes. All heads of all fixing screws shall be covered with appropriate plastic cover caps.

HANDLING AND TRANSPORT : Windows may be transported either glazed or unglazed. All windows or prefabricated units shall be transported and stacked in a vertical position and properly anchored to prevent movement in transit, windows shall be separated from each other by adequate packing piece during transport.

WARRANTEE: The window manufacturer shall issue a certificate of warranty against any manufacturing or installation defect, valid for minimum of five year for rectification of the defect.

S.NO.	TECHNICAL SPECIFICATION	VALUE
1	Impact strength down to 400C	No breakage
2	Notch impact strength	> 30 kJ/m ²
3	Ball impact hardness	100 N/mm ²
4	Tensile strength	> 40 N/mm ²
5	E module	> 2500 N/mm ²
6	Linear Thermal Expansion	Coefficient 300C to +500C 0.80×10^{-4} K ⁻¹
7	Thermal Conductivity	0.16 W/mK
8	Specific volume resistance	$10^{16} \Omega \text{ cm}$
9	Relative Permittivity	3.3 at 50GHz 2.9 at 106 Hz
10	Fire behaviour	Self extinguishing
11	Weathering stability RAL GZ 716/1	After 8.0GJ/m ² irradiation energy better than authenticity grade 4 of grey scale
12	Special Resistance	Resistance to termites, decay, chemicals e.g. alkalines, acids, salts, salty solutions, seawater, petrol, oil, lime, cement, any kind of emissions Physiological Behaviour and

LIST OF MAKES (Preferred Makes/ Brands/ Manufacturer)

STRUCTURAL AND CIVIL/ PLUMBING AND SANITARY

S.No.	Material	Preferred Makes/ Brands/ Manufacturer
1.	Cement (OPC 43 or 53)	WONDER/ ULTRATECH /JK
2.	White Cement	BIRLA CEMENT/ J. K WHITE /
3.	Reinforcement Steel	SAIL/ TATA STEEL LTD/ JSW
4.	Parallel Threaded Couplers	DEXTRA / G-TECH/ TATA
5.	Re-barring Chemical	HILTI / 3M INDIA
6.	Structural Steel	TATA/ JSW STEEL LTD/ SAIL/ JINDAL STEEL & POWER LTD.
7.	Plasticizer, Super Plasticizer, Admixtures, Other chemicals	M.C. BAUCHEMIE / FOSROC /SIKA BASF
8.	Curing Free Plaster	Cemeco/J.K.Laxmi
9.	AAC Block	AEROCON / BILTECH/ J K Laxmi/ MAGICRETE
10.	AAC Block Adhesive	ULTRATECH / FERROUS CRETE / BAL ENDURA /AEROCON / J K Laxmi
11.	Polymer modified cementitious grout	WEBBER/ MAPAI / CAPA / KERAKOLL
12.	List of RMC producers	ULTRATECH / ACC / READY MIX INDIA PVT. LTD
13.	Curing Compound	FOSROC / SIKA / PIDILITE / STP / CICO / BASF
14.	Expansion Joint- modular	HERCULES / Z-Tech / SANFIELD
15.	Curing Free Concrete Powder Additive	Cemeco /Latikrate/mapei
16.	Bricks	1 st Class
WATERPOOFING		
1.	Waterproofing Self Adhesive (HDPE) Membrane	GRACE / FOSROC / MYK SCHOMBURG

2.	Single Component Liquid PU Elastomeric Membrane (sprayapplied) for Deck Waterproofing	BASF / SIKA / FOSROC/ MYK SCHOMBURG/ GRACE
3.	Waterproofing Compound (Crystalline) and Swellable Bar	XYPEX / KRYTON / PENETRON / BASF / SIKA / FOSROC / MYK SCHOMBURG / GRACE
4.	Polymeric Cementitious Coating	BASF / FOSROC / GRACE / STP / PIDILITE
5.	Elastomeric Acrylic UV resistant liquid applied coating	BASF/ FOSROC / SIKA / GRACE
DOOR, WINDOWS & WOODWORK		
1.	Laminated Particle Board / Particle board / Laminates / Plywood/ Water Proof Ply Board/ Marine	MERINO / GREENLAM / CENTURY / ARCHIDPLY
2.	Veneered Particle Board	MERINO / DURO / GREENLAM / KITPLY
3.	SS Mesh	GKD / WMW
4.	Flush door shutters	GREENPLY/ ARCHIDPLY / DURO / MERINO / CENTURY/ KITPLY
5.	Glass wool Insulation	UP TWIGA / POLY GLASS / LLOYDS/ OWENSCORNING
6.	Rock Wool Insulation	LLOYDS / ROXUL ROCKWOOL
7.	Polycarbonate Sheet	GE LEXAN / DANPALON/ GALLINA
8.	Decking Steel sheet	TATA STEEL / LLOYDS / JSW
9.	Natural wood veneer	GREENPLY/ ARCHIDPLY / DURO / MERINO / CENTURY/ KITPLY
10.	Anti-static high-pressure laminate	FORMICA / BAKELITE HYLAM / DECOLAM MERINO / KITMICA
11.	Fire Sealant	HILTI / 3M INDIA / FISCHER
12.	Extruded Polystyrene Board	STP / SUPREME / OWNESCORNING, SHALIMAR
13.	Wooden / Metal / Glaze-firerated Door Shutters & Acoustic	NAVAIR / KUTTY / GODREJ/ SUKRI / SHAKTIMET
14.	UPVC Doors & Windows	NCL / REHAU / FENESTA / LG-HAUSYS/ SALAMANDER
14A	Aluminum Doors and Windows	FENESTA/Vitrium/SS Window Systems
15.	Fire rated glass (2 hours firerating)	GLAVERBEL / SAINT GOBAIN / PILKINGTON/ PYROGUARD/ SCHOTT
16.	Hardwood	Teak Wood/CP TEAK/BTC WOOD

FINISHING		
1.	Melamine Polish/PU Polish	ASIAN PAINTS/ PIDILITE INDUSTRIES/ DULUX/ BERGER / ICI
2.	Polyester Powder Coating Shades	NEROLAC / BERGER / AKZONOBEL
3.	Wall Putty	BIRLA WHITE / JK WHITE / BERGER / SAINT GOBAIN
4.	Oil Bound Washable Distemper	ASIAN PAINTS / BERGER /NEROLAC / ICI / AKZONOBEL DULUX
5.	Acrylic Distemper	BERGER / ASIAN / DULUX / NEROLAC
6.	Cement Primer	BP WHITE (BERGER) / DECOPRIME WT (ASIAN) / NEROLAC / AKZONOBEL (DULUX)
7.	Steel / Wood Primer	AKZONOBEL (DULUX) / NEROLAC / BERGER / ASIAN PAINT / JENSON & NICHOLSON
8.	Adhesives	ANCHOR / DUNLOP / PIDILITE-FEVICOL/
9.	Premium Acrylic Emulsion paints	DULUX AKZONOBEL / NEROLAC / ASIAN PAINTS / BERGER
10.	Textured Exterior Finish	ASIAN (ULTIMA) / BERGER (WEATHER COAT ALL GUARD) / DULUX AKZONOBEL (ULTRACLEAN) / NEROLAC (EXCEL TOTAL)
11.	Synthetic Enamel Paint	ASIAN / BERGER / NEROLAC / AKZONOBEL (DULUX)
12.	Epoxy Paint	AKZONOBEL (DULUX) / NEROLAC / ASIAN PAINTS / FOSROC / BERGER
13.	Fire Paint	ASIAN PAINT / BERGER PAINTS / SHALIMAR / JOTUN / AKZONOBEL
14.	POP/ Gypsum Plaster	FERROUSCRETE/ ULTRATECH / INDIA GYPSUM / ELITE (90) OF GYPROC
15.	Cement based Ready MixPlaster	FERROUSCRETE / ULTRATECH / SAINT GOBAIN
16.	Pre-Cast GRC Jali	UNISTONE / KERAKROME GRC
17.	Polysulphide sealant	FOSROC / SIKA / TUFFSEAL / PIDILITE / WACKER/ DOW CORNING /GE/STP
18.	Silicone / Weather Sealant	WACKER / DOW CORNING / GE
STEEL & ALUMINIUM WORKS		

1.	Stainless Steel	SALEM STEEL / JINDAL ALLOYS / SAIL/ USHA MARTIN
2.	Welding Electrodes	ADVANI-OERLIKON / MODI
3.	Dash / Anchoring Fasteners	HILTI / FISHER / BOSCH / AXEL
4.	Anodised Aluminium Hardware (Heavy Duty)	HARDIMA / ALUALPHA / PULSE OF LGF SYSMAC / HINDALCO / EVERITE
5.	Aluminium Structural Members – Windows, Glazing and Partitions	JINDAL / HINDALCO / NALCO / INDALCO
6.	Stainless Steel Railing,Accessories etc (Grade SS 316)	OZONE / GEZE / KICH / DORMA / JINDAL STAINLESS STEEL
7.	G. I Steel door frame	SYNERGY THRISLINGTON / SHAKTIMET / NAVAIR
CEILINGS		
1.	False ceiling Grid system	AM STRONG/ SUPER BONDGYPROC / GRIDLINE / RK / GRIDSYSTEM
2.	False Ceiling – Gypsum	SAINT GOBAIN GYPROC / AMF / BORAL / LAFARGE / INDIA GYPSUM / HUNTER DOUGLAS
3.	Metallic False Ceiling	ARMSTRONG / DURLUM / HUNTER DOUGLAS / SAINT GOBAIN
4.	Acoustical Tile False ceiling	ARMSTRONG / SAINT GOBAIN/ ECOPHON/ DEXUNE/ ANUTONE
5.	Calcium silicate ceiling tiles/Board	GYPROC / AEROLITE / BORAL / HILUX / ARMSTRONG(MYLAR) / EVEREST/ NCL
6.	Aluminium Composite Panel	ALUCOBOND / ALPOLIC /ALUDECOR / REYNOBOND
7.	Acrylic Solid Surfaces	HANEX / L.G-HIMAC / DUPONT
8	POP False Ceiling on aluminium channels and frame	JK/Ultratech/Ambuja
FLOORINGS/ WALL TILES		
1.	Glass Mosaic Tiles	BISAZZA, MRIDUL, OPIO, PALLADIO, ITALIA GLASS
2.	Floor & Wall Tiles: Ceramic / Vitrified tiles / Antiskid / Matt / Glazed	KAJARIA / H&R JOHNSON / SOMANY/ VARMORA
3.	PVC/SPC Flooring	ARMSTRONG / TARKETT / LG HAUSYS /WELSPUN
4.	Laminated flooring	ACTION TESA / PERGO / CENTURY/ DURO /GREENLAM
5.	Engineered stone - Marble / Quartz	ASIAN / JOHNSON / KALINGA / QUTONE

6.	Chequered Tiles, Paver Block & Kerb Stone (of Non-Recycled C&D Waste)	MAYUR / ULTRA / NITCO/ UNISTONE
7.	Tile / Stone Adhesive / Tile Grout	MAPAI / CAPA / KERAKOLL/MYK
8.	Floor hardener	PIDITOP 333 BY PIDILITE / FOSROC / SIKA / IRONITE / FERROK / HARDONITE
9.	Epoxy Flooring	FOSROC / SIKA / CICO / BASF / MYK
10.	Heat Resistant Tiles	THERMATEK/ NATIONAL/ THERMAX
11.	Floor Trap	JAYNA / CHILLI / NIRALI
	Granite	Black/Steel Grey/South White/Rajasthan Black
GLAZINGS		
1.	Glazing Structural / Suspended / Skylight/ clear/ float/ frosted/ mirror	SAINT GOBAIN / ASAHI / GLAVERBELL
2.	Clear / Float / Frosted Glass /Mirror	AIS / GLAVERBELL / MODIGUARD / PILKINGTON / SAINT GOBAIN/ ATUL
3.	Glass Spider Fittings	DORMA / HAFELE / OZONE / HETTICH
4.	Toughened Glass / Hermetically sealed performance glass	SAINT GOBAIN / GUARDIAN GLASS / PILKINGTON / MODIGUARD / AIS
HARDWARE		
1.	Nuts / Bolts & Screws	GKW / HILTI / HETTICH
2.	Clamp system for dry stone cladding	HILTI / FISCHER / BOSCH / AXEL
3.	Hinges & Brassware	EARL BIHARI / KICH / INDO-BRASS / ASSA-ABLOY/ HAFELE/ GEZE/DORMA
4.	MDF Board	NUWOOD/ DURATUFF
5.	Vitreous Chinaware cistern etc.	JAQUAR / TOTO
6.	All type of hardware and fitting for all type of glazing / doors/windows etc. including mortiselatch & lock, tower bolt, ball bearing butt hinges, friction stay hinges, sliding door bolts, lever handle, magic eye door closeretc.	HAFELE / HETTICH/YALE/GODREJ (Heavy Duty)
7.	Toilet Cubicles	MERINO / GREENLAM / DORMA
8.	Hardware for Fire Check Door/ panic bar/ panic trim/ door closer/ hinges/ locks	HAFELE / HETTICH/YALE/GODREJ (Heavy Duty)

9.	EPDM Gasket	HANU / ANAND / OSAKA
Plumbing & Sanitary		
1.	GI Pipes	JINDAL (HISAR) / TATA / SURYA PRAKASH
2.	GI Fittings	UNIK / ZOLOTO / SURYA
3.	SS Pipes & fittings	JINDAL / VIEGA / J-PRESS/ KANTHERM
4.	Aluminum-reinforced PE-HD pipe	Hitec/ Viega/ Jindal/ Kantherm/ Kitec
4.	HDPE Pipes	RELIANCE / JAIN IRRIGATION / KISAN/ ORIPLAST / SUPREME
5.	DI Pipes	ELECTROSTEEL (VEDANTA) / JINDAL / TATA DUCTURA
6.	DI Fittings	ELECTROSTEEL (VEDANTA) / KALINGA / TATA DUCTURA
7.	CI Double flanged sluice valve	KIRLOSKAR / SONDHI /KEJRIWAL
8.	Float Valve	LEADER / ZOLOTO / KSB
9.	Centrifugally Cast (Spun) Iron Pipes & Fittings(hubless)	JAYSWAL NECO / RIF / SKF/ SAINT GOBAIN/ TATA
10.	Centrifugally Cast (Spun) Iron (Class LA) Pipes(hubless)	JAYSWAL NECO / ELECTRO STEEL / TATA/SAINT GOBAIN
11.	CI Manhole covers, Frames &GI Gratings	JAYASAWAL NECO / RIF / SKF
12.	SFRC Manhole Covers &Gratings	KK / OCR / PARGATI / T-CON
13.	Stoneware Pipes and Gully Traps	PERFECT / PARRY / BURN / ANAND / RK / HIND
14.	RCC Manhole covers & Frames	KK MANHOLE / GRATING CO. (P) LTD
15.	Gun Metal Valves, Globes	ZOLOTO / CASTLE / KARTAR
16.	Sanitary CP Fittings &Accessories	-ARTIZE SERIES of JAQUAR or HANS GROHE /GROHE / KOHLER
17.	CONCEALED FLUSHING CISTERN	VIEGA/ GEBERIT/ GROHE/ JAQUAR
18.	Water Meter	PRIMA / ZOLOTO / LEADER / CAPSTAN
19.	Brass Stop & Bib Cock	ZOLOTO / SANT / L&K / LEADER / ASTRAL
20.	UPVC/ CPVC Pipe & Fittings/ SILENT FITTINGS	ASHIRWAD / ASTRAL/ SUPREME / FINOLEX
21.	Non-Return Valve (Check valve)and other kind of Valves	ZOLOTO / SANT / LEADER

22.	Brass Ferrules	DHAWAN SANITARY UDYOG / KALSI / ANNAPURNA
23.	Insulation for hot water pipes	KAIFLEX / ARMAFLEX / CAREFLEX / LLOYD
24.	Insulation for external / exposed hot water pipes	KAIFLEX / ARMAFLEX / CAREFLEX
25.	Pipe protection for external water supply pipes	PYPKOTE / ARMAFLEX / MAKPOLYKOTE
26.	Stainless Steel Sink	NEELKANTH / NIRALI / CERA / JAYNA
27.	RCC Pipes	LAKSHMI / SOOD & SOOD / JAIN & CO. / PRAGATI CONCRETE
28.	Dash/ Stud/ Anchor Fasteners	HILTI / CANON / BOSCH / FISCHER
MISCELLANEOUS		
1.	Irrigation Equipment	JAIN IRRIGATION, KISAN, FINOLEX, PLASSON
2.	PVC water tank	SINTEX / POLYCON
3.	Fabric/ Blinds/ Curtain	Warwick, D Décor, R R Décor, Manuel Revert
4.	Carpet	Welspun/Jaipur Rug
HVAC		
1.	Refrigerant Piping	Tootaline/ Papdiwal
2.	Communication Cables	Polycab/ Finolex/ Anchor
3.	Air Conditioners (Window/Split/Ductable Unit) VRV	Mistubishi/Daikin/Ogenral/Hitachi/Samsung
4.	Drain Pipe with nitrile	Astral/K Wing/Prince
5.	Insulation (Nitrile Rubber)	K Flex/Armaflex/Superlon

1. Equivalent makes to the makes mentioned above may be used with approval from JDA.

SEC IV (D)

Scope & Specifications of Electrical & Mechanical Works

1.0 General Scope and Specifications of Electrical and Mechanical Works

Scope of work

Scope of work covers planning, designing, supply, installation, testing and commissioning of all E & M services such as Electric Sub-Station, IEI, External Lighting, Fire alarm, Fire Fighting, Sprinkler System, Solar Power, Basement Ventilation, Lifts & Staircase Access Control-boom barrier, CCTV, Aviation Light, Lightning arrestor required to be provided in the said scheme as per norms of various IS codes/ NBC 2016 / JDA specifications/ECBC/CEA, various byelaws and norms of local bodies. The work shall be executed as per scope & specifications of E & M works given hereafter and given in respective head / part of the scheme sub- head. If any services required to make the bldg. / scheme habitable is not covered in the scope of work, interior and services same shall either be pointed out in pre-bid meeting else, it shall be presumed that the same shall be provided within the quoted cost and nothing extra shall be paid on this account.

The scope of works also covers the preparation of layout plans, drawings for E&M schemes before the commencement of work. During execution, if the local bodies etc. require a modification, the same shall be executed without any extra cost. Finally, after execution, approvals / NOCs / Clearances from local bodies etc. shall be the responsibility of successful bidder for which nothing extra is payable in case any modification / extra work is required. All statutory fees / charges required for obtaining clearances from CEA / Local Bodies shall be paid by the agency.

Power supply required for construction shall have to be arranged by the bidder at his own costs i/c required for testing & commissioning. Water required for testing of equipment 's is also in scope of agency.

2.0 General

These additional terms & conditions are applicable to all the E&M works.

The Agency shall submit within 45 days after award of work an undertaking from the OEM of lifts and DG sets that they shall unconditionally support the lowest tenderer / JDA technically throughout the execution of contract as well as for Maintenance/Comprehensive Maintenance Contract for the useful life of the system, and

OEM shall provide all the spares required for healthy functioning of the equipment for at least seven years from the date of supply of equipment

The agency must study specifications and conditions carefully. The work shall be executed in close coordination with the progress of building work.

Scope of work Specifications and Conditions, Additional Conditions mentioned in this document.

Sound engineering practice as per directions of the Engineer-in- Charge. All equipment's shall be delivered with (i) manufacturer 's test certificate, (ii) manufacturer 's technical catalogues, and installation / instruction (O&M) manuals.

Scaffolding & any other T & P required for execution of work shall be arranged by the bidder and nothing extra shall be payable on that account. The layout plans / drawings / other documents pertaining to E&M services shall have to be submitted for evaluation & approval, within 45 days of award of work.

Statutory fees required to be deposited for processing the case, shall be borne by the agency.

3.0 Inspection before Dispatch

All routine tests shall be conducted before dispatch of equipment 's. No equipment shall be dispatched from the manufacture's premises without such tests being conducted and test result recorded. These test certificates shall be given along with the supply of equipment's. The JDA shall, if he so desires inspect and witness the pre-delivery tests. For this purpose, the agency shall give 15 days 'notice. Agency shall arrange for inspection by the department. Agency shall bear expenses of JDA officials for inspection as far as traveling, boarding and / lodging is concerned. However, waiver if any, for inspection shall be at the discretion of the department without any cost implication but routine test & type test certificates shall have to be submitted for equipment's.

Prior to dispatch, all equipment's shall be adequately protected & insured for the whole period of transit, storage and erection against corrosion and incidental damages etc.

4.0 Insurance

The agency shall include storage cum erection insurance including third party insurance right from the storage to commissioning of various equipment's with beneficiary as Engineer In-charge. All insurance which the agency is required to enter under the contract shall be effected with any authorized general insurance company and the agency shall produce the policies of insurance.

5.0 Remedy of failure to insure

If the agency fails to effect and keep in force the insurance referred to in the preceding sub-clause the department may effect and keep in force any such insurance and pay such premium as may be necessary for that purpose and from time to time deduct the amount, so paid by the department, from any money due or which may become due to bids or recover the same as debit from the agency's bill.

6.0 Quality of material and workmanship

All parts of the equipment shall be of such design, size and material to function satisfactorily under all rated conditions of operation. All components of the equipment's

shall have adequate factor of safety. The work of fabrication and assembly shall conform to sound engineering practice. The mechanical parts subject to wear and tear shall be easily replaceable type. The construction of the equipment's shall be such as to facilitate effortless operation, inspection, maintenance and repairs. All connections and contacts shall be designed to minimize risk of accidental short circuits caused by animals, birds and vermin etc. All identical items and their component parts should be completely, interchangeable including spare parts.

7.0 Inspection and testing at site

The installation shall be subject to necessary inspection during every stage of erection, by the JDA or his authorized representative. The successful bidder shall provide all facilities and assistance for the purpose.

The completed installation shall be inspected and tested by the JDA in the manner as will be laid down by him, in consultation with the agency.

All instruments and facilities necessary for the tests shall be provided by the agency.

8.0 Completeness of work

The installations shall be completed in all respects and put in to operation even where certain details have not been mentioned / left out in these specifications. Any discrepancy may be brought out in pre-bid meeting.

All E&M services such as Internal Electrical installations, lifts, firefighting system & Addressable fire alarm system, DG sets, etc shall be considered for declaring complete by the Engineer in Charge after trial run of 1 month. However, operation and maintenance of these installations during the maintenance / defect liability period of 60 months shall be carried out by the agency.

All electrical & mechanical fittings / fixture / appliances, to be provided for the work, should have latest minimum 3-star rating (of BEE) as available inmarket.

INTERNAL ELECTRIC INSTALLATION (IEI)

The work will be carried out in recessed PVC conduit wiring system in accordance of General Specifications for Electrical with amendments up to the date of opening of bids and the governing specifications, which are mandatory including makes for some of the important materials to be used in the work. In case of ambiguity between the two, the specifications shall prevail.

FRLS PVC insulated Copper conductor multi-stranded wires will be used for points, circuit & sub-main wiring.

Agency shall execute the work as per scale of amenities given elsewhere in document after obtaining necessary approval of the layout for internal electrification of all houses, common areas and staircases from Engineer-in- charge. The staircase lighting shall be in group control system.

All building shall be provided with Modular type switches. Modular type switches, sockets and stepped type fan regulators, bell push along with matching mounting boxes of same make shall be used.

TV wiring shall be provided from each outlet to TV junction Box located in Balcony. Choice of Balcony for Mounting TV dish antenna shall depend upon direction of TV signal of service provider.

Telephone outlet point wiring of each house shall be terminated in suitable size of GI junction box in DUs direct from floor wise telephone tag block on respective floor. However, conduit for telephone wiring may be provided through branching by providing suitable size of GI box along with suitable tag block at each floor. The inter connections of all junction boxes fixed at all floor shall be done properly making proper distribution system with the prior approval of Engineer in charge. 3 Telephone cables (10 Pair each) shall be provided from each floor up to MDF located in the basement for use by service providers.

Suitable rain protection covers made of 16 SWG galvanized MS sheet wherever required shall be provided.

Lighting fixtures LED Type, Ceiling fans & Exhaust fans for all facilities areas including common areas on all floors (Basement, Ground, all floors & Terrace) to be provided by bidder. The model number of fittings and fans shall be got approved from the JDA before execution. Occupancy sensors shall be provided in lift lobbies, common washroom as per direction of JDA.

Meter Boards & Main Distribution Boards as per DISCOM specification /requirement shall also be provided by the agency. three phase 415V, 3 Phase power supply provision shall be made complete in all respect.

Meter Boards are normally provided at ground floor level in panel room as per requirement of the DISCOM & with the approval of the Engineer-in-charge. Energy meters for Common areas (L&P) & for common services shall be got provided & fixed from DISCOM. Connection in getting energy meter installed for common service shall be in the scope of the Agency. However, charges paid to the DISCOM shall be reimburse on production of original deposit receipt.

Separate vertical shaft is proposed for laying of submain conduits from various floor upto ground level shall be provided for laying of Electrical, Submains & cables. Man holes & HDPE ducts for cable entry, Cable for Power back up supply shall also be provided. Cables from sub-station location upto meter Boards shall be fixed on MS Cable trays suitably suspended from ceiling slab. Sub main wiring conduit from Meter Boards up to Electrical shaft (for vertical distribution) shall be on MS cable suspended. Sub main conduits in vertical shaft from Meter Board floor upto respective Quarters shall be properly support on MS suspended / bracket etc & layout of sub main conduit shall be such that ensure adequate space for future serviceability / Maintenance. Shaft layout to be got approved from Engineer-in Charge. Humepipes for taking LT cables up to Meter Boards along with brick masonry chambers of suitable size shall be provided by the contractor wherever required.

Separate shaft shall be provided for laying of Electrical, mechanical & fire services. DWV pipes for taking L.T. cables up to Meter Boards in the Meter Rooms along with brick masonry chambers of suitable size shall be provided by the agency wherever required.

Laying of DWC /Hume pipes for road crossing or in pucca portion & CC path etc. for electric / telephone / street lighting cables/ CCTV cable complete with adequate number of cable chambers shall be provided by the agency.

After completing the work, necessary test results as envisaged in Indian Electricity Rules 2005, shall be recorded and submitted to the department. The results shall be within the permissible limits. Test report forms duly signed by authorized person for obtaining electric connections (energy meters) from Power Distribution Company by the agency shall be given to the JDA.

Lightning arresters as per IS; 2309 -1989 as amended upto date & aviation lights (LED Type) shall also be provided by successful bidder.

Internal Electrification of all buildings and services infrastructure shall be done by the contractor as per layout approved from the JDA.

Ceiling fans, exhaust fans, LED indoor fittings & LED outdoor light fixtures (IP-66) of suitable lumen output / wattage shall be provided as directed by Engineer in Charge. All Luminaires shall be LM 79 and LM 80 tested from NABL accredited lab.

10.0 DG SET

DG Sets Installation

Providing outdoor silent type radiator cooled DG Sets with acoustic enclosure complete with day oil tank suitable for minimum 8–10 hours' operation.

Silent DG Sets with AMF Panel shall provide 415V, 3 Phase, 50Hz LT backup power supply. DG sets shall be of prime rating suitable for essential building services including lifts, pumps, ventilation, smoke management system, CCTV, external lighting and common area loads.

DG Set shall be provided for total connected Electrical Loads of complete VIBE ~~building~~ including Common Services viz, Lifts, Basement / Parking, Drinking Water Pumping Sets, External Lighting, Sentry Posts, Mechanical Ventilation. Smoke Management system. CC-TV, boom barrier, common area load (L&P) for all floors including Basement, Staircase and E&M Rooms.

Scope of work for DG Sets and allied works

- SITC of DG Sets along with AMF panel, DG exhaust piping
- DG fuel piping
- Cabling & Electrical Panel Earthing (Body & Neutral)

Technical Requirements

- Power Factor – 0.80
- Future Expansion Provision – 2%
- Diversity Factor – As per latest NEC

- Loading Factor – 80%
- DG Set – 415V, 3 Phase, 4 Wire, 50Hz with acoustic enclosure
- DG Sets shall be installed as per approved layout and statutory norms. Exhaust stack shall be provided as per applicable standards.
- DG operation shall be fully automatic including:
 - (i) Auto Start/Stop on mains failure
 - (ii) Automatic load transfer
- DG Panel and associated panels shall have:

LANDSCAPING LIGHTING

The Scope of work of the Contractor shall be as under: -

- a) Designing the system & obtaining JDA approval
- b) Detailed Designing/preparation of Shop drawings and its approval from JDA;
- c) Supply, Fabrication, Construction, Installation and Commissioning.

Further, details (in brief) are as under: -

All external landscaped areas will be adequately lit with approved LED lighting fixtures so as to provide lighting to all pedestrian walkway, vehicular, entrances to complex, to Podium, to buildings, to basements etc. & to all fire exits. The landscape lighting will be done so as to create a pleasant world class environment in the evening for a safe & pedestrian friendly environment. The lighting will accentuate trees by up lighting, direct traffic by motor able embedded lights, highlight ramps by wall embedded lights, highlight traffic directions by corner/curved street markings. There will be green planters that will have sufficient bollards / planters ground embedded lights to showcase the greenery in the evenings.

There will be up lighting in the waterbodies with underwater lighting.

Ornamental and pole-mounted light fixtures are to be appropriately scaled for each landscape situation. Alternatives to pole lighting shall be considered to provide ambient and pathway lighting.

Pavement lights to be selected and spaced to provide even illumination. Inter sections, crossings, steps and ramps to be adequately illuminated for safety.

13.0 BOOM BARRIER

Proposed complex shall be provided with Boom Barriers approx. 6m x 1 No. for Security.

Tenderer shall have listed out size of Boom Barrier & the quantity required.

S.No.	Description	Technical details
1.	Application	Outdoor
2.	Drive	Hydraulic type with piston & Hydraulic pump
3.	Version	Left hand or right hand as per site requirement
4.	Opening time or Closing time	Less than 5 seconds
5.	Logic control	Included/624 BLD
6.	Drive	Hydraulic type with piston & Hydraulic pump
7.	Power supply	230+/- 10% VAC, 50 Hz

8.	Boom specification	Electromechanical, Aluminium and anti UV rays epoxy powder coated barrier complete with 24 VDC motor, with control unit box, with encoder, double built-in LED flashing light and fitted to take additional accessories. Anti-UV rays epoxy powder coated Aluminium barrier 6m barrier round aluminium boom L = 8550mm dia 60/90 mm, with counter weight, joints and fixed support including a pair of photocells with anodised aluminium vertical mountings. Colour shall be RAL standard light colours, with reflective tapes/strips, if required. The boom shall be swing away type or shall be detachable boom. Vehicle and the housing. The boom shall be reinstated in a simple manner by any individual without affecting the functionality of the system. The boom shall have RED LED lighting for enhancing the visibility to the driver while opening & closing of boom barrier.
9.	Housing dimension	IP 44 protection of Barrier body & IP 54 Control Unit. All housing and internal parts shall be rust & corrosion free metals or alloys of high strength with suitable epoxy/ powder coating as applicable.
10.	Finish	Housing - Epoxy/ Powder coated (colour RAL standard light colours, orange preferred).
11.	Power-off	Configurable/Adjustable to 1. Remain open/closed 2. Automated opening and closing
12.	Safety	Buried loop sensor shall be used to prevent boom barrier from closing on the vehicle. If the vehicle comes over the loop, the barrier shall not fall over the vehicle. If a vehicle crosses over the loop while the boom is closing down, the barrier shall go up so that it will not hit the vehicle. Even if the boom barrier accidentally hits a vehicle while closing down, the barrier shall immediately go up. The bidder has to take all the precautionary measures to ensure that the barriers will not fall on a vehicle even through manual operation by operator mistakes.
13.	Certification	Shall be CE or ISO 9001
14.	Mean time between failures (MTBF):	1 million cycles. System does not require any greasing / oiling for 1 million operations.

14.0 CLOSE CIRCUIT TV (CCTV)

Establishing CCTV control room for configuration, operation, monitoring and maintenance complete with minimum 40" LED display, workstation and required accessories. Number of control rooms shall be as per approved master layout plan and JDA requirements.

Providing, installation, testing and commissioning of IP based CCTV Surveillance System including Network Video Recorder (NVR), cameras, switches, signal/power cabling, centralized UPS, poles/supports for cameras, weatherproof junction boxes/enclosures, surge and lightning protection complete in all respects.

Outdoor cameras shall be suitable for day/night surveillance application with minimum specifications as under:

- Minimum Resolution: 1.3 MP or higher
- IR Range: Minimum 50 metres
- Minimum Illumination: 0.2 Lux (Colour), 0.002 Lux (B/W)
- PAL compatible with minimum 30 fps recording
- IP-65/IP-66 protection suitable for outdoor installation

NVR shall be of suitable channel capacity with minimum 30–45 days' storage backup and surveillance grade SATA HDD suitable for 24x7 continuous recording application.

The CCTV system shall include recording, playback, backup, motion detection, user access management and automatic overwrite facility for old recordings.

Complete system design, layout, inventory, installation, testing and commissioning shall be carried out as per relevant BIS/IS standards, approved drawings and directions of Engineer-in-Charge/JDA.

15.0 LIGHTNING PROTECTION SYSTEM

Providing lightning protection and earthing system conforming to IS / IEC – 62305 for grounding of all metallic non-current carrying parts of the installation complete in all respects.

The system shall include air termination network, down conductors, earth electrodes, inspection chambers and required accessories as per approved design and statutory requirements.

Earthing shall be carried out using copper bonded/GI earth electrodes with GI/Copper conductors as required for equipment application and site conditions.

Lightning protection system with air terminals and down conductors shall be provided at terrace/top level of building as per IS standards and JDA requirements.

17.0 LIFTS

Providing, installation, testing and commissioning of passenger/service lifts as per NBC 2016, relevant BIS standards and JDA specifications considering building height, number of floors and occupancy requirements.

Minimum two barrier free passenger lift with minimum 13 passenger capacity and one goods/bed lift shall be provided in each block/tower as applicable.

Detail of foundations for equipment, load data of various assembled equipment 's. Data will include breaking load on guides, reactions on buffers, reaction on support in machine room, lift well etc.

The correction/changes, if any, intimated by the JDA shall be incorporated and three sets of such corrected drawing shall be furnished to the JDA within 15 days from the date of approval of drawings. The work shall be executed in accordance with the approved drawings.

Scope of Work

- SITC of lifts complete with machine room equipment and accessories
- Ventilation, lighting and power points in machine room/lift shaft
- Waterproofing treatment to lift pit
- Dual power supply provision with changeover arrangement
- Submission of GA drawings, technical details and load data for approval
- Testing, inspection and commissioning as per statutory requirements

Technical Specifications

- Type : Gearless Passenger / Service Lift with Machine Room
- Capacity : Minimum 13 Passenger
- Speed : 1.5–1.75 MPS
- Operation : Automatic Collective Selective Control
- Drive : VVVF Drive with microprocessor based control system
- Doors : Centre opening automatic stainless steel sliding doors
- Door Safety : Full height infrared sensor/light curtain
- Landing Doors : Fire rated as per applicable standards
- Car Panels : Stainless steel finish
- Car Flooring : Granite / Vitrified finish
- Car Lighting : LED type
- Ventilation : Cabin fan/blower provision
- Position Indicator : Digital type at all floors
- Intercom : Between lift car and security/control room
- Voice Announcement System : Standard provision
- ARD : Automatic Rescue Device
- Emergency Alarm & Light : Rechargeable battery operated
- Fireman Switch : At ground floor level

- Overload Protection : Audio visual indication
- Phase Failure & Phase Reversal Protection : Included.

Inspection and Testing at Site:

The lift installation shall be subject to necessary inspection during every stage of erection, by the JDA or his authorized representative. The bids shall provide all facilities and assistance for the purpose.

On completion of the installation, all adjustments as necessary shall be made for the satisfactory performance of the lifts. The completed installation shall be inspected and tested by the JDA in the manner as will be laid down by him, in consultation with the contractor.

Technical Specifications: For Lift/ Elevator

S. NO.	Item	Specification
1.	Designation of Lifts	Passenger / Goods Elevator –Gearless with Machine Room
2.	Capacity	Minimum 13 Passenger
3.	Car Speed	1.75 MPS
4.	Total Travel	32 mt. (aprox.)
5.	No. of Stops	7
6.	Clear Opening for Door	800 MM (W) x 2000 MM (H) with advance door opening, ACO/ ATO/ As per site/ As per OEM
7.	Door Safety	Full Height Infrared Light Curtain
8.	Safety Devices	Automatic Rescue Device and manual rescue operation
9.	Other Main Features	Overload Device with Indicator
		2 hours fire rated landing doors
		Full Load Bypass
		Emergency Light
		S.S. Handrail on Rear & Both Side Walls
		Alarm Button & three way intercom including wiring and intercom in Guard Room.
		Vanity Mirror of standard size
		Door Open and Close Button (Soft Touch)
		Phase Failure & Phase Reversal Protection
		Floor Announcer with Music Synthesizer

		Anti Nuisance car call protection
		Lift door shall have door nudging feature
10.	Method of Control	Duplex if not possible than simplex, Collective, Selective
11.	Drive/ Speed Control	V3F (Variable Voltage Variable Frequency) with Regenerative Drive.
12.	Controller	16 / 32 bit Microprocessor based with inbuilt / external voltage stabilizer / As per OEM with regenerative drive
13.	Entrance	One at each floor level and on same side
14.	Landing Entrance	COPD / TOPD in S.S. honeycomb finish
15.	Car Entrance	COPD / TOPD in S.S. honeycomb finish
16.	Traction Machine	Permanent magnet Gearless Machine placed directly above hoist way in machine room
17.	Machine Room Location	Machine Room on the Top
18.	Floor to Floor Height	As per conceptual drawings
19.	Car Enclosures:	
	(a) Car Ceiling	S.S. Finish with LED Lights & centrifugal blower
	(b) Car Panels	S.S. in anti-scratch finish (Honeycomb)
	(c) Car Flooring	Granite Flooring
20.	Car Position Indicator	Digital floor position indicator at all floors along with direction of Travel Indicator.
21.	Power Supply in Machine Room	415 V; 3 Phase; 50 Hz AC

22.	Auxiliary Power Supply	Single Phase 220 V AC
23.	Machine Foundation	The machine will be placed directly above the Hoist Way Upon Machine Room steel section, which shall be provided by the bidder
24.	Pit Depth	Minimum 1600 mm / as available at site
25.	Guide Rails	The Guide Rails should be of steel duly toughened to carry load of Car & Passengers and Pre coated steel belt rely Joined/ aligned for smooth running of the Elevator / As per relevant BIS
26.	Belt Drive	Main hoist belt with poly urethane coated steel belt type shall be with pulse monitoring system for safer and protective run and with adequate section and shall be provided into the sockets of spring loaded self. Thimbles of spring permit adjustment of uniform belt tension for smooth operation of the elevator.
27.	Signals	a) Luminous hall buttons at all floors.
		b) Digital hall position indicators at all floors.
		c) Full length COP with Luminous floor buttons integral in SS finish.
		d) Digital Car position Indicator.
		e) Car direction Indicator having monochrome LCD.
		f) Door open and door close buttons in COP
		g) Emergency light & Emergency alarm through inverter (Rechargeable Batteries).
28.	Type of Buffers	Pit buffers as per OEM
29.	Compliance of Act	National Building Code 2008 & as amended
30.	Guarantee & maintenance etc.	60 months from the date of handing over of lifts along with free comprehensive maintenance including replacement of defective parts
31.	Minor Building Work	The bidder shall include cost of:
		a) Steel Pit ladder.
		b) Scaffolding inside the hoist way for erection.
		c) Cutting of walls with repair including all of bolt members, indicator and button boxes etc. in position.
		d) Sill angles, fascia plates, Machine beams and rolled steel section with bearing plates for support of the Machine if required.
		e) Door frames.

32.	License and Approvals	The supplier shall prepare the necessary documentation and arrange necessary permission required for the operation of lifts from local authorities if applicable on behalf of the JDA.
33.	Witness of Tests	The supplier shall test/ provide factory inspection of the lift in the presence of Third party/ department Engineer/ Consultants if desired. The department however reserves the right to waive off the test.
34.	Miscellaneous	a) The Traction Coated Steel Hoist Belts shall be as per relevant B/S code.
		b) Car safety and Governor to control excessive descending speed.
		c) Counter balance to promote smooth and economic operations.
		d) Terminal and final limits.
		e) Terminal Buffer.
		f) Controller to control starting and speed of Elevator motor and supply brake automatically in case of application of any of the safety device or power failure.
		g) Steel guides for the Car and Counter weight.
		h) Electricity for bonafide use for carrying out execution at any point shall be arranged by the bidder itself.
		i) Single phase power line with bulkheads bulbs and power point shall be arranged in shaft by the suppliers.
		j) Double earthing at machine room shall be provided by the Bidder at the time of testing & commissioning.

Note: certificate from lift inspector shall have to be obtained by the bidder before lifts are put in service.

18.0 FIRE FIGHTING

Providing, installation, testing and commissioning of Fire Protection System including sprinkler system, wet risers, yard hydrants, hose reels, pumps, valves, piping and allied accessories as required, complete in all respects as per NBC 2016 with amendments, relevant BIS Codes and Fire Bye Laws.

Contractor shall obtain necessary approvals/NOC from local Fire Service Authority.

MS Pipe Class “C” / Medium Class with approved valves, gun metal branch pipes and standard firefighting accessories shall be provided as per approved specifications.

Scope of work shall also be as under:

- Approval of firefighting scheme from Fire Department
 - SITC of complete firefighting system
 - Testing and commissioning
 - Preparation and submission of as-built drawings
 - Obtaining Fire NOC / completion approval
- Contractor shall coordinate with HVAC, Electrical, Plumbing and Interior agencies during execution.

Addressable / Hybrid Fire Alarm System

Providing automatic fire detection and alarm system complete with Fire Alarm Control Panel, smoke detectors, heat detectors, manual call points, hooters, strobes, modules, response indicators and accessories complete in all respects.

The system shall comply with:

- NBC 2016 (Part-4 Fire & Life Safety)
 - Relevant IS / BIS Codes
 - BS EN 54 Standards
 - NFPA-72 Standards
- All major fire alarm components shall be UL/FM/EN54 approved and preferably from single OEM for compatibility.

INSTALLATION

Complete fire alarm system shall be installed, tested and commissioned as per approved drawings, local fire authority requirements and relevant BIS/EN standards.

Contractor shall submit layout drawings, equipment details and obtain approvals from concerned authorities/JDA before execution

19.0 VENTILATION / EXHAUST SYSTEM

Providing mechanical ventilation and exhaust system for basement/parking and other required areas complete with exhaust fans, fresh air fans, ducting, dampers, louvers, controls and accessories as per NBC 2016, local fire authority norms and relevant IS Codes.

System Requirements

- Minimum 6 ACPH ventilation in normal mode
- Minimum 12 ACPH in fire/smoke extraction mode
- Separate exhaust arrangement for each basement level
- Fresh air through ramps/fresh air fans as per design requirement
- Automatic operation linked with fire alarm system
- Manual override provision

Fans and motors used for smoke extraction shall be suitable for minimum 250°C operation for 2 hours or as per applicable standards.

Fresh air supply and exhaust arrangement shall be provided through ducting/dropper system as per approved design.

20.0 ELECTRICAL WORKS

All the fan motors which will operate in normal mode shall have IE-3 efficiency. The fan motors required to be operated during fire mode shall be IE-2 efficiency.

The details of electrical components / wires etc for various ratings shall be as under. All starters will be provided with protection for overload and single phasing.

S.No.	Motor Rating (HP)	Contactor Current Rating	Protection MCB / MCCB	Starter Type	Copper Conductor Armoured Cable	GI Earthing
1.	0.75	10 amps	TP MCB	DOL	3 X 4 sq. mm	2 x 8 Gauge
2.	1.0	10 amps	TP MCB	DOL	3 x 4 sq. mm	2 x 8 Gauge
3.	1.5	10 amps	TP MCB	DOL	3 x 4 sq. mm	2 x 8 Gauge
4.	2.0	10 amps	TP MCB	DOL	3 x 4 sq. mm	2 x 8 Gauge
5.	3.0	16 amps	TP MCB	DOL	3 x 4 sq. mm	2 x 8 Gauge
6.	4.0	16 amps	TP MCB	DOL	3 x 6 sq. mm	2 x 6 Gauge
7.	5.0	16 amps	TP MCB	DOL	3 x 6 sq. mm	2 x 6 Gauge
8.	7.5	25 amps	TP+N MCCB	Star- Delta	2 no. 3 x 6 sq.	2 x 6 Gauge
9.	10.0	32 amps	TP+N MCCB	Star- Delta	2 no. 3 x 10 sq.	2 x 6 Gauge
10.	12.5	32 amps	TP+N MCCB	Star- Delta	2 no. 3 x 10 sq mm	2 no. 20 X 3 strip
11.	15	40 amps	TP+N MCCB	Star- Delta	2 no. 3 x 10 sq mm	2 no. 20 X 6 strip

12.	20	63 amps	TP+N MCCB	Star- Delta	2 no. 3 x 16sqmm	2 no. 20 X 3 strip
13.	25	63 amps	TP+N MCCB	Star- Delta	2 no. 3 x 16sq mm	2 no. 20 X 3 strip
14.	30	63 amps	TP+N MCCB	Star- Delta	2 no. 3 x 16sq mm	2 no. 20 X 3 strip
15.	40	63 amps	TP+N MCCB	Star- Delta	2 no. 3 x 25sqmm	2 no. 25X 3 strip
16.	50	100 amps	TP+N MCCB	Star- Delta	2 no. 3 x 25sq mm	2 no. 25 X 3 strip

Electrical works shall be carried out as per NBC, BIS, ECBC and local authority requirements complete in all respects.

All motors operating in normal mode shall be IE-3 efficiency and motors operating in fire mode shall be minimum IE-2 efficiency.

All starters shall have overload, short circuit and single phasing protection.

Copper conductor armoured cables, MCB/MCCB, contactors, starters and earthing system shall be selected as per approved load calculations and relevant BIS standards.

Electrical panels and wiring shall be complete with proper earthing, cable management and safety protection systems

Acceptable Makes for Electrical Works

List of approved makes

S. No.	Description of Item	Makes
1.	FRLS PVC insulated copper wire / Telephone cable / copper conductor control cable	L&T / Havells / Polycab/ Finolex /RR
2.	HT/LT XLPE aluminum cable	Havells/ Polycab/ KEI/ RR Kabel
3.	Co-axial TV cable	L&T/ Havells / Polycab/ Finolex
4.	Steel Conduit	RM CON/ AKG / BEC ISI Marked
5.	Conduit fittings	ISI marked
6.	PVC Conduit	AKG / Polycab / JINDAL / PRECISION
7.	L. T. Panel / Meter Board	AdlecMundka/ Control and SwitchgearsPvt. Ltd/ Tricolite / SPC Electrotech Ltd/ Ambit Switchgear Pvt Ltd/ Neptune India/ Milestone
8.	MCB/MCB DB and sheet steel Metal enclosed industrial socket, plug top and Isolators	Legrand/ Siemens/ L&T/ ABB / Schneider
9.	Modular type switch/Socket, Telephone socket, cable TV Antena socket, Electronic fan regulator and GI Boxes	Legrand (Arteor) OfHavells / Honeywell / North West / Lutron

10.	LED fitting	Philips/ Crompton/ Wipro/
11.	Tube / Vane Axial Flow Fan	Kruger/ Nicotra/ Greenheck/ Airflow/ Humidin/Flaktwood
12.	Ceiling Fan / Exhaust fan (BEE- 5 Star)	Crompton Greaves/ Usha/ Orient/havells
13.	Octagonal steel pole	Bajaj/ Valmont/ Utkarsh
14.	Conical / Decorative Poles / Bollards	Bajaj/ Philips / Wipro / Jaquar
15.	Air Circuit Breaker	L&T-U Power/ Siemens-3WL/ ABB- Emax/Schneider-Masterpact-NW
16.	MCCB	L&T- Dsine/ Schneider- Compact NSX/ABB- Tmax/ Legrand- DPX3/ Siemens
17.	Digital Voltmeter/ Ammeter/ Multi-functionmeter	Schenider- konzerv/ Ducati/ Secure/AE
18.	Capacitor	Epcos / L&T/ Schneider/ Siemens /Crompton Greaves.
19.	APFC Relay	Epcos/ L&T/ Siemens/ Schneider/ Enercon
20.	Power Contactor – AC 3 rating / capacitorduty contactor/ starter / Thyristor module / Harmonic reactors.	Siemens/ L&T/ ABB/ Schneider
21.	11 KV HT(VCB) panel OEM	Siemens/ Schneider/ ABB/ Crompton Greaves
22.	Distribution Transformer (dry type castresin type)	Crompton Greaves/ ABB/ Schneider/ Siemens/ Bharat-Bijlee
23.	Distribution transformer (oil type)is-1180, part2	Crompton Greaves/ ABB/ Schneider/Siemens/ Bharat-Bijlee
24.	Package Type Substation	ABB/ Schneider/ Crompton Greaves
25.	Solar street light fitting	Philips/ Bajaj/ Wipro/ CromptonGreaves
26.	Rising mains / bus duct	Legrand/ Schneider/ C&S/ GE
27.	Fire Extinguishers	Safex/ Minimex / Superex / Ceasfire
28.	Diesel operated Power Generating Engine	Cummins India/ Caterpillar /kirloskar
29.	AMF Panel	OEM/ OEA of DG Set
30.	Alternator	Stamford/ Leroy Somer/ Caterpillar
31.	HDPE / DWC pipe	AKG/ Duraline / Rex
32.	GI / M. S. Pipe	Jindal (Hissar) / TATA
33.	Standard M.S. Fittings & GI fittings	Jainsons Industries / INDUS
34.	Ball Valve / Sluice Valve / Check Valve / Pot /Y Strainer / Butterfly Valve	Audco / Kirloskar/ Zoloto/ Advance
35.	Pressure Switch	System Sensor / Indfoss / Denfoss
36.	LIFTS	Mitsubishi / Schindler / Kone/OTIS/Thyssenkrup The agency has to give at least threeoptions out of the make mentioned abovefor lift and the department will be free to select any one of them.

37.	BMS Operator Work Station	HP/ Dell /Acer
38.	BMS Controller and Power Supply / Software	Siemens / Honeywell EBI / Sauter / TAC (Schneider) / ALC
39.	BMS Controller Housing	Enclotek / Rittal
40.	Temperature Sensor & Humidity Sensor / Enthalpy Sensor / LuxSensor / CO Sensor	Siemens / Invensys / Honeywell / Sontay / Greystone / Sauter / Kele / TAC
41.	Pressure Transmitters / Air Velocity Meter	Siemens/ Invensys/ Kele/ Honeywell / Sontay/ Greystone/ Sauter/ TAC
42.	Flow Meter	Forbes Marshal/ Kele/ Sontay/ Greystone/ Siemens/ TAC/ Honeywell/ Schenitech
43.	Differential Pressure Switch	Siemens / Invensys / Honeywell / Sontay / Greystone / Kele / Sauter
44.	Ph Sensor / Conductivity / TDS	Forbes Marshal / Endres Hauser / Kele / Sontay / Greystone
45.	Flow Switch / Level Switch / Level Indicator	Siemens/Elektronik/Invensys/ Honeywell / Sontay / Greystone /TAC
46.	Current Transducer/Voltage Transducer / Power Factor Transducer / Frequency Transducer	ABB / Southem Transducer / Veris / SETO / Sontay / Greystone
47.	Fire / Sprinkler Main Pump / Jockey Pump	Mather & Platt India Limited / Grundfos / Kirloskar / KSB
48.	Diesel Engine	Cummins / Kirloskar / Catepillar
49.	Motor	ABB/ Siemens/ Kirloskar / Crompton Greaves
50.	Anti Vibration Mounting	Kanwal Industrial Corporation/ Resistoflex /Ewren
51.	Starter	L&T/ Siemens / Crompton/ GE / ABB / BCH
52.	Current Transformer (Cast Resin)	AE/ L&T/ Kappa
53.	Anti Vibration Pad	Cori/ Dunlop / Diamond Pipe Support/ Easyflex Flexionics / Resistoflex / Emerald
54.	Factory fabricated duct	Waves/ Zeco /Ductofab/ GP Spira
55.	Perforated with powder coating M.S./Hot dipped G.I. cable trays	Vinous/ Indiana/ steelway / Slotco / Pilco
56.	Addressable Multicriteria Smoke Detectors With base / Addressable Duct Type Smoke Detectors With base/ Fault Isolator with base/ Addressable Heat Detectors with base/ Addressable Manual Callpoints / Addressable Control Module / Addressable Monitor Module / Sounder/ Hooter cum Strobe/ Fire Alarm Control Panel/ PA System Panel/ Telephone Jack / Hand Set/ Software/ Speaker	Notifier / Siemens / Bosch / Edward.
57.	Conventional Fire Detection and Alarm System Detector Panels Manual Call Points Hooters	Daksh/Agni/ Bosch

58.	Fire Survival Cable	Fusion Polymer/ Havells/ Bonton/ Rallison/ BatraHenlay
59.	Thermo plastic (Textile reinforced) Hose Reel ISI Mark	Mitra/ Kesra / Padmini
60.	Stainless Steel Brach Pipe	Safex/ Padmini / GETech / New Age
61.	FiremanAxe/ Installation Control Valve	Safex/ Padmini / GeTech
62.	2-way/4-way FBC	Safex/ NewAge (Mumbai) / GeTech
63.	Sprinkler Heads	Tyco/ HD/ omax UL listed
64.	Pipe Protection Pypcoat (AW4) Wrapping	IWL/Taxa/ Mac- poly coat
65.	Rubber Bellow	Kanwal Industrial Corporation / Resistroflex / AIP Valves
66.	Window Sprinkler	Tyco / HD
67.	Deluge Valve	Safex/ Tyco / HD
68.	Air release valve	Superex/ GeTech / NewAge / Safex
69.	Welding Rods	Ador/ Esab / Essar/ Advani
70.	Fastner	Hilti/ Fisher
71.	Hose Box(External)(GIPowder Coated)	SPC Electrotech Ltd/ AdlecMundka/ Ambit Switchgear Pvt Ltd/ Milestone/ Tricolite
72.	Flexible Drop (UL Approved)	Safex / HD / Kofulso (Easy flex)
73.	Galvanized Sheet Steel	Tata/ Jindal/ Sail
74.	IP Based CCTV systemCCTV Cameras Bullet, Dome, PTZ CameraNetwork Video Recorder	Bosch / Axis /Sony
75.	LED TV	Sony/ LG / Samsung
76.	Data Networking SystemInformation Outlet (I/O)Patch Panel, PatchCords SFP	Legrand/ Molex/ Amp
77.	Cat-6 /6A Cable	Crestron/ Extron / Kramer
78.	Managed Switch for Data Network, CCTV system	Cisco/ Hewlett Packard
79.	Data Racks	D-link / Legrand / Rital
80.	EPABX	Panasonic/ Alcatel/ Syltel
81.	Telephone Handsets	CISCO / Panasonic / Siemens
82.	MDF and Telephone Tag Blocks	Krone
83.	Boom Barriers	Kaba/ Magnetic/ SEAA/ Makim/ FAAC
84.	Solar PV Modules	Sky Solar / Tata Solar
85.	Inverter (for solar power system)	Kaco/ Delta/ Schneider / SMA
86.	Cables for solar power (XLPO/XLPE)	Lapp/ Havells/ Universal/ Polycab
87.	String Combiner Box	Hensel/ Schneider

88.	0.2 Class ABT Compliant Net Meter	Secure/ L&T/ Schneider
89.	Weather Monitoring Station	SMA/ ABB
90.	Split Air conditioners	Daikin / Hitachi / O General/ Mitsubishi
91.	Video Door Phone System and smartlocks	Panasonic/ Samsung / CISCO / YALE
92.	Sound system: BGM / PA System / Theatre/ Guest house/ Outdoor	BOSE/ TW Audio/Aimline
93.	Digital Signage	Christie / BARCO / Samsung
94.	Geyser	RA Cold/ Jaquar/ orient/ Crompton/ AOSmith
95.	Individual unit UPS Invertor System	Eaton/ Luminous
96.	Invertor Battery	Exide/ Amaron
97.	Consumer Appliances: Chimney, hob, fridge, microwave oven, Washing machine	Siemens/ Samsung
98.	Safe	Yale/ Godrej/ Samsung
99.	RO	Aquaguard/ Zero-B /Kent

24.2 (a) only material bearing ISI/BIS certifications ECBC/BEE mark shall be used in the work. Where articles of different designs/ makes bearing ISI/BIS certifications are available.

(b) Where material bearing ISI/BIS certifications marks are not available, material conforming to relevant BIS/ISI shall be used with prior approval of JDA. The decision of JDA about the design/ make to be used in the work shall be final & binding on the agency.

(c) If the specifications of any item are not available then the decision of the JDA regarding quality shall be final & binding on the agency.

All materials to be used at site shall be got approved from JDA before using at site.

Sec IV (E)

Scope & Specifications of Horticulture works

1.0 HORTICULTURE WORKS

The Scope of horticulture work is to provide the whole VIBE with lush green lawns, trees, hedges, shrubs and beautiful flowers so as to provide an excellent ambience of VIBE-environment and at the same time makes the VIBE environmentally friendly and to make a good impression on the users and visitors. The contractor has to undertake all such jobs/activities required to maintain the VIBE premises in a presentable condition and in above mentioned spirit at all the time whether such activities are elaborated hereunder or not.

The above scope of work Includes designing and its approval from JDA and executing the work as per drawings.

2.0 LANDSCAPING & PLANTATION WORKS

While undertaking this work, the contractor shall develop the Lawns, Water bodies, , etc. and other activities mentioned below.

Ramps, Driveway, drop off Area, Service Structure, OAT at the ground level to be made as landscaped features by enclosing in Trellis & planters as approved by JDA.

Measures for segregating and calming motorized and non-motorized traffic, pedestrian shall be controlled with level differences, Kerbs, dividers and other traffic controlling measures. Main entrances to the project and the social infra buildings, driveways, ramps, lawns shall be guarded as per approved by JDA.

The Agency shall Submit the detailed working drawings to JDA along with the Layout, Material and the execution plan for approval before commencing the work.

PLANTATION WORKS:

The plants should be as per following specification

- i) The plants should be full of fresh and healthy foliage.
- ii) The plants should be free from insect, pest and disease.
- iii) Plant should be healthy and vigorous growth
- iv) The plants should be well settled and should not be newly shifted.
- v) The plants should be true to the variety and named Variety should be tagged.
- vi) The rejected plants materials should be removed from the site immediately.
- vii) Moss stick should be covered with the plants in case of plants supplied with moss stick.
- viii) The Plant should be well established and good spread.
- ix) Good earth and manure used for filling the pot/poly bag free from any inert material and mixed to proper ratio.
- x) Pot/ Poly bag used for filling the plants should be proper size good quality not damaged.
- xi) There should be proper drainage in pots for plants if supplied in pots.
- xii) The flowering plants should also have proper flowering and should be true to the variety.
- xiii) All plant should have the tendency of growth and should not be stunted type.
- xiv) There should be no stagnation of water on the ground where plantation is to be done.
- xv) Proper water proofing treatment must be done over basement slab, where plantation work or green area to be development.

SECTION-IV (F)

Architectural Controlling Norms, Schedule of Finishes/Specifications

Architectural, Structure designing, and construction of the buildings as mentioned and as per built up areas given below:

SI.No.	Description	Approximate Built-up Area(to be constructed as per details given in this Tender document)
1.	VIBE (Ground floor, 1 st , 2 nd and 3 rd floor) etc.	<u>2257.8 Sqm</u>
2.	Basement	<u>824.17 Sqm</u>
3.	Site development	Outer development of complete plot area including OAT, Landscaping compound walls, Retaining walls and gates as per designs.
4.	Miscellaneous & Allied Works as per norms of NBC 2016 and mentioned in this document: xxvii) Detailed design and drawings for this building. xxviii) Final Architectural, Civil, Structural, Finishing, Interior, External and Furnishing works including Elevation and OAT (Open Air Theater) xix) Plumbing & Sanitary. xx) External Water Supply & Sewerage, Storm Water Drainage System, Rain Water Harvesting including Recharge Wells and sanitation system. xxi) Lifts. and Machines xxii) Electrical Services, HT substation Equipment 's, LT distribution system, DG sets, rising mains, UPS, aviation obstruction lights. xxiii) Site Development & Landscaping including pathways, Ramps, Parking Area, Walkways, Sports facilities, e-Library, Co-Working spaces, Retaining wall, C/W with gates, guard rooms, OAT(Open Air Theatre), Horticulture works. xxiv) Fire Fighting & Fire Alarm system. xxv) Installation of rooftop solar power plant with Necessary accessories and net metering Provisions. xxvi) Internal EI with wiring, fan-fittings, HVAC System including air Conditioning, Ventilation, CCTV, EPABX. xxvii) Underground water tank with pump house etc. xxviii) External Lighting, Landscape Lighting, Signage, works CCTV, Boom Barrier. xxix) External Service Connections. xxx) Arrange conferences, site visits, inaugural and handing over functions, holding meetings etc. xxxi) Anti-termite Treatment. xxxii) Operation & Maintenance for a period of 5 Years including upkeep of civil, electrical, MEP and firefighting systems, payment of electricity charges of common areas, deployment of security personnel, housekeeping and all allied activities.	
5.	Allied services as per requirements of service provider or regulatory body.	

Sr. No.	Area/Work	Item	Makes/Description	Base Price
A	Ground Floor			
1	Pre function Lobby / Double Height Community Hall Entry			
	Flooring	Vitrified tiles - 800X1600mm/ 800X800mm Polished marble look	Vitrified Tile Flooring - Providing and Laying of 12mm Vitrified Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved colour epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Vitrified tiles base rate Rs. 120/sqft
		Printed Vitrified tiles	Vitrified Printed Tile Flooring - Providing and Laying of 10mm Vitrified printed Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved colour epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Printed tiles base rate Rs. 150/sqft
		Granite Dado in wet/service areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Dado and as directed on an existing backing of 12 MM thick Plywood/ Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, sham ferling, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Granite Rs. 140/Sqft
		Granite Threshold	Black Granite Band in Cladding - Providing and laying 20mm Granite Bands as per the details mentioned below. Cost to include the edge chamfering & polishing as per required details issued by Architect. (a) 200mm wide band in Horizontal Surface	Granite base rate Rs. 140/sqft

	Ceiling	Gypsum Ceiling at 2 level with Cove lighting	Gypsum Board Suspended Ceiling - Providing and Fixing in position 12.5 mm Gypsum board false-ceiling suspended on G.I. frame work in design as shown in the drawing. The G.I. frame work consist of Perimeter channel of size 27mm x 0.5mm. Intermediate channel of size 45mm x 0.5mm thick. Ceiling section of 0.5mm thickness. 12.5mm thick tapered edge gypsum plaster board fixed to ceiling channel with 25mm dry wall screws at 230mm centers, Jointed and finished with requisite filler, paper tape, finisher and primer suitable for Gypsum plaster boards. Rate to include making necessary cut-outs/openings for light fittings, Duct opening, Grilles, diffuser. pipe etc all required as per site conditions.	Basic rate of Gypsum Ceiling Rs. 125/sqft
	Wall Finishe	Texture Paint	Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate of Texture paint Rs. 100/sqft
		Artwork - Jaipur themed	Artwork (Jaipur themed) - Providing, designing, fabricating, supplying and fixing Jaipur themed decorative artwork on One focal walls of approved concept, pattern, colour scheme and finish inspired by traditional Jaipur/Rajasthani architecture, culture and heritage elements, complete with printed/digital/artistic panels, framing, backing support, protective coating, mounting arrangement and all necessary accessories as per approved drawings and directions of Engineer-in-Charge. The scope shall include surface preparation, design development, sample approval, transportation, installation, alignment, edge finishing, scaffolding, cleaning and making good complete in all respects. Rate shall include all materials, labor, hardware, tools & tackles and incidental works required for complete execution and satisfactory installation.	Basic rate Rs. 300/sqft
		Wooden fluted laminate paneling around door/frame	Wooden fluted laminate paneling around door/frame - Providing and fixing wooden fluted laminate paneling around door/frame area using approved quality HDHMR/MR grade plywood or MDF backing framework finished with decorative fluted laminate of approved shade, texture and pattern complete with necessary sub-frame, grooves, edge moldings, adhesive, screws, fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, edge finishing, polishing/touch-up, making openings for hardware/services wherever required, alignment with adjoining finishes, scaffolding, cleaning and making good complete in all respects. Rate shall include all materials, labor, tools & tackles and incidental works required for proper completion.	Basic rate of Fluted Panels Rs. 300/sqft

		DUCO painted HDHMR arches	DUCO painted HDHMR arches - Providing, fabricating and fixing decorative arches/frames in limited areas using approved quality HDHMR board of required thickness, shape and profile finished with premium DUCO paint in approved shade and finish, complete with necessary framework/support system, edge preparation, grooves, fillers, primer, sanding, multiple coat DUCO finish, fixing hardware and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, bending/forming wherever required, surface preparation, alignment, touch-up, scaffolding, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works required for proper completion of work.	Basic rate of Duco Paint Rs. 200/sqft
		GI Framing	G.I framing - Providing and Fixing of 48*36 MM GI Stud framing at 600 MM C/c with horizontal bracing in staggered fashion at 600 MM c/c including floor and ceiling channels as per drawing or as per manufacturer specification/drawings for dry wall partition and wall/column paneling (up to bottom of slab) and all as per the drawings and specifications. The cost includes labor, materials, wastages, lead, lifts, hardware, any additional bracing as per site requirement etc. complete as per the instructions and to the satisfaction of the Project Manager. The cost shall also include additional channel supports required to GI stud due to existing service ducts, provision for all electrical, networking boxes which shall be installed on 25mm x 25mm x 1.2mm thick extruded aluminum "L" angle screwed onto partition framework at required heights/levels as directed. Actual Area to be measure & Cladding shall be measured Separately.	
		12mm Ply	12 MM Commercial Grade Plywood Cladding over P1 partition & Existing GI/Aluminum Frame - Providing and fixing of Plywood Cladding on Existing Frame Work as per drawings and specifications. The cost includes labour, materials, wastages, hardware, lead, lifts, cutting to all shapes, fixing at all locations and levels, make provision for all electrical, networking boxes as directed if required etc. complete as per the instructions and to the satisfaction of the Project Manager. Framework shall be measured Separately.	
		Handmade Tree Painted Mural	Providing and creating handmade artistic tree mural on wall surface using premium quality acrylic/emulsion paints of approved shades and design, including surface preparation, base coat, hand-painted artwork detailing, protective coating where required, and finishing complete as per approved concept and Architect's instructions, complete in all respects.	
		Wallpaper on walls	Providing Wallpapers on walls with texture, scenery, floral or abstract art painting fixing with gum resin heated and painted applied in 3 ft rolls with joint sealed and made invisible.	

		Console below focus wall - Laminated finish	Providing, fabricating and fixing console unit Size (2800x500mm) below focus wall using approved quality plywood/HDHMR/MDF board of required thickness finished with decorative laminate of approved shade, texture and pattern complete with necessary framework, shutters/open shelves (if required), edge banding, backing, skirting, hardware, supports, adhesive, screws and all fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, edge finishing, polishing/touch-up, alignment with adjoining finishes, making provisions for services wherever required, scaffolding, cleaning and making good complete in all respects. Rate shall include all materials, labour, tools & tackles and incidental works necessary for complete installation.	
	Furniture/Fixed Items	Chandelier	Chandelier - Providing, supplying, assembling, installing, testing and commissioning of decorative chandelier of approved make, design, size, configuration and finish complete with LED light source/modules, drivers, suspension system, mounting accessories, canopy, support arrangement, internal wiring, connectors, dimming/control gear (if applicable), fixing hardware and all associated accessories as per approved drawings and specifications. The item shall include structural anchoring/support from ceiling, necessary scaffolding/lifting arrangements, alignment, testing, commissioning, cleaning and handing over complete in all respects as directed by Engineer-in-Charge. Rate shall include all materials, labour, transportation, tools & tackles and incidental works required for proper installation and operation.	
	Entry gate	Wooden and glass entry gate	Well-designed entry gate of hard wood, decorative carvings and designs, glass gates, air through system etc. as per elevation drawing and design approved by JDA.	
2	Banquet Hall / Community Hall			
	Flooring	Vitrified tiles - 800X1600mm marble look	Vitrified Tile Flooring - Providing and Laying of 12mm Vitrified Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved colour epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Vitrified tiles base rate Rs. 120/sqft

		Wooden Flooring on Stage	Wooden laminated Flooring on stage - Providing and fixing wooden laminated flooring on stage area using approved quality pre-laminated wooden flooring planks of required thickness, shade and texture over suitable underlay/foam layer and prepared sub-base complete with necessary locking arrangement, skirting, edge trims, reducers, adhesive wherever required and all accessories as per manufacturer's specifications and directions of Engineer-in-Charge. The work shall include surface preparation, cutting, fitting, alignment, finishing at edges/joints, protection layer, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works required for complete execution.	Base rate of wooden laminated flooring Rs. 175/sqft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching color PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75/100mm High Finished in Black Powder coating	
	Ceiling	Gypsum Ceiling at 2-3 levels with cove lighting	Gypsum Board Suspended Ceiling - Providing and Fixing in position 12.5 mm Gypsum board false-ceiling suspended on G.I. frame work in design as shown in the drawing. The G.I. frame work consist of Perimeter channel of size 27mm x 0.5mm. Intermediate channel of size 45mm x 0.5mm thick. Ceiling section of 0.5mm thickness. 12.5mm thick tapered edge gypsum plaster board fixed to ceiling channel with 25mm dry wall screws at 230mm centers, Jointed and finished with requisite filler, paper tape, finisher and primer suitable for Gypsum plaster boards. Rate to include making necessary cut-outs/openings for light fittings, Duct opening, Grilles, diffuser. pipe etc all required as per site conditions.	Basic rate of Gypsum ceiling Rs. 125/sqft
		Chandelier – 1 Nos.	Chandelier - Providing, supplying, assembling, installing, testing and commissioning of decorative chandelier of approved make, design, size, configuration and finish complete with LED light source/modules, drivers, suspension system, mounting accessories, canopy, support arrangement, internal wiring, connectors, dimming/control gear (if applicable), fixing hardware and all associated accessories as per approved drawings and specifications. The item shall include structural anchoring/support from ceiling, necessary scaffolding/lifting arrangements, alignment, testing, commissioning, cleaning and handing over complete in all respects as directed by Engineer-in-Charge. Rate shall include all materials, labour, transportation, tools & tackles and incidental works required for proper installation and operation. Qty - 1 Nos.	

	Wall Finishes	Acrylic Emulsion Primer Paint	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved colour and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labour, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	
		Texture Paint	Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate Rs. 100/sqft
		Wooden fluted paneling on stage/backdrop wall	Wooden fluted paneling on stage/backdrop wall - Providing, fabricating and fixing decorative wooden fluted paneling on stage/backdrop wall using approved quality HDHMR/MDF/plywood base framework finished with machine-made fluted panels/laminate of approved pattern, profile, shade and texture complete with necessary backing framework, grooves, edge finishing, adhesive, screws, fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include surface preparation, alignment, cutting, edge moldings, provisions for electrical/AV fixtures wherever required, polishing/touch-up, scaffolding, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for complete execution.	Basic rate of wooden fluted panels Rs. 300/sqft
		Laminated Mdf Board cladding	Laminated Mdf Board cladding: - Providing and fixing of 4mm Thk. Factory made pre-laminated MDF Board with 1mm thk. Laminate pasted on 3mm mdf Board with Grooves. Grooves To be finished & in Polish. Other side of the laminated board to be raw finish - Base Rate of 4mm thk. laminated Mdf Board	Basic rate of laminated MDF board Rs. 75/sqft
		Acoustic paneling	9mm thk. Acoustic pet panel wall cladding - Providing & Fixing 9mm thk. CNC cut 9mm thk. Acoustic Pet panels fixed on the Existing Ply surface. Cost to include the pet panel, CNC cut perforations as per design, Installation lall Complete.	Basic rate of 9mm thk. Acoustic with cutting, installation & Grooving Rs. 200/sqft
		Wallpaper on walls	Providing Wallpapers on walls with texture, scenery, floral or abstract art painting fixing with gum resin heated and painted applied in 3 ft rolls with joint sealed and made invisible.	

		DUCO painted HDHMR arches with wooden beadings	DUCO painted HDHMR arches with wooden beadings - Providing, fabricating and fixing decorative arches using approved quality HDHMR board of required thickness and profile finished with premium DUCO paint in approved shade and finish, complete with wooden beadings/moldings of approved design, necessary framework/support system, edge preparation, fillers, primer, sanding and multiple coat DUCO finish as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, shaping/forming of arches, fixing of beadings, grooves/details, alignment, touch-up, scaffolding, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works required for complete execution and satisfactory installation.	Basic rate of Duco paint Rs. 220/sqft
		GI Framing	G.I framing - Providing and Fixing of 48*36 MM GI Stud framing at 600 MM C/c with horizontal bracing in staggered fashion at 600 MM c/c including floor and ceiling channels as per drawing or as per manufacturer specification/drawings for dry wall partition and wall/column panelling (up to bottom of slab) and all as per the drawings and specifications. The cost includes labor, materials, wastages, lead, lifts, hardware, any additional bracing as per site requirement etc. complete as per the instructions and to the satisfaction of the Project Manager. The cost shall also includes additional channel supports required to GI stud due to existing service ducts, provision for all electrical, networking boxes which shall be installed on 25mm x 25mm x 1.2mm thick extruded aluminum "L" angle screwed onto partition framework at required heights/levels as directed. Actual Area to be measure & Cladding shall be measured Separately.	
		12mm Ply	12 MM Commercial Grade Plywood Cladding over P1 partition & Existing GI/Alumnium Frame - Providing and fixing of Plywood Cladding on Existing Frame Work as per drawings and specifications. The cost includes labour, materials, wastages, hardware, lead, lifts, cutting to all shapes, fixing at all locations and levels, make provision for all electrical, networking boxes as directed if required etc. complete as per the instructions and to the satisfaction of the Project Manager. Framework shall be measured Separately.	
		Chandelier -1 Nos.	Chandelier - Providing, supplying, assembling, installing, testing and commissioning of decorative chandelier of approved make, design, size, configuration and finish complete with LED light source/modules, drivers, suspension system, mounting accessories, canopy, support arrangement, internal wiring, connectors, dimming/control gear (if applicable), fixing hardware and all associated accessories as per approved drawings and specifications. The item shall include structural anchoring/support from ceiling, necessary scaffolding/lifting arrangements, alignment, testing, commissioning, cleaning and handing over complete in all respects as directed by Engineer-in-Charge. Rate shall include all materials, labour, transportation, tools & tackles and incidental works required for proper installation and operation. Qty - 1 Nos.	

3	Kitchen			
	Flooring	Antiskid Vitrified tiles	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 70/sqft
		Granite Skirting in wet/service areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, sham ferling, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Granite Rs. 140/Sqft
	Ceiling	Metal Tile Ceiling in service Zone	600mm x 600mm perforated Metal lay-in Ceiling - Providing and fixing in position Suspended ceiling System with perforated Metal ceiling tiles in size 600 x 600 MM with 16 x 8 MM Tegular Edge profile. Plain white powder coated tiles with 0.1 NRC and Sound Attenuation of 44 db.	Basic rate Rs. 175/sqft
	Wall Finishes	Ceramic tiles upto 2400 mm Height	Ceramic Tile cladding - Providing and Laying of 10 mm thk. Ceramic Tile in Cladding/Dado upto 2400mm height and as directed with 1:4 Cement Mortar & base plaster and as per the drawings. The cost shall include labor, materials, wastages, cleaning, cutting and inclusive of lead, lifts, necessary protection, joint filling in approved grout, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate Rs. 50/sqft
		Granite working Counter	Granite working Counter - Providing, supplying, fabricating and fixing polished granite working counter of approved colour, pattern and thickness over suitable framework/support system complete with machine-polished top surface, molded/finished edges, necessary cut-outs for sink, fixtures or services wherever required and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include backing mortar/support, alignment, sealing of joints, polishing, edge finishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate of Granite Rs. 140/sqft

		Under counter storage	Under counter storage - Low height cabinet storage cabinet 900mm high formed with carcass of 18mm HDMR Board and 1 Nos. Storage to have 38mm Thk. counter top finished in 18mm thk. Granite. 100mm height skirting formed out of 18 mm thk HDMR Board & finished in aluminium skirting as per detail dwg. Storage to be complete with hardware installed as directed to consist of the following. Shutter to have auto-closing spring loaded hinge of approved make installed strictly as per manufacturers guidelines. All necessary tools should be strictly used for correct installation of hinges. Each set of shutters to be provided with 1 Nos. chrome finished multi-purpose lock of approved make, 75mm medium sized stainless steel tower bolt, 1 Nos. heavy duty SS ball catch, 100mm C type brushed SS handle with approved colour.	Base rate of Granite 140/sqft.
4	Café / Coffee Shop / Service Counter			
	Flooring	Wooden finish Vitrified tiles	Wooden finish Vitrified tiles - Providing and laying approved quality wooden finish vitrified floor tiles of required size, thickness, shade, texture and pattern over prepared base using suitable tile adhesive/cement mortar bed complete with proper line, level, alignment and staggered/wood plank pattern layout as approved. The work shall include cutting, edge finishing, spacers, joint filling with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for complete execution of flooring work.	Basic rate Rs. 175/sqft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching colour PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75/100mm High Finished in Black Powder coating	
	Ceiling	Gypsum ceiling with pendant Light points	Providing and fixing suspended gypsum board false ceiling using 12.5 mm thick tapered edge gypsum plaster boards fixed on approved G.I. framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and suspension system complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include providing necessary reinforcement/support arrangement for pendant light fixtures, making cut-outs/openings for pendant light points, light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services as required at site. The item shall also include coves, drops, edge profiles wherever required, scaffolding, alignment, touch-up, cleaning and making good complete in all respects. Rate shall include all materials, labour, fixing accessories, tools & tackles and incidental works necessary for complete execution.	Basic rate of Gypsum Ceiling Rs. 125/sqft

		Gypsum ceiling Band	Providing and fixing decorative gypsum ceiling band/drop in required width, shape and profile using gypsum board of approved thickness fixed over suitable G.I. framework complete with necessary suspension arrangement, perimeter channels, ceiling sections, hangers and fixing accessories as per approved drawings and directions of Engineer-in-Charge. The gypsum boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth and seamless finish. The work shall include formation of straight/curved bands, edge profiles, grooves, cut-outs for light fixtures/services wherever required, scaffolding, alignment, touch-up, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for proper completion of work.	
		Wooden slat feature above counter only	Providing, fabricating and fixing decorative wooden slat feature ceiling above counter area using approved quality HDHMR/wood/MDF slats of required size, spacing and profile finished with laminate/veneer/polish of approved shade and texture, fixed over suitable G.I./wooden framework with necessary suspension arrangement, supports, fixing clips, screws and accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include proper alignment, edge finishing, grooves/details, cut-outs for light fixtures/services wherever required, scaffolding, polishing/touch-up, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for complete execution.	
		Baffle ceiling - wooden finish powder coated	Providing and fixing suspended baffle ceiling system comprising vertical metallic baffle panels of approved size, spacing and profile, finished with wooden finish powder coating of approved shade and texture, suspended from suitable G.I./aluminum suspension framework complete with hangers, runners, carrier system, fixing clips and all necessary accessories as per approved drawings and manufacturer's specifications. The work shall include alignment, levelling, edge finishing, necessary cut-outs/openings for light fixtures, sprinklers, diffusers and other services wherever required, complete in all respects. Rate shall include all materials, suspension system, hardware, labour, scaffolding, tools & tackles, transportation, installation, cleaning and incidental works required for complete execution and satisfactory installation.	Basic rate of Alumnium Baffle with Wooden powder Coating Rs. 800/sqft
	Wall Finishes	Texture Paint	Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate Rs. 100/sqft

		Café Graphics/Artwork	Café Graphics/Artwork - Providing, designing, fabricating, supplying and fixing café themed graphics/artwork of approved concept, size, colour scheme and finish comprising printed vinyl graphics, digital artwork, wall murals, framed art panels and/or decorative display elements as per approved design and directions of Engineer-in-Charge. The work shall include surface preparation, printing, lamination/protective coating, framing/backing support, mounting arrangement, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works required for complete execution and satisfactory installation.	Basic rate of Graphics Rs. 150/sqft
		Lacquered glass paneling	Lacquered glass paneling - Providing and fixing lacquered glass paneling of approved colour, shade and thickness using toughened/float glass with factory finished lacquer coating on rear surface, fixed over prepared wall surface/backing using approved adhesive, screws, studs or fixing system complete with edge polishing, protective backing, joints treatment, necessary framework/support arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, cut-outs for switches/services wherever required, alignment, sealing of joints with matching silicone, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works required for proper installation and completion.	Basic rate of LG Rs.350/sqft
	Furniture/Fixed Items	Café Counter in Laminate Finish with Granite Top, Storage Below and Limited Display Shelves	Providing, fabricating and fixing café counter of approved size (5600x600x2700mm)and configuration using plywood/HDHMR/MDF framework and carcass finished with decorative laminate of approved shade, texture and pattern on exposed surfaces complete with polished granite top of approved colour, thickness and finish including edge moulding and machine polishing. The counter shall include storage cabinets/drawers/open shelves below, limited display shelves, necessary partitions, shutters, edge banding, skirting, hardware, handles, soft-close fittings, supports and all fixing accessories as per approved drawings and directions of Engineer-in-Charge.The work shall include necessary cut-outs/openings for electrical/plumbing/services wherever required, internal framework, alignment, edge finishing, polishing/touch-up, transportation, installation, cleaning and making good complete in all respects. Rate shall include all materials, labour, granite top, laminate finish, hardware, adhesives, tools & tackles and incidental works required for complete execution and satisfactory installation.	

		Self Help Counter	Providing, fabricating and fixing self-help/service counter of approved size (4700x600x1050mm) and configuration using plywood/HDHMR/MDF framework and carcass finished with decorative laminate of approved shade, texture and pattern complete with counter top in laminate/granite/quartz finish as specified, storage units, shelves, shutters, edge banding, skirting, hardware, handles, supports and all necessary accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include internal framework, cut-outs/openings for electrical/plumbing/services wherever required, alignment, edge finishing, polishing/touch-up, transportation, installation, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesives, tools & tackles and incidental works necessary for complete execution and satisfactory installation.	
		GI Framing	G.I framing -- Providing and Fixing of 48*36 MM GI Stud framing at 600 MM C/c with horizontal bracing in staggered fashion at 600 MM c/c including floor and ceiling channels as per drawing or as per manufacturer specification/drawings for dry wall partition and wall/column paneling (up to bottom of slab) and all as per the drawings and specifications. The cost includes labor, materials, wastages, lead, lifts, hardware, any additional bracing as per site requirement etc. complete as per the instructions and to the satisfaction of the Project Manager. The cost shall also include additional channel supports required to GI stud due to existing service ducts, provision for all electrical, networking boxes which shall be installed on 25mm x 25mm x 1.2mm thick extruded aluminum "L" angle screwed onto partition framework at required heights/levels as directed. Actual Area to be measure & Cladding shall be measured Separately.	
		12mm Ply	12 MM Commercial Grade Plywood Cladding over P1 partition & Existing GI/Aluminum Frame - Providing and fixing of Plywood Cladding on Existing Frame Work as per drawings and specifications. The cost includes labour, materials, wastages, hardware, lead, lifts, cutting to all shapes, fixing at all locations and levels, make provision for all electrical, networking boxes as directed if required etc. complete as per the instructions and to the satisfaction of the Project Manager. Framework shall be measured Separately.	
5	Guest Rooms 1 & 2 With Attached Toilets			

	Flooring	Wooden Laminated Flooring in Rooms	Wooden Laminated Flooring - Providing and laying approved quality wooden laminate flooring of required thickness, shade, texture and finish over prepared base with suitable underlay/foam layer complete with interlocking arrangement, skirting, edge trims, reducers and necessary accessories as per manufacturer's specifications and approved drawings. The work shall include surface preparation, cutting, fitting, alignment, finishing at edges/joints, protection layer, cleaning and making good complete in all respects. Rate shall include all materials, labour, underlay, adhesives wherever required, hardware, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 150/sqft
		Antiskid Vitrified tiles in Attached Toilets	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 70/sqft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching colour PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75/100mm High Finished in Black Powder coating	
	Ceiling	Gypsum Ceiling with Coves	Gypsum Ceiling With coves - Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate of Gypsum ceiling Rs. 125/sqft

		Metal Grid Ceiling in Pantry	Providing and fixing suspended metal grid ceiling system comprising factory finished metal ceiling panels/tiles of approved size, perforation pattern and finish laid on exposed/concealed metal grid suspension framework complete with main runners, cross tees, perimeter trims, hangers, suspension rods, clips and all fixing accessories as per approved drawings and manufacturer's specifications. The work shall include proper alignment, levelling, edge finishing, necessary cut-outs/openings for light fixtures, AC grilles, diffusers, sprinklers and other services wherever required, complete in all respects. Rate shall include all materials, suspension framework, hardware, labour, scaffolding, tools & tackles, transportation, installation, cleaning and incidental works necessary for complete execution and satisfactory installation.	Base rate 175/sqft.
		Moisture resistant ceiling	Providing and fixing moisture resistant (MR) false ceiling using approved quality moisture resistant gypsum board/calcium silicate board of required thickness fixed over suitable G.I. suspension framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and fixing accessories complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include necessary cut-outs/openings for light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services, including coves, drops and edge profiles wherever required. Rate shall include all materials, labour, suspension system, scaffolding, alignment, touch-up, cleaning, tools & tackles and incidental works necessary for proper completion of work.	Basic rate of MR Board Ceiling 150/sqft.
	Wall Finishes	Wallpaper	Providing and fixing approved quality wallpaper/wall covering of required shade, texture, pattern and finish on prepared wall surface using recommended adhesive complete as per manufacturer's specifications and directions of Engineer-in-Charge. The work shall include surface preparation, putty/primer treatment wherever required, cutting, alignment, matching of patterns, trimming, finishing at edges/corners, removal of air bubbles, cleaning and making good complete in all respects. Rate shall include all materials, labour, adhesive, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate of Wall paper Rs. 100/sqft
		Ceramic tiles in toilet	Ceramic Tile cladding - Providing and Laying of 10 mm thk. Ceramic Tile in Cladding/Dado as directed with 1:4 Cement Mortar & base plaster and as per the drawings. The cost shall include labor, materials, wastages, cleaning, cutting and inclusive of lead, lifts, necessary protection, joint filling in approved grout, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate Rs. 50/sqft

		Granite Skirting in wet/service areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, chamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate Rs. 140/sqft
		Mirrors in toilets	Mirrors in toilets - Providing and fixing approved quality mirror in toilet area of required size and shape made from float/toughened mirror glass of approved thickness with machine polished edges complete with necessary backing support, mirror adhesive, stainless steel studs/clamps/fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, edge polishing, alignment, sealing of joints with silicone wherever required, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for proper installation and completion.	
		POP	POP Wall Punning - Providing P.O.P. wall levelling to internal walls and ceilings average 12mm to 15mm thick, wall surfaces of concrete, masonry work, including doing jambs, sills, grooves, watts, rounding of corners etc. all complete as per architectural drawing, specification and directed by Architect, at all lift, lead and depth, doing independent double legged scaffolding, making gypsum plaster mix as per approved manufacturer's instruction, hacking closely concrete surfaces, apply chemical adhesive coating on concrete surfaces and apply scratch coat plaster etc. complete as approved by Architect. Plastering shall be to correct line, levels and plumb including curing, cleaning etc. complete to entire satisfaction of Architect.	
		Laminated Mdf Board cladding	Laminated Mdf Board cladding:- Providing and fixing of 4mm Thk. Factory made pre-laminated MDF Board with 1mm thk. Laminate pasted on 3mm mdf Board with Grooves. Grooves To be finished & in Polish. Other side of the laminated board to be raw finish - Base Rate of 4mm thk. laminated Mdf Board	
		TV Cabinet	TV cabinet in Laminate finish	
		Wardrobe	Providing & fixing Full Height Laminated storage as per drawing . The overall Structure made in 18 mm thick commercial ply & back of storages with 6 mm thick comm ply . Storages finished in 1 mm thick laminate from everywhere except outer back side of storages and also including all SS snap hinges, handles, locks etc & all necessary hardware as required. Shutter size varies between 450-550mm wide & 450 mm deep as required with reverse bull nose edge on top & bottom of shutter (for files, folders coats etc) with select shelves duly adjustable as required on metal stud supports with sleeves set in at intervals of every 375 mm height. PVC lipping on all edges with matching shade, including laminated skirting in approved shade with all hardware, magnetic catchers, tower bolts, etc complete as per detailed drawings.	
6	Common Toilets			

	Flooring	Antiskid Vitrified tiles	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 70/sqft
		Granite Skirting in wet/service areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, sham ferling, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Granite Rs. 140/sqft
	Ceiling	Moisture resistant ceiling with cove	Moisture resistant ceiling with cove - Providing and fixing moisture resistant (MR) false ceiling using approved quality moisture resistant gypsum board/calcium silicate board of required thickness fixed over suitable G.I. suspension framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and fixing accessories complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include necessary cut-outs/openings for light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services, including coves , drops and edge profiles wherever required. Rate shall include all materials, labour, suspension system, scaffolding, alignment, touch-up, cleaning, tools & tackles and incidental works necessary for proper completion of work.	Basic rate of MR board Ceiling Rs. 150/sqft
		Vitrified wall tiles	Vitrified wall tiles - Providing and fixing approved quality vitrified wall tiles of required size, thickness, shade, colour, texture and finish on walls over prepared surface using suitable tile adhesive complete with proper alignment, line, level and pattern as approved. The work shall include surface preparation, cutting, edge finishing, spacers, filling of joints with matching grout, necessary curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of wall tiling work.	Basic rate Rs. 70/sqft

		Granite Counter	Granite Counter - Providing, supplying, fabricating and fixing polished granite counter of approved colour, pattern, thickness and finish over suitable framework/support system complete with machine polished surface, moulded/finished edges, necessary cut-outs for sink, fixtures or services wherever required and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include backing support, alignment, edge finishing, joint sealing, polishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works necessary for proper installation and completion.	
		Mirrors in toilets	Mirrors in toilets - Providing and fixing approved quality mirror in toilet area of required size and shape made from float/toughened mirror glass of approved thickness with machine polished edges complete with necessary backing support, mirror adhesive, stainless steel studs/clamps/fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, edge polishing, alignment, sealing of joints with silicone wherever required, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for proper installation and completion.	
	Stall Partition		Stall Partition - Providing and fixing toilet cubicles made of solid compact laminate with textured finish melamine on both sides having properties of colour fastness, scratch, moisture and impact resistance. The intermediate shall be of one continuous panel without any joint. All visible edges will be chamfered, All pilasters are to be supported with Nylon (Polyamide-6) (with M12 traded - Rod inserted for stability) or stainless steel adjustable foot and anchored to the floor with SS screws, The intermediate panel / dividers shall be mounted to the wall with thick aluminum U channel section using SS screws. The top rail of the system shall be of 2mm thick, semi- round heavy duty aluminum channel section fixed to the top of pilaster with SS screws. All aluminum channel shall be anodized (Grade 6063 T5 15 Micron) or epoxy powder coated) Each type Cubicles shall be equipped with the following Nylon or stainless steel accessories: Door Knob; coat hook with rubber stopper; hinges shall be normal ; privacy Thumb turn.	
	Urinal Partition		Urinal Divider Glass:- P/F Urinal Divider Partitions with size 400mm x 1200mm in 8mm Frosted Toughened Glass with MS powder Coated Frame.	
7	Corridors / Passages / Lift Lobbies / Staircase / Stores			

	Floorings	Matte Vitrified tiles 600X600mm / 800X1600mm	Matte Vitrified tiles - Providing and laying approved quality matte finish vitrified floor tiles of size 600x600 mm and/or 600x200 mm of required shade, colour, texture and pattern in corridor areas over prepared base using suitable tile adhesive/cement mortar bed complete with proper line, level, alignment and approved laying pattern. The work shall include cutting, edge finishing, spacers, joint filling with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 110-145/sqft
		Granite Border	Granite Border - Providing and fixing polished granite border of approved colour, pattern, size and thickness in flooring/wall areas as per approved drawings and directions of Engineer-in-Charge, laid over prepared base using suitable adhesive/cement mortar complete with cutting, dressing, machine-polished edges, alignment and finishing. The work shall include joint filling, edge finishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, adhesives/mortar, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate Rs. 130-160/sqft
		Kota stone 25 mm thick	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : in sizes (2ftx2ft) or greater (laid in fine joint)	80rs /sq ft
		Store - Ceramic tiles - 600X600mm	Ceramic tiles - 600X600mm - Providing and laying approved quality ceramic floor tiles of required size, thickness, shade, colour and pattern over prepared cement mortar/screed bed using suitable tile adhesive, laid to proper line, level and slope complete with spacers, cutting, edge finishing and filling joints with matching grout as per manufacturer's specifications and directions of Engineer-in-Charge. The work shall include surface preparation, curing, cleaning, making openings/cut-outs wherever required and finishing complete in all respects. Rate shall include all materials, labour, tools & tackles, adhesives, grout and incidental works necessary for proper completion of flooring work. Tile Size - 600X600mm	Basic rate Rs. 50/sqft

		Granite in staircase (Riser/Treads/Landings)	Granite in staircase - Providing and fixing polished granite stone on staircase treads, risers, landings and skirting of approved colour, pattern, thickness and finish over prepared base using suitable cement mortar/adhesive complete with machine polished surface, moulded nosing, edge finishing, grooves for anti-skid treatment wherever required and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, dressing, alignment, joint filling, polishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, mortar/adhesive, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate Rs.110-140 /rft
		Granite Skirting in wet/service areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, chamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate Rs.110-140 /rft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching colour PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75/100mm High Finished in Black Powder coating	
	Ceiling	Gypsum Ceiling with Coves	Gypsum Ceiling With coves - Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate Rs. 110-135/sqft

		No False ceiling	Providing and finishing exposed slab/services ceiling without false ceiling treatment, including surface preparation, necessary repairs to slab surface, putty wherever required, primer and paint finish in approved shade and texture complete as per approved drawings and directions of Engineer-in-Charge. The work shall include proper coordination and finishing around exposed ducts, conduits, cable trays, piping, sprinklers, light fixtures and other services, including cleaning, touch-up and making good complete in all respects. Rate shall include all materials, labour, scaffolding, tools & tackles and incidental works necessary for proper completion of work.	Basic rate Rs. 110-135/sqft
	Wall Finishes	Emulsion Paint	Emulsion Paint - Providing and applying premium acrylic emulsion paint of approved make, shade and finish on walls/ceilings over prepared surface complete with necessary surface preparation, scraping, putty, sanding, primer coat and minimum two or more coats of emulsion paint as required to achieve uniform smooth finish, including scaffolding, masking, protection of adjoining surfaces, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, tools & tackles and incidental works necessary for proper completion of painting work.	Basic rate Rs. 75-95/sqft
		Texture Paint	Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate Rs. 75-95/sqft
		Graphics in corridor	Providing, designing, fabricating, supplying and fixing decorative graphics/signage/artwork of approved concept, size, colour scheme and finish comprising printed vinyl graphics, digital prints, wall graphics, branding elements and/or display panels complete with necessary backing support, lamination/protective coating, mounting arrangement and fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include surface preparation, printing, cutting, alignment, installation, edge finishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works required for complete execution and satisfactory installation.	Basic rate Rs. 55-90/sqft
		Acrylic Emulsion Primer Paint in store	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved colour and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labour, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	Basic rate Rs. 40-55/sqft

		Artwork	Artwork - Providing, designing, fabricating, supplying and fixing café themed graphics/artwork of approved concept, size, colour scheme and finish comprising printed vinyl graphics, digital artwork, wall murals, framed art panels and/or decorative display elements as per approved design and directions of Engineer-in-Charge. The work shall include surface preparation, printing, lamination/protective coating, framing/backing support, mounting arrangement, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works required for complete execution and satisfactory installation.	Basic rate Rs. 70-150/sqft
		POP	POP Wall Punning - Providing P.O.P. wall levelling to internal walls and ceilings average 12mm to 15mm thick, wall surfaces of concrete, masonry work, including doing jambs, sills, grooves, wattas, rounding of corners etc. all complete as per architectural drawing, specification and directed by Architect, at all lift, lead and depth, doing independent double legged scaffolding, making gypsum plaster mix as per approved manufacturer's instruction, hacking closely concrete surfaces, apply chemical adhesive coating on concrete surfaces and apply scratch coat plaster etc. complete as approved by Architect. Plastering shall be to correct line, levels and plumb including curing, cleaning etc. complete to entire satisfaction of Architect.	
		Paneling	Providing and fixing Wooden paneling in laminate finish with fixing in groove and key mechanism on SR or foam based base plate	200rs per sqft

		GI Framing	G.I framing -- Providing and Fixing of 48*36 MM GI Stud framing at 600 MM C/c with horizontal bracing in staggered fashion at 600 MM c/c including floor and ceiling channels as per drawing or as per manufacturer specification/drawings for dry wall partition and wall/column panelling (up to bottom of slab) and all as per the drawings and specifications. The cost includes labor, materials, wastages, lead, lifts, hardware, any additional bracing as per site requirement etc. complete as per the instructions and to the satisfaction of the Project Manager. The cost shall also includes additional channel supports required to GI stud due to existing service ducts, provision for all electrical, networking boxes which shall be installed on 25mm x 25mm x 1.2mm thick extruded aluminum "L" angle screwed onto partition framework at required heights/levels as directed. Actual Area to be measure & Cladding shall be measured Separately.	
		12mm Ply	12 MM Commercial Grade Plywood Cladding over P1 partition & Existing GI/Aluminum Frame - Providing and fixing of Plywood Cladding on Existing Frame Work as per drawings and specifications. The cost includes labour, materials, wastages, hardware, lead, lifts, cutting to all shapes, fixing at all locations and levels, make provision for all electrical, networking boxes as directed if required etc. complete as per the instructions and to the satisfaction of the Project Manager. Framework shall be measured Separately.	
		Handmade Painted Mural	Providing and creating handmade mural on wall surface using premium quality acrylic/emulsion paints of approved shades and design, including surface preparation, base coat, hand-painted artwork detailing, protective coating where required, and finishing complete as per approved concept and Architect's instructions, complete in all respects.	
		Granite Wall Cladiing in Lift Lobby Wall	Granite Wall Cladding- Providing and lay 19mm thick, machine cut and polished Granite upon a bed of cement slurry laid as per pattern indicated in detailed drawings.	
	Furniture / Fixed Items	Way finding Signage	Providing, fabricating, supplying and fixing wayfinding signage of approved size, design, typography, graphics, colour scheme and finish comprising directional signs, identification signs, floor/location indicators and informational signage complete with acrylic/MS/SS/aluminum/PVC base as specified, printed/vinyl graphics, lettering, mounting hardware, supports and fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include design coordination, surface preparation, cutting, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works necessary for complete execution and satisfactory installation.	
		Planter	Providing and placing decorative planters of approved size, shape, material and finish complete with indoor plants, potting media, drainage arrangement, pebbles and all accessories as per approved sample and directions of Engineer-in-Charge. The planter units shall be in FRP/ceramic/metal/concrete/wood finish as specified and suitable for interior applications. The work shall include supply, transportation, placement at	

			designated locations, watering, cleaning and making good complete in all respects. Rate shall include all materials, plants, labour, handling, tools & tackles and incidental works necessary for complete installation.	
		Granite Counter	Under counter storage - Low height cabinet storage cabinet 900mm high formed with carcass of 18mm HDMR Board and 1 Nos. internal shelf of 18mm HDMR Board with black japan paint to protect against termite if required. Storage to have 38mm Thk. counter top finished in 12mm thk. Corain. 100mm height skirting formed out of 18 mm thk HDMR Board & finished in aluminum skirting as per detail dwg. Storage to be complete with hardware installed as directed to consist of the following. Shutter to have auto-closing spring loaded hinge of approved make installed strictly as per manufacturers guidelines. All necessary tools should be strictly used for correct installation of hinges. Each set of shutters to be provided with 1 Nos. chrome finished multi-purpose lock of approved make, 75mm medium sized stainless steel tower bolt, 1 Nos. heavy duty SS ball catch, 100mm C type brushed SS handle with approved colour.	
		Railing with polishing	Providing, fabricating and fixing railing of approved design, height and configuration using stainless steel/MS/wood/glass combination as specified, complete with posts, handrails, balusters, brackets, connectors, base plates, anchor fasteners and all fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include necessary cutting, bending, welding, grinding and smooth polishing/buffing to achieve approved finish, including surface treatment, touch-up, alignment, installation, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, polishing, transportation, tools & tackles and incidental works necessary for proper fabrication and installation.	
	Cabin with Toilet			
	Flooring	Matte Vitrified tiles 600X600mm / 800X1600mm	Matte Vitrified tiles - Providing and laying approved quality matte finish vitrified floor tiles of size 600x600 mm and/or 600x200 mm of required shade, colour, texture and pattern in corridor areas over prepared base using suitable tile adhesive/cement mortar bed complete with proper line, level, alignment and approved laying pattern. The work shall include cutting, edge finishing, spacers, joint filling with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching colour PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75/100mm High Finished in Black Powder coating	

	Ceiling	Gypsum Ceiling with Coves	Gypsum Ceiling With coves- Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	
	Wall Finishes	Glass Partition	Supply & Installation of Single Glazed Partition System Profiles in anodized Finish. I.e. Top, bottom and sides with 45mm x 25mm profiles including the glass joint profiles I Profile / T joints as applicable. It includes supply of 10mm thick Toughened Glass. & Providing and fixing with wooden Support sections as per requirement to be fixed over the existing partition / Wall, No joint will be allowed in Aluminum frame below 3mtr length. The cost also included the hardware as required to complete the job.	
		Laminate paneling	Providing and fixing decorative laminated wall paneling using approved quality MDF / plywood base panels finished with laminate sheets of specified shade, texture, and thickness, as per approved design and drawings. The work shall include surface preparation, substructure framing (wooden battens / aluminum sections as required), cutting, edge banding, alignment, joint finishing, concealed fixing with adhesive and mechanical fasteners, and all accessories to achieve a smooth, seamless, and uniform finish. Rate shall include all materials, labour, tools, hardware, scaffolding, wastage, and complete installation in all respects as per specification and satisfaction of Engineer-in-Charge.	
		Acoustic paneling	9mm thk. Acoustic pet panel wall cladding - Providing & Fixing 9mm thk. CNC cut 9mm thk. Acoustic Pet panels fixed on the Existing Ply surface. Cost to include the pet panel, CNC cut perforations as per design, Installation all Complete.	

		Lacquered glass paneling	Lacquered glass paneling - Providing and fixing lacquered glass paneling of approved colour, shade and thickness using toughened/float glass with factory finished lacquer coating on rear surface, fixed over prepared wall surface/backing using approved adhesive, screws, studs or fixing system complete with edge polishing, protective backing, joints treatment, necessary framework/support arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, cut-outs for switches/services wherever required, alignment, sealing of joints with matching silicone, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works required for proper installation and completion.	
		Paneling	Providing and fixing Wooden paneling in laminate finish with fixing in groove and key mechanism on SR or foam based base plate	200rs per sqft
		GI Framing	G.I framing -- Providing and Fixing of 48*36 MM GI Stud framing at 600 MM C/c with horizontal bracing in staggered fashion at 600 MM c/c including floor and ceiling channels as per drawing or as per manufacturer specification/drawings for dry wall partition and wall/column panelling (up to bottom of slab) and all as per the drawings and specifications. The cost includes labor, materials, wastages, lead, lifts, hardware, any additional bracing as per site requirement etc. complete as per the instructions and to the satisfaction of the Project Manager. The cost shall also includes additional channel supports required to GI stud due to existing service ducts, provision for all electrical, networking boxes which shall be installed on 25mm x 25mm x 1.2mm thick extruded aluminum "L" angle screwed onto partition framework at required heights/levels as directed. Actual Area to be measure & Cladding shall be measured Separately.	
		12mm Ply	12 MM Commercial Grade Plywood Cladding over P1 partition & Existing GI/Aluminum Frame - Providing and fixing of Plywood Cladding on Existing Frame Work as per drawings and specifications. The cost includes labour, materials, wastages, hardware, lead, lifts, cutting to all shapes, fixing at all locations and levels, make provision for all electrical, networking boxes as directed if required etc. complete as per the instructions and to the satisfaction of the Project Manager. Framework shall be measured Separately.	

		Vitrified wall tiles	Vitrified wall tiles - Providing and fixing approved quality vitrified wall tiles of required size, thickness, shade, colour, texture and finish on walls over prepared surface using suitable tile adhesive complete with proper alignment, line, level and pattern as approved. The work shall include surface preparation, cutting, edge finishing, spacers, filling of joints with matching grout, necessary curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of wall tiling work.	Basic rate Rs.80-120 /sqft
	Ceiling	Moisture resistant ceiling with cove	Moisture resistant ceiling with cove - Providing and fixing moisture resistant (MR) false ceiling using approved quality moisture resistant gypsum board/calcium silicate board of required thickness fixed over suitable G.I. suspension framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and fixing accessories complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include necessary cut-outs/openings for light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services, including coves , drops and edge profiles wherever required. Rate shall include all materials, labour, suspension system, scaffolding, alignment, touch-up, cleaning, tools & tackles and incidental works necessary for proper completion of work.	Basic rate Rs. 95-115/sqft
		Granite Counter	Granite Counter - Providing, supplying, fabricating and fixing polished granite counter of approved colour, pattern, thickness and finish over suitable framework/support system complete with machine polished surface, moulded/finished edges, necessary cut-outs for sink, fixtures or services wherever required and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include backing support, alignment, edge finishing, joint sealing, polishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate Rs.110-140 /rft
		Mirrors in toilets	Mirrors in toilets - Providing and fixing approved quality mirror in toilet area of required size and shape made from float/toughened mirror glass of approved thickness with machine polished edges complete with necessary backing support, mirror adhesive, stainless steel studs/clamps/fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, edge polishing, alignment, sealing of joints with silicone wherever required, cleaning and making good complete	

			in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for proper installation and completion.	
	café / Pantry			
	Flooring	Antiskid Vitrified tiles	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 100/sqft
		Granite Skirting in wet/service areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, chamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Granite Rs. 140/Rft
	Ceiling	Metal Tile Ceiling in service Zone	600mm x 600mm perforated Metal lay-in Ceiling - Providing and fixing in position Suspended ceiling System with perforated Metal ceiling tiles in size 600 x 600 MM with 16 x 8 MM Tegular Edge profile. Plain white powder coated tiles with 0.1 NRC and Sound Attenuation of 44 db.	Basic rate Rs. 175/sqft
	Wall Finishes	Ceramic tiles upto 2400mm Height	Ceramic Tile cladding - Providing and Laying of 10 mm thk.Ceramic Tile in Cladding/Dado upto 2400mm height and as directed with 1:4 Cement Mortar & base plaster and as per the drawings. The cost shall include labor, materials, wastages, cleaning, cutting and inclusive of lead, lifts, necessary protection, joint filling in approved grout, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate Rs. 50/sqft

		Granite working Counter	Granite working Counter - Providing, supplying, fabricating and fixing polished granite working counter of approved colour, pattern and thickness over suitable framework/support system complete with machine-polished top surface, moulded/finished edges, necessary cut-outs for sink, fixtures or services wherever required and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include backing mortar/support, alignment, sealing of joints, polishing, edge finishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate of Granite Rs. 140/sqft
		Under counter storage	Under counter storage - Low height cabinet storage cabinet 900mm high formed with carcass of 18mm HDMR Board and 1 Nos. Storage to have 38mm Thk. counter top finished in 18mm thk. Granite stone. 100mm height skirting formed out of 18 mm thk HDMR Board & finished in aluminium skirting as per detail dwg. Storage to be complete with hardware installed as directed to consist of the following. Shutter to have auto-closing spring loaded hinge of approved make installed strictly as per manufacturers guidelines. All necessary tools should be strictly used for correct installation of hinges. Each set of shutters to be provided with 1 Nos. chrome finished multi-purpose lock of approved make, 75mm medium sized stainless steel tower bolt, 1 Nos. heavy duty SS ball catch, 100mm C type brushed SS handle with approved colour.	
		Paneling	Providing and fixing Wooden paneling in laminate finish with fixing in groove and key mechanism on SR or foam based base plate	200rs per sqft
B	First Floor			
	Open café / Pantry			

	Flooring	Printed vitrified tiles at seating	Vitrified Printed Tile Flooring - Providing and Laying of 10mm Vitrified printed Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved colour epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Base rate Rs. 150/sqft
		Antiskid Vitrified tiles only inside pantry	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Base rate of Tile Rs.75 /sqft
	Ceiling	Gypsum Ceiling in Café Zone	Gypsum Ceiling With coves - Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate of Gypsum Ceiling Rs. 125/sqft
		No False ceiling	Paint & Putty Finish - Providing and finishing exposed slab/services ceiling without false ceiling treatment, including surface preparation, necessary repairs to slab surface, putty wherever required, primer and paint finish in approved shade and texture complete as per approved drawings and directions of Engineer-in-Charge. The work shall include proper coordination and finishing around exposed ducts, conduits, cable trays, piping, sprinklers, light fixtures and other services, including	

			cleaning, touch-up and making good complete in all respects. Rate shall include all materials, labour, scaffolding, tools & tackles and incidental works necessary for proper completion of work.	
	Wall Finishes	Café Graphics	Café Graphics - Providing, designing, fabricating, supplying and fixing café themed graphics of approved concept, size, colour scheme and finish comprising printed vinyl graphics, digital artwork, wall murals, framed art panels and/or decorative display elements as per approved design and directions of Engineer-in-Charge. The work shall include surface preparation, printing, lamination/protective coating, framing/backing support, mounting arrangement, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works required for complete execution and satisfactory installation.	Basic rate of Graphics Rs 150 /sqft
		Texture Paint	Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate Rs 100 /sqft
		Vitrified wall tiles in pantry	Vitrified wall tiles - Providing and fixing approved quality vitrified wall tiles of required size, thickness, shade, colour, texture and finish on walls over prepared surface using suitable tile adhesive complete with proper alignment, line, level and pattern as approved. The work shall include surface preparation, cutting, edge finishing, spacers, filling of joints with matching grout, necessary curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of wall tiling work.	Basic rate Rs. 75/sqft

	Furniture / Fixed Items	Pantry counter & Storage	Providing, fabricating and fixing pantry counter of approved size and configuration using plywood/HDHMR/MDF framework and carcass finished with decorative laminate of approved shade, texture and pattern complete with polished granite top of approved colour, thickness and finish including machine polished edges and necessary backing/support arrangement. The counter shall include storage cabinets, drawers, shutters/open shelves, edge banding, skirting, hardware, handles, soft-close fittings, supports and all necessary accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include internal framework, cut-outs/openings for sink, plumbing, electrical and other services wherever required, alignment, edge finishing, polishing/touch-up, transportation, installation, cleaning and making good complete in all respects. Rate shall include all materials, labour, granite top, laminate finish, hardware, adhesives, tools & tackles and incidental works required for complete execution and satisfactory installation.	Base rate of Granite Rs. 200rs/ Sqft Base rate of Laminate Rs.50rs /Sqft
		Wooden Fluted Panel	Supplying, fabricating, and fixing in position decorative wooden fluted wall panels of approved make, design, shade, and finish as per architectural drawings and site requirements. The panels shall be made of MDF / plywood base with veneer / laminate / PU painted finish, having uniform vertical fluting grooves of specified spacing and depth to achieve a seamless aesthetic appearance. The work shall include providing and fixing of supporting sub-structure (wooden battens / aluminium framework), cutting, edge finishing, joint treatment, concealed fixing with adhesive/mechanical fasteners, making good all edges and junctions, complete in all respects including labour, materials, tools, scaffolding, wastage, and incidental charges.	Basic rate of Fluted Panel Rs. 300/sqft
	Common Toilets			
	Flooring	Antiskid Vitrified tiles	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 75/sqft

		Granite Skirting in wet/service areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/ Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, shamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Granite Rs. 140/Sqft
	Ceiling	Moisture resistant ceiling with cove	Moisture resistant ceiling with cove - Providing and fixing moisture resistant (MR) false ceiling using approved quality moisture resistant gypsum board/calcium silicate board of required thickness fixed over suitable G.I. suspension framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and fixing accessories complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include necessary cut-outs/openings for light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services, including coves, drops and edge profiles wherever required. Rate shall include all materials, labour, suspension system, scaffolding, alignment, touch-up, cleaning, tools & tackles and incidental works necessary for proper completion of work.	Basic rate of MR board Ceiling Rs. 150/sqft
	Wall Finishes	Ceramic tiles in toilet	Ceramic Highlighter Tile cladding - Providing and Laying of 10 mm thk. Ceramic Tile in Cladding/Dado as directed with 1:4 Cement Mortar & base plaster and as per the drawings. The cost shall include labor, materials, wastages, cleaning, cutting and inclusive of lead, lifts, necessary protection, joint filling in approved grout, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Highlighter Ceramic tile Rs. 100/sqft
		Vitrified wall tiles	Vitrified wall tiles - Providing and fixing approved quality vitrified wall tiles of required size, thickness, shade, colour, texture and finish on walls over prepared surface using suitable tile adhesive complete with proper alignment, line, level and pattern as approved. The work shall include surface preparation, cutting, edge finishing, spacers, filling of joints with matching grout, necessary curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of wall tiling work.	Basic rate Rs. 100/sqft

		Granite Counter	Granite Counter - Providing, supplying, fabricating and fixing polished granite counter of approved colour, pattern, thickness and finish over suitable framework/support system complete with machine polished surface, moulded/finished edges, necessary cut-outs for sink, fixtures or services wherever required and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include backing support, alignment, edge finishing, joint sealing, polishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate of Granite Rs. 140/sqft
		Mirrors in toilets	Mirrors in toilets - Providing and fixing approved quality mirror in toilet area of required size and shape made from float/toughened mirror glass of approved thickness with machine polished edges complete with necessary backing support, mirror adhesive, stainless steel studs/clamps/fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, edge polishing, alignment, sealing of joints with silicone wherever required, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for proper installation and completion.	
Corridors / Lift Lobbies / Kitchen / Stores				
	Floorings	Matte Vitrified tiles in Corridors	Matte Vitrified tiles - Providing and laying approved quality matte finish vitrified floor tiles of approved size, in required shade, colour, texture and pattern in corridor areas over prepared base using suitable tile adhesive/cement mortar bed complete with proper line, level, alignment and approved laying pattern. The work shall include cutting, edge finishing, spacers, joint filling with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 100/sqft
		Antiskid Vitrified tiles in Kitchen	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 75/sqft

		Vitrified tiles in Stores	Vitrified Tile Flooring - Providing and Laying of 12mm Vitrified Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved colour epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Vitrified tiles base rate Rs. 50/sqft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching colour PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75 mm High Finished in Black Powder coating	
	Ceiling	Gypsum Ceiling with Coves	Gypsum Ceiling With coves- Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate of Gypsum Rs. 125/sqft

		Grid ceiling - 0.9NRC (600mm x 600mm) Silhouette Exposed grid-Providing & Fixing of Mineral Fibre Acoustical Suspended Ceiling System with 15mm thick Sierra OP Tegular 15/90 Edge Tiles with Silhouette 15mm face exposed grid. The tiles shall have smooth laminated visual with Humidity Resistance (RH) of 95%, NRC 0.9 & CAC of 25db as per ASTM E1414, Light Reflectance $\geq 86\%$ as per ASTM E-1477, Thermal Conductivity $\lambda = 0.040$ W/mK, Colour Global White, Fire Performance of class A2-s1, d0 according to EN 13501-1 with 15mm Tegular 15/90° edge and 8mm drop in module size of 600 x 600mm. The scrim on the face of the tile shall be cleanable and classified as ISO 14644-1 cleanroom class 5. It shall be suitable for Green Building application, with Recycled content of 43% VOC Emissions (French) class of A+. The tile shall have Environmental Product Declaration as per ISO 14025 and EN 15804+A2. The tile shall have certifications from GRIHA and Greenport thereby confirming that it is an environment friendly product. SUSPENSION: The tile shall be laid on Silhouette 38 profile grid system with 15mm white flanges incorporating a 6mm central reveal in black colour with mitred ends & “bird’s mouth” notches to provide mitred cruciform junctions colour global white (Matching to tile color). Grid shall have double stroke rotary stitching on all T sections i.e. the Main Runner, 1200 mm & 600 mm Cross Tees with a web height of 38mm (all sections). The deflection loading of the system shall be 7.9 kg/m² (as per standard installation layout mentioned below) and main beam tested as per ASTM C635 (Deflection limit less than L/360) with a deflection loading of 9.5 kg/m. The end details of the cross tee shall be made of pre hardened steel clip fixed to the ends of the cross tee to provide double locking between “cross tee to cross tee” and “cross tee to main beam”. All main beam to main beam and cross tee to cross tee connection shall have a pull out strength of more than 100kg. The T Sections shall be made of 90 gsm as per IS 277 (2003) pre-painted steel with baked polyester paint of OT bending capability. INSTALLATION: To comprise main runner spaced at 1200mm securely fixed to the structural soffit using suspension system (specifications below) at 1200mm maximum. The First/Last suspension system at the end of each main runner shall not be greater than 450mm from the adjacent wall along with the first and the last main beam shall be at less than 600mm from the wall. Flush fitting 1200mm long cross tees to be interlocked between main runners at 600mm to form 1200 x 600 mm module. Cut cross tees longer than 600mm require independent support. 600 x 600mm module to be formed by fitting 600mm long flush fitting cross tees centrally between the 1200 mm cross tees. Perimeter trim to be wall angles of size 3000x19x19mm, secured to walls using screws at 450mm centre to centre maximum. Installation shall be carried out as per manufacture recommended procedure. SUSPENSION SYSTEM accessories supplied consisting of M6 Anchor Fasteners with hanger hole, pre-straightened hanger wire of dia – 2.5 mm of 1.80 m length having a tensile strength of 344-413 MPa and a minimum loading strength of 110 kgs. (Optionally, adjustable hook clips made of 0.7mm thick Grade 1 C55 galvanized spring	Basic rate Rs. 175/sqft
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			steel of dimension 100 x 20mm and 4 mm aquiline wire to be used for level adjustment during installation purpose in main runners).Pl. Note: Wherever the service fixtures like {Light fixtures, Diffusers} are placed, that location tiles not to be considered in Cost. And Attic stock of 1% tile to be handed over to client same to be consider in cost.	
	Wall Finishes	Emulsion Paint	Emulsion Paint - Providing and applying premium acrylic emulsion paint of approved make, shade and finish on walls/ceilings over prepared surface complete with necessary surface preparation, scraping, putty, sanding, primer coat and minimum two or more coats of emulsion paint as required to achieve uniform smooth finish, including scaffolding, masking, protection of adjoining surfaces, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, tools & tackles and incidental works necessary for proper completion of painting work.	
		Texture Paint	Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate Rs. 100/sqft
		Feature wall at Lift Lobby	Providing and fixing in position architectural feature wall / decorative wall cladding as per drawings, including suitable substructure framework (wood / metal as required), surface preparation, and installation of approved finishes such as wooden fluted panels, veneer/laminate, gypsum, ACP, stone, texture paint, wallpaper, or mirror panels, or combination thereof.Work includes cutting, alignment, edge finishing, concealed fixing, adhesives, fasteners, sealants, and all accessories, complete with provision for electrical cut-outs, lighting, and services integration.Rate shall include all materials, labour, tools, scaffolding, wastage, and complete installation in all respects.	
		Ceramic tiles in kitchen wet wall	Ceramic Tile cladding - Providing and Laying of 10 mm thk. Ceramic Tile in Cladding/Dado as directed with 1:4 Cement Mortar & base plaster and as per the drawings. The cost shall include labor, materials, wastages, cleaning, cutting and inclusive of lead, lifts, necessary protection, joint filling in approved grout, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate Rs. 40/sqft

		Storage shelves	Providing, fabricating and fixing storage shelves of approved size, configuration and finish using plywood/HDHMR/MDF/metal framework as specified, finished with decorative laminate/paint/powder coating of approved shade and texture complete with necessary brackets, supports, edge banding, hardware, fixing accessories and all related components as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, alignment, edge finishing, polishing/touch-up, installation, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesives, tools & tackles and incidental works necessary for proper installation and completion.	
		Way finding Signage	Providing, fabricating, supplying and fixing wayfinding signage of approved size, design, typography, graphics, colour scheme and finish comprising directional signs, identification signs, floor/location indicators and informational signage complete with acrylic/MS/SS/aluminum/PVC base as specified, printed/vinyl graphics, lettering, mounting hardware, supports and fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include design coordination, surface preparation, cutting, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works necessary for complete execution and satisfactory installation.	
	Furniture / Fixed Items	Planter	Providing and placing decorative planters of approved size, shape, material and finish complete with indoor plants, potting media, drainage arrangement, pebbles and all accessories as per approved sample and directions of Engineer-in-Charge. The planter units shall be in FRP/ceramic/metal/concrete/wood finish as specified and suitable for interior applications. The work shall include supply, transportation, placement at designated locations, watering, cleaning and making good complete in all respects. Rate shall include all materials, plants, labour, handling, tools & tackles and incidental works necessary for complete installation.	
		Kitchen counter & Storage	Providing, fabricating and fixing kitchen counter of approved size and configuration using plywood/HDHMR/MDF framework and carcass finished with decorative laminate of approved shade, texture and pattern complete with polished granite top of approved colour, thickness and finish including machine polished edges and necessary backing/support arrangement. The counter shall include storage cabinets, drawers, shutters/open shelves, edge banding, skirting, hardware, handles, soft-close fittings, supports and all necessary accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include internal framework, cut-outs/openings for sink, plumbing, electrical and other services wherever required, alignment, edge finishing, polishing/touch-up, transportation, installation, cleaning and making good complete in all respects. Rate shall include all materials, labour, granite top, laminate finish, hardware, adhesives, tools & tackles and incidental works required for complete execution and satisfactory installation.	Base rate of Granite Rs. 140/Sqft Base rate of Laminate Rs. 50/Sqft

C	Second Floor			
	Co-working Space			
	Flooring	Carpet Flooring	Providing, supplying and installing Nylon Carpet in the specified areas as per approved patterns & designs. The Carpet specifications shall comply to the following : Product : multi-level pattern loop Colour System:100% Solution Dyed. Machine Gauge:1/10 gauge Density:7121 +/- 10% Pile thickness:2.5 mm +/- 0.5mm Total Thickness: 6.0 mm +/- 0.5mm Yarn Weight : 20-24 oz/yd2 Area of use: Commercial - Heavy duty Backing Structure Primary : Synthetic Backing Structure Secondary : 100% PVC- free recyclable backing system with recycled content, made from thermoplastic polyolefin compound with reinforcing layer Antimicrobial: Intercept® Soil/Stain protection: Protekt2® Installation: Quarter turn	Basic rate Rs. 100-125/sqft
		Wooden Flooring	Laminated Wooden Flooring - Providing and fixing factory finished laminated wooden flooring as per manufacturer standard & laying as per design pattern shown in drawing. Cost to be included necessary cutting , Skirting , Beeding as per site requirement also providing good quality foam sheet below the planks to avoid any undulation & air gap.	Basic rate Rs. 150/sqft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching colour PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75 mm High Finished in Black Powder coating	
	Ceiling	Gypsum Ceiling with Coves	Providing and fixing suspended gypsum board false ceiling using 12.5 mm thick tapered edge gypsum plaster boards fixed on approved G.I. framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and suspension system complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish.The work shall include providing necessary reinforcement/support arrangement for pendant light fixtures, making cut-outs/openings for pendant light points, light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services as required at site. The item shall also include coves, drops, edge profiles wherever required, scaffolding, alignment, touch-up, cleaning and making good complete in all respects. Rate shall include all materials, labour, fixing accessories, tools & tackles and incidental works necessary for complete execution.	

		Emulsion Paint	Emulsion Paint - Providing and applying premium acrylic emulsion paint of approved make, shade and finish on walls/ceilings over prepared surface complete with necessary surface preparation, scraping, putty, sanding, primer coat and minimum two or more coats of emulsion paint as required to achieve uniform smooth finish, including scaffolding, masking, protection of adjoining surfaces, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, tools & tackles and incidental works necessary for proper completion of painting work.	
	Wall Finishes	Lacquered glass paneling	Lacquered glass paneling - Providing and fixing lacquered glass paneling of approved colour, shade and thickness using toughened/float glass with factory finished lacquer coating on rear surface, fixed over prepared wall surface/backing using approved adhesive, screws, studs or fixing system complete with edge polishing, protective backing, joints treatment, necessary framework/support arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, cut-outs for switches/services wherever required, alignment, sealing of joints with matching silicone, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works required for proper installation and completion.	Basic rate of LG Rs. 350/sqft
		Acoustic paneling	9mm thk. Acoustic pet panel wall cladding - Providing & Fixing 9mm thk. CNC cut 9mm thk. Acoustic Pet panels fixed on the Existing Ply surface. Cost to include the pet panel, CNC cut perforations as per design, Installation lall Complete.	Basic rate of 9mm Acoustic panel with Cutting, Installation & Grooving Rs. 200/sqft
		Graphics/Artwork	Artwork - Providing, designing, fabricating, supplying and fixing graphics/artwork of approved concept, size, colour scheme and finish comprising printed vinyl graphics, digital artwork, wall murals, framed art panels and/or decorative display elements as per approved design and directions of Engineer-in-Charge. The work shall include surface preparation, printing, lamination/protective coating, framing/backing support, mounting arrangement, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works required for complete execution and satisfactory installation.	
		Pelmet in laminate finish	Pelmet - Fabricating and installing the pelmet made out of 19MM thk. Prelaminated Board in line with external glazing as per detailed drawings/site instructions. Rates to include finishing exposed surfaces of the pelmet with flat enamel paint to match ceiling paint and providing return air cutouts as per A/C consultants' requirements & necessary hanging arrangements as per requirement / mentioned detailed Dwg. Pelmet ready to receive the Blinds.	
	Furniture	Workstation	League Plus Sharing Linear Workstations Size As per plan System : League Plus	Basic rate of workstation with drawer padestal

			Table top :25 mm Thk. Prelam Table Top With Reverse Chamfer Edge With PVC Lipping. Leg : Metal Powder Coated A Type Leg. Intermediate Leg : Metal Powder Coated Sq. Open (50x50) Leg Modesty : 18mm Thk Prelam Modesty 400ht Wooden Modesty : 18mm Thk Prelam Modesty 300ht Electrical : Aluminium Access Flap 450mm On league plus Cable Beam, Wiring Through Metal Powder Coated PILG Panel.	Rs. 10000/ Per Nos
	CURTAINS/ BLINDS	Manually Operated Roller Blinds	Manually Operated Roller Screen Blinds with required pelmet as per approved design and drawings by JDA.	
	Meeting Room			
	Flooring	Carpet Flooring	Providing, supplying and installing Nylon Carpet in the specified areas as per approved patterns & designs. The Carpet specifications shall comply to the following : Product : multi-level pattern loop Colour System:100% Solution Dyed. Machine Gauge:1/10 gauge Density:7121 +/- 10% Pile thickness:2.5 mm +/- 0.5mm Total Thickness: 6.0 mm +/- 0.5mm Yarn Weight : 20-24 oz/yd2 Area of use: Commercial - Heavy duty Backing Structure Primary : Synthetic Backing Structure Secondary : 100% PVC- free recyclable backing system with recycled content, made from thermoplastic polyolefin compound with reinforcing layer Antimicrobial: Intercept® Soil/Stain protection: Protekt2® Installation: Quarter turn	Basic rate Rs. 125/sqft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching colour PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75 mm High Finished in Black Powder coating	
	Ceiling	Gypsum Ceiling with Coves	Providing and fixing suspended gypsum board false ceiling using 12.5 mm thick tapered edge gypsum plaster boards fixed on approved G.I. framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and suspension system complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include providing necessary reinforcement/support arrangement for pendant light fixtures, making cut-outs/openings for pendant light points, light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services as required at site. The item shall also include coves, drops, edge profiles wherever required, scaffolding, alignment, touch-up, cleaning and making good complete in all respects. Rate shall include all materials, labour, fixing accessories, tools & tackles and incidental works necessary for complete execution.	Base rate of Gypsum 125/ sqft.

		Grid	Mineral fiber Tile Grid Ceiling with plain T - Grid -0.5 NRC Armstrong /Amf tile (size-600x600) as per approved model - Providing & Fixing of Armstrong Soft Mineral Fibre Acoustical Suspended Ceiling System Tiles 600 mm x600 mm With Armstrong 15mm Exposed Grid. The tile shall be laid on Armstrong 15 mm thk.Grid- Section including main runners, cross tees and wall angles. 15mm wide Profile to be used. Main runners to be spaced at 1200mm centers, fixed to soffit by approved hangers at 1200mm distance. First and last hangers should not be at a distance of more than 450mm from the adjacent wall. 600X600 mm module to be formed by fixing 600mm cross tee between centre of 1200mm cross tees. wall angles to be secured to wall at 450mm centers to be installed with Suspension system of Armstrong standard	Base Rate of Grid ceiling 175/sq ft.
	Wall Finishes	Acoustic paneling	9mm thk. Acoustic pet panel wall cladding - Providing & Fixing 9mm thk. CNC cut 9mm thk. Acoustic Pet panels fixed on the Existing Ply surface. Cost to include the pet panel, CNC cut perforations as per design, Installation lall Complete.	Basic rate of 9mm Acoustic panel 200/sq ft.
		Lacquered glass paneling	Lacquered glass paneling - Providing and fixing lacquered glass paneling of approved colour, shade and thickness using toughened/float glass with factory finished lacquer coating on rear surface, fixed over prepared wall surface/backing using approved adhesive, screws, studs or fixing system complete with edge polishing, protective backing, joints treatment, necessary framework/support arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, cut-outs for switches/services wherever required, alignment, sealing of joints with matching silicone, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works required for proper installation and completion.	Basic rate of LG Rs. 350/sqft
		Graphics/Artwork	Artwork - Providing, designing, fabricating, supplying and fixing graphics/artwork of approved concept, size, colour scheme and finish comprising printed vinyl graphics, digital artwork, wall murals, framed art panels and/or decorative display elements as per approved design and directions of Engineer-in-Charge. The work shall include surface preparation, printing, lamination/protective coating, framing/backing support, mounting arrangement, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works required for complete execution and satisfactory installation.	
Reception – Co-working				

	Flooring	Vitrified tiles - 800X1600mm/ 800X800mm Polished marble look	Vitrified Tile Flooring - Providing and Laying of 12mm Vitrified Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved color epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Vitrified tiles base rate Rs. 120/sqft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching colour PVC capping, corner guard, etc all complete. The Skirting will be of following sizes. (a) 75 mm High Finished in Black Powder coating	
	Ceiling	Gypsum Ceiling with Coves	Gypsum Ceiling With coves - Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate of Gypsum Ceiling Rs. 125/sqft

		Lacquered glass paneling	Lacquered glass paneling - Providing and fixing lacquered glass paneling of approved colour, shade and thickness using toughened/float glass with factory finished lacquer coating on rear surface, fixed over prepared wall surface/backing using approved adhesive, screws, studs or fixing system complete with edge polishing, protective backing, joints treatment, necessary framework/support arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, cut-outs for switches/services wherever required, alignment, sealing of joints with matching silicone, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works required for proper installation and completion.	Basic rate of LG Rs. 350/sqft
	Wall finishes	Moss Wall	Moss wall - The interior green wall project entails installing a vertical living wall within office Reception. The frame of the green wall will be constructed using lightweight and durable materials such as aluminum or stainless steel to provide structural support. A drip irrigation system suitable for indoor use will be incorporated to efficiently provide water and nutrients to the selected low-maintenance indoor plants, including ferns, pothos, spider plants, and philodendrons. Waterproofing measures, including the installation of a membrane behind the green wall, will be implemented to safeguard the interior structure. Supplementary LED grow lights may be specified to supplement natural light if necessary. Basic maintenance requirements, including watering, pruning, and pest control, will be outlined to ensure the longevity of the green wall. Access panels or removable sections will be integrated into the design to facilitate easy maintenance access. Safety measures, such as secure anchoring and proper installation of irrigation components, will be prioritized to prevent hazards. Detailed documentation of plant types, irrigation schedules, and maintenance procedures will be maintained for future reference and management of the green wall project. Step 1:- (Structure) Aluminum Framing with Powder Coating (Size 2" x1") will screw on the wall with high strength. Step 2:- (Framing) Screw of plastic panel set of three pot(Size:- 21" x 7"), made with PVC, black color on the aluminum Framing (all Four corners) Step 3:- We do hole in every pot to circulate water in every pot for better growth of plants. Step 4:- (Plantation) We supply Natural Plants bring with Pune. These plants having better growth and fast-growing capacity. We use three layer in pot Soil, cocopit and compost for better growth. Step 5 :- Steel tray for drainage	

		Wooden Fluted Panel	Supplying, fabricating, and fixing in position decorative wooden fluted wall panels of approved make, design, shade, and finish as per architectural drawings and site requirements. The panels shall be made of MDF / plywood base with veneer / laminate / PU painted finish, having uniform vertical fluting grooves of specified spacing and depth to achieve a seamless aesthetic appearance. The work shall include providing and fixing of supporting sub-structure (wooden battens / aluminium framework), cutting, edge finishing, joint treatment, concealed fixing with adhesive/mechanical fasteners, making good all edges and junctions, complete in all respects including labour, materials, tools, scaffolding, wastage, and incidental charges.	Basic rate of Wooden Fluted Panel Rs. 300/sqft
		Acrylic Emulsion Primer Paint in store	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved colour and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labour, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	
	Fixed Furniture	Tea Coffee counter	Providing, fabricating and fixing team coffee counter of approved size and configuration using plywood/HDHMR/MDF framework and carcass finished with decorative laminate of approved shade, texture and pattern complete with counter top in laminate/granite/quartz finish as specified, storage units, shelves, shutters, edge banding, skirting, hardware, handles, supports and all necessary accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include internal framework, cut-outs/openings for electrical/plumbing/services wherever required, alignment, edge finishing, polishing/touch-up, transportation, installation, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesives, tools & tackles and incidental works necessary for complete execution and satisfactory installation.	
	Server Rooms			
	Flooring	False Flooring	Raised Antistatic Access Flooring (600x600 mm)-false floor for critical room- (basic rate 325 sqft.) - Providing and fixing access floor inter-locking panels of size 600x600mm, adjustable height (65mm to 600mm) under floor construction comprising of Corner lock, Freelay corner support, All aluminium solid grill with gravity lock and powder coated. Provide 2 number vacuum tile lifter. Floor must capable to take the load 1000 - 1250 KG /sqm area , Rate to included for necessary cutting , wastage etc.	

	Ceiling	Gypsum Ceiling	Plain Gypsum Ceiling - Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate of Gypsum Ceiling Rs. 125/sqft
		Grid Ceiling	Mineral fibre Tile Grid Ceiling with plain T - Grid -0.5 NRC Armstrong /AMF tile (size-600x600) as per approved model - Providing & Fixing of Armstrong Soft Mineral Fiber Acoustical Suspended Ceiling System Tiles 600 mm x600 mm With Armstrong 15mm Exposed Grid. The tile shall be laid on Armstrong 15 mm thk. Grid-Section including main runners, cross tees and wall angles. 15mm wide Profile to be used. Main runners to be spaced at 1200mm centers, fixed to soffit by approved hangers at 1200mm distance. First and last hangers should not be at a distance of more than 450mm from the adjacent wall. 600X600 mm module to be formed by fixing 600mm cross tee between center of 1200mm cross tees. wall angles to be secured to wall at 450mm centers to be installed with Suspension system of Armstrong standard	Base Rate 175/ sq ft.
	Wall Finishes	Acrylic Emulsion Primer Paint in store	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved colour and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labour, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	Basic rate Rs. 45-280/sqft
	Stores			

	Flooring	Anti static Vinyl Flooring	Anti static Vinyl Flooring - Providing and laying approved 2 MM thick Vinyl Flooring as per design and detail at locations as indicated on the drawings and as per the instruction of the Architect/Project Manager. Includes joint treatment, PVC coving at the perimeter, copper strips etc. Cost to include the self levelling upto 5mm.	Basic rate of Vinyl Rs. 75/sqft
		Powder coated aluminum Skirting	Aluminum Skirting - Providing and Fixing 1.5 to 2 MM thick black Powder Coating aluminum skirting fixed over existing surface of Plywood/MDF/Wall to proper line & level. Includes matching color PVC capping, corner guard, etc. all complete. The Skirting will be of following sizes. (a) 75 mm High Finished in Black Powder coating	
	Ceiling	No False ceiling	Paint & Putty Finish - Providing and finishing exposed slab/services ceiling without false ceiling treatment, including surface preparation, necessary repairs to slab surface, putty wherever required, primer and paint finish in approved shade and texture complete as per approved drawings and directions of Engineer-in-Charge. The work shall include proper coordination and finishing around exposed ducts, conduits, cable trays, piping, sprinklers, light fixtures and other services, including cleaning, touch-up and making good complete in all respects. Rate shall include all materials, labour, scaffolding, tools & tackles and incidental works necessary for proper completion of work.	
	Wall Finishes	Acrylic Emulsion Primer Paint in store	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved color and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labor, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	
	Conference Room - 25 PAX			
	Flooring	Wooden Flooring	Laminated Wooden Flooring - Providing and fixing factory finished laminated wooden flooring as per manufacturer standard & laying as per design pattern shown in drawing. Cost to be included necessary cutting , Skirting , Beeding as per site requirement also providing good quality foam sheet below the planks to avoid any undulation & air gap.	Basic rate Rs. 200/sqft

	Ceiling	Gypsum Ceiling with Coves	Providing and fixing suspended gypsum board false ceiling using 12.5 mm thick tapered edge gypsum plaster boards fixed on approved G.I. framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and suspension system complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include providing necessary reinforcement/support arrangement for pendant light fixtures, making cut-outs/openings for pendant light points, light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services as required at site. The item shall also include coves, drops, edge profiles wherever required, scaffolding, alignment, touch-up, cleaning and making good complete in all respects. Rate shall include all materials, labour, fixing accessories, tools & tackles and incidental works necessary for complete execution.	Basic Rate of gypsum ceiling 125/sq ft.
		Acoustical Pet Panel ceiling	Suspended acoustic ceiling With Frame - Providing and Fixing Suspended acoustic ceiling out of 9mm pet panels over 8mm mdf base with GI/wooden/aluminum frame as per design. Cost to include the necessary Suspensions/Hardware required for the ceiling all complete.	Basic rate of 9mm thk acoustic pet panel with Grooving & Installation 200/sqft
	Wall Finishes	Acoustic paneling	9mm thk. Acoustic pet panel wall cladding - Providing & Fixing 9mm thk. CNC cut 9mm thk. Acoustic Pet panels fixed on the Existing Ply surface. Cost to include the pet panel, CNC cut perforations as per design, Installation all Complete.	Basic rate of 9mm thk acoustic pet panel with Grooving & Installation 200/sqft
		Lacquered glass paneling	Lacquered glass paneling - Providing and fixing lacquered glass paneling of approved color, shade and thickness using toughened/float glass with factory finished lacquer coating on rear surface, fixed over prepared wall surface/backing using approved adhesive, screws, studs or fixing system complete with edge polishing, protective backing, joints treatment, necessary framework/support arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, cut-outs for switches/services wherever required, alignment, sealing of joints with matching silicone, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works required for proper installation and completion.	Basic rate of 6mm thk. Lacquered Glass Rs. 350/sqft

		Acrylic Emulsion Primer Paint in store	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved color and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labour, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	
	Furniture / Fixed items	Conference Table	Providing and placing conference table finished in 1 mm thk. Laminate of approved size and configuration made out of comm ply plywood/MDF with laminate finish on top, sides and modesty panel, including edge banding, wire manager, cable grommets, necessary hardware, supporting framework/base, polishing of exposed edges, complete as per approved design and drawing. The item includes all fittings, fixtures, labor, transportation, tools & tackles and complete in all respects.	
		AV Credenza	Providing and fixing AV credenza in laminate Finish of required size made out of approved ply/MDF framework with laminate finish on internal and external surfaces, complete with shutters, adjustable shelves, cut-outs for cable management, ventilation provisions, soft-close hinges, telescopic channels, handles, locks, and all necessary hardware/accessories as approved by the Architect, complete in all respects.	
		Pelmet in laminate finish	Pelmet - Fabricating and installing the pelmet made out of 19MM thk. Prelaminated board in line with external glazing as per detailed drawings/site instructions. Rates to include finishing exposed surfaces of the pelmet with flat enamel paint to match ceiling paint and providing return air cutouts as per A/C consultants' requirements & necessary hanging arrangements as per requirement / mentioned detailed Dwg. Pelmets ready to receive the Blinds.	
	CURTAINS/ BLINDS	Manually Operated Roller Blinds	Manually Operated Roller Black Out Blinds with required pelmet as per approved design and drawings by JDA.	
Library / Collaboration / E-Library				
	Flooring	Wooden finish Vitrified tiles	Wooden finish Vitrified tiles - Providing and laying approved quality wooden finish vitrified floor tiles of required size, thickness, shade, texture and pattern over prepared base using suitable tile adhesive/cement mortar bed complete with proper line, level, alignment and staggered/wood plank pattern layout as approved. The work shall include cutting, edge finishing, spacers, joint filling with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for complete execution of flooring work.	Base rate of Tiles Rs. 150/sqft

		Granite Skirting in wet areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, shamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Granite Rs. 140/sq ft.
	Ceiling	Gypsum Ceiling with Coves	Providing and fixing suspended gypsum board false ceiling using 12.5 mm thick tapered edge gypsum plaster boards fixed on approved G.I. framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and suspension system complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include providing necessary reinforcement/support arrangement for pendant light fixtures, making cut-outs/openings for pendant light points, light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services as required at site. The item shall also include coves, drops, edge profiles wherever required, scaffolding, alignment, touch-up, cleaning and making good complete in all respects. Rate shall include all materials, labour, fixing accessories, tools & tackles and incidental works necessary for complete execution.	Base rate of Gypsum Ceiling 125/sq ft.
		Grid Ceiling	Mineral fiber Tile Grid Ceiling with plain T - Grid -0.5 NRC Armstrong /Amf tile (size-600x600) as per approved model - Providing & Fixing of Armstrong Soft Mineral Fiber Acoustical Suspended Ceiling System Tiles 600 mm x600 mm with Armstrong 15mm Exposed Grid. The tile shall be laid on Armstrong 15 mm thk. Grid-Section including main runners, cross tees and wall angles. 15mm wide Profile to be used. Main runners to be spaced at 1200mm centers, fixed to soffit by approved hangers at 1200mm distance. First and last hangers should not be at a distance of more than 450mm from the adjacent wall. 600X600 mm module to be formed by fixing 600mm cross tee between center of 1200mm cross tees. wall angles to be secured to wall at 450mm centers to be installed with Suspension system of Armstrong standard	Base rate of Grid ceiling Rs. 175 /sqft
	Wall Finishes	Acoustic paneling	9mm thk. Acoustic pet panel wall cladding - Providing & Fixing 9mm thk. CNC cut 9mm thk. Acoustic Pet panels fixed on the Existing Ply surface. Cost to include the pet panel, CNC cut perforations as per design, Installation lall Complete.	Basic rate of 9mm thk acoustic pet panel with Grooving & Installation 200/sqft

		Acrylic Emulsion Primer Paint in store	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved colour and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labour, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	
		Pre Laminated Book shelves	Providing and fixing pre-laminated book shelves/storage units made out of 18/19 mm thick pre-laminated particle board/MDF board of approved shade and finish, including side panels, horizontal shelves, backing panel, edge banding, necessary supports, hardware, fittings and fixtures, complete as per approved design and dimensions. The item shall include all exposed edges finished with PVC edge banding, necessary joinery, fixing arrangement, labour, transportation, tools & tackles and complete in all respects.	
		Pelmet in laminate finish for blinds	Pelmet - Fabricating and installing the pelmet made out of 19MM thk. Prelaminated board, in line with external glazing as per detailed drawings/site instructions. Rates to include finishing exposed surfaces of the pelmet with flat enamel paint to match ceiling paint and providing return air cutouts as per A/C consultants requirements & necessary hanging arrangements as per requirement / mentioned detailed Dwg. Pelmets ready to receive the Blinds.	
	CURTAINS/ BLINDS	Manually Operated Roller Blinds	Manually Operated Roller Screen Blinds with required pelmet as per approved design and drawings by JDA.	
	Toilets			
	Flooring	Antiskid Vitrified tiles only inside Toilets	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Base rate Rs. 75/sqft

		Granite Skirting	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, shamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of granite Rs. 140/sqft.
	Ceiling	Metal Grid Ceiling in Pantry	Providing and fixing suspended metal grid ceiling system comprising factory finished metal ceiling panels/tiles of approved size, perforation pattern and finish laid on exposed/concealed metal grid suspension framework complete with main runners, cross tees, perimeter trims, hangers, suspension rods, clips and all fixing accessories as per approved drawings and manufacturer's specifications. The work shall include proper alignment, levelling, edge finishing, necessary cut-outs/openings for light fixtures, AC grilles, diffusers, sprinklers and other services wherever required, complete in all respects. Rate shall include all materials, suspension framework, hardware, labour, scaffolding, tools & tackles, transportation, installation, cleaning and incidental works necessary for complete execution and satisfactory installation.	Basic rate Rs. 150/sqft
	Wall Finishes	Ceramic tiles in toilet	Ceramic Tile cladding - Providing and Laying of 10 mm thk. Ceramic Tile in Cladding/Dado as directed with 1:4 Cement Mortar & base plaster and as per the drawings. The cost shall include labor, materials, wastages, cleaning, cutting and inclusive of lead, lifts, necessary protection, joint filling in approved grout, etc. complete, as per the instructions and to the satisfaction of the Project Manager. (shall be provided in full height)	Basic rate Rs. 50/sqft
		Granite Counter	Granite Counter - Providing, supplying, fabricating and fixing polished granite counter of approved colour, pattern, thickness and finish over suitable framework/support system complete with machine polished surface, moulded/finished edges, necessary cut-outs for sink, fixtures or services wherever required and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include backing support, alignment, edge finishing, joint sealing, polishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate of granite Rs. 140/sqft

		Mirrors in toilets	Mirrors in toilets - Providing and fixing approved quality mirror in toilet area of required size and shape made from float/toughened mirror glass of approved thickness with machine polished edges complete with necessary backing support, mirror adhesive, stainless steel studs/clamps/fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, edge polishing, alignment, sealing of joints with silicone wherever required, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for proper installation and completion.	
	Corridors / Lift Lobbies			
	Flooring	Matte Vitrified tiles	Matte Vitrified tiles - Providing and laying approved quality matte finish vitrified floor tiles of size 600x600 mm and/or 600x200 mm of required shade, colour, texture and pattern in corridor areas over prepared base using suitable tile adhesive/cement mortar bed complete with proper line, level, alignment and approved laying pattern. The work shall include cutting, edge finishing, spacers, joint filling with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 100/sqft
	Ceiling	Gypsum Ceiling with Coves	Providing and fixing suspended gypsum board false ceiling using 12.5 mm thick tapered edge gypsum plaster boards fixed on approved G.I. framework comprising perimeter channels, intermediate channels, ceiling sections, hangers and suspension system complete as per approved drawings and manufacturer's specifications. The boards shall be jointed and finished with paper tape, jointing compound, filler, finisher and primer to achieve smooth seamless finish. The work shall include providing necessary reinforcement/support arrangement for pendant light fixtures, making cut-outs/openings for pendant light points, light fixtures, AC grilles, diffusers, sprinklers, speakers, ducts and other services as required at site. The item shall also include coves, drops, edge profiles wherever required, scaffolding, alignment, touch-up, cleaning and making good complete in all respects. Rate shall include all materials, labour, fixing accessories, tools & tackles and incidental works necessary for complete execution.	Basic rate of Gypsum Ceiling Rs. 125/sqft

		Acrylic Emulsion Primer Paint in store	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved colour and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labour, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	
	Wall Finishes			
		Focal / Feature wall	Providing and fixing in position architectural feature wall / decorative wall cladding as per drawings, including suitable substructure framework (wood / metal as required), surface preparation, and installation of approved finishes such as wooden fluted panels, veneer/laminate, gypsum, ACP, stone, texture paint, wallpaper, or mirror panels, or combination thereof. Work includes cutting, alignment, edge finishing, concealed fixing, adhesives, fasteners, sealants, and all accessories, complete with provision for electrical cut-outs, lighting, and services integration. Rate shall include all materials, labour, tools, scaffolding, wastage, and complete installation in all respects.	
D	Third Floor			
1	Sports / Gaming Zone			
	Flooring	Vitrified tiles in general Lounge/circulation	Vitrified Tile Flooring - Providing and Laying of 12mm Vitrified Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved colour epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Base rate of Tile Rs. 100/sqft

		Wooden finish Vitrified tiles	Wooden finish Vitrified tiles - Providing and laying approved quality wooden finish vitrified floor tiles of required size, thickness, shade, texture and pattern over prepared base using suitable tile adhesive/cement mortar bed complete with proper line, level, alignment and staggered/wood plank pattern layout as approved. The work shall include cutting, edge finishing, spacers, joint filling with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for complete execution of flooring work. (shall be provided in full height)	Base rate of Tile Rs. 125/sqft
		Kota stone (25mm thick tile cut and polished)	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) : (size 2ft x2ft)	Base rate of Stone Rs. 100/sqft
	Ceiling	Gypsum Ceiling with Coves	Gypsum Ceiling With coves- Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate of Gypsum Ceiling Rs. 125/sqft

		No False ceiling	Providing and finishing exposed slab/services ceiling without false ceiling treatment, including surface preparation, necessary repairs to slab surface, putty wherever required, primer and paint finish in approved shade and texture complete as per approved drawings and directions of Engineer-in-Charge. The work shall include proper coordination and finishing around exposed ducts, conduits, cable trays, piping, sprinklers, light fixtures and other services, including cleaning, touch-up and making good complete in all respects. Rate shall include all materials, labour, scaffolding, tools & tackles and incidental works necessary for proper completion of work.	
	Wall Finishes	Gaming Murals	Providing and fixing custom printed gaming-themed wall murals of approved design on prepared wall surface using premium vinyl/fabric wallpaper with matte finish, including surface preparation, adhesive application, alignment, joint matching, edge finishing, and complete installation as per manufacturer's specifications. Rate includes all materials, labour, tools, wastage, and complete execution.	
		Graphics on feature wall	Providing and applying custom-designed graphic artwork on feature wall surfaces as per approved design, drawings, and colour scheme, using high-quality printed vinyl / UV printed panels / wall decals / wallpaper-grade material with matte or gloss finish as specified. The work shall include surface preparation, cleaning, levelling, supply and installation of graphics, precise alignment, jointless matching, edge trimming, sealing, and fixing using approved adhesive system, ensuring a seamless and premium finish integrated with the feature wall. Design may include branding elements, abstract patterns, thematic visuals, signage graphics, or custom artwork as required. Rate shall include all materials, labour, tools, scaffolding, wastage, and complete installation in all respects.	Basic rate of Graphics Rs. 150/sqft
		Feature wall	Providing and fixing architecturally designed feature wall finish at locations shown in drawings, including substructure framework (wood / metal as required) and approved surface finish such as wooden fluted panels, veneer/laminate, gypsum, ACP, stone cladding, texture paint, wallpaper, mirror, or combination thereof, as per approved design. The work shall include surface preparation, cutting, alignment, edge finishing, concealed fixing, adhesives, fasteners, sealants, and all accessories, complete with provision for electrical cut-outs, lighting integration, and services. Rate shall include all materials, labour, tools, scaffolding, wastage, and complete installation in all respects.	

		Acrylic Emulsion Primer Paint	Acrylic Emulsion Primer Paint - Providing and applying 3 coats of Acrylic Emulsion primer paint of approved colour and shade to internal walls and ceiling after thoroughly sand papering surfaces to remove dust, dirt etc. and repairing dents, cracks, holes with POP to achieve level surface and finishing with two coats of primer, putty and three coats of paint including cost of material, labour, scaffolding etc. all complete as directed by the Engineer in charge. Rate to include application at all heights and levels, surfaces and textures. Engineer in charges' approval required after each coat. Tenderer to submit sample to the Engineer in charges for approval.	
2	Reception & Waiting Area – Health Club			
	Flooring	Marble look Vitrified tiles	Vitrified Tile Flooring - Providing and Laying of 12mm Vitrified Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved colour epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Base rate Rs. 100/sqft
		Granite Skirting	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/ Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, chamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Granite Rs. 140/sqft

	Ceiling	Gypsum Ceiling with Coves	Gypsum Ceiling With coves- Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate of Gypsum ceiling Rs. 100/sqft
	Wall Finishes	Wooden fluted paneling on stage/backdrop wall	Wooden fluted paneling on stage/backdrop wall - Providing, fabricating and fixing decorative wooden fluted paneling on stage/backdrop wall using approved quality HDHMR/MDF/plywood base framework finished with machine-made fluted panels/laminate of approved pattern, profile, shade and texture complete with necessary backing framework, grooves, edge finishing, adhesive, screws, fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include surface preparation, alignment, cutting, edge moldings, provisions for electrical/AV fixtures wherever required, polishing/touch-up, scaffolding, cleaning and making good complete in all respects. Rate shall include all materials, labor, hardware, tools & tackles and incidental works necessary for complete execution.	Basic rate of Fluted Panels Rs. 300/sqft
		Texture Paint	Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate Rs. 100/sqft
		Artwork	Artwork - Providing, designing, fabricating, supplying and fixing artwork of approved concept, size, colour scheme and finish comprising printed vinyl graphics, digital artwork, wall murals, framed art panels and/or decorative display elements as per approved design and directions of Engineer-in-Charge. The work shall include surface preparation, printing, lamination/protective coating, framing/backing support, mounting arrangement, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental	

			works required for complete execution and satisfactory installation.	
	Changing Rooms/ Lockers / Toilets			
	Flooring	Antiskid Vitrified tiles in changing rooms & toilet area	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate Rs. 75/sqft
		Granite Skirting in wet areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/ Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, shamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of granite Rs. 140/sqft.
	Ceiling	Moisture resistant Grid ceiling with cove	Moisture resistant Grid ceiling with cove - Providing and fixing Moisture Resistant (MR) modular false ceiling system using GI exposed T-grid suspension system (powder coated) with MR grade gypsum / mineral fiber ceiling tiles, of approved size, thickness, and finish, as per manufacturer's specifications and architectural drawings. The work shall include suspension system with GI hangers, main runners, cross tees, wall angles, leveling, alignment, cut-outs for electrical/AC fixtures, edge trimming, and required accessories to achieve a true, level, and seamless ceiling grid. Rate shall include all materials, labour, scaffolding, tools, wastage, cut-outs, and complete installation including finishing and cleaning in all respects.	Basic rate of MR Board Ceiling Rs. 150/sqft

		Ceramic tiles in wet Zones	Ceramic Tile cladding - Providing and Laying of 10 mm thk. Ceramic Tile in Cladding/Dado as directed with 1:4 Cement Mortar & base plaster and as per the drawings. The cost shall include labor, materials, wastages, cleaning, cutting and inclusive of lead, lifts, necessary protection, joint filling in approved grout, etc. complete, as per the instructions and to the satisfaction of the Project Manager. (shall be provided in full height)	Basic rate Rs. 50/sqft
		Laminate paneling in dry lockers area	Providing and fixing decorative laminated wall paneling using approved quality MDF / plywood base panels finished with laminate sheets of specified shade, texture, and thickness, as per approved design and drawings. The work shall include surface preparation, substructure framing (wooden battens / aluminum sections as required), cutting, edge banding, alignment, joint finishing, concealed fixing with adhesive and mechanical fasteners, and all accessories to achieve a smooth, seamless, and uniform finish. Rate shall include all materials, labour, tools, hardware, scaffolding, wastage, and complete installation in all respects as per specification and satisfaction of Engineer-in-Charge.	Basic rate of laminate Rs. 50/sqft
	Wall Finishes	Granite Counter	Granite Counter - Providing, supplying, fabricating and fixing polished granite counter of approved colour, pattern, thickness and finish over suitable framework/support system complete with machine polished surface, molded/finished edges, necessary cut-outs for sink, fixtures or services wherever required and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include backing support, alignment, edge finishing, joint sealing, polishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate of Granite Rs. 140/sqft
		Mirrors in toilets	Mirrors in toilets - Providing and fixing approved quality mirror in toilet area of required size and shape made from float/toughened mirror glass of approved thickness with machine polished edges complete with necessary backing support, mirror adhesive, stainless steel studs/clamps/fixing arrangement and all accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include cutting, edge polishing, alignment, sealing of joints with silicone wherever required, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works necessary for proper installation and completion.	

		Bench Seating	Providing, fabricating, and installing custom-designed fixed bench seating as per approved drawings, including ergonomic layout and architectural finishes suitable for reception, waiting area, or lounge spaces. The work shall include base structure in seasoned hardwood / plywood / metal frame as required, finished with laminate / veneer / PU polish / cushioned upholstery (foam with fabric / leatherette) including backrest, seat top, side supports, and necessary internal framing. Scope includes edge finishing, concealed fixing, joinery, hardware, leveling, anchoring to floor/wall where required, and all accessories including adhesives, fasteners, and fittings to ensure durability and aesthetic finish. Rate shall include all materials, labour, upholstery, tools, scaffolding, transportation, wastage, and complete installation in all respects.	
		Toilet Accessories	Toilet Accessories - Providing and fixing approved make toilet accessories complete with all necessary screws, plugs, fittings, fixtures and mounting arrangement as per approved drawings and directions of Engineer-in-Charge. The accessories shall include items such as towel rail/ring, soap dispenser, tissue paper holder, robe hook, health faucet holder, grab bar, corner shelf, liquid soap dispenser, waste bin and other accessories as specified. The work shall include drilling, fixing, alignment, sealing wherever required, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, tools & tackles and incidental works	
	Corridors / Passage / Store / Balcony			
	Floorings	Mat Finished Vitrified tiles in Corridors	Mat Finished Vitrified tiles - Providing and laying approved quality matte finish vitrified floor tiles of size 600x600 mm and/or 600x200 mm of required shade, colour, texture and pattern in corridor areas over prepared base using suitable tile adhesive/cement mortar bed complete with proper line, level, alignment and approved laying pattern. The work shall include cutting, edge finishing, spacers, joint filling with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate of Tile Rs. 100/sqft
		Granite Border	Granite Border - Providing and fixing polished granite border of approved colour, pattern, size and thickness in flooring/wall areas as per approved drawings and directions of Engineer-in-Charge, laid over prepared base using suitable adhesive/cement mortar complete with cutting, dressing, machine-polished edges, alignment and finishing. The work shall include joint filling, edge finishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, transportation, adhesives/mortar, tools & tackles and incidental works necessary for proper installation and completion.	Basic rate of granite Rs. 140/sqft

		Vitrified tiles in Store	Vitrified Tile Flooring - Providing and Laying of 12mm Vitrified Tile Flooring in horizontally or to slight falls, joint filling in approved grout with base material of 1:4 Cement Mortar up to 40 MM thicknesses as per site conditions to make the surface in level. Cost to include all materials, wastages, labor, curing, cleaning, cutting, protecting the floor, washing the surface with water, cleaning solution after completion and inclusive of all leads and lifts etc and cost including filling up of the Tile joints in approved colour epoxy grout, complete, all as per the drawing and as per the instructions of the Project Manager. Quoted rate should include the dismantling the Existing floor screeding 30mm-40mm for the tile laying in the floor & Disposal of Malba away from site all complete.	Base rate of Tile Rs. 50/sqft
		Antiskid Vitrified tiles Balcony Outdoor	Antiskid Vitrified tiles - Providing and laying approved quality anti-skid vitrified floor tiles of required size, thickness, shade, colour and finish over prepared base using suitable tile adhesive/cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate of tile Rs. 75/sqft
	Ceiling	Gypsum Ceiling with Coves	Gypsum Ceiling With coves- Providing and fixing in position 12.5 mm thick tapered edge gypsum board suspended false ceiling in approved pattern/design as per drawings, comprising G.I. perimeter channel of size 27 mm x 0.5 mm thick fixed to walls/partitions, intermediate channel of size 45 mm x 0.5 mm thick and ceiling sections of 0.5 mm thickness suspended/connected through approved hangers and fixing system complete as per manufacturer's specifications. The 12.5 mm gypsum plaster boards shall be fixed to ceiling sections with 25 mm drywall screws at required spacing, including jointing and finishing with paper tape, jointing compound, filler, finisher and primer suitable for gypsum board application to achieve smooth seamless finish. The work shall include forming gypsum coves, drops, profiles and edge details wherever required, making necessary cut-outs/openings for light fixtures, AC grilles, diffusers, ducts, speakers, sprinklers, access panels, pipes and all services as per site conditions and approved drawings. Rate shall include necessary supports, scaffolding, staging, cutting, alignment, touch-up, cleaning and making good complete in all respects including all materials, labour, tools & tackles and incidental works required for proper completion.	Basic rate of ceiling Rs. 125/sqft

		No False ceiling	Paint Finish with Putty- Providing and finishing exposed slab/services ceiling without false ceiling treatment, including surface preparation, necessary repairs to slab surface, putty wherever required, primer and paint finish in approved shade and texture complete as per approved drawings and directions of Engineer-in-Charge. The work shall include proper coordination and finishing around exposed ducts, conduits, cable trays, piping, sprinklers, light fixtures and other services, including cleaning, touch-up and making good complete in all respects. Rate shall include all materials, labour, scaffolding, tools & tackles and incidental works necessary for proper completion of work.	
	Wall Finishes	Emulsion Paint	Emulsion Paint - Providing and applying premium acrylic emulsion paint of approved make, shade and finish on walls/ceilings over prepared surface complete with necessary surface preparation, scraping, putty, sanding, primer coat and minimum two or more coats of emulsion paint as required to achieve uniform smooth finish, including scaffolding, masking, protection of adjoining surfaces, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labour, tools & tackles and incidental works necessary for proper completion of painting work.	
		Texture Paint	Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate Rs. 100/sqft
		Exterior Texture Paint in balcony	Exterior Texture paint - Providing & applying texture paint as approved by the Architect. The quoted rate should be inclusive of base preparation & all the required process to apply the paint.	Basic rate Rs. 100/sqft
		Graphics	Providing, designing, fabricating, supplying and fixing decorative graphics/signage/artwork of approved concept, size, colour scheme and finish comprising printed vinyl graphics, digital prints, wall graphics, branding elements and/or display panels complete with necessary backing support, lamination/protective coating, mounting arrangement and fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include surface preparation, printing, cutting, alignment, installation, edge finishing, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works required for complete execution and satisfactory installation.	Basic rate Rs. 150/sqft

		Way finding Signage	Providing, fabricating, supplying and fixing wayfinding signage of approved size, design, typography, graphics, colour scheme and finish comprising directional signs, identification signs, floor/location indicators and informational signage complete with acrylic/MS/SS/aluminum/PVC base as specified, printed/vinyl graphics, lettering, mounting hardware, supports and fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include design coordination, surface preparation, cutting, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works necessary for complete execution and satisfactory installation.	
		Planters	Providing and placing decorative planters of approved size, shape, material and finish complete with indoor plants, potting media, drainage arrangement, pebbles and all accessories as per approved sample and directions of Engineer-in-Charge. The planter units shall be in FRP/ceramic/metal/concrete/wood finish as specified and suitable for interior applications. The work shall include supply, transportation, placement at designated locations, watering, cleaning and making good complete in all respects. Rate shall include all materials, plants, labour, handling, tools & tackles and incidental works necessary for complete installation.	
	Terrace/Outdoor seating			
	Flooring	Cool Roof Tiles	Providing and laying Solar Reflective / Cool Roof Cement Tiles of size 300mm x 300mm x 22mm (min.) Manufactured with vibration and compaction in a hermetic press machine Tolerance for length/width ± 1 mm and thickness ± 3 mm. Conforming to IS:1237:2012 with Solar Reflective Index (SRI) ≥ 78 min. (white colour), solar reflectance ≥ 0.70 , thermal emittance ≥ 0.75 , anti-skid matt finish, laid over cement mortar bed (1:4) with waterproofing admixture, including grouting of joints using cool roof grout if required re-grinding to achieve proper leveling and surface finish as per direction of Engineer-in-Charge — on terrace / roof surface.	Base rate INR 60/sq ft.
		Granite Skirting in wet areas	Granite Skirting - Providing and laying of up to 100mm height Granite Stone Skirting and as directed on an existing backing of 12 MM thick Plywood/ Plasterboard with necessary approved Adhesive or Cement Mortar and as per the drawings. The cost shall include labor, materials, wastages, chamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Granite Rs. 140/sqft.

	Ceiling	MS Pergola	Providing and fixing decorative pergola made out of MS hollow sections/tubes of required size, welded and finished with approved primer and paint/PU coating, incorporating horizontal/vertical members finished in approved wood texture laminate/HPL/wood finish as per approved design and shade. The complete structure shall be properly anchored with necessary base plates, fasteners, hardware, and supporting framework, including all fabrication and installation works, complete in all respects as approved by the Architect.	
	Wall Finishes	Exterior Texture Paint	Providing and applying exterior grade texture paint finish of approved make, type, pattern, and shade over properly prepared surface, including surface cleaning, necessary crack filling/putty, primer coat, texture application, and protective top coat as required, complete with all materials, labour, scaffolding, tools, and accessories, finished as per manufacturer's specifications and approval of the Architect, complete in all respects.	Base rate INR 100/sqft.
		Mural Wall	Providing and fixing decorative mural Graffiti wall as per approved design and Architect's instructions, complete in all respects.	Base rate INR 300 per sq ft.

ELEVATION FINISHING					
	Cladding	Red Sand Stone	Decorative Red Stone Cladding - Providing and laying 75 mm to 100 mm thick up to in full height Red sand stone cladding and as directed on an existing backing of Aluminum grid with necessary approved Adhesive or accessories and as per the drawings. The cost shall include labor, materials, wastages, chamfering, mirror polishing, cleaning, cutting and inclusive of lead, lifts, necessary protection, etc. complete, as per the instructions and to the satisfaction of the Project Manager.		Basic rate of Granite Rs. 140/sqft.
		GFRC	Providing and fixing GFRC Elements Balusters with top rail & bottom rail as per design. Maximum Thickness = 7" Cornices and Moldings as per design Pedestal, Column & Capital and Jali work		
	Ceiling		Moisture Resistant Ceiling with Cove - Providing and fixing moisture resistant (MR) false ceiling system using G board/calcium silicate board of 12mm thickness fixed on (provided steel) suspension work comprising perimeter channel, fitter, ceiling tiles of approved size, and fixing accessories complete as per approved drawings and manufacturer's specifications. The boards shall be jointed with groove and tongue joint. The finished ceiling shall include all materials, labour, scaffolding, tools, and accessories, finished as per manufacturer's specifications and approval of the Architect, complete in all respects.	Moisture Resistant Ceiling with Cove - Providing and fixing moisture resistant (MR) false ceiling system using G board/calcium silicate board of 12mm thickness fixed on (provided steel) suspension work comprising perimeter channel, fitter, ceiling tiles of approved size, and fixing accessories complete as per approved drawings and manufacturer's specifications. The boards shall be jointed with groove and tongue joint. The finished ceiling shall include all materials, labour, scaffolding, tools, and accessories, finished as per manufacturer's specifications and approval of the Architect, complete in all respects.	Moisture Resistant Ceiling with Cove - Providing and fixing moisture resistant (MR) false ceiling system using G board/calcium silicate board of 12mm thickness fixed on (provided steel) suspension work comprising perimeter channel, fitter, ceiling tiles of approved size, and fixing accessories complete as per approved drawings and manufacturer's specifications. The boards shall be jointed with groove and tongue joint. The finished ceiling shall include all materials, labour, scaffolding, tools, and accessories, finished as per manufacturer's specifications and approval of the Architect, complete in all respects.
	Wall Finishes	Exterior Texture Paint	Providing and applying exterior grade texture paint finish of approved make, type, pattern, and shade over properly prepared surface, including surface cleaning, necessary crack filling/putty, primer coat, texture application, and protective top coat as required, complete with all materials, labour, scaffolding, tools, and accessories, finished as per manufacturer's specifications and approval of the Architect, complete in all respects.		Base rate INR 100/sqft.

	Wall Finishes	GRC	Providing and fixing GRC Balusters with top rail & bottom rail as per design. Maximum Thickness = 7" Ht. = 36" On MS work durable and checked by Engineer in Charge	
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Landscaping				
Flooring	Steel grey Granite Flooring	Steel grey Granite Flooring - Providing and laying 18 mm to 20 mm thick Steel Grey Granite Stone Flooring and finish over prepared base using suitable cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labor, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	Basic rate of Granite Rs. 300/sqft.	
	Hermetic Press Parking Tiles	For Ground Floor parking area and Ramps M&L for Tiles 25-30 mm thick precast made in hermetic pressed machines with strong Vibration and compaction at a time with a pressure more than 2100 psi for size 300x300mm or other and a minimum grade of M35, fixed in position, including necessary vibration etc. Tile to be made in grey/white cement including UV stabilized pigments conforming to IS 1237:2012 as per the engg. in charge over approx. 35 mm thick fresh mortar bed in CM 1:4 and wipe out for any slurry coming out of joints while fitting. Tile to be fixed from bottom and no joints need to be filled.	Basic rate of Tile Rs. 40/sqft	
	Paving Stones	Providing and laying of concrete precast paving stones made via high-frequency table vibratory process, conforming to IS 15658:2006, having characteristic compressive strength not less than M30 grade, with controlled water-cement ratio of 0.4 and densified microstructure to ensure low water absorption, high abrasion resistance and enhanced durability. Having finished like natural stones with different stamps/textures at a time. No replication should be felt. Interlocking to be done just like ordinary pavers, design should have side grooving of 5 mm for all the sides along with the color blending done to give a premium natural feel. Products should be environmentally friendly, reducing the carbon footprint. Vibration to the paving stone after joint filling is necessary for better level & settlement. Colors can be selected as per the design and choice of Planner or engg. In charge.	Basic rate of Tile Rs. 50/sqft	

Paver block	Providing and laying interlocking concrete paver blocks of 60mm thick conforming to IS 15658:2006, having minimum characteristic compressive strength of M35 grade concrete, abrasion resistance not exceeding 18,000 cycles and water absorption not more than 6% by weight, with uniform dimensions and proper interlocking geometry; the paver blocks shall be integrally coloured using weather-resistant pigments, with colour, shade and design. Vibration to paver block after joint filling is necessary for better level & settlement. Laying over a well-prepared and compacted base including 50 mm sand bedding, placing in required pattern with proper interlocking, compaction and joint filling with fine sand, complete in all respects as directed by the Engineer-in-Charge.	Basic rate of Tile Rs. 60/sqft.
Grass Paver	Providing and laying grass paver blocks around the boundary wall of 80mm M40 grade as per IS 15658:2006, manufactured by vibro-compaction process with simultaneous vibration and compaction ensuring dense structure, precise height control and dimensional tolerance within ± 3 mm, having approximately 35% open area for natural water recharge, suitable for light traffic and parking areas; the voids to be filled with sand/soil for grass growth or with pebbles for permeable use, with colour and design as approved by the Engineer-in-Charge; laying over a prepared permeable base including sand bedding, placing in required pattern with proper alignment and compaction, complete in all respects as directed by the Engineer-in-Charge.	Basic rate of Tile Rs. 80/sqft.

	Wet press Kerb Stone	Providing and fixing of cement concrete kerb stones for Pathway and walk way of various grades and size 600 mm width x 300 mm height x 150 mm in thickness manufactured with wet press vacuum dewatering Technology with face pimple finish for high visibility with excellent uniformity edge finish and perfect sharp and size having dimension precision of +/- 2mm in length/width and +/-3mm in thickness. Grade M25, including excavation in any soil except rock, laying a leveling course of M15 RMC 100 mm thick. To required slope (inclusive of foam work) jointing in C.M. 1:2 proportion flus to concrete surface, Neat joint filling b/w the blocks. Painting exposed surface with one coat of Primer and two coats of first-grade road marking paint in the yellow/white/black or any other shade as directed by the engineer in charge.	Base rate INR 700/Rft.
	White Marble/South White Granite	White Marble inlay in Granite (Banswara White-15mm) Providing and laying 15 mm to 18 mm thick White Marble inlay Granite Flooring and finish over prepared base using suitable cement mortar bed complete with proper alignment, line, level and slope as required. The work shall include cutting, edge finishing, spacers, filling of joints with matching grout, curing, cleaning and making good complete in all respects as per manufacturer's specifications and directions of Engineer-in-Charge. Rate shall include all materials, labor, adhesives, grout, tools & tackles and incidental works necessary for proper completion of flooring work.	
Wall Finishes	Exterior Texture Paint Fountain=2 no	Providing and applying exterior grade texture paint finish of approved make, type, pattern, and shade over properly prepared surface, including surface cleaning, necessary crack filling/putty, primer coat, texture application, and protective top coat as required, complete with all materials, labour, scaffolding, tools, and accessories, finished as per manufacturer's specifications and approval of the Architect, complete in all respects. Fountain Provision DMX Controller, Panel Motion Controller Submersible Pump Set- Kirlosker/ KSB/Crompton, Feeder Pillar All Necessary panels and cables, MCB, Solar Charging points.	Base rate INR 100/sqft. Base rate INR 55000/No

	Planter Lights	Brick Planter with granite cladding Spike lights for planters, water proof and external landscape use – 7/15W	
	Lighting	Spot light – water proof and external landscape use Cove light water proof and external landscape use Outdoor pole lights – solar provision Outdoor bollard light	
	Signage's	Providing, fabricating, supplying and fixing wayfinding signage of approved size, design, typography, graphics, colour scheme and finish comprising directional signs, identification signs, floor/location indicators and informational signage complete with acrylic/MS/SS/aluminum/PVC base as specified, printed/vinyl graphics, lettering, mounting hardware, supports and fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include design coordination, surface preparation, cutting, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all materials, labour, hardware, adhesive, tools & tackles and incidental works necessary for complete execution and satisfactory installation.	
	Planter	Providing and placing decorative planters of approved size, shape, material and finish complete with indoor plants, potting media, drainage arrangement, pebbles and all accessories as per approved sample and directions of Engineer-in-Charge. The planter units shall be in FRP/ceramic/metal/concrete/wood finish as specified and suitable for interior applications. The work shall include supply, transportation, placement at designated locations, watering, cleaning and making good complete in all respects. Rate shall include all materials, plants, labour, handling, tools & tackles and incidental works necessary for complete installation.	
OAT			
Flooring	Paver block	Providing and laying interlocking concrete paver blocks of 60mm thick conforming to IS 15658:2006, having minimum characteristic compressive strength of M35 grade concrete, abrasion resistance not exceeding 18,000 cycles and water absorption not more than 6% by weight, with uniform dimensions and proper interlocking geometry; the paver blocks shall be integrally coloured using weather-resistant pigments, with colour, shade and design. Vibration to paver block after joint filling is necessary for better level & settlement. Laying over a well-prepared and compacted base including 50 mm sand bedding, placing in required pattern with proper interlocking, compaction and joint filling with fine sand, complete in all respects as directed by the Engineer-in-Charge.	Basic rate of Tile Rs. 60/sqft.
	Kota stone 25 mm thick	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :	80rs /sq ft

	Granite	Providing and fixing 18mm thick gang saw cut mirror polished (pre moulded and pre polished) machine cut for kitchen platforms, vanity counters ,window sills , facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing moulding and polishing to edge to give high gloss finish etc. complete at all levels. Black/Steel Grey/South White/Rajasthan Black	75rs per sqft
Basement and Ramps			
Flooring	Paver block	Providing and laying interlocking concrete paver blocks of 60mm thick conforming to IS 15658:2006, having minimum characteristic compressive strength of M35 grade concrete, abrasion resistance not exceeding 18,000 cycles and water absorption not more than 6% by weight, with uniform dimensions and proper interlocking geometry; the paver blocks shall be integrally coloured using weather-resistant pigments, with colour, shade and design. Vibration to paver block after joint filling is necessary for better level & settlement. Laying over a well-prepared and compacted base including 50 mm sand bedding, placing in required pattern with proper interlocking, compaction and joint filling with fine sand, complete in all respects as directed by the Engineer-in-Charge.	Basic rate of Tile Rs. 60/sqft.
	Hermetic Press Parking Tiles	For Basement Floor parking area and Ramps M&L for Tiles 25-30 mm thick pre casted made in hermetic pressed machines with strong Vibration and compaction at a time with a pressure more than 2100 psi for size 300x300mm or other and a minimum grade of M35, fixed in position, including necessary vibration etc. Tile to be made in grey/white cement including UV stabilized pigments conforming to IS 1237:2012 as per the engg. in charge over approx. 35 mm thick fresh mortar bed in CM 1:4 and wipe out for any slurry coming out of joints while fitting. Tile to be fixed from bottom and no joints need to be filled.	Basic rate of Tile Rs. 40/sqft
Ceiling	Exterior Texture Paint	Providing and applying exterior grade texture paint finish of approved make, type, pattern, and shade over properly prepared surface, including surface cleaning, necessary crack filling/putty, primer coat, texture application, and protective top coat as required, complete with all materials, labour, scaffolding, tools, and accessories, finished as per manufacturer's specifications and approval of the Architect, complete in all respects.	Base rate INR 100/sqft
Wall Tile	Ceramic tiles in wet Zones	Ceramic Tile cladding - Providing and Laying of 10 mm thk. Ceramic Tile in Cladding/Dado as directed with 1:4 Cement Mortar & base plaster and as per the drawings. The cost shall include labor, materials, wastages, cleaning, cutting and inclusive of lead, lifts, necessary protection, joint filling in approved grout, etc. complete, as per the instructions and to the satisfaction of the Project Manager.	Basic rate of Tile Rs. 30/sqft
	Signage's and Road Furniture	Providing, fabricating, supplying and fixing wayfinding signage of approved size, design, typography, graphics, colour scheme and finish comprising directional signs, identification signs, floor/location indicators and informational signage complete with acrylic/MS/SS/aluminum/PVC base as specified, printed/vinyl graphics, lettering, mounting hardware, supports and fixing accessories as per approved drawings and directions of Engineer-in-Charge. The work shall include design coordination, surface preparation, cutting, edge finishing, installation, alignment, cleaning and making good complete in all respects. Rate shall include all	

		materials, labour, hardware, adhesive, tools & tackles and incidental works necessary for complete execution and satisfactory installation.	
	Wall washer light	SITC of exterior rated LED wall washer RGBW flood light luminaires with dedicated optics for architectural lighting. Luminaire has a choice of architectural flood lighting optics with beam angle of 20-60°, Wattage not exceeding 80 Watt, UV and temperature-resistant lens system. Symmetric distribution, Luminaire luminous flux range 2600-2900 Lm . Lumens will be measured in White colour with all 4 channels in ON conditions, with inbuilt decoder .Lumens will be measured in White colour with all 4 channels in ON conditions and IP68 connector. Luminaire Controlled through Wi Fi / DMX/Ethernet controller, Controller can achieve 16.7M colors. Rated input supply of AC 220V constant voltage. Luminaire without control unit. Light color RGBW.Optics to be selected as per the application requirement Mean rated service life L70 (tq 25 °C) > 50,000 burning hrs. Luminaire body of Die-Cast aluminum alloy housing with heat resistant tempered glass cover & Double Powder Coating, outdoor grade, anti-UV glassingress protection rating > IP66 and impact rating 07. The LED system with separate control gear unit is suitable for operation on direct voltage supply grid. Driver Efficiency:>85%, Operating Temperature: --20°C to +50°C, Operating Humidity : 10%-90% The luminanes should have options for various bearm angles i.e. from 20° to 60° actual will depends on the approved design/as per site requirement.	
	House Light	Housing to have adjustable base bracket for angle adjustment so that light direction can be adjusted to illuminate-desired structural elements. The LED luminaires and external driver should be CE/BIS certified. The proposed fixture must have passed LM-79 & LM-80 report from NABL laboratory. The must be submitted prior to the supply of material. The work includes all accessories, connectors, wire etc. complete in all respect. (with Five years warranty).	
Landscaping work			
	Plantation	Supply & Plantation of selected specimen plants size 8'-10' ht. crown dia 5'-6', girth 15-20 cm multi branching in 25 x 25 poly bag Including loading unloading transportation. Mimusops elengi (Molshree), Buhania blackenia, Casia fistula, Lagerstomea flos reginae, Putranjeeva, Arjuna, Kuresea, Ficus shiela etc. (Which one will be chosen at site.)	Rs 1644 each
	Pulmeria Rubra	Pulmeria Rubra 8'-10' height, Girth 20 to 25 cm at collar ht. multibranching in 25 x 25 poly bag Including loading unloading transportation Supply & plantation of Ground Covers including mortility replacement loading - unloading transportation and maintenance for 30 days after planting the plants	Rs 2644 each

	bogainvella	Supply of bogainvella topiary size 90 cm ht. and 45 cm topary Dia. Including loading unloading & transportation upto site.	Rs 275 each
	Phoenix roebilini	Supply & Plantation of selected specimen plants including mortality replacement, loading - unloading transportation and maintenance for 30 days after planting the plants Phoenix roebilini 2'-3' ht dia 3'-4'	Rs 700 each
	Caryota Palm	Supply & Plantation of selected specimen plants including mortality replacement, loading - unloading transportation and maintenance for 30 days after planting the plants Caryota Palm 10'-12' & Foxtail Palm 10'-12'	Rs 3500 each
	Cement pot	Supply of different sized pots at site store including loading unloading & transportation etc. Complete Cement pot 350 mm size	Rs 152 each
	Arecca Palm	Supply of different varieties of palms indoor plants in polyethylene bags / earthen pots according to height. growth & age of the plant at site including loading. unloading & transportation etc. complete: Arecca Palm./China Palm	Rs 570 each
	Crotons	Supply of different varieties of palms indoor plants in polyethylene bags / earthen pots according to height. growth & age of the plant at site including loading. unloading & transportation etc. complete: Selective Varieties of Crotons	Rs 133 each

LIST OF MAKES (Preferred Makes/ Brands/ Manufacturer)

STRUCTURAL AND CIVIL/ PLUMBING AND SANITARY

S.No.	Material	Preferred Makes/ Brands/ Manufacturer
1.	Cement (OPC 43 or 53)	WONDER/ ULTRATECH /JK
2.	White Cement	BIRLA CEMENT/ J. K WHITE / TRAVANCORE
3.	Reinforcement Steel	SAIL/ TATA STEEL LTD/ JSW
4.	Parallel Threaded Couplers	DEXTRA / G-TECH/ TATA
5.	Re-barring Chemical	HILTI / 3M INDIA
6.	Structural Steel	TATA/ JSW STEEL LTD/ SAIL/ JINDAL STEEL & POWER LTD.
7.	Plasticizer, Super Plasticizer, Admixtures, Other chemicals	M.C. BAUCHEMIE / FOSROC /SIKA BASF
8.	Curing Free Plaster	Cemeco/J.K.Laxmi
9.	AAC Block	AEROCON / BILTECH/ J K Laxmi/ MAGICRETE
10.	AAC Block Adhesive	ULTRATECH / FERROUS CRETE / BAL ENDURA /AEROCON / J K Laxmi
11.	Polymer modified cementitious grout	WEBBER/ MAPAI / CAPA / KERAKOLL
12.	List of RMC producers	ULTRATECH / ACC /JK Laxmi/ READY MIXINDIA PVT. LTD
13	Expansion Joint- modular	HERCULES / Z-Tech / SANFIELD
14.	Curing Free Concrete Powder Additive	Cemeco /JK Laxmi/BASF
15.	Bricks	1 st Class
WATERPOOFING		
1.	Waterproofing Self Adhesive (HDPE) Membrane	GRACE / FOSROC / MYK SCHOMBURG

2.	Single Component Liquid PU Elastomeric Membrane (sprayapplied) for Deck Waterproofing	BASF / SIKA / FOSROC/ MYK SCHOMBURG/ GRACE
3.	Waterproofing Compound (Crystalline) and Swellable Bar	XYPEX / KRYTON / PENETRON / BASF / SIKA / FOSROC / MYK SCHOMBURG / GRACE
4.	Polymeric Cementitious Coating	BASF / FOSROC / GRACE / STP / PIDILITE
5.	Elastomeric Acrylic UV resistant liquid applied coating	BASF/ FOSROC / SIKA / GRACE
DOOR, WINDOWS & WOODWORK		
1.	Laminated Particle Board / Particle board / Laminates / Plywood/ Water Proof Ply Board/ Marine	MERINO / GREENLAM / CENTURY / ARCHIDPLY
2.	Veneered Particle Board	MERINO / DURO / GREENLAM / KITPLY
3.	SS Mesh	GKD / WMW
4.	Flush door shutters	GREENPLY/ ARCHIDPLY / DURO / MERINO / CENTURY/ KITPLY
5.	Glass wool Insulation	UP TWIGA / POLY GLASS / LLOYDS/ OWENSCORNING
6.	Rock Wool Insulation	LLOYDS / ROXUL ROCKWOOL
7.	Polycarbonate Sheet	GE LEXAN / DANPALON/ GALLINA
8.	Decking Steel sheet	TATA STEEL / LLOYDS / JSW
9.	Natural wood veneer	GREENPLY/ ARCHIDPLY / DURO / MERINO / CENTURY/ KITPLY
10.	Anti-static high-pressure laminate	FORMICA / BAKELITE HYLAM /DECOLAM MERINO / KITMICA
11.	Fire Sealant	HILTI / 3M INDIA / FISCHER
12.	Extruded Polystyrene Board	STP / SUPREME / OWNESCORNING, SHALIMAR
13.	Wooden / Metal / Glaze-firerated Door Shutters & Acoustic	NAVAIR / KUTTY / GODREJ/ SUKRI / SHAKTIMET
14.	UPVC Doors & Windows	NCL / REHAU / FENESTA / LG-HAUSYS/ SALAMANDER
15.	Fire rated glass (2 hours firerating)	GLAVERBEL / SAINT GOBAIN / PILKINGTON/ PYROGUARD/ SCHOTT
16.	Hardwood	Teak Wood/CP TEAK/BTC WOOD

FINISHING		
1.	Melamine Polish/PU Polish	ASIAN PAINTS/ PIDILITE INDUSTRIES/ DULUX/ BERGER / ICI
2.	Polyester Powder Coating Shades	NEROLAC / BERGER / AKZONOBEL
3.	Wall Putty	BIRLA WHITE / JK WHITE / BERGER / SAINT GOBAIN
4.	Oil Bound Washable Distemper	ASIAN PAINTS / BERGER /NEROLAC / ICI / AKZONOBEL DULUX
5.	Acrylic Distemper	BERGER / ASIAN / DULUX / NEROLAC
6.	Cement Primer	BP WHITE (BERGER) / DECOPRIME WT (ASIAN) / NEROLAC / AKZONOBEL (DULUX)
7.	Steel / Wood Primer	AKZONOBEL (DULUX) / NEROLAC / BERGER / ASIAN PAINT / JENSON & NICHOLSON
8.	Adhesives	ANCHOR / DUNLOP / PIDILITE-FEVICOL/
9.	Premium Acrylic Emulsion paints	DULUX AKZONOBEL / NEROLAC / ASIAN PAINTS / BERGER
10.	Textured Exterior Finish	ASIAN (ULTIMA) / BERGER (WEATHER COAT ALL GUARD) / DULUX AKZONOBEL (ULTRACLEAN) / NEROLAC (EXCEL TOTAL)
11.	Synthetic Enamel Paint	ASIAN / BERGER / NEROLAC / AKZONOBEL (DULUX)
12.	Epoxy Paint	AKZONOBEL (DULUX) / NEROLAC / ASIAN PAINTS / FOSROC / BERGER
13.	Fire Paint	ASIAN PAINT / BERGER PAINTS / SHALIMAR / JOTUN / AKZONOBEL
14.	POP/ Gypsum Plaster	FERROUSCRETE/ ULTRATECH / INDIA GYPSUM / ELITE (90) OF GYPROC
15.	Cement based Ready MixPlaster	FERROUSCRETE / ULTRATECH / SAINT GOBAIN
16.	Pre-Cast GRC Jali	UNISTONE / KERAKROME GRC
17.	Polysulphide sealant	FOSROC / SIKA / TUFFSEAL / PIDILITE / WACKER/ DOW CORNING /GE/STP
18.	Silicone / Weather Sealant	WACKER / DOW CORNING / GE

STEEL & ALUMINIUM WORKS		
1.	Stainless Steel	SALEM STEEL / JINDAL ALLOYS / SAIL/ USHA MARTIN
2.	Welding Electrodes	ADVANI-OERLIKON / MODI
3.	Dash / Anchoring Fasteners	HILTI / FISHER / BOSCH / AXEL
4.	Anodised Aluminium Hardware (Heavy Duty)	HARDIMA / ALUALPHA / PULSE OF LGF SYSMAC / HINDALCO / EVERITE
5.	Aluminium Structural Members – Windows, Glazing and Partitions	JINDAL / HINDALCO / NALCO / INDALCO
6.	Stainless Steel Railing,Accessories etc (Grade SS 316)	OZONE / GEZE / KICH / DORMA / JINDAL STAINLESS STEEL
7.	G. I Steel door frame	SYNERGY THRISLINGTON / SHAKTIMET / NAVAIR
CEILINGS		
1.	False ceiling Grid system	AM STRONG/ SUPER BONDGYPROC / GRIDLINE / RK / GRIDSYSTEM
2.	False Ceiling – Gypsum	SAINT GOBAIN GYPROC / AMF / BORAL / LAFARGE / INDIA GYPSUM / HUNTER DOUGLAS
3.	Metallic False Ceiling	ARMSTRONG / DURLUM / HUNTER DOUGLAS / SAINT GOBAIN
4.	Acoustical Tile False ceiling	ARMSTRONG / SAINT GOBAIN/ ECOPHON/ DEXUNE/ ANUTONE
5.	Calcium silicate ceiling tiles/Board	GYPROC / AEROLITE / BORAL / HILUX / ARMSTRONG(MYLAR) / EVEREST/ NCL
6.	Aluminum Composite Panel	ALUCOBOND / ALPOLIC /ALUDECOR / REYNOBOND
7.	Acrylic Solid Surfaces	HANEX / L.G-HIMAC / DUPONT
FLOORINGS/ WALL TILES		
1.	Glass Mosaic Tiles	BISAZZA, MRIDUL, OPIO, PALLADIO, ITALIA GLASS
2.	Floor & Wall Tiles: Ceramic / Vitrified tiles / Antiskid / Matt Glazed	KAJARIA / H&R JOHNSON / SOMANY/ VARMORA
3.	PVC/SPC Flooring	ARMSTRONG / TARKETT / LG HAUSYS /WELSPUN
4.	Laminated flooring	ACTION TESA / PERGO / CENTURY/ DURO /GREENLAM

5	Hermetic Press Parking Tiles	MAYUR / ULTRA tech / Pavcon
6	Paving Stone/Block	MAYUR /Pavcon
7	Grass Paver	MAYUR / Pavcon
8	Cool Roof Tiles	MAYUR / ULTRA / NITCO
9	Wet press Kerb Stone	MAYUR / Pavcon
10	Engineered stone - Marble / Quartz	ASIAN / JOHNSON / KALINGA / QUTONE
11	Chequered Tiles, Paver Block & Kerb Stone (of Non-Recycled C&D Waste)	MAYUR / ULTRA / NITCO/ UNISTONE
12	Tile / Stone Adhesive / Tile Grout	MAPAI / CAPA / KERAKOLL/MYK
13	Floor hardener	PIDITOP 333 BY PIDILITE / FOSROC / SIKA / IRONITE / FERROK / HARDONITE
14	Epoxy Flooring	FOSROC / SIKA / CICO / BASF / MYK
15.	Heat Resistant Tiles	THERMATEK/ NATIONAL/ THERMAX
16.	Floor Trap	JAYNA / CHILLI / NIRALI
GLAZINGS		
1.	Glazing Structural / Suspended / Skylight/ clear/ float/ frosted/ mirror	SAINT GOBAIN / ASAHI / GLAVERBELL
2.	Clear / Float / Frosted Glass /Mirror	AIS / GLAVERBELL / MODIGUARD / PILKINGTON / SAINT GOBAIN/ ATUL
3.	Glass Spider Fittings	DORMA / HAFELE / OZONE / HETTICH
4.	Toughened Glass / Hermetically sealed performance glass	SAINT GOBAIN / GUARDIAN GLASS / PILKINGTON / MODIGUARD / AIS
HARDWARE		
1.	Nuts / Bolts & Screws	GKW / HILTI / HETTICH
2.	Clamp system for dry stone cladding	HILTI / FISCHER / BOSCH / AXEL
3.	Hinges & Brassware	EARL BIHARI / KICH / INDO-BRASS / ASSA-ABLOY/ HAFELE/ GEZE/DORMA
4.	MDF Board	NUWOOD/ DURATUFF

5.	Vitreous Chinaware cistern etc.	JAQUAR / TOTO
6.	All type of hardware and fitting for all type of glazing / doors/windows etc. including mortiselatch & lock, tower bolt, ball bearing butt hinges, friction stay hinges, sliding door bolts, lever handle, magic eye door closer etc.	HAFELE / HETTICH/YALE/GODREJ (Heavy Duty)
7.	Toilet Cubicles	MERINO / GREENLAM / DORMA
8.	Hardware for Fire Check Door/ panic bar/ panic trim/ door closer/ hinges/ locks	HAFELE / HETTICH/YALE/GODREJ (Heavy Duty)
9.	EPDM Gasket	HANU / ANAND / OSAKA
Plumbing & Sanitary		
1.	GI Pipes	JINDAL (HISAR) / TATA / SURYA PRAKASH
2.	GI Fittings	UNIK / ZOLOTO / SURYA
3.	SS Pipes & fittings	JINDAL / VIEGA / J-PRESS/ KANTHERM
4.	Aluminum-reinforced PE-HD pipe	Hitec/ Viega/ Jindal/ Kantherm/ Kitec
4.	HDPE Pipes	RELIANCE / JAIN IRRIGATION / KISAN/ ORIPLAST / SUPREME
5.	DI Pipes	ELECTROSTEEL (VEDANTA) / JINDAL / TATA DUCTURA
6.	DI Fittings	ELECTROSTEEL (VEDANTA) / KALINGA / TATA DUCTURA
7.	CI Double flanged sluice valve	KIRLOSKAR / SONDHI /KEJRIWAL
8.	Float Valve	LEADER / ZOLOTO / KSB
9.	Centrifugally Cast (Spun) Iron Pipes & Fittings(hub less)	JAYSWAL NECO / RIF / SKF/ SAINT GOBAIN/ TATA
10.	Centrifugally Cast (Spun) Iron (Class LA) Pipes(hub less)	JAYSWAL NECO / ELECTRO STEEL / TATA/SAINT GOBAIN
11.	CI Manhole covers, Frames &GI Gratings	JAYASAWAL NECO / RIF / SKF
12.	SFRC Manhole Covers &Gratings	KK / OCR / PARGATI / T-CON
13.	Stoneware Pipes and Gully Traps	PERFECT / PARRY / BURN / ANAND / RK / HIND
14.	RCC Manhole covers & Frames	KK MANHOLE / GRATING CO. (P) LTD

15.	Gun Metal Valves, Globes	ZOLOTO / CASTLE / KARTAR
16.	Sanitary CP Fittings & Accessories	-ARTIZE SERIES of JAQUAR or : HANS GROHE /GROHE / KOHLER
17.	CONCEALED FLUSHING CISTERN	VIEGA/ GEBERIT/ GROHE/ JAQUAR
18.	Water Meter	PRIMA / ZOLOTO / LEADER / CAPSTAN
19.	Brass Stop & Bib Cock	ZOLOTO / SANT / L&K / LEADER / ASTRAL
20.	UPVC/ CPVC Pipe & Fittings/ SILENT FITTINGS	ASHIRWAD / ASTRAL/ SUPREME / FINOLEX
21.	Non-Return Valve (Check valve)and other kind of Valves	ZOLOTO / SANT / LEADER
22.	Brass Ferrules	DHAWAN SANITARY UDYOG / KALSI / ANNAPURNA
23.	Insulation for hot water pipes	KAIFLEX / ARMAFLEX / CAREFLEX / LLOYD
24.	Insulation for external / exposedhot water pipes	KAIFLEX / ARMAFLEX / CAREFLEX
25.	Pipe protection for external water supply pipes	PYPKOTE / ARMAFLEX / MAKPOLYKOTE
26.	Stainless Steel Sink	NEELKANTH / NIRALI / CERA /JAYNA
27.	RCC Pipes	LAKSHMI / SOOD & SOOD / JAIN & CO. / PRAGATI CONCRETE
28.	Dash/ Stud/ Anchor Fasteners	HILTI / CANON / BOSCH / FISCHER
MISCELLANEOUS		
1.	Irrigation Equipment	JAIN IRRIGATION, KISAN, FINOLEX, PLASSON
2.	PVC water tank	SINTEX / POLYCON
3.	Fabric/ Blinds/ Curtain	Warwick, D Décor, R R Décor, Manuel Revert
4.	Carpet	Welspun/Jaipur Rug
5	Road Furniture/Signage's	Dark Eye/3 M
HVAC		
1.	Referigerant Piping	Toataline/ Papdiwal or Equilient
2.	Communication Cables	Polycab/ Finolex/ Anchor
3.	Air Conditioners (Window/Split/Ductable Unit) VRV	Mistubishi/Daikin/Ogenral/Hitatchi/Sams ung

4.	Drain Pipe with nitrile	Astral/K Wing/Prince
5.	Insulation (Nitrile Rubber)	K Flex/Armaflex/Superlon

Equivalent makes to the makes mentioned above may be used with approval from JDA.

Section VA
General Conditions of Contract

(“Copy of appendix XI of PWF&AR, Govt. of Rajasthan effective from 01.07.99 and subsequent addendum dated 19.03.2001 & 29.03.2001 and other amendments up to date. In case of any typographical error or omission or alteration the original version of the same shall be valid.”)

DEFINITIONS

The "Contract" means the documents forming the bid and acceptance thereof and the formal agreement executed between the Jaipur Development Authority and the Contractor, together with the documents referred to therein, including these conditions, Notice inviting Bids, Instructions to Bidders, Special Conditions of Contract, Specifications, Drawings and Designs, Tender and other information submitted by the Contractor and instructions issued from time to time by the Engineer-in-charge and all these documents taken together shall be deemed to form one contract and shall be complementary to another.

In the contract the following expressions shall, unless the context otherwise requires, have the meanings herein respectively assigned to them: -

The "WORKS OR WORK" shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by, or by virtue of the contract contracted to be executed, whether temporary or permanent and whether original, altered, substituted or additional.

The "SITE" shall mean the land an/or the other places on, into or through which work is to be executed under the contract, or any adjacent land, path or street, through which work is to be executed under the contract, or any adjacent land, path or street, which may be allotted or used for the purpose of carrying out the contract.

The "CONTRACTOR" shall mean the individual or firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representatives of such individual or the persons composing such firm or company, the successor of such firm or company and the permitted assign of such individual or firm or company.

The "ENGINEER-IN-CHARGE" shall mean the Executive Engineer In charge of Jaipur Development Authority who shall supervise and be in-charge of the work.

The "GOVERNMENT DEPARTMENT" shall mean the Jaipur Development Authority (JDA).

The "Accepting Authority" shall mean Executive Committee of Jaipur Development Authority.

The "Director" or "Chief Engineer" shall mean Director (Engineering-III) of Jaipur Development Authority.

The 'Superintending Engineer' shall mean the Superintending Engineer-VI of Jaipur Development Authority.

"ESTIMATED COST" shall mean the cost of the work or works as estimated on the basis of the TENDERED rate or rates agreed to between the parties to the contract.

Where the context so requires, words importing the singular only also include the plural and vice-versa. Any reference to masculine gender shall wherever required include feminine gender and vice versa.

Headings and marginal notes to these General Conditions of Contract shall not be deemed to form a part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.

The clause 23 of condition of contract under section 2 of GCC i.e. standing committee for settlement of disputes is read as:

If any question, difference or objection, whatsoever shall arise in any way, in connection with or arising out of this instrument, or the meaning of operation of any part thereof, of the rights, duties or liabilities of either party men, save in so far, as the decision of any such matter, as herein before provided for, and been so decided, every such matter/ constituting a total claim of Rs. 50,000/- or above, whether its decision has been otherwise provided for an whether it has been finally decided accordingly, or whether the rights or obligations of the parties, as the result of such termination, shall be referred for decision to the empowered standing committee, which would consist of the followings:

Jaipur Development Commissioner, JDA, Jaipur -Chairman

Director (Engineering), JDA, Jaipur

Director (Finance), JDA, Jaipur

Director (Law), JDA, Jaipur

Superintending Engineer, JDA, Jaipur

The Engineer-in-Charge, on receipt of application along with nonrefundable prescribed fee, (the fee would be two percent of the amount in dispute, not exceeding Rs. One lac) from the contractor, shall refer the disputes to the committee within a period of three months from the date of receipt of application.

Procedure and application form referring cases for settlement by the Standing Committee shall be, as given in form RPWA 90.

GENERAL CONDITIONS OF CONTRACT

("Copy of appendix XI of PWF&AR, Govt. of Rajasthan effective from 01.07.99 and subsequent addendum up to date. In case of any typographical error or omission or alteration the original version of the same shall be valid.")

Clause 1: Security Deposit

"The security deposit @ 10% of the gross amount of the running bill shall be deducted from each running bill and shall be refunded as per rules on completion of the contract as per terms and conditions. The earnest money deposited shall however be adjusted while deducting security deposit from the first running bill of the contractor. There will be no maximum limit of security deposit.

A contractor may, however, elect to furnish bank guarantee or any acceptable form of security for an amount equal to the full amount of security deposit @ 10% of the work order before or at the time of executing the agreement. In that case earnest money may be refunded only after furnishing of the bank guarantee as above. During the execution of the work or after completion of the work also a contractor may replace the security deposit by furnishing bank guarantee for an equal amount. However, during execution of the work if cost of work exceeds as shown at the time of furnishing bank guarantee, balance security deposit shall be deducted from the Running Account Bills."

No Price variation is payable in this contract.

All compensation or other sums of money payable by the Contractor to Government under the terms of his contract may be deducted from or paid by the sale of a sufficient part of his Security Deposit, or from interest arising therefrom, or from any sums, which may be due or may become due to the Contractor by the Government on any account whatsoever, and in the event of his Security Deposit being reduced by reason of any such deduction or sale as aforesaid, the Contractor shall within ten days thereafter, make good in cash or Bank Guarantee of Nationalized/Scheduled bank, as aforesaid, any sum or sums which may have been deducted from or raised by sale of his Security Deposit or any part thereof.

In case of Bank Guarantee of any Nationalized/Scheduled Bank is furnished by the Contractor to the Government, as part of the Security Deposit and the bank goes into liquidation or, for any reason is unable to make payment against the said Bank Guarantee, the loss caused thereby shall fall on the Contractor and the Contractor shall forthwith, on demand, furnish additional security to the Government to make good the deficit.

The liability or obligation of the bank under the Guarantee Bond shall not be affected or suspended by any dispute between the Engineer-in-Charge and the Contractor, and the payment, under the Guarantee Bond by the bank to the Government shall not wait till disputes are decided. The bank shall pay the amount under the Guarantee, without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the Contractor. The demand, so made, shall be conclusive as regards to amount due and payable by the bank, under the guarantee limited to the amount specified in the Guarantee Bond. The guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

The Bank Guarantee shall remain valid up to the specified date unless extended on demand by the Engineer-in-Charge which shall include the period of completion of the contract and the defect removal period as per terms of the Agreement. Bank's liability shall stand automatically discharged unless a claim in writing is lodged with the Bank within the period stated in the Bank Guarantee including the extended period. After satisfactory completion of the contract and clearance of all dues by the Contractor, the Chief Engineer or duly authorized Engineer will discharge the Bank Guarantee after expiry of the original or the extended period, as the case may be. In case the date of expiry of the Bank Guarantee is a holiday, it will be deemed to expire on the close of the next working day.

Government is not concerned with any interest accruing to the Contractor on any form of Security (primary or collateral) lodged by him with the bank or any sums payable to sureties obtained by the Bank as counter guarantee to secure its own position. These will be the matters between the Bank and the Contractor.

Clause 2: Compensation for delay

The time allowed for carrying out the work as entered in the tender, shall be strictly observed by the Contractor and shall be reckoned from the 10th day after the date of written order to commence the work is given to the Contractor. If the Contractor does not commence the work within the period specified in the work order, he shall stand liable for the forfeiture of the amount of Earnest Money and Security Deposit. Besides, appropriate

action may be taken by the Engineer-in-Charge/competent authority to debar him from taking part in future tenders for a specified period or black list him. The work shall, throughout the stipulated period of completion of the contract, be proceeded with all due diligence, time being essence of the contract, on the part of the Contractor. To ensure good progress during the execution of work, the contractor shall be bound, in all cases in which the time allowed for any work exceeds one month (save for special jobs), to complete 1/8th of the whole of the work before 1/4th of the whole time allowed under the contract has elapsed, 3/8th of the work before 1/2 of such time has elapsed and 3/4th of work before 3/4th of such time has elapsed. If the contractor fails to complete the work in accordance with this time schedule in terms of cost in money, and the delay in execution of work is attributable to the contractor, the contractor shall be liable to pay compensation to the Government at every time span as below: -

A.		Time Span of full stipulated period	1/4th	1/2th	3/4 th	Full
B.		Work to be completed in terms of money	1/8th	3/8th	3/4 th	Full
			(Rs.)	(Rs.)	(Rs.)	(Rs.)
C.		Compensation payable by the contractor for delay attributable to contractor at the stage of:	Delay up to one fourth period of the prescribed time span – 2.5% of the work remained unexecuted			
			Delay exceeding one fourth period but not exceeding half of the prescribed time span – 5% of the work remained unexecuted.			
			Delay exceeding half of the prescribed but not exceeding three fourth of the time span – 7.5% of the work remained unexecuted			
			Delay exceeding three fourth of the prescribed time span – 10% of the work remained unexecuted			

Note: In case delayed period over a particular span is split up and is jointly attributable to Government and contractor, the competent authority may reduce the compensation in proportion of delay attributable to Government over entire delayed period over that span after clubbing up the split delays attributable to Government and this reduced compensation would be applicable over the entire delayed period without paying any escalation.

Following illustrations is given: -

First time span is 6 months, delay is of 30 days which is split over as under: -

5 days (attributable to Government) + 5 days (attributable to contractor) + 5 days (attributable to Government) + 5 days (attributable to contractor) + 5 days (attributable to Government) + 5 days (attributable to contractor)

Total delay is thus clubbed to 15 days (attributable to Government) and 15 days (attributable to contractor).

The normal compensation of 30 days as per clause 2 of agreement is 2.5% which can be reduced as 2.5*15/30-1.25% over 30 days without any escalation by competent authority.

Note: The compensation, levied as above, shall be recoverable from the Running Account Bill to be paid immediately after the concerned time span. Total compensation for delays shall not exceed 10 percent of the total value of the work.

The contractor shall, further, be bound to carry out the work in accordance with the date and quantity entered in the progress statement attached to the tender.

In case the delay in execution of work is attributable to the contractor, the spanwise compensation, as laid down in this clause shall be mandatory. However, in case the slow progress in one-time span is covered up

within original stipulated period, then the amount of such compensation levied earlier shall be refunded. The Price escalation, if any, admissible under clause 45 of Conditions of Contract would be admissible only on such rates and cost of work, as would be admissible if work would have been carried out in that particular time span. The Engineer-in-Charge shall review the progress achieved in every time span, and grant stagewise extension in case of slow progress with compensation, if the delay is attributable to contractor, otherwise without compensation.

However, if for any special job, a time schedule has been submitted by the Contractor before execution of the agreement, and it is entered in agreement as well as same has been accepted by the Engineer-in-charge, the Contractor shall complete the work within the said time schedule. In the event of the Contractor failing to comply with this condition, he shall be liable to pay compensation as prescribed in foregoing paragraph of this clause provided that the entire amount of compensation to be levied under the provisions of this Clause shall not exceed 10% of the value of the contract. While granting extension in time attributable to the Government, reasons shall be recorded for each delay.

Clause 3: Risk & Cost Clause

The Engineer-in-charge or the Competent Authority defined under rules may, without prejudice to his rights against the Contractor, in respect of any delay or inferior workmanship or otherwise, or any claims for damages in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this Contract or otherwise, and whether the date for completion has or has not elapsed, by notice in writing, absolutely determine the Contract in any of the following cases:

If the Contractor having been given by the Engineer-in-charge, a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in any inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirements of such notice for a period of seven days, thereafter, or if the Contractor shall delay or suspend the execution of the work so that either in the judgement of the Engineer-in-charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion or he has already failed to complete the work by that date,

If the Contractor, being a company, shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager, on behalf of a creditor, shall be appointed or if circumstances shall arise, which entitle the court or creditor to appoint a receiver or a manager or which entitle the court to make a winding up order,

If the contractor commits breach of any of the terms and conditions of this Contract,

If the contractor commits any acts mentioned in, clause 19 thereof.

When the Contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in charge on behalf of the Governor of Rajasthan shall have powers: -

To determine or rescind the contract, as aforesaid (of which determination or rescission notice in writing to the Contractor under the hand of the Engineer-in charge shall be conclusive evidence), upon such determination or rescission, the earnest money, full security deposit of the contract shall be liable to be forfeited and shall be absolutely at the disposal of Government.

To employ labour paid by the Department and to supply materials to carry out the work or any part of the work, debiting the Contractor with the cost of the labour and the price of the materials (of the amount of which cost and price certified by the Engineer-in-charge shall be final and conclusive against the contractor) and crediting him with the value of the work done in all respects in the same manner and at the same rates, as if it had been carried out by the Contractor under the terms of this Contract. The certificate of the Divisional Officer, as to the value of the work done, shall be final and conclusive evidence against the Contractor provided always that action under the sub-clause shall only be taken after giving notice in writing to the Contractor. Provided also that; if the expenses incurred by the Department are less than the amount payable to the Contractor at his agreement rates, the difference shall not be paid to the Contractor.

After giving notice to the contractor to measure up the work of the contractor and to take such part thereof, as shall be unexecuted out of his hands, and to give it to another contractor to complete, in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor, if the whole work had been executed by him (of the amount of which excess, the certificate in writing of the Engineer-in-charge shall be final and conclusive) shall be borne and paid by the original Contractor and may be deducted from any money due to him by Government under this contract or on any other account

whatsoever, or from his Earnest Money, Security Deposit, Enlistment Security or the proceeds of sales thereof, or a sufficient part thereof, as the case may be. In the event of any one or more of the above courses being adopted by the Engineer-in-charge, the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of contract. And, in case action is taken under any of provisions aforesaid, the Contractor shall not be entitled to recover or be paid, any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-charge has certified, in writing, the performance of such work and the value payable in respect thereof, and he shall only be entitled to be paid the value so certified.

Clause 4: Contractor remains liable to pay compensation, if action not taken under clause 3

In any case in which any of the powers conferred by clause 3 hereof, shall have become exercisable and the same shall have not been exercised, the non-exercise, thereof, shall not constitute waiver of any of the conditions hereof, and such power shall, notwithstanding, be exercisable in the event of any future case of default by the Contractor for which, by any clause or clauses hereof, he is declared liable to pay compensation amounting to the whole of his Security Deposit /Earnest Money/Enlistment security and the liability of the Contractor for past and future compensation shall remain unaffected.

Powers to take possession of, or require removal, sale of Contractor's plant

In the event of the Engineer-in-Charge putting in force, powers vested in him under the preceding Clause 3 he may, if he so desires, take possession of all or any tools, plants, materials and stores, in or upon the works or the site, thereof or belonging to the contractor or procured by him and intended to be used for the execution of the work or any part thereof, paying or allowing for the same in account, at the contract rates or, in case of these not being applicable, at current market rates, to be certified by the Chief Engineer or duly authorized Engineer (whose certificate thereof, shall be final and conclusive), otherwise the Engineer-in-Charge may, by notice in writing to the contractor or his clerk of the works, foreman or other authorized agent, require him to remove such tools, plant, materials or stores from the premises (within a time to be specified in such notice), and in the event of the contractor failing to comply with any requisition, the Chief Engineer or other duly authorized Engineer may remove them at the contractor's expenses, sell them by auction or private sale on account of the Contractor and at his risk in all respects, and the certificate of the Chief Engineer or other duly authorized Engineer, as to the expense of any such removal, and the amount of the proceeds and expense of any such sale shall be final and conclusive against the Contractor.

Clause 5: Extension of time

If the contractor shall desire an extension of the time for completion of the work on the ground of his having been unavoidably hindered in its execution or on any other grounds, he shall apply, in writing, to the Engineer-in-Charge within 30 days of the date of the hindrance, on account of which he desires such extension as aforesaid, and the Authority Competent to grant extension under the rules/delegations of power or other duly authorized Engineer shall, if in his opinion, (which shall be final) reasonable grounds be shown therefore, authorize such extension of time, if any, as may, in his opinion, be necessary or proper, if the period of completion of contract expires before the expiry of the period of one month provided in this clause, the application for extension shall be made before the expiry of the period stipulated for completion of the contract. The competent authority shall grant such extension at each such occasion within a period of 30 days of receipt of application from contractor and shall not wait for finality of work. Such extensions shall be granted in accordance with provisions under clause (2) of this agreement.

Clause 5 A: Monthly Return of Extra Claims

Contractor has to submit a return every month for any work claimed as extra. The Contractor shall deliver the return in the office of the Executive Engineer and obtain Receipt Number of the Receipt Register of the day on or before 10th day of every month during the continuance of the work covered by this contract, a return showing details of any work claimed as extra by the contractor which value shall be based upon the rates and prices mentioned in the contract or in the Schedule of Rates in force in the District for the time being. The contractor shall be deemed to have waived all claims, not included in such return, and will have no right to enforce any such claims not included, whatsoever be the circumstances.

Clause 6: Final Certificate

On completion of the work, the contractor shall send a registered notice to the Engineer-in-charge, giving the date of completion and sending a copy of it to the officer accepting the contract, on behalf of the Governor

and shall request the Engineer-in-charge to give him a certificate of completion, but no such certificate shall be given nor shall the work be considered to be complete until the contractor shall have removed from the site on which the work shall be executed, all scaffolding, surplus materials and rubbish and cleared off the dirt from all wood work, doors, walls, floors, or other parts of any building in, upon or about which the work is to be executed or of which he may have possession for the execution thereof, he had filled up the pits. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and cleaning off dirt and filling of pits on or before the date fixed for completion of the work, the Engineer-in-charge may, at the expense of the contractor, remove such scaffolding, surplus materials, and the rubbish and dispose of the same, as he thinks fit, and clean off such dirt and fill the pits, as aforesaid, and the contractor shall forthwith pay the amount of all expenses, so incurred, and shall have no claim in respect of any such scaffolding or surplus materials, as aforesaid, except for any sum actually realized by the sale thereof. On completion, the work shall be measured by the Engineer-in-charge himself or through his subordinates, whose measurements shall be binding and conclusive against the contractor. Provided that, if subsequent to the taking of measurements by the subordinate, as aforesaid, the Engineer-in-charge had reason to believe that the measurements taken by his subordinates are not correct, the Engineer-in-charge shall have the power to cancel the measurements already taken by his subordinates and acknowledged by the Contractor and to take measurements again, after giving reasonable notice to the Contractor, and such re-measurements shall be binding on the Contractor.

Within thirty days of the receipt of the notice, Engineer-in-charge shall inspect the work and if there is no visible defects on the face of the work, shall give the Contractor, a certificate of completion. If the Engineer-in-charge finds that the work has been fully completed, it shall be mentioned in the certificate so granted. If, on the other hand, it is found that there are certain visible defects to be removed, the certificate to be granted by Engineer-in-charge shall specifically mention the details of the visible defects along with the estimate of the cost for removing these defects. The final certificate of work shall be given after the visible defects pointed out as above have been removed.

Clause 7: Payment on Intermediate Certificate to be regarded as advance

No payments shall be made for works estimated to cost less than rupees twenty-five thousand, till after the whole of the works shall have been completed and a certificate of completion given. But in the case of works estimated to cost more than rupees twenty five thousand, the Contractor shall on submitting the bill therefore, be entitled to receive a monthly payment proportionate to the part, thereof, then approved and passed by the Engineer-in-charge, whose certificate of such approval and passing of sum, so payable, shall be final and conclusive. Running Account Bill shall be paid within 15 days from presentation. But all such intermediate payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed, and shall not preclude the requiring of bad, unsound and imperfect or unskillful work to be removed and taken away and re-constructed or re-erected, or considered as an admission of the due performance of the contract, or any part thereof, in any respect, or the accruing of any claim, nor shall it conclude, determine, or effect in any way the powers of the Engineer-in-charge under these conditions or any of them to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract. The final bill shall be made/submitted by the Contractor within one month of the date fixed for completion of the work, otherwise the Engineer-in-charge's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on all parties.

Clause 7A: Time Limit for Payments of Final Bills

The final bill shall be paid within 3 months on presentation by the contractor after issuance of final completion certificate in accordance with clause 6 of the conditions of contract. If, there shall be any dispute about any item(s) of the work, then the undisputed item(s) only, shall be paid within the said period of 3 months. If a final bill (which contains no disputed item or disputed amount of any item) is not paid within the period of three months from presentation of final bill or 6 months from the date of receipt of registered notice regarding completion of work in accordance with clause 6 of the conditions of the contract, the defects, if any, shall be brought to the notice of the higher authority. The period of 3 months shall commence from the date of rectification of the defects. The higher authority shall ensure that in no case final bill should be left unpaid after 9 months from the receipt of registered notice regarding completion of work. The contractor shall submit a memorandum of the disputed items along with justification in support within 30 days from the disallowance thereof, and if he fails to do so, his claims shall be deemed to have been fully waived and absolutely extinguished.

Clause 8: Bills to be submitted on completion of specified stage of work

In case of Lump Sum contract, bills will be submitted by the contractor on completion of various stages of work as specified in the contract document. The claim as far as admissible, authorized or paid, if possible, before expiry of 10 days from the presentation of the bill. The claims for additions & alterations, if any, may also be included in the bills if their measurements have been recorded and checked.

Clause 8A: Bills to be submitted on completion of specified stage of work

In case of Lump Sum contract, bills will be submitted by the contractor on completion of various stages of work as specified in the contract document. The claim as far as admissible, authorized or paid, if possible, before expiry of 10 days from the presentation of the bill. The claims for additions & alterations, if any, may also be included in the bills if their measurements have been recorded and checked.

Clause 8B: Recovery of Cost of Preparation of the Bill

In case of contractor of class A and AA do not submit the bill within time fixed, the Engineer in Charge may prepare the bill as per the provision of clause 8 of the general conditions of the contract but @ 0.5 % of amount of such a bill shall be made and credited to the general revenue on account of preparation of bill.

Clause 9: Bills to be on printed forms

The Contractor shall submit all bills on the printed forms, to be had on application, at the office of the Engineer-in-charge and the charges in the Bills shall always be entered at the rates specified in the tender or in the case of any extra work ordered in pursuance of these conditions, and not mentioned or provided for in the tender, at the rates hereinafter provided for such work.

Clause 9A: Payments of Contractor's Bills to Banks

Payments due to the Contractor may if so desired by him, be made to this Bank instead of direct to him, provided that the contractor has furnished to the Engineer-in- Charge(I)an authorization in the form of a legally valid document, such as a Power of Attorney conferring authority on the Bank to receive payments, and (ii) his own acceptance of the correctness of the account made out, as being due to him, by Government, or his signature on the bill or other claim preferred against

Government before settlement by the Engineer-in-Charge of the account or claim, by payment to the Bank. While the receipt given by such bank shall constitute a full and sufficient discharge for the payment, the Contractor should, whenever possible, present his bill duly receipted and discharged through his Banker. Nothing, herein contained, shall operate to create in favor of the Bank any rights vis-a-vis the Governor.

and stores.

Clause 10: Rejection of materials procured by the Contractor

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion, are not in accordance with the specifications and, in case of default, the Engineer-in-Charge shall be at liberty to employ other person(s) to remove the same without being answerable or accountable for any loss of damage, that may happen or arise to such materials to be substituted thereof, and in case of default, Engineer-in-Charge may cause the same to be supplied and all costs, which may attend such removal and substitution, are to be borne by the Contractor.

Clause 10B: Penal rate in case of excess consumption

The Contractor shall also be charged for the materials consumed in excess of the requirements calculated on the basis of standard consumption approved by the department, at double of the issue rate including storage and supervision charges or market rate, whichever is higher. A Material Supply and Consumption Statement, in prescribed Form RPWA35A shall be submitted with every Running Account Bill, distinguishing material supplied by the Government and material procured by the Contractor himself. The recovery for such material shall be made from Running Account Bill next after the consumption and shall not be deferred. Certificate of such nature shall be given in each Running Account Bill.

Clause 10 C: Hire of Plant and Machinery

Special Plant and Machinery, required for execution of the work, may be issued to the Contractor, if available, on the rates of hire charges and other terms and conditions as per departmental Rules, as per Schedule annexed to these conditions. Rates of such Plant & Machinery shall be got revised periodically so as to bring them at par with market rate.

Clause 11: Works to be executed in accordance with specifications, Drawings, Orders etc.

The Contractor shall execute the whole and every part of the work in the most substantial and satisfactory manner and both as regards materials and otherwise in every respect, in strict accordance with the Specifications. The Contractor shall also conform exactly fully and faithfully to the designs, drawings (either designed by department or designed by contractor and approved by Engineer-in-charge during additional execution) and instructions in writing relating to the work signed by the Engineer-in-charge and lodged in his office and to which the Contractor shall be entitled to have access at such office or on the site of the work for the purpose of inspection during office hours and the Contractor shall, if he so require, be entitled, at his own expense, to make or cause to be made copies of specifications and of all such designs, drawings and instructions, as aforesaid. A certificate of executing works as per approved design, specifications etc. shall be given on each Running Account Bill.

The specifications of work, material, methodology of execution, drawings and designs shall be signed by the Contractor and Engineer-in-charge while executing agreement and shall form part of agreement.

Clause 12:

The Engineer-in-charge shall have power to make any alterations, omissions or additions to or substitutions for the original specifications, drawings, designs and instructions, that may appear to him to be necessary during the progress of the work and the contractor shall carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-charge and such alterations, omission, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work, which the contractor may be directed to do in the manner above specified as part of the work, shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work. The time for the completion of the work shall be extended in the proportion that the altered, additional or substituted work bears to the original contract work, and the certificate of the Engineer-in-charge shall be conclusive as to such proportion. The rates for such additional, altered or substituted work under this clause shall be worked out in accordance with the following provisions in their respective order:

If the rates for the additional, altered or substituted work are specified in the contract for the work, the contractor is bound to carry out the additional, altered or substituted work at the same rates as are specified in the contract for the work.

If the rates for the additional, altered or substituted work are not specifically provided in the contract for the work, the such rates will be derived from the rates for a similar class of work as are specified in the contract for the work.

If the rates for the altered, additional or substituted work cannot be determined in the manner specified in the sub-clauses (i) to (ii) above, then the rates for such composite work item shall be worked out on the basis of the concerned Schedule of Rates of the District/area specified above minus/plus the percentage which the total tendered amount bears to the estimated cost of the entire work put to tender. Provided always that if the rate for a particular part or parts of the item is not in the Schedule of Rates, the rate for such part or parts will be determined by the Engineer-in-Charge on the basis of the prevailing market rates when the work was done.

If the rates for the altered, additional or substituted work item cannot be determined in the manner specified in sub-clauses (i) to (iii) above, then the contractor shall within 7 days of the date of receipt of order to carry out the work, inform the Engineer-in-Charge of the rate which it is his intention to charge for such class of work supported by analysis of the rate or rates claimed and the Engineer-in-Charge shall determine the rate or rates on the basis of prevailing market rates, and pay the contractor accordingly. However, the Engineer-in-Charge, by notice in writing, will be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner, as he may consider advisable. But under no circumstances, the contractor shall suspend the work on the plea of non-settlement of rates on items falling under the clause.

Clause 13: No compensation for alteration in or restriction of work to be carried out.

If, at any time after the commencement of the work the Government shall, for any reason, whatsoever, not require the whole work, thereof, as specified in the tender, to be carried out, the Engineer-in-charge shall give notice, in writing, of the fact to the Contractor, who shall have no claim to any payments or compensation, whatsoever, on account of any profit or advantage, which he might have derived from the execution of the work in full but which he did not derive in consequence of the full amount of the work not having been carried out. Neither, shall he have any claim for compensation by reason of alterations having been made in the original specifications, drawings, and design, and instructions, which shall involve any curtailment of the work, as originally contemplated. Provided, that the Contractor shall be paid the charges for the cartage only,

of materials actually brought to the site of the work by him for Bonafied use and rendered surplus as a result of the abandonment or curtailment of the work or any portion thereof, and taken them back by the Contractor, provided however, that the Engineer-in-charge shall have, in all such cases, the option of taking over all or any such materials at their purchase price or at local market rates whichever may be less. In the case of such stores, having been issued from Government Stores, charges recovered, including storage charges, shall be refunded after taking into consideration any deduction for claim on account of any deterioration or damage while in the custody of the contractor, and in this respect the decision of the Engineer-in-charge shall be final.

Clause 14: Action and compensation payable in case of bad work

If, it shall appear to the Chief Engineer or any authorized authority or the Engineer-in-charge or his subordinates in-charge of the work, or to the committee of the retired officers/officers appointed by the State Government for the purpose that any work has been executed with unsound, imperfect or unskillful workmanship, or with material of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted, or otherwise not in accordance with contract, the Contractor shall on demand in writing from the Engineer-in-charge, specifying the work/materials or articles complained of, notwithstanding that the same may have been inadvertently passed, certified and paid for, will rectify or remove and reconstruct the work, so specified, in whole or in part, as the case may be, remove the materials or articles, so specified, and provide other proper and suitable materials or articles at his own cost, and in the event of his failing to do so, within a period to be specified by the Engineer-in-Charge in his demand as aforesaid, then the Contractor shall be liable to pay compensation at the rate of one percent, on the tendered amount of work for every week not exceeding ten percent, while his failure to do so shall continue, and in the case of any such failure, the Engineer-in-Charge may rectify or remove and re-execute the work or remove and replace with others, the materials or articles complained of as the case may be, at the risk and expense, in all respects of the contractor.

Clause 15: Work to be open to inspection: Contractor or his responsible Agent to be present

All work, under or in course of execution or executed in pursuance of the contract shall, at all times, be opened to inspection and supervision of the Engineer-in-charge and his superior officers e.g. Superintending Engineer, Additional Chief Engineer, Chief Technical Engineer, Chief Engineer, and his subordinates and any other authorized agency of the Government and the contractor shall, at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer-in-charge or his subordinate and any other authorized agency of Government or committee of retired officers/officers appointed by the State Government for the purpose to visit the works shall have been given to the Contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for the purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the Contractor himself.

Clause 16: Notice to be given before any work is covered up

The Contractor shall give not less than 7 days' notice, in writing, to the Engineer-in-charge or his subordinate-in-Charge of the work, before covering up or otherwise placing beyond the reach of measurement, any work in order that the same may be measured, and correct dimensions thereof, be taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up or place beyond the reach of measurement any work without the consent in writing of the Engineer-in-Charge of the work, and if, any work shall be covered up or placed beyond the reach of measurement without such notice having been given or consent obtained, the same shall be uncovered at the Contractor's expense or in default, thereof, no payment or allowance shall be made for such work, or for the materials with which the same was executed.

Clause 17: Contractor liable for damage done and for imperfections

If the Contractor or his work people or servants shall break, deface, injure or destroy any part of a building, in which they may be working or any building, road, fence, enclosure, or cultivated ground contiguous to the premises on which the work or any part of it is being executed, or if any damage shall happen to the work, while in progress, from any cause, whatsoever, or any imperfections become apparent in it, within a period specified in clause 37, after a certificate, final or otherwise of its completion, shall have been given by the Engineer-in-charge, may cause the same to be made good by other workmen and deduct the expense (of which the certificate of the Engineer-in-charge shall be final) from any sums that may be then, or at any time thereafter, may become due to the Contractor, or from his security deposit, or the proceeds of sale thereof, or of a sufficient portion thereof.

Clause 18: Contractor to supply plant, ladders, scaffolding etc.

The Contractor shall arrange and supply, at his own cost, all material (except such special materials, if any, as may, in accordance with the contract, be supplied from the Engineer-in-charge's stores), plants, tools, appliances, implements, ladders, cordage, tackle, scaffolding and temporary works requisite or proper for the proper execution of the work, whether original, altered, or substituted, and whether included in the specification or other documents, forming part of the Contract, or referred to in these conditions, or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer in-Charge, as to any matter as to which, under these conditions, he is entitled to be satisfied or which he is entitled to require, together with carriage thereof, to and from the work. The Contractor shall also arrange and supply, without charge, the requisite number of persons with the means and materials, necessary for the purpose of setting out work and counting, weighting and assisting in the measurement or examination at any time and from time to time of the work, or materials. Failing his so doing, the same may be provided by the Engineer-in-charge, at the expense of the Contractor, and the expenses may be deducted from any money due to the Contractor under the Contract, or from his Security Deposit or the proceeds of sale thereof, or a sufficient portion thereof. The Contractor shall also provide all necessary fencing and lights required to protect the public from accident and shall be bound to bear the expenses of defense of every suit, action or other proceeding at law, that may be brought by any person for injury sustained owing to neglect of the above precautions, and to pay any damages and costs which may be awarded in any such suit, action proceeding to any such person or which may, with the consent of the Contractor, be paid to compromise any claim by any such person.

Clause 19: Work not to be sub-let, Contract may be rescinded and Security

Deposit and Performance Forfeited for sub-letting, bribing or if Contractor becomes insolvent.

The Contractor shall not be assigned or sublet without the written approval of the Director Engineer, and if the contractor shall assign or sublet his contract or attempt so to do, or become insolvent, or commence any insolvency proceedings or make any composition with his creditors, or attempt so to do, or if any bribe, gratuity, gift, loan, requisite reward or advantage, pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the Contractor or any of his servants or agents to any public officer or person, in the employ of Government, in any way, relating to his office or employment, or if, any such officer or person shall become, in any way, directly or indirectly, interested in the contract, the Chief Engineer may, thereupon, by notice, in writing, rescind the contract and Security Deposit of the Contractor shall, thereupon, stand forfeited and be absolutely at the disposal of Government and the same consequences shall ensue as, if the contract had been rescinded under Clause 3 hereof, and in addition the Contractor shall not be entitled to recover or be paid for any work therefore, actually performed under the Contract.

Clause 20: Sums payable by way of compensation to be considered as reasonable compensation without reference to actual loss

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Government without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

Clause 21: Changes in constitution of firm

Where the Contractor is a partnership firm, the previous approval, in writing, of the Engineer-in-charge shall be obtained before any change is made in the constitution of the firm. Where the Contractor is an individual or a Hindu undivided family business concern, such approval, as aforesaid, shall likewise be obtained before the Contractor enters into any partnership agreement thereunder the partnership firm would have the right to carry out the work thereby undertaken by the Contractor. If, previous approval, as aforesaid, is not obtained, the Contract shall be deemed to have been assigned in contravention of Clause 19 hereof, and the same action may be taken, and the same consequences shall ensue, as provided in the said clause 19.

Clause 22: Work to be under direction of Engineer-in-charge

All the works, to be executed under the contract, shall be executed under the direction and subject to the approval, in all respect, of the Engineer-in-charge of the Government of Rajasthan for the time being, who shall be entitled to direct, at what point or points, and in what manner, they are to be commenced, and from time to time, carried on.

Clause 23: Standing Committee for Settlement of Disputes

If any question, difference or objection, whatsoever shall arise in any way, in connection with or arising out of this instrument, or the meaning of operation of any part thereof, or the rights, duties or liabilities of either party then, save in so far, as the decision of any such matter, as herein before provided for, and been so decided, every such matter constituting a total claim of Rs. 50,000/- or above, whether its decision has been otherwise provided for and whether it has been finally decided accordingly, or whether the Contract should be terminated or has been rightly terminated, and as regards the rights or obligations of the parties, as the result of such termination, shall be referred for decision to the empowered Standing Committee, which would consist of the followings:-

Jaipur Development Commissioner, JDA, Jaipur -Chairman

Director (Engineering), JDA, Jaipur

Director (Finance), JDA, Jaipur

Director (Law), JDA, Jaipur

Superintending Engineer, JDA, Jaipur - Member Secretary

The Engineer-in-charge, on receipt of application along with non-refundable prescribed fee, (the fee would be two percent of the amount in dispute, not exceeding Rs. one Lac) from the Contractor, shall refer the disputes to the committee, within a period of three month from the date of receipt of application. Procedure and Application for referring cases for settlement by the Standing Committee shall be, as given in Form RPWA 90.

Clause 23A: Contractor to indemnify for infringement of Patent or design

Contractor shall fully indemnify the Governor of Rajasthan against any action, claim or proceeding, relating to infringement or use of any patent or design, or any alleged patent or design, rights, and shall pay any royalties, which may be payable in respect of any article or part thereof, included in the contract, in the event of any claims made under or action brought against Government. In respect of any such matters, as aforesaid, the Contractor shall be, immediately, noticed thereof, and the Contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation, that may arise there from provided that the Contractor shall not be liable to indemnify the Governor of Rajasthan, if the infringement of the patent or design or any alleged patent or design, right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

Clause 24: Imported Store articles to be obtained from Government

The contractor shall obtain from the stores of the Engineer-in-charge, all imported store articles which may be required for the work or any part thereof, or in making up articles required thereof, or in connection therewith, unless he has obtained permission, in writing, from the Engineer-in-charge, to obtain such stores and articles from else-where. The value of such stores and articles, as may be supplied to the Contractor by the Engineer-in-charge, will be debited to the Contractor, in his account, at the rates shown in the schedule attached to the contract, and if they are not entered in the schedule, they will be debited at cost price, which for the purposes of this contract, shall include the cost of carriage and all other expenses, whatsoever, which shall have been incurred in obtaining delivery of the same at the stores aforesaid plus storage charges.

Clause 25: Lump-sums in estimates

When the estimate, on which a tender is made includes lump sums, in respect of parts of the work, the Contractor shall be entitled to payment in respect of the item of work involved, or the part of the work in question at the same rates, as are payable under the contract for such items or if the part of the work in question is not, in the opinion of the Engineer-in-charge, capable of measurement, the Engineer-in-charge may at his discretion pay the lump sum amount entered in the estimate and the certificate in writing of the Engineer-in-charge shall be final and conclusive with regard to any sum or sums payable to him under the provisions of this clause.

Clause 26: Action where no Specification

In case of any Class of work for which there is no such specification as is mentioned in the contract document referred in ITB Clause 4.1, such work shall be carried out in accordance with the detailed specification of the department and also in accordance with the instructions and requirement of the Engineer-in-charge.

Clause 27: Definition of work

The expression “works” or “work” where used in these conditions, shall, unless there be something either in subject or context, repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed, whether temporary or permanent, and whether original, altered, substituted or additional.

Clause 27A: Definition of Engineer-in-charge

The term “Engineer-in-charge” means the Divisional officer who shall supervise and be in-charge of the work and who shall sign the contract on behalf of the Governor.

Clause 28:

It cannot be guaranteed that the work will be started immediately after the tenders have been received. No claims for increase of rate will be entertained, if the orders for starting work are delayed.

Clause 29: Payments at reduced rates on account of items of work not accepted and not completed to be at the discretion of the Engineer-in-charge

The rates for several items of works, estimated to cost more than Rs. 1,000/-, agreed within, will be valid only when the item concerned is accepted as having been completed fully in accordance with the sanctioned specifications. In cases, where the items of work are not accepted, as so completed, the Engineer-in-charge may make payment on account of such items, at such reduced rates, as he may considers reasonable, in the preparation of final or on account bills, and his decision in the matter shall be final and binding.

Clause 29A: Payments at part rates

The rates for several items of works may be paid at part rates provisionally in running bills in proportion to the quantum of items executed at the discretion of Engineer-in- charge. In case of item rates, if the rate quoted for certain items are very high in comparison to the average/overall tendered premium, then the payment at running stages shall not be made more than the average sanctioned premium. The deferred payment, will however be released after successful completion of the work.

Clause 30: Contractors Percentage:

The percentage referred to in the “Tender for works” will be deducted/ added from/ to the gross amount of the bill before deducting the value of any stock issued.

Clause 31: Contractor to adhere to labour laws/regulation

The Contractor shall adhere to the requirements of the Workmen's Compensation Act and Labour Legislation in force from time to time and be responsible for and shall pay any compensation to his workmen which would be payable for injuries under the Workmen's Compensation Act, here-in-after called the said Act. If such compensation is paid by the State as Principal employer under Sub Section (1) of section 12 of the said Act, on behalf of the Contractor, it shall be recoverable by the State from the Contractor under Sub Section (2) of the said section. Such compensation shall be recovered in the manner laid down in clause 1 of the Conditions of Contract.

Note: All contracts with Government shall require registration of workers under the building & other Construction Workers (Regulation of Employment & Conditions of Services) Act, 1996 and extension of benefit to such workers under the Act. Deduction of cess at source will be made as per provisions of the said Act, in force from time to time.

Clause 32: Withdrawal of work from the Contractor

If the Engineer-in-charge shall at any time and for any reasons, whatever, including inability to maintain prorate progress, think any portion of the work should not be executed or should be withdrawn from the Contractor, he may, by notice in writing to that effect, require the Contractor not to execute the portion of the work specified in the notice, or may withdraw from the Contractor the portion of work, so specified, and the Contractor shall not be entitled to any compensation, by reason of such portion of work having been withdrawn from him. The Engineer-in-charge may supplement the work by engaging another agency to execute such portion of the work at the cost of the original contractor, without prejudice to his rights under clause 2. He shall also be competent to levy compensation for delay in progress. The recovery of excess cost shall be made from next available running bill or any other claim and shall not be deferred.

Clause 33:

The Contract includes clearance, leveling and dressing of the site within a distance of 15 meters of the building on all sides except where the building adjoins another building.

Clause 34: Protect works

The Contractor shall arrange to protect, at his own cost, in an adequate manner, all cut stone work and other work, requiring protection and to maintain such protection, as long as work is in progress. He shall remove and replace this protection, as required by the Engineer-in-Charge, from time to time. Any damage to the work, so protected, no matter how it may be caused, shall be made good by the Contractor free of cost. All templates, forms, moulds, centering, false works and models, which in the opinion of the Engineer-in-Charge, are necessary for the proper and workman like execution of the work, shall be provided by the Contractor free of cost.

Clause 35: Contractor liable for settlement of claims caused by his delays

If the progress of the work has fallen so much in arrears as to prevent other contractors on the work, from carrying out their part of the work within the stipulated time, he will be liable for the settlement of any claim, put in by any of these contractors for the expenses of keeping their labour unemployed, to the extent considered reasonable by the Engineer-in-Charge.

Clause 36A:

The liability, if any, on account of quarry fees, royalties, Octroi and any other taxes, cess and duties in respect of materials actually consumed on public work, shall be borne by the Contractor.

Clause 36B:

The cost of all water connections, necessary for the execution of work, and the cost of water consumed and hire charges of meters and the cost of electricity consumed in connection with the execution of work, shall be paid by the Contractor, except where otherwise specifically indicated.

Clause 36C: Payment of Sales Tax, and any other Taxes

Royalty or other tax on materials, issued in the process of fulfilling contract, payable to the Government under rules in force, will be paid by the Contractor himself.

Clause 36D:

In respect of goods and materials procured by the Contractor, for use in works under the contract, sales tax will be paid by the Contractor himself. But in respect of all such goods manufactured and supplied by the Contractor and works executed under the contract, the responsibility of payment of sales tax would be that of the Engineer-in- charge.

Clause 37: Refund of Security Deposit

The Security Deposit will be refunded after the expiry of the period, as prescribed below: -

In case of contracts relating to hiring of trucks and other T&P, transportation including loading, unloading of materials, the amount of Security Deposit is refundable along with the final bill.

Supplies of material: As per provisions of G.F.&A.R.

Ordinary repairs: 3 months after completion of the work provided the final bill has been paid.

Original works/special repair works: Security Deposit will be refunded six months after completion, or expiry of one full rainy season, or after expiry of defect liability period as defined in the special condition of agreement, whichever is later provided the final bill has been paid.

The Final amount of SD shall be refunded after expiry of defect liability period after report of concerned engineering of satisfactory performance during the defect liability period and partial SD will be refunded as per the order dated 28/08/2025

Clause 38: Fair Wage Clause

The Contractor shall pay not less than fair wages/minimum wages to labourers engaged by him on the work as revised from time to time by the Government, but the Government shall not be liable to pay anything extra for it except as stipulated in price escalation clause (clause 45) of the agreement.

Explanation: "Fair Wage" means minimum wages for time or piece work, fixed or revised, by the State Government under Minimum Wages Act, 1948.

The Contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wages to labourers indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work as if the labourers have been immediately or directly employed by him.

In respect of all labourers immediately or directly employed on the work, for the purpose of the Contractor's part of this agreement, the Contractor shall comply with or cause to be complied with the Public Works Department Contract's Labour Regulations made, or that may be made by the Government, from time to time, in regard to payment of wages, wages period, deductions from wages, recovery of wages not paid, and unauthorized deductions, maintenance of wages register, wage card, publication or scale of wages and other terms of employment, inspection and submission of periodical returns and other matters of a like nature.

The Engineer-in-charge shall have right to deduct from the money due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers, by reasons of non-fulfillment of the conditions of the contract, for the benefit of the worker or workers, non-payment of wages or of deductions made therefrom, which are not justified by the terms of the contract, or as a result of non-observance of the aforesaid regulations.

Vis-a-Vis the Government of Rajasthan, the Contractor shall be primarily liable for all payments to be made and for the observance of the regulations aforesaid, without prejudice to his right to claim indemnity from his sub-contractors.

The regulations, aforesaid, shall be deemed to be part of this contract and any breach, thereof, shall be deemed to be breach of the Contractor

Clause 39 A	
Requirement of technical representative(s) and recovery rate	

The bidder should propose a panel of expert(s) as under:

- a. One number Project Manager with a recognized degree in Mtech/B Tech Civil or equivalent from a reputed institute and at least seven (7) years of total professional experience
- b. Two Nos. Project / site Engineer with experience of minimum 03 years Civil Graduate Engineer or Diploma Engineer
- c. One nos Interior Designer with experience of minimum 03 years Architecture Graduate
- d. One nos MEP Specialist with experience of minimum 03 years Electrical/Mechanical Graduate Engineer
- e. One nos Safety Engineer/Quality Engineer 2 years of experience Civil Engineering Graduate
- f. One number of Data Analyst 2yrs experience B.Sc./B.Tech. or Equivalent

\The bidder should enclose duly attested CVs of the above experts.

Clause 39 B:

The Contractor shall comply with the provisions of the Apprenticeship Act, 1961, and the Rules and Orders issued, thereunder, from time to time. If he fails to do so, his failure will be a breach of contract. The Contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

Clause 40: Safety code

The Contractor shall follow the safety code (s) of the department and as specified in special conditions of contract. The contractor will take adequate precautions to avoid accidents, occupational illness with least disturbance to the environment, adjoining road users and traffic.

Clause 41: Near Relatives barred from tendering

The Contractor shall not be permitted to tender for works in Circle, in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of the Superintending Engineer and Assistant Engineer (both inclusive). He shall also intimate the names of persons, who are working with him in any capacity, or are subsequently employed by him and who are near relatives to any gazetted officer in the Organization/Department. Any breach of this condition by the Contractor would render him liable to be removed from the approved list of contractors of the Department. If such facts are noticed (a) before sanction of tender, his offer shall be declared invalid and earnest money shall be forfeited, (b) after sanction of the tender then the tender sanctioning authority may at his discretion forfeit his earnest money, security deposit and enlistment deposit and work/remaining work may allot to any registered contractor on the same rates as per rules.

Note: By the term "near relative" is meant wife, husband, parents, and grand-parents, children and grandchildren, brothers and sisters, uncles and cousins and their corresponding in-laws.

Clause 42: Retired Gazetted Officers barred for 2 years

No Engineer of Gazetted rank or other Gazetted officer, employed in Engineering or Administrative duties in an Engineering Department of the Government of Rajasthan, is allowed to work as a Contractor for a period of 2 years of his retirement from Government service without the previous permission of Government of Rajasthan. This contract is liable to be cancelled, if either the Contractor or any of his employee is found, at any time, to be such a person, who had not obtained the permission of Government, as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

Clause 43: Quality Control

The Government shall have right to exercise proper Quality Control measures. The Contractor shall provide all assistance to conduct such tests.

Clause 43 A:

The work (whether fully constructed or not) and all materials, machines, tools and plant, scaffolding, temporary buildings and other things connected therewith, shall be at the risk of the contractor until the work has been delivered to the Engineer-in-charge, and a certificate from him, to the effect, obtained.

Clause 44: Death of Contractor

Without prejudice to any of the rights or remedies under the contract, if the Contractor dies, the legal heirs of the Contractor or the Chief Engineer or duly authorized Engineer shall have the option of terminating the contract without any compensation.

Clause 45: Price Variation Clause: Deleted

No Price variation will be paid in this EPC contract.

Clause 46: Force-Majeure

Neither party shall be liable to each other, for any loss or damage, occasioned by or arising out of acts of God such as unprecedented floods, volcanic eruptions, earthquake or other invasion of nature and other acts.

Clause 47: General Discrepancies and Errors

In case of percentage rate tenders, if there is any typographical or clerical error in the rates shown by Department in the "G" Schedule, the rates as given in the Basic Schedule of Rates of the Department for the area shall be taken as correct.

Clause 48: Post payment Audit

The JDA shall have right to cause an audit and technical examination of the works, and the final bills of the contractor, including all supporting vouchers, abstracts, etc., to be made within 2 years after payment of the final bill, and if, as a result of such audit and technical examination, any sum is found to have been over paid in respect of any work done by the Contractor under the contract, or any work claimed by him to have been done by him under the Contract and found not to have been executed or executed below specifications, the

Contractor shall be liable to refund the amount of over payment, and it shall be lawful for Department to recover the same from him in the manner prescribed in Clause 50 or in any other manner legally permissible, and if it is found that the Contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under- payment shall be duly paid by the Government to the Contractor.

Clause 48B: Check Measurements

The department reserves to itself, the right to prescribe a scale of check measurement of work, in general, or specific scale for specific works, or by other special orders (about which the decision of the department shall be final). Checking of measurement by superior officer shall supersede measurements by the subordinate officer, and the former will become the basis of the payment. Any over/excess payments detected, as a result of such check measurement or otherwise at any stage up to the date of completion and the defect removal period specified elsewhere in this contract, shall be recoverable from the Contractor, as any other dues payable to the Government.

Clause 49: Dismantled materials

The Contractor, in course of the work, should understand that all materials e.g. stone, bricks, steel and other materials obtainable in the work by dismantling etc. will be considered as the property of the Government and will be disposed off to the best advantage of the Government, as per directions, of the Engineer-in-charge.

Clause 50: Recovery from Contractors

Whenever any claim against the Contractor for the payment of a sum of money arises out of or under the contract, the Department shall be entitled to recover such sum by appropriating, in part or whole of the Security Deposit, Security Deposit at the time of enlistment of the Contractor. In the event of the security being insufficient, or if no security has been taken, then the balance or the total sum recoverable, as the case may be, shall be deducted from any sum, then due or which at any time, thereafter, may become due to the Contractor, under this or any other contract with the Governor of Rajasthan. Should this sum be not sufficient to cover the full amount recoverable, the Contractor shall pay to the Department on demand the balance remaining dues. The department shall, further, have the right to effect such recoveries under Public Demand Recovery Act.

Clause 51: Jurisdiction of Court

In the event of any dispute arising between the parties hereto, in respect of any of the matters comprised in this agreement, the same shall be settled by a competent Court having jurisdiction over the place, where agreement is executed and by no other court, after completion of proceedings under Clause 23 of this Contract.

SECTION VB
SPECIAL CONDITION OF CONTRACT

SPECIAL CONDITIONS

SCHEDULE 'H'

1. Use of cement concrete mixer & vibrator is essential for the work. Which shall have to be arranged by the contractor at his own level/cost?
2. The contractor shall follow the contractor labour regulation and abolition Act 1970 & Rule 1971.
3. The JDA shall have right to cause on audit and technical examination of the work and the final bills of the contractor including all supporting vouchers, abstract etc. to be made within two years after payment of the final bills and if as a result such audit any amount is found to have been over paid/excess in respect of any work done by the contractor under the contract or any work claimed by him to have been done under this contract and found not to have been executed the contractor shall be liable to refund such amount and it shall be lawful ;for the JDA to recover such sum from him in ;the manner prescribed in special condition no. 8 or any other manner legally permissible and if it is found that the contractor was paid less then that was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be paid by the JDA to the contractor.
4. The contractor shall not work after the sunset and before sunrise without specific permission of the EIC.
5. Whenever any claim against the contractor for the payment of a sum of money arises out or under the contracts, the JDA shall be entered to recover the sum by appropriating in part or whole of the security deposit of the contractor. In the event of the security being insufficient or if no security has been taken from the contractor then the balance of the total sum recoverable as the case may shall be deducted from any sum then due or which a any time there contract with the JDA should this sum be sufficient to recover the full amount recoverable, the contractor shall pay to JDA on demand the balance remaining due. The JDA shall further have the right to effect such recoveries under P.D.R. Act.
6. The rate quoted by the contractor shall remain valid for a period of 4□four□ months from the date of submission of bids.
7. By submission of this tender the contractor agree to abide with all printed conditions provided in the PWD manual from 64 □Chapter 3-para 36□ and subsequent modification.
8. No conditions are to be added by the contractor and conditional tender is liable to be rejected.
9. All transaction in the execution of this work and this tender will be liable to sale-tax vide section 2□B□ read with sub clause □4□ Sale-tax Rule, 1954.
10. If any tenderer withdraws his tender prior to expiry of said validity period given at S.No. 6 or mutually extended prior or makes modifications in the rates, terms and conditions of the tender within the said period which are not acceptable to the department or fails to commence the work in the specified period, fails to execute the agreement the department shall without prejudice to any, other right or remedy, be at liberty to forfeit the amount of Bid Security (EMD) given in any form absolutely. If any contractor, who having submitted a tender does not execute the agreement or start the work or dose not complete the work and the work has to be put to retendering, he shall stand debarred for six months from participating of tendering in JDA in addition to forfeiture of Bid Security (EMD) / Security Deposit and other action under agreement.
11. The contractor shall arrange his own machinery required for the work.
12. Rules regarding enlistment of contractors provide that work ;upto five times limit for which they are qualified for tendering can be allotted to them Therefore, before tender the contractors will keep this in mind, and submit the details of work. Tenders with incomplete or incorrect information are liable to be rejected.
13. Any material not conforming to the specifications collected at site shall have to be removed by the contractor within a period of 3 days of the instructions, issued by the Engineer-In-charge in writing. Failing which,

such material shall be removed by the Engineer-In-charge at risk and the contractor after expiry of 3 days period.

14. The material collected at site and paid provisionally shall remain under the watch and ward of the contractor till it is consumed, fully on the work.
15. The rates provided in tender documents are inclusive of all Taxes royalty.
16. No extra lead of earth/material shall be paid over and above as specified in 'G' schedule. Source/borrow pit area for earth shall have to be arranged by the Contractor at his own cost.
17. Undersigned has full right to reject any or all tenders without given any reasons.
18. Mortar of Masonry work and lean concrete will be permitted mixer with hopper.
19. As per Supreme Court decision "All contracts with Governments shall require registration of workers under the building and other construction workers (Regulation of Employment and Conditions of Service) Act, 1996 and extension of benefits to such workers under the act."
20. Special Conditions of Contract regarding Defect Liability Period (DLP) for Roads works costing Rs. 10.00 lacs and more shall be applicable.
21. The tender are required to submit copy of their enlistment as contractor.
22. Conditions of RPWA-100 will be mandatory & acceptable to the contractor.
23. Any tender received with unattested cutting/overwriting in rates shall be rejected and such bidder will be debarred from tendering for three months in JDA.
24. All the provisions of THE RAJASTHAN TRANSPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and Rules, 2013 will be applicable. If there is any contradictions in existing special conditions and provisions of THE RAJASTHAN TRANSPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and RULES, 2013, provisions of THE RAJASTHAN TRANSPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and RULES 2013 shall be applicable.
25. The Contractor will have to install display boards at site of work as directed by Engineer in charge. Failing which penalty of Rs. 5000.00 per day will be imposed.
26. As per order no D-352, dated 29.08.2018, the last date of bid submission is considered a key date for deciding the base indexes.
27. fufonk esa fu/kkZfjr jkf'k ls vf/kd@de Bid Security jkf'k fcMj }kjk Online ugh tek djkbZ tkosa] fILVe }kjk Hkh de@vf/kd jkf'k fcM Lohdkj ugh dh tkosaxhA
28. If any bidder quotes a rate below than the estimated rates i.e. rates below than átpar' then the bidder has to deposit the additional performance security as per RTPP rule 75A.. Lowest bidder will be issued LOA (Letter of Acceptance) and within 14 days period he has to deposit additional performance security amount in the form of B.G./FDR/NSC. In case of non-deposition of the same in specified period, the Bid Security will be forfeited. In case work in not completed satisfactorily, the "Work Performance Guarantee" will be forfeited and other action will be taken as per Contract Agreement.
29. The contractor will be responsible for following all the norms, instructions mentioned in safety codes of IS/BS or other for every construction activity, heavy machines including operator and technical staff. In case of any casualty JDA will not be responsible for negligence of contractor.
30. Protection of any public or private property, any structure are in bidders scope. Any such loss to property or human being is under the sole responsibility of the bidder.
31. All necessary clearances required for pre-execution, during execution and for completion of work for the entire actual period of construction are under the scope of bidder. No extra charges will be paid by employer for the same. However, JDA may assist in this matter, if required.
32. All arrangements for labour huts, batching plants, storage yards and other building material will have to be arranges by the bidder at his own cost for which no compensation will be paid by JDA.
33. Permission for bore wells for construction purpose shall have to be obtained by the bidder at his own cost from the department concerned under the prevailing rules, however JDA may assist, if required.

34. For any clarification desired by the contractor regarding technical specification, structural and architectural designs, the decisions of principal architect/ JDA shall be final.
35. Preparation and submission of 3D views, 3D animation and model of the project along with periodical submission of actual site photos, Drone photos and videos showing progress of work in soft and hard copy both and submission of "As Built" drawing is in the scope of bidder for which no extra payment shall be given.
36. It is to be noted that project is to be completed in all respect. Any omission if in tender document observed shall be part of rates submitted.
37. Any other activity which is required to make the entire project functional to the intended objective is deemed to be included in the scope of work. The bidder is required to examine such activities from site of work and include all the cost in the bid.
38. Test which cannot be carried out in the field laboratory shall be send for testing by the contractor to any NABL accredited or recognized laboratory/Testing establishment approved by EIC. The cost of making any and all the test shall be Borne by the contractor.
- .
39. During the period of the contract the right of way and all existing roads shall be kept open for traffic and maintained in a safe and usable condition. Resident along and adjacent to the works are to be provided with safe convenient access to their properties at all times.
40. The agency shall provide computers, laser color printer, Wi-fi facility necessary for work in the site office for JDA staff.
41. The site for execution of the work will be made available as soon as the works is awarded. In case it is not possible for the department to make the entire site available on the award of the work, the contractor shall arrange his working program accordingly. No claim, whatsoever for not giving the site in full on award of work or for giving the site gradually in parts will be tenable. The contractor may satisfy himself regarding site, acquisition of land, approach roads etc.
42. The Engineer-in charge shall have full powers to require the removal from the premises of all the materials which in his opinion are not in accordance with the specifications and, in case of default, the Engineer- in charge shall be at liberty to employ other person (s) to remove the same without being answerable or accountable for any loss of damage, that may happen or arise to such materials to substituted thereof, and in case of default, Engineer-in charge may cause the same to be supplied and all costs, which may attend such removal and substitution, are to be borne by the contractor.
43. A certificate of executing works as per approved design and specifications etc. shall be given by the contractor on each running bill.
44. The contractor shall take all necessary precautions for excavation of required depth for construction and simultaneously to maintain the service road carriageway uninterrupted for all direction traffic throughout construction period. He should also give his methodology of carrying out the construction, list of equipment and procedure to be followed without delaying the project. The methodology shall be adopted after approval from EIC. The contractor should cover all the expenses due to methodology adopted and construction difficulties in the quoted rates.
45. In case of any lapse, if found in barricading the site of work then, agency will be liable for penalty @ Rs. 5000/- per day till the rectification of the same as per direction of Engineer-in charge in construction area. The contractor shall enclose the area completely. The barricades should have the Name of Agency, Name of client and "Construction in Progress" duly written as approved by EIC.
46. All Design, calculations and drawings shall be submitted to Jaipur Development Authority and engineer in charge and the contractor shall seek approval on drawings after which only the work can be started on site. The approach and the design principle as decided by JDA and mentioned in this document shall be adhered to while submitting the designs failing to do so may involve redesign and no extra cost will be paid for the same.
47. All Submitted drawings by the contractor shall be signed and stamped by Architect or firm registered with council of architecture.

48. The rate quoted in the financial bid by the agency will be including GST and any other taxes.
49. Job Mix design for bridge work & road work shall have to be got done by NABL accredited lab or MNIT & got approved by JDA before execution of work. No extra payment shall be made on this account.
50. The final drawings of the building shall be submitted by the contractor in hard copies and in soft copy (pen drive) only after which completion certificate will be issued
51. Any permissions required to access no entry zone for materials, or permission to dump or any kind shall be taken by the Contractor at his own cost from the concerned official authority.

Signature of Contractor
with full address & Mobile No.

Executive Engineer -B
JDA, Jaipur.

RTTP Annexure A: Compliance with the Code of Integrity and No Conflict of Interest

- (a) Any person participating in a procurement process shall-
- (b) Not offer any bribe, reward or gift or any material benefit either directly or indirectly in exchange for an unfair advantage in procurement process or to otherwise influence the procurement process;
- (c) Not misrepresent or omit that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;
- (d) Not indulge in any collusion, Bid rigging or anticompetitive behavior to impair the transparency, fairness and progress of the procurement process;
- (e) Not misuse any information shared between the procuring entity and the bidders with an intent to gain unfair advantage in the procurement process;
- (f) Not indulge in any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process;
- (g) Not obstruct any investigation or audit of a procurement process;
- (h) Disclose conflict of interest, if any; and
- (i) Disclose any previous transgressions with any entity in India or any other country during the last three years or any debarment by any other procuring entity.

Conflict of interest:-

The Bidder participating in a bidding process must not have a Conflict of Interest.

A Conflict of interest is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations.

- (i) A bidder may be considered to be in conflict of interest with one or more parties in the bidding process if, including but not limited to:
 - (a) Have controlling partners/shareholders in common; or
 - (b) Receive or have received any direct or indirect subsidy from any of them; or
 - (c) Have the same legal representative for purposes of the bid; or
 - (d) have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder, or influence the decisions of the procuring Entity regarding the bidding process; or
 - (e) The bidder participates in more than one bid in a bidding process. Participation by a bidder in more than one bid will result in the disqualification of all bids in which the bidder is involved. However, this does not limit the inclusion of the same subcontractor, not otherwise participating as a bidder, in more than one bid; or
 - (f) the bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods, works or services that are the subject of the Bid; or
 - (g) Bidder or any of its affiliates has been hired (or proposed to be hired) by the procuring entity as engineer-in-charge/consultant for the contract.

Signature of Bidder
with full address & Mobile No.

RTTP Annexure B: Declaration by the Bidder regarding Qualifications

Declaration by the Bidder

In relation to my/our Bid submitted tofor procurement ofin response to their Notice inviting Bids No.....Dated.....I/wehereby declare under Section 7 of Rajasthan Transparency in Public Procurement Act, 2012 that :

1. I/we possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entry;
2. I/we have fulfilled my/our obligation to pay such of the taxes payable to the union and the state government or any local authority as specified in the Bidding Document.
3. I/we are not insolvent, in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons;
4. I/we do not have, and our directors and officers not have, been convicted of any criminal offence related to my/our professional conduct or the making of false statements or misrepresentations as to my/our qualifications to enter into a procurement contract within a period of three years preceding the commencement of this procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
5. I/we do not have a conflict of interest as specified in the Act, Rules and the Bidding Document, which materially affects fair competition;

Date :

Signature of bidder

Place :

Name :

Designation :

Address :

RTTP Annexure C: Grievance Redressal during Procurement Process

The designation and address of the First Appellate Authority is Executive Committee (EC), JDA,

The designation and address of the Second Appellate Authority is **A.C.S./P.S., UDH, Govt. of Rajasthan.**

(1) Filing an appeal:-

- a) if any bidder or prospective bidder is aggrieved that any decision, action or omission of the procuring entity is in contravention to the provisions of the Act or the rules or the guidelines issued there under, he may file an appeal to First Appellate authority, as specified in the Bidding document within a period of ten days from the date of such decision or action, omission, as the case may be, clearly giving the specific ground or grounds on which he feels aggrieved:
- b) Provided that after the declaration of a bidder as successful the appeal may be filed only by a bidder who has participated in procurement proceedings:
- c) Provided further that in case a procuring entity evaluates the technical bids before the opening of the financial bids, an appeal related to the matter of financial bids may be filed only by a bidder whose technical bid is found to be acceptable.
- (2) The officer to whom an appeal is filed under Para (1) shall deal with the appeal as expeditiously as possible and shall endeavor to dispose it of within thirty days from the date of the appeal.
- (3) If the officer designated under Para (1) fails to dispose of the appeal filed within the period specified in Para (2), or if the bidder or prospective bidder or the procuring entity is aggrieved by the order passed by the first appellate authority, the bidder or prospective bidder or the procuring entity, as the case may be, may file a second appeal to second appellate authority specified in the bidding document in this behalf within fifteen days from the expiry of the period specified in Para (2) or of the date of receipt of the order passed by the first appellate authority, as the case may be.

(2) Appeals not to lie in certain cases:-

No appeal shall lie against any decision of the procuring entity relating to the following matters, namely:-

- (a) Determination of need of procurement
- (b) Provisions limiting participation of bidders in the bid process
- (c) The decision of whether or not to enter into negotiations
- (d) Cancellation of a procurement process
- (e) Applicability of the provisions of confidentiality

(3) From of Appeals:-

- a) An appeal under Para (1) or (3) above shall be in the annexed form along with as many copies as there are respondents in the appeal.
- b) Every appeal shall be accompanied by an order appealed against, if any, affidavit verifying the facts stated in the appeal and proof of payment of fee,
- c) Every appeal may be presented to first appellate authority or second appellate authority, as the case may be, in person or through registered post or authorized representative.

(4) Fee for filing Appeal:-

- (a) Fee for first appeal shall be rupees two thousand five hundred and for second appeal shall be rupees ten thousand, which shall be non-refundable.
- (b) The fee shall be paid in the form of bank demand draft or banker's cheque of a scheduled bank in India payable in the name of appellate authority concerned.

(5) Procedure for disposal of Appeal:-

- (a) The first appellate authority or second appellate authority as the case may be, upon filing of appeal, shall issue notice accompanied by copy of appeal, affidavit and documents, if any, to the respondents and fix date of hearing
- (b) On the date fixed for hearing, the first appellate authority of second appellate authority, as the case may be shall-
 - (i) Hear all the parties to appeal present before him; and
 - (ii) Peruse or inspect documents, relevant records or copies thereof relating to the matter.
- (c) After hearing the parties, perusal or inspection of documents and relevant records or copies thereof relating to the matter, the appellate authority concerned shall pass an order in writing and provide the copy of order to the parties to appeal free of cost.
- (d) The order passed under sub-clause (c) above shall also be placed on the state public procurement portal.

Date :

Signature of bidder

Place :

Name :

Designation :

Address :

FORM No. 1
[see rule 83]
Memorandum of Appeal under the Rajasthan
Transparency in Public procurement Act, 2012

Appeal No.....ofBefore
the.....(First/Second Appellate authority)

1- Particulars of appellant :

(i) Name of the appellant :

(ii) Official address, if any:

(iii) Residential address :

2- Name and address of the respondent(s):

(i)

(ii)

(iii)

3- Number and date of the order appealed against and name and designation of the office/authority who passed the order (enclose copy), or a statement of a decision, action or omission of the procuring Entity in contravention to the provisions of the Act by which the appellant is aggrieved:

4- If the Appellant propose to be represented by a representative the name and postal address of the representative:

5- Number of affidavits and documents enclosed with the appeal:

6- Grounds of appeal :
(Supported by an affidavit)

7- Prayer :

Place :

Date :

Appellant's Signature

RTPP Annexure D: Additional Conditions of Contract

1. Correction of arithmetical errors

Provided that a financial bid is substantially responsive, the procuring entity will correct arithmetical errors during evaluation of financial Bids on the following basis:

- i. if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the procuring entity there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;
- ii. (ii) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- iii. (iii) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.

If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified and its bid security shall be forfeited or its bid securing declaration shall be executed.

2. Procuring Entity's Right to Vary quantities.

- (i) At the time of award of contract, the quantity of goods, works or services originally specified in the bidding documents may be increased or decreased, by a specified percentage, but such increase or decrease shall not exceed twenty percent, of the quantity specified in the bidding documents. It shall be without any change in the unit prices or other terms and conditions of the bid and the conditions of contract.
- (ii) If the Procuring entity does not procure any subject matter of procurement or procures less than the quantity specified in the bidding document due to change circumstances, the bidder shall not be entitled to any claim or compensation except otherwise provide in the conditions of contract.
- (iii) In case of procurement of goods or services, additional quantity may be procured by placing a repeat order on the rates and conditions of the original order. However, the additional quantity shall not be more than 25% of the value of goods of the original contract and shall be within one month from the date of expiry of last supply. If the supplier fails to do so, the procuring entity shall be free to arrange for the balance supply by limited bidding or otherwise and the extra cost incurred shall be recovered from the supplier.

3. Dividing quantities among more than one bidder at the time of award (In case of procurement of Goods):-

As a general rule all the quantities of the subject matter of procurement shall be procured from the Bidder, whose Bid accepted. However, when it is considered that the quantity of the subject matter of procurement to be procured is very large and it may not be in the capacity of the Bidder, whose Bid is accepted, to deliver the entire quantity or when it is considered that the subject matter of procurement to be procured is of critical and vital nature, then in such cases, the quantity may be divided between the Bidder, whose Bid is accepted and the second lowest Bidder or even more Bidder in that order, in a fair, transparent and equitable manner at the rates of the Bidder, whose Bid is accepted.

Special Conditions of Contract regarding Defect Liability Period (DLP)

DLP for all the components of the work under this project shall be Five years.

2. General

2.1 Inspection of works during Defect Liability Period

2.1.1 The contracting agency shall undertake joint detailed inspection along with committee as approved., at once in three months in case of all works. The committee can reduce this frequency in case of emergency. The Contracting agency shall forward to the Engineer-in-charge the record of inspection and rectification immediately after the joint inspection. The Contracting agency shall pay particular attention on those sections, which are referred as likely to be damaged.

2.1.2 One register has to be maintained by every site engineers for recording the inspection details of works in his jurisdiction under defect liability period.

2.2 Conditions regarding Security Deposit

2.2.1 Security for DLP-

The contracting agency shall have to furnish security deposit (SD)/Performance Security in the form of Bank Guarantee in favor of Secretary JDA, Jaipur valid from the actual date of completion, which shall be assigned by the Engineer-in-charge.

2.2.2 Refund of SD (Performance Guaranty)–

The Final amount of SD shall be refunded after expiry of defect liability period after report of concerned engineering of satisfactory performance during the defect liability period and partial SD will be refunded as per the order dated 28/08/2025

Various conditions for managing DLP are as under: -

- (i) During DLP period if contractor fails to repair any work even after issue of 7 days written notice, same work shall be got executed by respective Executive Engineer at the contractor's risk and cost and the double of actual expenditure shall be recovered from his performance security/security deposit. This process shall be applicable throughout the DLP period. In case of failure of any obligation under part of contractor during DLP should be debarred and blacklisted from JDA for three years as per RTPP Rule 2012 and 2013 where he defaults twice in a single agreement or in two different works.
- (ii) Quarterly inspection as per rules shall be carried out and DLP registers shall be maintained by respective Executive Engineers to monitor the DLP repairs.
- (iii) Special and regular inspection shall also be carried out as per order no. JDA/Ex.En & TA to DE-I/ 2014-15/D-223 dated 12.03.2015 and order no. SE (PMGSY) CIRCULAR 2006/D-115 dated 04.05.2006 point no. 3
- (iv) In case JDA feels to take up work on any existing DLP due to any reason, following procedure should be adopted.
- (v) At the time of withdrawal total liability of repairs as per DLP conditions to be carried out and contractor shall be asked to complete the same. After completion of assessed repairs DLP period shall be released after deduction amt.

Note :- Calculation is to be done on quarterly basis.

- (a) In case Contractor fails to carry out these repairs, same shall be carried out at his risk and cost. If the total amt. of such repairs works out to be more than total retained amt. of SD, same shall be recovered from other works and as per PDR rules. The amount as per Table-III is also to be deducted in addition to this amount.
- (b) Based upon type of work, DLP conditions for works to be carried out during DLP period with their frequency of respective type of work shall be prepared by respective SE's after approval of these periods.

2.2.3 Force Majeure

The defect arises due to earthquake, cyclone, and natural calamities shall not be the responsibly of contracting agency.

Signature of Contractor

With Full Address

Executive Engineer -B

JDA, Jaipur.

The following Particular Conditions of Contract shall complement, amend, and supplement the GCC.
Whenever there is a conflict, the provisions herein shall prevail over those in the GCC

Definitions

1.The Intended Completion Date will be 12 Months from Start Date followed by DLP .

The **Start Date** is the date as specified in the work order. This is the date when the Contractor can commence work on the Contract, but does not necessarily coincide with Possession Date of all the locations of Site.

2. Interpretation

Sectional Completion will be not allowed.

3. Language and Law

The law which shall govern the conduct of the Contract and according to which the Contract shall be construed is that in force in the State of Rajasthan, India. The language of the contract shall be in English.

4.Communications

Any notification under this Contract shall be served on the party concerned when received by telex, hand delivery, courier delivery, or registered letter at the addresses listed in the Contract Data Any notification under this Contract shall be served at the addresses provided below:

Address of the Contractor:

Name: _____

Address: _____

Address:

Executive Engineer B
Jaipur Development Authority

Room No ,Building
Ram Kishor Vyas Bhawan, Indira Circle,
Jawahar Lal Nehru Marg, Jaipur-302004

6. Insurance

The minimum amount of Third-Party Liability insurance cover shall be *Rs 10,00,000 (Rupees ten Lakhs only)* per occurrence or event, with the number of occurrences not less than four. The Contractor shall promptly notify the Engineer of each claim made under the Third-Party Liability coverage, and shall renew the Third-Party Insurance after each such occurrence in order to maintain the number of covered occurrences at not less than four.

The minimum coverage against damage to the Works and materials during construction shall be *Rs. 5,00,000 (Rupees Five Lakhs only)*.

7. Possession of Site

The employer will give possession of the sites as elaborated in the Notice to Proceed on the Date of Start as mentioned in NTP. The contractor will not be entitled to any delay or compensation event unless his work as per the agreed “Schedule of Work” is actually held up because of delay in the Employer’s hand over of the site to the contractor. Refer Section V, Work Requirements for further details.

8.The work program shall be given in Inception Report submitted by the Selected Bidder and the same shall be final and binding, once approved by the Engineer. The Contractor shall submit the detailed method statement defining Contractor’s methodology for implementation backed with his proposal for equipment planning & deployment duly supported with broad output calculation. The Drawings for any particular activity shall be

issued to the contractor at least 30 days in advance of the schedule date of the start of the activity as per the approved program.

9. The Contractor shall provide an updated Work Program by the last day of each Month, which shall clearly demonstrate the actual progress achieved on each activity, the effect of the progress achieved on the timing of the remaining work, and the proposed changes in activities that will enable the Contractor to complete the Works within the Intended Completion Date. In case the Contractor fails to submit an updated Work Program within this time limit, the Engineer will be entitled to withhold an amount of Rs. 1,00,000/- (Rupees One lakh only) or 1% of the Contract Value (Whichever is more) from the next payment certificate, and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted.

10.1 If in the opinion of the Engineer, the work on site is not progressing satisfactorily in accordance with the mutually agreed "Work Program" and the delay is likely to affect the overall completion of the work within the intended date of completion, he may by a written notice to the Contractor ask him to expedite the works within 15 days suitably to make for deficiencies.

10.2 If the contractor fails to take appropriate action in time in pursuance of 10.1, the Engineer may by another notice inform him the components of work that will be carried out by him through another agency in parallel to the other activities being carried out by the contractor at his cost with a view of expediting the works and reducing delays. The value of the work so carried out will be credited to the contractor's account, but he will not be responsible for the quality of the said work. The Engineer will recover the cost spent plus 5% for supervision charges from the next bill or

If the contractor fails to take appropriate action in time in pursuance of 10.1, the Engineer may withhold 25% amount of the delayed part of the work from the next running bills, till the contractor achieves the progress as per the agreed Work Plan.

If authority still feels the slow progress of the project then authority is free to make payments to the eligible vendors of materials and labors and get the work executed without consent of the contractor. However the contractor will be responsible for the whole project.

10.3 In addition to the Updated Program, Monthly updated progress reports shall be prepared by the Contractor and submitted to the Engineer in six copies in the first week of every calendar month. Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works. Each report shall include:

- (a) Photographs and detailed descriptions of progress.
- (b) charts showing the status of Construction Documents, purchase orders, manufacture and construction;
- (c) records of personnel and Contractor's Equipment on Site;
- (d) copies of quality assurance documents, test results and certificates of Materials;
- (e) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and

Comparisons of actual and planned progress, with details of any aspects which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome such aspects.

11. Identifying Defects:

Unless otherwise indicated elsewhere in the contract, the Quality Assurance and Quality Control (QA/QC) document, shall be followed.

12. Correction of Defects:

(i) The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins from the physical completion date specified in the completion certificate/ taking over certificate. The Defects Liability Period may be extended for as long as Defects remain to be corrected. The **Defect Liability Period** is 5 year from the date of completion mentioned in the certificate of Completion pursuant to the provisions of Clause 48.

(ii) The Engineer shall certify that all Defects have been corrected. If the Employer considers that

Correction of a Defect is not essential; he can request the Contractor to submit a quotation for the corresponding reduction in the Works Contract Price. If the Employer accepts the quotation, the corresponding change in the Contract Price is a Variation. The Defects Correction Period is 14 (fourteen) Days from the date of receipt by the Contractor of the Employer's notice to correct any Defects in the Works.

- (iii) If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer may have the defect corrected by other contractor(s) and recover the cost paid for the same plus 5% for supervision charges from any amount due to the contractor.

13. Contract Price

This is a Lump Sum contract on EPC basis.

The Contract Price includes all duties, taxes, royalty, and fees that may be levied in the accordance with the laws and regulations in force as on the Base Date on the Contactor's equipment, Plant, Materials and supplies to be acquired for the purpose of this Agreement and on the services to be performed under this Agreement. Nothing in this Agreement shall relieve the Contractor from its responsibility to pay any tax including any tax that may be levied in India on profits made by it in respect of this Agreement.

14. Payments

14.1 The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs, unless otherwise provided for in this Agreement.

14.2 Unless otherwise stated in this Agreement, the Contract Price covers all the Contractor's obligations for the Works under this Agreement and all things necessary for the Construction, and the remedying of any Defects in the Project.

14.3 All payments under this Agreement shall be made in Indian Rupees.

14.4 No price escalation will be paid under this EPC contract.

14.6 The Authority shall make payments to the Contractor as certified by the Engineer on completion of a stage, as specified, and valued in accordance with the proportion of the Contract Price assigned to each item and its stage. Contractor will be paid as per the Payment Schedule prescribed below:

14.7 The bidder will complete the whole project in all respects including all basic facilities at the stage of running this project.

PAYMENT – SCHEDULE

- NOTE:-**
- 1) Any variations in drawings and designs during construction for the betterment of the project with variations up to 2% of the contract value no additional cost shall be payable. The assessment of additional work shall be based on PWD BSR 2022 and market rates as mutually agreed.**
 - 2) In case of execution of any additional work if required to be executed for the betterment of the project, the payment of the same shall be made with mutual agreement after proper assessment of rates based on PWD BSR 2022 and market rates.**
 - 3) No Mobilization advance is payable in this contract.**
 - 4) Price variation is not payable in this contract**

S. No.	Activity	Percentage of Total Quoted Amount	Total payable (%) of PART-I
A	Designing and obtaining necessary permissions etc. for entire scope of work (2% of Total Quoted Amount for Part-I)	2%	
	1) On approval of inception report & Site survey, Geo-technical investigation and preparation of preliminary Architectural Drawings, Presentations, conceptual plan and themes.		0.3
	2) On obtaining approval of JDA / local authorities on detailed and working drawings of complete complex including infrastructure, facilities & services as per scope of work.		0.1
	3) On approval of structure design by JDA & Successful structural vetting from NIT or IITs.		0.3
	4) On obtaining other approvals like: Tree Cutting NOC, Traffic NOC, environmental clearance if required, PHED and Electrical Department NOC; etc as required for the starting the project.		0.2
	5) On establishing site office, testing laboratory etc.		0.2
	6) After completion of 50 % work of total tendered Cost for arranging various activities, meetings / conferences / visits / etc.		0.2
	7) After completion of 100 % work as per scope of work of total tendered Cost for arranging various activities, meetings / conferences / visits / etc.		0.2
	8) On obtaining Fire NOC, PHED and Electrical Department NOC, Griha certification, completion certificate etc. after completion of work.		0.5
B	Completion of Basement for Parking as per scope of work	15%	

	1) Foundation: Raft		6
	2) Retaining-Walls/Ramp/Columns/ waterproofing - 50% of the work for Basement		1.5
	3) Retaining walls/ramp/columns/ waterproofing - 100% of the work for basement.		1.5
	4) Roof slab for basement		3
	5) Completion of partition walls, Lift Area, walkways, ramps, staircases and stone cladding on Lift walls / Lobby etc.		2
	6) Complete Basement flooring, sumps, skirting, finishing, painting, signage, displays, floor markings etc. complete		1
C	Super Structure work (G+3 structure) of in all respect as per scope of work	54%	
	1) Completion of Civil Structural Work		
	Ground Floor roof Level		4
	I st Floor roof Level		4
	II nd Floor roof Level		4
	III rd Floor roof Level		4
	(Terrace Floor)		2
	ii) Completion of External and Internal Partition walls with installation of jambs etc.		
	Ground Floor roof Level		1
	I st Floor roof Level		1
	II nd Floor roof Level		1
	III rd Floor roof Level		1
	(Terrace Floor)		0.5
	iii) Internal Plaster including electrical Conducting, Plumbing and Sanitary pipes installation		
	Ground Floor roof Level		0.5
	I st Floor roof Level		0.5
	II nd Floor roof Level		0.5
	III rd Floor roof Level		0.5
	(Terrace Floor)		0.1

	iv) Completion of Flooring, Wooden Flooring, Skirting, Tile works Doors & Windows Frames etc	
	Ground Floor roof Level	1.8
	I st Floor roof Level	1.5
	II nd Floor roof Level	1.5
	III rd Floor roof Level	1
	(Terrace Floor)	0.2
	v) Completion of Wall Paneling and other finishing works etc including POP, Water proofing, False Ceiling, Wooden False Ceiling, Painting etc.-	
	Ground Floor roof Level	2.5
	I st Floor roof Level	2.5
	II nd Floor roof Level	2.5
	III rd Floor roof Level	2
	(Terrace Floor)	1
	vi) Completion of installation of Sanitary and CP fittings, Internal Electrification etc.	
	Ground Floor roof Level	0.6
	I st Floor roof Level	0.6
	II nd Floor roof Level	0.6
	III rd Floor roof Level	0.6
	(Terrace Floor)	0.1
	vii) P & Installation decorative lights, Security System other communication systems, & other Vendor designed items etc.)	
	Ground Floor roof Level	0.6
	I st Floor roof Level	0.6
	II nd Floor roof Level	0.6
	III rd Floor roof Level	0.6
	vii) Complete Installation of Air conditioning work, mechanical ventilation work, Fire Fighting system, fire alarm, smoke detection, security system, electrification system, solar system, LPG gas pipe line, water supply, sanitary, lighting, earthing etc. including testing and Commissioning	5
	viii) On completion of Architectural works in elevations	3

D	Completion of Site Development works including site services	14.50%	
	1) Completion of Boundary Wall, Guard Rooms, M.S.Grill etc. including Plastering, Painting, Cladding and finishes etc.		3.5
	2) Completion of water-supply system and sewerage system		1.5
	3) Completion of Drainage system & Rain water Harvesting including recharge well & Tube Wells.		2.5
	4) Marking, painting of Kerb stone, berm cleaning, connectivity of entry points with external road network complete in all respect.		1.5
	5) Completion of service connection of Water supply, Sewerage and Drainage etc. to the main/ Municipal Supply.		0.5
	7) All Electrical Works including Sub Station etc. complete as per the scope of work complete.		
	a) Supply of Equipment's / parts		0.5
	b) Installation, Testing & Commissioning		0.5
	(9) External Electrification works' Set Street Lighting, lighting of water bodies and sports facilities with LED Lights and sign Boards		2
	10) Designing & Installing & commissioning of CCTV Cameras covering all basements, covering entry & exit points of each buildings and main gates with adequate display of cameras on LED screens in control rooms, including control rooms, display system and software support system and required data cabling etc. complete. Installations of Boom Barriers on campus gates etc.		2
E	Completion of all Horticulture Works and OAT in all respect as per scope of work	1.00%	

	1) Complete supply, installation, testing of the fountains work etc.		0.2
	2) Completion of horticulture and OAT work such as filling of good earth, grassing, planters, decorative plants , tree plantation etc.		
	2.1) Completion of 50% of total scope of Work		0.4
	2.2) Completion of 100% of total scope of Work		0.4
F	Supply, Installation, testing & Commissioning of lifts complete		
	Supply of lift	3.00%	2
	Installation, testing & commissioning		1
	On Completion, installation, checking, and making complete building functional in all Respect after check by JDA	6.00%	6.00%
G	Operation and Maintenance for Five Year		
	Operation and Maintenance of First Year		0.90%
	Operation and Maintenance of Second Year		0.90%
	Operation and Maintenance of Third Year	4.50%	0.90%
	Operation and Maintenance of Fourth Year		0.90%
	Operation and Maintenance of Fifth Year		0.90%
	TOTAL	100%	100%

15. Advance Payment

Advances to contractors are as a rule prohibited, and every endeavor should be made to maintain a system under which no payments are made except for work actually done.

Exceptions are, however, permitted in the following cases:

- (a) Cases in which a contractor, whose contract is for finished work, requires an advance on the security of the materials brought to site. Divisional officers may, in such cases, make advances upto an amount not exceeding 75 percent of the current value of the materials (as assessed by themselves according to their character), provided that they are of an imperishable nature and that a formal indenture is drawn up in Form 31 with the contractor under which the Government secure a lien on the materials and are safe-guarded against losses due to the contractor postponing the execution of the work or the shortage or misuse of the materials and against the expense entailed for their proper watch and safe custody. Payment of such advances should be made only on the certificate of an officer, not below the rank of Sub-Divisional officer, that the

quantities of materials, upon which the advances are made have actually been brought to site, that the contractor has not previously received any advance on that security and that the materials are all required by the contractor for use on items of work for which rates for finished work have been agreed upon. The officer granting such a certificate will be held personally responsible for any overpayment which may occur in consequence. Recoveries of advances, so made, should not be postponed until the whole of the work entrusted to the contractor is complete. They should be made from this bills for work done as the materials are used, the necessary deductions being made, whenever the items of work, in which they are used are billed for.

Note-1 Divisional Officers are responsible that:-

- i. When secured advances have been made for materials, recoveries are made regularly from the very first payment made for those items of actual work in which such materials have been used.
- ii. No secured advances are made for any materials, unless they are to be used within three months at the most.
- iii. Materials are actually measured in details before making secured advances on them and their value is based on the actual rates for the purpose of determining the percentage at which secured advances on materials should be made.

Note-2 Imperishable materials include Bricks, Rolled Steel Joists, etc. while articles such as Lime, Sand, kankar, etc. are perishable. Coal is, however, excluded from both the categories and no advance is permissible on his article.

- (b) Cases in which, in the interest of works, it is absolutely necessary to make petty advances, in such cases advances upto Rs. 250 may be allowed by subordinates.
- (c) In all other cases, only with the sanction of the Government who may, in exceptional circumstances authorize such advances as may be deemed indispensable, taking the necessary precautions for securing the Government against loss and for preventing the system from becoming general or continuing longer than is absolutely essential. A register in Form RPWA 68 shall be maintained in respect of Advance Payments made in exceptional circumstances with the sanction of the Government.
- (d) Note: The Executive Engineer has full powers to make advance payments to Electric Supply under taking under the Indian Electricity Act, 1910 for execution of works.

18. Completion

- (i) "When whole of the work has been substantially completed and have satisfactory passed any Tests on Completion prescribed by the contractor, the Contractor may give a notice to that effect to the Engineer, with a copy to the Employer, accompanied by a written undertaking to finish with due expedition any outstanding work. The Engineer shall issue a certificate complying completion of the works to the contractor."
- (ii) "If any part of the permanent work has been substantially completed and has satisfactorily passed any Tests on Completion prescribed by the Contract, the Engineer may issue a Completion Certificate in respect of the part of the Permanent Work before completion of the whole of the Works and, upon the issue of such Certificate, the Contractor shall be deemed to have undertaken to complete with due expedition any outstanding work in the part of the Permanent Work during the Defects Notice Period." Hence the defect liability period starts on the date on which part/ substantial completion certificate is issued, for that particular part of the permanent work has been substantially completed.

19 Taking Over

"The Employer shall take over the whole works or section of works within Seven (7) days of issuance of Completion Certificate, as per Clause no 52.1 and 52.2."

20. Site Environmental Plan (SEP)

The Contractor should prepare a detailed Site Environmental Plan (SEP) as per the Environmental and Social Management Framework and EMP format attached for location/s identified to be potentially impacted such as but not limited to the work site, base camp. The SEP should include arrangement for disposal of

sites for excavated materials, sanitary and other waste, and storage location for fuel, oil and lubricants, facilities for equipment, labour and housing, among others. The SEP should be reviewed and approved prior to construction activities by the Engineer.

21. Safety, Security and Protection of the Environment

(A) General

- i. This section of the Specification sets out limitations on the Contractor's activities specifically intended to protect the environment.
- ii. The Contractor shall take all necessary measures and precautions and otherwise ensure that the execution of the works and all associated operations on site or off-site are carried out in conformity with statutory and regulatory environmental requirements including those prescribed elsewhere in this document.
- iii. The Contractor shall take all measures and precautions to avoid any nuisance or disturbance arising from the execution of the Works. This shall wherever possible be achieved by suppression of the nuisance at source rather than abatement of the nuisance once generated.
- iv. In the event of any spoil, debris, waste or any deleterious substance from the Site being deposited on any adjacent land, the Contractor shall immediately remove all such material and restore the affected area to its original state to the satisfaction of the Engineer. This should be monitored regularly in accordance with the Environmental Management Plan.
- v. During construction, the area should be to avoid trespassing of animals and people. Unauthorized persons should not be allowed within the construction area.
- vi. During construction, there should be signs to inform public of on-going work, warning on dangers due to trenches along roads, excavations on different sites.
- vii. Contact town authorities to arrange for the use of excavated material where possible, such as in construction projects, to raise the level of land prior to construction of roads or buildings, or to fill previously excavated areas.
- viii. Especially for cleaning, desilting, and dredging of drainages: Contact town authorities to arrange for testing and analysis of sludge/excavated materials for hazardous components. If material are hazardous, coordinate with authorities for approve disposal sites;
- ix. Prevent generation of dust by removing excavated materials as soon as it is excavated, by loading directly onto trucks and covering with tarpaulins to prevent dust during transportation.
- x. All excavation should be done in the dry seasons to avoid any impacts on surface water drainage if water collects in any quantity, it will need to be pumped out, and it should be then be donated to neighboring farmers to provide a beneficial use to the communities most affected by this aspect of the work.
- xi. Plant five (5) trees for every tree to be cut and can only be cut after taking the necessary approvals.
- xii. Consult town authorities to identify any buildings at risk from vibration damage and avoiding use of pneumatic drills or heavy vehicles in the vicinity.
- xiii. Providing wooden bridges for pedestrians and metal sheets for vehicles to allow access across open trenches where required (including access to houses).
- xiv. Carefully planning of transportation routes with the municipal authorities to avoid sensitive areas as far as possible, including narrow streets, congested roads, important or fragile buildings and key sites of religious, cultural or tourism importance.
- xv. Consulting historical and archaeological authorities at both national and state level to obtain an expert assessment of the archaeological potential of the site. Alternate location should be considered if the area is medium or high risk.
- xvi. Developing a protocol in conducting any excavation work to ensure that any chance finds are recognized and measured are taken to ensure they are protected and conserved this should involve having excavation observed by a person with archaeological field training, stopping work immediately to allow further investigation if any finds are suspected; and calling the state archaeological authority if a find is expected and taking any action they acquire ensuring its removal or protection in situ.
- xvii. Living spaces for access between mounds of excavated soil and providing footbridges so that pedestrians

can cross open trenches;

xviii. Increasing the workforce in these areas to ensure that work is completed quickly;

(B) . Water Quality

- i. The Contractor shall prevent any interference with the supply to or abstraction from, and prevent any pollution of, water resources (including underground percolating water) as a result of the execution of the Works.
- ii. Areas where water is regularly or repetitively used for dust suppression purposes shall be laid to fall to specially constructed settlement tanks to permit sedimentation of particulate matter. After settlement, the water may be re-used for dust suppression and rinsing.
- iii. All water and other liquid waste products arising on the Site shall be collected and disposed of at a location on or off the Site and in a manner that shall not cause either nuisance or pollution.
- iv. The Contractor shall not discharge or deposit any matter arising from the execution of the Works into any waters except with the permission of the Engineer and the regulatory authorities concerned.
- v. The Contractor shall at all times ensure that all existing stream courses and drains within, and adjacent to, the Site are kept safe and free from any debris and any materials arising from the Works.
- vi. The Contractor shall protect all watercourses, waterways, ditches, canals, drains, lakes and the like from pollution as a result of the execution of the Works.

22. Air Quality

- i. The Contractor shall devise and arrange methods of working to minimize dust, gaseous or other air-borne emissions and carry out the Works in such a manner as to minimize adverse impacts on air quality.
- ii. The Contractor shall utilize effective water sprays during delivery manufacture, processing and handling of materials when dust is likely to be created, and to dampen stored materials during dry and windy weather. Stockpiles of friable materials shall be covered with clean tarpaulins, with application of sprayed water during dry and windy weather. Stockpiles of material or debris shall be dampened prior to their movement, except where this is contrary to the Specification.
- iii. Any vehicle with an open load-carrying area used for transporting potentially dust producing material shall have properly fitting side and tail boards. Materials having the potential to produce dust shall not be loaded to a level higher than the side and tail boards, and shall be covered with a clean tarpaulin in good condition. The tarpaulin shall be properly secured and extend at least 300 mm over the edges of the side and tail boards.
- iv. In the event that the Contractor is permitted to use gravel or earth roads for haulage, he shall provide suitable measures for dust palliation, if these are, in the opinion of the Engineer, necessary. Such measures may include spraying the road surface with water at regular intervals.

23. Noise

- i. The Contractor shall consider noise as an environmental constraint in his planning and execution of the Works.
- ii. The Contractor shall take all necessary measures so that the operation of all mechanical equipment and construction processes on and off the Site shall not cause any unnecessary or excessive noise, taking into account applicable environmental requirements. The Contractor shall use all necessary measures and shall maintain all plant and silencing equipment in good condition so as to minimize the noise emission during construction works.
- iii. Using modern vehicles and machinery with standard adaptations to reduce noise and exhaust emissions and ensuring they are maintained to manufacturers' specifications.

24. Control of Wastes

- i. The Contractor shall control the disposal of all forms of waste generated by the construction operations and in all associated activities. No uncontrolled deposition or dumping shall be permitted. Wastes to be controlled shall include, but shall not be limited to, all forms of fuel and engine oils, all types of bitumen, cement, surplus aggregates, gravels, bituminous mixtures, etc. The Contractor shall make specific provision for the proper disposal of these and any other waste products, conforming to local regulations and acceptable to the Engineer.

25. Emergency Response

- i. The Contractor shall plan and provide for remedial measures to be implemented in the event of occurrence of emergencies such as spillages of oil or bitumen or chemicals.
- ii. The Contractor shall provide the Engineer with a statement of the measures he intends to implement in the event of such an emergency which shall include a statement of how he intends to provide personnel adequately trained to implement such measures.
- iii. Should any pollution arise from the Contractor's activities he shall clean up the affected area immediately at his own cost and to the satisfaction of the Engineer, and shall pay full compensation to any affected party.

26 Protection of Trees and Vegetation

The Contractor shall ensure that no trees or shrubs or waterside vegetation are felled or harmed except for those required to be cleared for execution of the Works. The Contractor shall protect trees and vegetation from damage to the satisfaction of the Engineer. No tree shall be removed without the prior approval of the Engineer and any competent authorities. Should the Contractor become aware during the period of the Contract that any tree or trees designated for clearance have cultural or religious significance he shall immediately inform the Engineer and await his instructions before proceeding with clearance. In the event that trees or other vegetation not designated for clearance are damaged or destroyed, they shall be repaired or replaced to the satisfaction of the Engineer, who shall also impose a penalty to twice the commercial value of any timber affected, as assessed by the Engineer.

27. Water Supply and Electric Power

The Contractor shall make his own arrangements at his own expense for water supply and electric power supply for construction, testing and other purposes. Only clean water free from deleterious

28. Fire Prevention

28.1 The Contractor shall take all precautions necessary to ensure that no vegetation along the line of the road outside the area of the permanent works is affected by fires arising from the execution of the Works. The Contractor shall obtain and follow any instructions of the competent authorities with respect to fire hazard when working in the vicinity of gas installations. Should a fire occur in the natural vegetation or plantations adjacent to the road for any reason the Contractor shall immediately suppress it. In the event of any other fire emergency in the vicinity of the Works the Contractor shall render assistance to the civil authorities to the best of his ability. Areas of forest, scrub or plantation damaged by fire considered by the Engineer to have been initiated by the Contractor's staff or labour shall be replanted and otherwise restored to the satisfaction of the Engineer at the Contractor's expense.

29. Fossils

The Contractor shall make his staff available for briefing on archaeological matters as directed by the Engineer.

30. Clearance of Contractor's Facilities

On or before expiry of the Defects Notice Period the Contractor shall clear away all his temporary facilities including but not limited to offices, camps, storage and holding yards, workshops, crushing and mixing plant, diversion and haul roads so that the land is returned to at least its previous condition and, in the case of agricultural land, potential productivity. Clearance shall include but not be limited to tasks such as the removal of unwanted structures, removal of metallic and concrete debris, removal and disposal of any soil contaminated by diesel, bitumen or other polluting material, ripping to relieve compaction, grading, replacement of topsoil, and turfing and grassing, as appropriate. Where improvements have been made such as land filling or installation of boreholes or construction of boat landings these may be retained subject to the agreement of the landowner. The Employer reserves the right to inspect the site of any facilities established or used by the Contractor in connection with the Works and to undertake any corrective measures necessary to restore the land, and to recover the cost from monies due or to become due to the Contractor.

31. Fair Wages

- 31.1 The Contractor shall pay not less than fair wage/minimum wages to laborer's engaged by him on the work as revised from time to time by the Government of Rajasthan, but the Government shall not be liable to pay anything extra for it except as stipulated in price adjustment clause (Clause 41) of the Contract.

(Explanation: "Fair wage" means minimum wages for time or piece work, fixed or revised, as established by the State Government under the Minimum Wages Act, 1948.)

- 31.2 The Contractor shall, notwithstanding the provisions of any Contract to the contrary, cause to be paid fair wages to laborers indirectly engaged on the work, including any labour engaged by his sub-Contractors in connection with the said work, as if the laborers have been immediately or directly employed by him.
- 31.3 In respect of all laborers, immediately or directly employed on the work, for the purpose of the Contractor's part of this agreement, the Contractor shall comply with or cause to be complied with, the Public Works Department Contract Labour Regulations' made, or that may be made, by the Government, from time to time, in regard to payment of wages, wage period, deductions from wages, recovery of wages not paid, and unauthorized deductions, maintenance of wages register, wage card, publication of scale of wages and other terms of employment, inspection and submission of periodical returns, and all other matters of a like nature.
- 31.4 The Engineer shall have the right to deduct, from the money due to the Contractor, any sum required or estimated to be required for making good the loss suffered by a worker or workers by reasons of non-fulfillment of the conditions of the Contract for the benefit of the worker or workers, non-payment of wages or of deductions made there from, which are not justified by the terms of the Contract or as a result of non-observance of the aforesaid regulations.
- 31.5 Vs-à-Vs the Government of Rajasthan the Contractor shall be primarily liable for all payments to be made and for the observance of the regulations aforesaid, without prejudice to his right to claim indemnity from his sub-Contractors.
- 31.6 The regulations, aforesaid, shall be deemed to be part of this Contract and any breach thereof, shall be deemed to be breach of the Contract.

32. Safety and Accident Prevention Officer

Due precautions shall be taken by the Contractor, at his own cost, to ensure the safety and protection against accidents of all staff and labour engaged on the Works, local residents in the vicinity of the Works, and the public travelling through the Works. The Contractor shall have on his staff on Site a designated officer qualified to promote and maintain safe working practices. This officer shall have authority to issue instructions and shall take protective measures to prevent accidents, including but not limited to the establishment of safe working practices and the training of staff and labour in their implementation.

33. Protective Clothing and Footwear

- 33.1 The Contractor shall, at his own expense, provide protective clothing and equipment to all staff and labour engaged on the Works to the satisfaction of the Engineer, and on his failure to do so the Employer shall be entitled to provide the same and recover the cost from the Contractor. Such clothing and equipment shall include, at a minimum, protective footwear for workmen undertaking concrete mixing work, protective footwear and gloves for any workmen performing bituminous paving works, protective footwear, clothing, cream, gauntlet-type gloves, hats, safety glasses or goggles and filter masks for workmen undertaking lime stabilisation works, hard hats for workmen engaged on bridge construction, and otherwise as appropriate to the job in hand and to the Engineer's satisfaction.
- 33.2 Ensuring that all workers are provided with and use appropriate Personal Protective Equipment (PPE), Health and safety training should be conducted for all site personnel; availability of documented procedures to be followed for all site activities; and documentation of work-related accidents;

34. First-Aid Services

The Contractor shall, at his own expense, provide first aid equipment at all camps and work sites to the satisfaction of the Engineer, and shall ensure that at all work sites where 40 or more persons are engaged on the Works there shall at all times be a person qualified in first-aid with access to appropriate first-aid equipment. A first-aid post shall be established at each base camp comprising a suitable room with two beds, washing and examination facilities, appropriate medical supplies, and staffed on a full-time basis by a qualified paramedical attendant.

35. Health and Pests

The Contractor shall at his own expense and throughout the period of the Contract ensure that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements for his staff and labour, and shall comply with all the regulations and requirements of the local health authorities with respect to disease prevention and control. He shall warn his staff and labour of the dangers of communicable diseases including those transmitted by insects, water, faecal/oral contact and sexual activity. The Contractor shall take the precautions necessary to protect all staff and labour employed on the Site from insect nuisance, rats and other pests and minimise the dangers to health and the general nuisance caused by the same. Should malaria or other insect-borne diseases be prevalent in the area, he shall provide his staff and labour with suitable prophylactics, equip living accommodation with screens and bed-nets, and carry out spraying with approved insecticides, as appropriate and to the Engineer's satisfaction.

36. Disorderly Conduct

The Contractor shall at all times take reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst his employees and for the preservation of peace and protection of persons and property in the neighbourhood of the Works against the same. "Disorderly conduct" shall include but not be limited to harvesting of natural resources such as firewood or fish by the Contractor's labour when this is done to the detriment of pre-existing local interests.

37. Records of Labour and Accidents

The Contractor shall maintain full records of numbers, working hours and wages of labour, safety, health and welfare of persons, accidents, and damage to property and make such reports on these matters to the Engineer as he may from time to time prescribe.

38. General

Unless otherwise indicated elsewhere in the Contract, The General Specification for civil works and the Quality Assurance and Quality Control (QAQC) document, as issued by the PMU of RUIDP, shall be followed. The QAQC document of JDA is an integral part of the document and it will be provided with the bid document. A copy of the same shall be made available at the site by the contractor.

39. Site Office for Engineer and Other Supervisory Staff

The Contractor shall arrange to provide office of minimum 300 sq. ft. size as per specification with two tables, four chairs, one steel almirah, sufficient number of display board, telephone etc. fully furnished office accommodation within 15 days from the date of commencement of same. The electrical charges / water charges and all other charges shall be arranged within the area of the work. Approval shall be taken from Engineer prior to making arrangement of the office. The construction of site office and its or maintenance are incidental to the work. The office shall be functional until work is completed. If Engineer found that office arranged by the contractor is not being maintained properly then Engineer has right to deduct a reasonable amount from that payment. In case adequate space is not available for setting up of such office, the Engineer may waive such requirement on being requested by the Contractor, in writing.

40. Site Office

40.1 Within 15 (Fifteen) days from the date of commencement of the work, the Contractor shall arrange to provide a furnished and adequately equipped site office. This shall be removed at the completion of the work..

41. Pre-Construction Inspection, Testing & Review of Data for Materials, Plant & Equipment

41.1 The contractor shall place order for the material and the equipment only after the approval of the Engineer. The Contractor shall submit the detailed drawings for the approved manufacturer and the procedure of submission, review and revision shall be specified herein below.

41.2 The Contractor shall inform the Engineer about the likely dates of manufacturing, testing and dispatching. The Contractor shall notify the Engineer for Inspection and Testing, at least twenty-eight days prior to packing and shipping and shall supply the manufacturer's test results and quality control certificates. The Engineer will decide whether he or his representative will inspect and test the material/ equipment or whether he will approve it on the basis of manufacturer's certificate.

41.3 The inspection and test categories shall be applied prior to delivery of the equipment, of various categories as indicated in the technical specifications for each type of the equipment.

Category A: - The Drawing has to be approved by the Engineer before manufacturing and Testing. The material has to be inspected by the Engineer or by an Inspecting agency approved by the Engineer at the manufacturer's premise before packing and dispatching. The Inspection charges of the agency will be borne by the Employer but the contractor has to pay the inspection charges. The Contractor shall provide the necessary equipment and facilities for tests and the cost, thereof, shall be borne by the

Category B:- The drawings of the Equipment have to be submitted and to be approved by the Engineer prior to manufacture. The material has to be tested by the manufacturer and the manufacturer's test certificates are to be submitted and approved by the Engineer before dispatching of the Equipment. Notwithstanding the above, the Engineer, after examination of the test certificates, reserves the right to instruct the Contractor for retesting, if required, in the presence of Contractor's representative.

Category C: The material may be manufactured as per standard and delivered to the site.

42. Supply of Colored Record Photographs

The Contractor shall, at his own cost, arrange to take colour photographs at various stages / facets of the work including interesting and novel features of the work as directed by the Engineer and supply two copies of colour record photographs mounted in the albums including negatives with specification and these shall be kept by Employer.

43. Public Awareness / Information Display

The Contractor shall, at his own cost, arrange to provide, erect and maintain necessary display boards/ banners etc. at selection points of project site giving such information as considered necessary for public awareness/ information/ safety as directed by the Engineer.

44. Contractor's Responsibilities

The contractor shall promptly inform the Employer and the Engineer of any error, omission, fault, or any other defect in the design or drawings or specification for the works, which he discovers when reviewing the contract documents, or in the process of execution of the works. The Engineer will resolve the ambiguity or correct the error and will notify the contractor of the interpretation to be adopted.

45. Services

45.1 Underground and overhead services are likely to be met with during construction. These are to be protected against damage by the Contractor at his own cost.

45.2 The contractor shall be required to carry out removal / shifting of existing utilities at his own cost. The contractor work program shall include this activity. The work shall be carried out under supervision of concerned department. The supervision charges of the line agencies shall be paid by the contractor and shall be reimbursed on actual on submission of receipt.

45.3 In cases of utilities to be shifted by Govt. departments, no amount shall be paid extra for shifting/ co-ordination. The employer would provide full support to contractor in coordinating with line agencies; however, no claim on account of delay in shifting of utilities by line department will be admissible.

46. Setting Out

46.1 The Contractor(s) shall set out the whole of the work in conjunction with an officer to be deputed by the Engineer and during the progress of the work to amend on the requisition of the Engineer any errors which may arise therein and provide all the necessary labour materials and equipments for so doing. The contractor(s) is/are to provide all tools, plant, machinery, labour and materials (with the exceptions noted in the relevant clauses for issue of departmental materials as per schedule attached) which may be necessary and required for the work. All materials and workmanship shall conform to the relevant specifications mentioned in the tender documents.

46.2 During execution of foundation, if there is any variation in soil strata which was not anticipated earlier, the matter shall be referred to Engineer – in – charge for review and modification of design by the competent

authority, if considered necessary. Time taken in this process is considered in the original completion period, however no claim on account of delay in getting the sanction from competent authority will be admissible.

46.3 The contractor shall carry out the detailed topographic survey at site and prepare the pre-commencement survey map for approval of the Engineer's representatives. Based on the approved Pre-commencement survey map, the contractor will prepare the necessary working drawings for the purpose of execution.

46.4 Defect liability period shall be 5 year. Contractor shall furnish an affidavit from the manufacture / supplier firms before actual date of completion.

47. Labor

47.1 Engagement of Staff and Labor

- a) Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, housing, feeding and transport.
- b) The contractor shall pay equal wages for men and women for work of equal value or type.
- c) The Contractor shall provide and employ on the Site in the installation of the Facilities such skilled, semi-skilled and unskilled labor as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged to use local labor that has the necessary skills.
- d) The Contractor shall be responsible for obtaining all necessary permit(s) and/or Visa(s) from the appropriate authorities for the entry of all labor and personnel to be employed on the Site into the country where the Site is located. The Employer will, if requested by the Contractor, use his best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national or government permission required for bringing in the Contractor's personnel.
- e) The Contractor shall at its own expense provide the means of repatriation to all of its and its Subcontractor's personnel employed on the Contract at the Site to the place where they were recruited or to their domicile. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and recover the cost of doing so from the Contractor.
- f) Be required to employ at least 50% of the labour force from communities within a radius of 2kms from the site, if sufficient people are available.

47.2 Persons in the Service of Employer

The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst the Employer's Personnel.

47.3 Labor Laws

- (a) The Contractor shall comply with all the relevant labor Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.
- (b) The Contractor shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous or disorderly conduct or behavior by or amongst its employees and the labor of its Subcontractors.
- (c) The Contractor shall, in all dealings with its labor and the labor of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labor.

47.4 Rates of Wages and Conditions of Labour

- (a) The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.
- (b) The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages and allowances as are chargeable under the Laws for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

47.5 Working Hours

- (a) No work shall be carried out on the Site on locally recognized days of rest, or outside the Normal working hours, which shall be 9.00 AM to 5.00 PM on all days of the week., unless:
 - (i) otherwise stated in the Contract,
 - (ii) the Engineer gives consent, or
 - (iii) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer.
- (b) If and when the Contractor considers it necessary to carry out work at night or on public holidays so as to meet the Time for Completion and requests the Engineer's consent thereto, the Engineer shall not unreasonably withhold such consent.
- (c) This Sub-Clause shall not apply to any work, which is customarily carried out by rotary or double-shifts.

47.6 Facilities for Staff and Labor

- (a) Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Specification.
- (b) The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

47.7 Health and Safety

- (a) The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- (b) The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the performance of the Contract, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.
- (c) The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Engineer may reasonably require.
- (d) The Contractor shall throughout the contract (including the Defect Liability Period):
 - (i) conduct Information, Education and Consultation Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labor (including all the Contractor's employees, all Sub-Contractors and Employer's and Engineer's' employees, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behavior with respect to of Sexually Transmitted Diseases (STD)—or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular;

- (ii) provide male or female condoms for all Site staff and labor as appropriate; and
- (iii) provide for STI and HIV/AIDS screening, diagnosis, counseling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labor.

The Contractor shall include in the program to be submitted for the execution of the Facilities under Sub-Clause 18.2 an alleviation program for Site staff and labor and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Sub-Clause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related sub-contracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation of this program shall not exceed the Provisional Sum dedicated for this purpose

47.8 Funeral Arrangements

In the event of the death of any of the Contractor's personnel or accompanying members of their families, the Contractor shall be responsible for making the appropriate arrangements for their return or burial, unless otherwise specified in the SCC.

47.9 Records of Contractor's Personnel

The Contractor shall keep accurate records of the Contractor's personnel, including the number of each class of Contractor's Personnel on the Site and the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis in a form approved by the Engineer and shall be available for inspection by the Engineer. Until the Contractor has completed all work.

47.10 Supply of Foodstuffs

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.

47.11 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

47.12 Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

47.13 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter or disposal by Contractor's Personnel.

47.14 Arms and Ammunition

The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

47.15 Prohibition of All Forms of Forced or Compulsory Labour

The contractor shall not employ "forced or compulsory labor" in any form. "Forced or compulsory labor" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

47.16 Prohibition of Harmful Child Labor

The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. "Child" means a child below the statutory minimum age of 14 years.

48. MONITORING

Provision for regular monitoring will be commensurate as per the Environmental Management Plan and actions will be taken in case of non-compliance.

49. Change of Scope

49.1 Authority may, notwithstanding anything to the contrary in this Agreement, require provision of such addition/deletion to the works and services on or about the Project which are beyond the scope of the Project as contemplated by this Agreement (Change of Scope), Provided such change do not require expenditure exceeding/ reducing by 10% of project cost and do shall be made by Authority by an order (the "change of Scope order") issued in accordance with the procedure set forth in sub clause 49.2

49.2 Procedure for Change of Scope

- a. Authority shall whenever it desires provision of addition/deletion of works and services referred to in sub clause 49.1 above, issue to bidder a notice of Change of Scope (the "Change of Scope Notice") through Engineer In-charge.
- b. Upon receipt of Change of Scope Notice, the bidder shall, within a period of 15 (fifteen) days, provide to the Engineer In-charge such information as is necessary and reasonable together with preliminary documentation in support of the following:
 - I. The impact which the Change of Scope is likely to have on the Project Completion Schedule if the work is required to be carried out before construction period and
 - II. The cost to the bidder of complying with such Change of Scope Notice on account of increases in quantities of items of work mentioned in the Bill of Quantities at the rate mentioned therein. In case the Bill of quantities does not carry certain items of work required under the Change of Scope, the bidder shall provide the analysis of rates-for carrying out such items of work.
- c. Engineer-in-charge shall review the information provided by the bidder, assess the change in quantities of items of work, verify the analysis of rates if required, determine the additional cost to the bidder as a result of such Change of Scope and determine the extension/ reduction, if any, to the construction period provided that there will be no change in construction period if the change in the project cost is upto 2%, Provided that where the change in project cost is beyond 2%, then the proposed extension/ reduction to the construction period would taken into account the total change in the project cost (including 2% above).
- d. Authority shall issue the Change of Scope Order within a period of 15 (fifteen) days from the date of recommendation made by the Engineer In-charge in accordance with preceding sub clause (c) above.
- e. The Change of Scope Order shall be effective and binding upon receipt thereof by the bidder, Notwithstanding a Dispute regarding cost and time for implementation of such order, the bidder shall proceed with the performance of such order promptly following; receipt thereof. Any Dispute regarding the extension in the construction period recommended by the Engineer In-charge shall be resolved in accordance with the Dispute Resolution Procedure.

6G.
Scope of Work
Operation and Maintenance

1. SCOPE OF WORK

The bidder shall in addition to design, engineering, procurement, construction, testing, commissioning and handing over of the project, undertake **comprehensive Operation and Maintenance (O&M) of the complete Vidhyadhar Nagar Information Business and Entertainment (VIBE) Centre for a period of five (05) years** from the date of successful completion, commissioning and handing over of the project to the Employer.

The O&M period shall commence from the date of issue of completion certificate or the date of handing over of the completed project to the Employer, whichever is later.

The contractor shall remain fully responsible during the O&M period for operation, upkeep, preventive maintenance, breakdown maintenance, repairs, replacement of defective components, housekeeping, security, maintenance of common utilities and all allied activities necessary for maintaining the project in safe, efficient, serviceable and functional condition.

The scope of O&M shall include the entire built-up area, external development works, utilities, plant and machinery, services, systems, infrastructure and all facilities created under the contract.

1. Scope of Operation and Maintenance

The scope of O&M shall include, but shall not be limited to, the following:

1.1 Civil, Structural and Architectural Maintenance

The contractor shall undertake operation, upkeep, preventive maintenance and repairs of all civil, structural and architectural components of the project including:

- foundations, plinths, retaining structures and RCC structural members;
- slabs, beams, columns, walls, parapets, staircases, ramps and roof structures;
- waterproofing systems, roof treatment, terrace drainage and rainwater disposal arrangements;
- masonry, plaster, cladding, paneling, false ceilings, partitions and glazing;
- flooring, skirting, paving, wall finishes and painting works;
- doors, windows, hardware, fixtures, fittings, furnishing and allied components.

The contractor shall immediately rectify cracks, seepage, leakages, deterioration, damage, settlement, structural distress, surface defects or any other deficiency observed during the O&M period.

1.2 Electrical Systems

The contractor shall operate, maintain and keep in serviceable condition the complete electrical installation including:

- internal and external electrification;
- LT panels, switchboards, distribution boards, cabling, wiring and feeders;
- lighting fixtures, campus lighting, sockets, power distribution systems and control systems;
- earthing system, lightning protection system and safety protection devices;
- electrical connections and associated accessories.

Periodic testing, inspection, preventive maintenance and replacement of defective consumables, fittings and minor accessories shall be carried out by the contractor at his own cost.

1.3 HVAC Systems

The contractor shall operate and maintain the complete HVAC system including:

- air conditioning equipment;
- ventilation systems;

- AHUs, FCUs, ducting, grilles, dampers and allied equipment;
- control panels, thermostats, sensors and associated accessories.

The contractor shall carry out preventive maintenance, cleaning, servicing, gas charging, filter cleaning/replacement, balancing and calibration so as to ensure satisfactory operational performance.

1.4 MEP Services

The contractor shall operate and maintain all mechanical, plumbing and utility systems including:

- water supply system;
- plumbing networks;
- internal drainage system;
- sewerage and sanitation systems;
- pumps, valves, pipelines, fittings, tanks and allied accessories;
- stormwater drainage system;
- rainwater harvesting system.

Leakages, blockages, chocking, overflow or any interruption in service shall be attended immediately.

1.5 Fire fighting and Fire Detection Systems

The contractor shall operate, maintain and keep functional the complete firefighting and fire detection systems including:

- fire pumps;
- hydrants, hose reels, sprinklers and extinguishers;
- fire alarm panels;
- smoke detectors, heat detectors, annunciation panels;
- piping, cabling, valves and accessories.

The contractor shall ensure compliance with all statutory requirements and maintain the system in fully operational condition at all times.

Periodic inspection, testing and mock drills shall be carried out as per applicable standards.

1.6 Solar Power System

The contractor shall operate and maintain the rooftop solar power plant including:

- solar PV modules;
- inverter systems;
- support structures;
- electrical protection systems;
- net metering arrangements and allied components.

Cleaning of solar panels, performance monitoring, periodic inspection and fault rectification shall be carried out regularly to ensure optimum energy generation.

1.7 Lift, Boom Barrier, CCTV and Allied Systems

The contractor shall operate and maintain all building utility systems including:

- passenger/service lift installations;
- boom barriers;
- CCTV surveillance systems;
- control panels, wiring, accessories and related equipment.

Necessary periodic servicing, testing, preventive maintenance and breakdown rectification shall be carried out throughout the O&M period.

1.8 External Development and Site Infrastructure

The contractor shall maintain all external development works including:

- compound wall;
- main entrance gate;
- pathways and paved surfaces;
- parking areas;
- external drainage;
- landscaping, lawns, plantation and horticulture;
- site lighting and other site development works.

The contractor shall ensure that all external areas remain clean, safe, accessible and functional.

1.9 Functional Facilities and User Spaces

The contractor shall maintain all facilities created under the project including:

- multipurpose hall;
- accommodation facilities;
- open air theatre (OAT);
- e-library;
- coworking spaces;
- rental/commercial spaces;
- sports facilities;
- furniture, fixtures, amenities and signage.

All such spaces shall remain operational, clean, safe and serviceable during the O&M period.

2. Housekeeping and Cleaning

The contractor shall provide comprehensive housekeeping services for the entire premises including common areas, circulation areas and public utility spaces.

The scope shall include:

- sweeping, dusting, washing and cleaning;
- cleaning of floors, staircases, corridors, lobbies and toilets;
- cleaning of glazing, façade elements, fixtures and fittings;
- collection, handling and disposal of garbage and waste;
- sanitation and upkeep of all common areas.

The contractor shall arrange all manpower, cleaning equipment, tools, consumables and supervisory arrangements at his own cost.

3. Security Services

The contractor shall deploy adequate trained security personnel for safeguarding the building, installations, equipment, public property and premises during the O&M period.

The security services shall include:

- access control;
- monitoring of entry and exit points;

- surveillance of common areas;
- protection of installed systems and assets;
- reporting of incidents and emergency support.

The number of personnel shall be sufficient for effective security coverage and smooth operation.

4. Utility Charges

The contractor shall bear and pay **electricity charges of all common areas and common service installations** during the O&M period, including but not limited to:

- common area lighting;
- external lighting;
- pumps;
- firefighting systems;
- HVAC serving common areas;
- lifts serving common circulation;
- service rooms and common utilities.

Charges of separately metered commercial or user-specific spaces, if any, may be dealt with separately as decided by the Employer.

5. Preventive Maintenance and Breakdown Maintenance

The contractor shall carry out both:

Preventive Maintenance

Planned periodic inspection, servicing, testing, calibration and maintenance of all systems and components.

Breakdown Maintenance

Immediate rectification of faults, failures, breakdowns, defects and interruptions in service.

The contractor shall maintain sufficient stock of consumables, essential spare parts, tools, testing instruments and emergency repair arrangements at site.

6. O&M Personnel

The contractor shall deploy qualified and experienced personnel including, but not limited to:

- site manager / O&M in-charge;
- electrical technician;
- HVAC technician;
- plumbing / MEP technician;
- firefighting operator;
- lift operator / technician, wherever required;
- housekeeping staff;
- security personnel;
- supervisory staff.

The Engineer-in-Charge may direct augmentation of manpower if found necessary.

7. Statutory Compliance

During the O&M period, the contractor shall maintain validity of operational permissions, testing requirements and statutory compliances necessary for operation of installed systems.

Wherever periodic inspections, certifications, testing or renewals are required under applicable rules, the contractor shall arrange the same.

8. Records and Reporting

The contractor shall maintain proper records including:

- preventive maintenance schedules;
- equipment logbooks;
- complaint register;
- breakdown register;
- inspection reports;
- energy consumption records;
- repair and replacement records.

Monthly O&M reports shall be submitted to the Engineer-in-Charge.

9. No Extra Payment

The rates quoted by the bidder shall be deemed to include the entire cost of:

- manpower;
- supervision;
- consumables;
- tools and plants;
- minor repairs;
- routine replacements;
- testing instruments;
- cleaning materials;
- statutory operational requirements;
- all incidental and contingent expenditure necessary for proper operation and maintenance.

No separate payment shall be admissible except as specifically provided in the contract.

10. Performance Requirements

During the O&M period the contractor shall ensure:

- uninterrupted functionality of all essential services;
- proper upkeep and serviceability of the project assets;
- safe operational condition of the building and systems;
- timely response to breakdowns and complaints;
- no deterioration in quality, safety or functionality.

Failure to maintain required performance standards shall attract recovery, deductions or other contractual action as per tender conditions.

11. Handover after Completion of O&M Period

At the expiry of the O&M period, the contractor shall hand over the complete facility in sound operational condition along with:

- as-built drawings;
- maintenance records;
- equipment manuals;
- statutory approvals and test records;
- inventory of installed systems and assets.

Final acceptance shall be subject to satisfactory inspection by the Engineer in Charge/Jaipur Development Authority

SECTION V C
CONTRACT FORMS

Table of Contents

1. Letter of Acceptance
2. Contract Agreement
3. Performance Security
4. Performance Security Declaration

1. Letter of Acceptance

Letter of Acceptance **[on letterhead paper of the Procuring Entity]**

No.

Dated

To: **[name and address of the Contractor]**

Subject: **[Notification of Award for the Works]**

This is to notify you that your Bid dated **[date]** for execution of the **[name of the contract and identification number, as given in the Contract Data]** for the Accepted Contract Amount of the equivalent of **[.amount in numbers and words and name of currency]**, as corrected and modified in negotiations and in accordance with the Instructions to Bidders has been accepted by **[designation of the Procuring Entity]**..... The date of commencement and completion of the Works shall be:

You are requested to furnish the Performance Security/ Performance Security Declaration within Days in the form given in the Contract Forms for the same for an amount equivalent to Rupees within days of notification of the award valid up to 60 days after the date of expiry of Defects Liability Period and maintenance period, if applicable, and sign the Contract, failing which action as stated in sub-section 2 of section 42 of the Rajasthan Transparency in Public Procurement Act, 2012 and Instructions to Bidders shall be taken.

Authorized Signature:

Name and Title of Signatory: THE EXECUTIVE ENGINEER-B, Jaipur Development Authority

Designation:

2. Contract Agreement.

Contract Agreement Works

THIS AGREEMENT made this day of2026, between Government of Rajasthan, represented by the Executive Engineer, JDA (Jaipur development Authority) Ram Kishor Vyas Bhawan, Indira Circle, Jawahar Lal Nehru Marg, Jaipur-302004 (hereinafter “the Employer”) which expression shall, where the context so admits, be deemed to include his successors in office and assigns, of the one part and M/S _____(Contractor name)_____(Contractor address) (hereinafter “the Contractor”), which expression shall, where the context so admits, be deemed to include his heirs, successors, executors and administrators, of the other part:

WHEREAS the Employer desires that the Works known as [name of the Contract]should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein, and for which the Contractor has submitted Performance Security for Rupees ----- in the form of -----(For Jaipur Development Authority)

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - a) the Letter of Acceptance;
 - b) RFP as uploaded in eproc.rajasthan.gov.in; spps.rajasthan.gov.in
 - c) Any addendum, corrigendum issued.
 - d) the Bid of the Contractor as accepted along with the correspondence done on it, if any;
3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor Rupees_____ /- Rupees (word only) + GST as consideration for execution and completion of the Works and the remedying of defects therein, in the manner prescribed by the Contract.
5. All the terms and conditions of NIT_____, Jaipur will be part of this agreement.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of India on the day, month and year indicated above.

Signed by
Executive Engineer
Jaipur Development Authority

Signed by
Contractor
for and on behalf the Contractor

Witness, Name, Signature, Address
Signed by

Witness, Name, Signature, Address
Signed by

Annexure-2A

Specified Bank Guarantee Performa for Bid Security

Section - 6

Form of (Bank Guarantee) -En cashable at the branch of the bank in Jaipur City.

To
Secretary,
Jaipur Development Authority,
Jaipur

Sub:

Bank Guarantee No. _____ dated _____ for [amount of Security in figures] [in words] on behalf of _____ [Name of the Bidder] against Bid Security for the.....
.....JDA Jaipur WHEREAS, _____ [name of Bidder with address] (hereinafter called “the Bidder”) has submitted his Bid dated for the work of(here in after called “ the Bid ”).

KNOW ALL PEOPLE by these presents that we _____
_____ (Name of Bank) of having our registered office at _____ [name of country] having our registered office at _____ (hereinafter called “the Bank”) are bound unto Secretary, Jaipur Development Authority. (Hereinafter called “the Employer”) in the sum of Rupees _____ [Amount of Security in figures] _____ (in words) only for which payment will and truly to be made to the said Employer, the Bank binds itself, its successors, and assigns by these presents.

That on demand of JDA , this Bank Guarantee is cashable at the following branch in Jaipur City.

1. Name of Bank:
2. Name of the branch with branch code:
3. Address:
4. E-Mail Id:
5. Telephone No.
6. Fax No.:

SEALED with the Common Seal of the said Bank this _____ day of _____ of 20_____.

THE CONDITIONS of this obligation are:

- (1) if the Bidder withdraws his Bid during the period of Bid validity specified in the Form of Bid;
- (2) if the Bidder refuses to accept the correction of errors in his bid;

(3) If the Bidder, having been notified of the acceptance of his Bid by the Employer during the period of Bid validity;

- (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, or
- (b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders;

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or more of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date 30 days after the date of expiration of the Bid Validity, as stated in the Instructions to Bidders, or any such extension thereto as may be agreed by the Bidder, a notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank no later than the above date.

The amount covered under the above Bank Guarantee shall be automatically credited in the accounts of JDA in ICICI Bank, JDA Campus, Jaipur through ISFC code No ICICI 006754. Bank Account No. 675401700518 on the date of expiry or its validity, unless the agencies get it re-validated well before its expiry date or produce NOC from JDA in writing for its release.

Date _____ Signature of the Bank _____

Witness _____ Seal _____

[Signature, Name, and Address]

[Note: To be furnished on appropriate non-judicial stamps & should be valid for the next 7 months from the bid opening date]

Annexure-2B

Specified Bank Guarantee Performa for Performance Security

Section - 6

Form of (Bank Guarantee) -En cashable at the branch of the bank in Jaipur City.

To

Secretary, Jaipur Development Authority, Jaipur

Sub:.....

Bank Guarantee No. _____ dated _____ for [amount of Security in figures] [in words] on behalf of _____ [Name of the Bidder] against Performance Security for the.....
.....JDA Jaipur WHEREAS, _____ [name of Bidder with address] (hereinafter called "the Bidder") has submitted his Bid dated for the work of(herein after called "the Bid").

KNOW ALL PEOPLE by these presents that we _____
_____ (Name of Bank) of having our registered office at _____ [name of country] having our registered office at _____ (hereinafter called "the Bank") are bound unto Secretary, Jaipur Development Authority. (Hereinafter called "the Employer") in the sum of Rupees _____ [Amount of Security in figures] _____ (in words) only for which payment will and truly to be made to the said Employer, the Bank binds itself, its successors, and assigns by these presents.

That on demand of JDA, this Bank Guarantee is cashable at the following branch in Jaipur City.

1. Name of Bank:
2. Name of the branch with branch code:
3. Address:
4. E-Mail Id:
5. Telephone No.
6. Fax No.:

SEALED with the Common Seal of the said Bank this _____ day of _____ of 20_____.

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand within valid period of this guarantee.

This Guarantee will remain in force up to and including the date 30 days after the date of expiration of the Bid Validity, as stated in the Instructions to Bidders, or any such extension thereto as may be agreed by the Bidder, a notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank no later than the above date.

The amount covered under the above Bank Guarantee shall be automatically credited to the accounts of JDA in ICICI Bank, JDA Campus, Jaipur through ISFC code No ICICI 006754. Bank Account No. 675401700518 on the date of expiry or its validity, unless the agencies get it re-validated well before its expiry date or produce NOC from JDA in writing for its release.

Date _____ Signature of the Bank _____

Witness _____ Seal _____

[Signature, Name and Address]

[Note: To be furnished on appropriate non-judicial stamps.]

Annexure A

(RTPP Act/Rules)

Compliance with the Code of Integrity and No Conflict of Interest

Any person participating in a procurement process shall-

(a) Not offer any bribe, reward or gift or any material benefit either directly or indirectly in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process;

(b) Not misrepresent or omit that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;

(c) Not indulge in any collusion, Bid-rigging or anti-competitive behavior to impair the transparency, fairness and progress of the procurement process;

(d) Not misuse any information shared between the procuring entity and the bidders with an intent to gain an unfair advantage in the procurement process;

(e) Not indulge in any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process;

(f) Not obstruct any investigation or audit of a procurement process;

(g) Disclose conflict of interest, if any; and

(h) Disclose any previous transgressions with any entity in India or any other country during the last three years or any debarment by any other procuring entity.

Conflict of interest:

The Bidder participating in a bidding process must not have a Conflict of Interest.

A Conflict of interest is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations.

A bidder may be considered to be in conflict of interest with one or more parties in the bidding process if, including but not limited to:

(a) Have controlling partners/shareholders in common; or

(b) Receive or have received any direct or indirect subsidy from any of them; or

(c) Have the same legal representative for purposes of the bid; or

(d) have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder, or influence the decisions of the procuring Entity regarding the bidding process; or

(e) The bidder participates in more than one bid in a bidding process. Participation by a bidder in more than one bid will result in the disqualification of all bids in which the bidder is involved. However, this does not limit the inclusion of the same subcontractor, not otherwise participating as a bidder, in more than one bid; or

(f) the bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods, works or services that are the subject of the Bid; or

(g) Bidder or any of its affiliates has been hired (or proposed to be hired) by the procuring entity as engineer-in-charge/consultant for the contract.

Annexure B

(RTPP Act/Rules)

Declaration by the Bidder regarding Qualifications

Declaration by the Bidder

In relation to my/our Bid submitted tofor procurement of
.....in response to their Notice inviting Bids No.....Dated.....I/we
.....hereby declare under Section 7 of Rajasthan Transparency in Public Procurement Act, 2012
that:

1. I/we possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entry;
2. I/we have fulfilled my/our obligation to pay such of the taxes payable to the union and the state government or any local authority as specified in the Bidding Document.
3. I/we are not insolvent, in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons;
4. I/we do not have, and our directors and officers not have, been convicted of any criminal offense related to my/our professional conduct or the making of false statements or misrepresentations as to my/our qualifications to enter into a procurement contract within a period of three years preceding the commencement of this procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
5. I/we do not have a conflict of interest as specified in the Act, Rules and the Bidding Document, which materially affects fair competition;

Date:

Signature of the bidder

Place:

Name:

Designation:

Address:

Note:- Annexure “B” is mandatory to be fulfilled & signed with seal by the bidder failing which the bid shall summarily be rejected without asking any clarification.

Annexure C
(RTPP Act/Rules)
Grievance Redressal during Procurement Process

The designation and address of the First Appellate Authority :

For works costing up to Rs. 300.00Lakhs - Jaipur Development Commissioner, JDA, Jaipur.

For works costing above Rs. 300.00Lakhs - Executive Committee, JDA, Jaipur.

The designation and address of the Second Appellate Authority:

For works costing up to Rs. 300.00Lakhs - Executive Committee, JDA, Jaipur.

For works costing above Rs. 300.00Lakhs - Principle Secretary/ACS, Urban Development
& Housing Department, GOR, Jaipur.

(1) Filing an appeal: -

if any bidder or prospective bidder is aggrieved that any decision, action or omission of the procuring entity is in contravention to the provisions of the Act or the rules or the guidelines issued there under, he may file an appeal to First Appellate authority, as specified in the Bidding document within a period of ten days from the date of such decision or action, omission, as the case may be, clearly giving the specific ground or grounds on which, he feels aggrieved:

Provided that after the declaration of a bidder as successful the appeal may be filed only by a bidder who has participated in procurement proceedings:

Provided further that in case a procuring entity evaluates the technical bids before the opening of the financial bids, an appeal related to the matter of financial bids may be filed only by a bidder whose technical bid is found to be acceptable.

(2) The officer to whom an appeal is filed under Para (1) shall deal with the appeal as expeditiously as possible and shall Endeavour to dispose it of within thirty days from the date of the appeal.

(3) If the officer designated under Para (1) fails to dispose of the appeal filed within the period specified in Para (2), or if the bidder or prospective bidder or the procuring entity is aggrieved by the order passed by the first appellate authority, the bidder or prospective bidder or the procuring entity, as the case may be, may file a second appeal to the second appellate authority specified in the bidding document in this behalf within fifteen days from the expiry of the period specified in Para (2) or of the date of receipt of the order passed by the first appellate authority, as the case may be.

(4) Appeals not to lie in certain cases: -

No appeal shall lie against any decision of the procuring entity relating to the following matters, namely: -

- (a) Determination of the need of procurement
- (b) Provisions limiting the participation of bidders in the bid process
- (c) The decision of whether or not to enter into negotiations
- (d) Cancellation of a procurement process
- (e) Applicability of the provisions of confidentiality

(5) Form of Appeals: -

(a) An appeal under Para (1) or (3) above shall be in the annexed form along with as many copies as there are respondents in the appeal.

(b) Every appeal shall be accompanied by an order appealed against, if any,
Affidavit verifying the facts stated in the appeal and proof of payment of fee,

(c) Every appeal may be presented to the first appellate authority or second

The appellate authority, as the case may be, in person or through registered post or authorized representative.

(6) Fee for filing Appeal: -

(a) Fee for the first appeal shall be rupees two thousand five hundred and for the second appeal shall be rupees ten thousand, which shall be non-refundable.

(b) The fee shall be paid in the form of a bank demand draft or banker's cheque of a scheduled bank in India payable in the name of the appellate authority concerned.

(7) Procedure for disposal of Appeal: -

(a) The first appellate authority or second appellate authority as the case may be, upon the filing of the appeal, shall issue notice accompanied by a copy of the appeal, affidavit and documents, if any, to the respondents and fix a date of hearing

(b) On the date fixed for hearing, the first appellate authority or the second appellate authority, as the case may be shall-

(i) Hear all the parties appeal presenting before him; and

(ii) Peruse or inspect documents, relevant records or copies thereof relating to the matter.

(c) After hearing the parties, perusal or inspection of documents and relevant

records or copies thereof relating to the matter, the appellate authority

concerned shall pass an order in writing and provide a copy of the order to the parties to appeal free of cost.

(d) The order passed under sub-clause (c) above shall also be placed on the state public procurement portal.

Annexure D
(RTPP Act/Rules)
Additional Conditions of Contract

1. Correction of arithmetical errors

Provided that a financial bid is substantially responsive, the procuring entity will correct arithmetical errors during the evaluation of financial Bids on the following basis:

(i) if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected unless in the opinion of the procuring entity, there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;

(ii) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(iii) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.

If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified and its bid security shall be forfeited or its bid securing declaration shall be executed.

2. Procuring Entity's Right to Vary quantities.

(i) At the time of award of the contract, the quantity of goods, works or services originally specified in the bidding documents may be increased or decreased, by a specified percentage, but such increase or decrease shall not exceed fifty percent, of the quantity specified in the bidding documents. It shall be without any change in the unit prices or other terms and conditions of the bid and the conditions of the contract.

(ii) If the Procuring entity does not procure any subject matter of procurement or procures less than the quantity specified in the bidding document due to change circumstances, the bidder shall not be entitled to any claim or compensation except otherwise provided in the conditions of the contract.

(iii) In case of procurement of goods or services, additional quantity may be procured by placing a repeat order on the rates and conditions of the original order. However, the additional quantity shall not be more than 25% of the value of goods of the original contract and shall be within one month from the date of expiry of the last supply. If the supplier fails to do so, the procuring entity shall be free to arrange for the balance supply by limited bidding or otherwise and the extra cost incurred shall be recovered from the supplier.

3. Dividing quantities among more than one bidder at the time of award (In case of procurement of Goods):-

As a general rule, all the quantities of the subject matter of procurement shall be procured from the Bidder, whose Bid is accepted. However, when it is considered that the quantity of the subject matter of procurement to be procured is very large and it may not be in the capacity of the Bidder, whose Bid is accepted, to deliver the entire quantity or when it is considered that the subject matter of procurement to be procured is of critical and vital nature, then in such cases, the quantity may be divided between the Bidder, whose Bid is accepted and the second lowest Bidder or even more Bidder in that order, in a fair, transparent and equitable manner at the rates of the Bidder, whose Bid is accepted.

SECTION VII DRAWINGS

**(These conceptual drawings are the Basic
Layout Drawings)**



GFRC - CORNICES AND MOULDINGS AS PER DESIGN

CEMENT SHEET FINISHED IN PAINT FOR FALSE CEILING IN BALCONIES.

TEXTURE PAINT

RED SANDSTONE CLADDING AS PER DESIGN (20MM, 50MM, 75MM)

GLAZING IN AN ALUMINIUM FRAME, INSTALLATION OF GLASS PANELS USING MULLIONS.

DECORATIVE RED SANDSTONE CLADDING AND CORNICE AS PER DESIGN (100-150MM)

MS SCREENING (ISI MARKED)

GRC ELEMENT - BALUSTERS WITH TOP RAIL & BOTTOM RAIL AS PER DESIGN (MAXIMUM THICKNESS = 7", HT. = 36")

WOODEN FALSE CEILING IN COMPOSITE MATERIAL

PAINT (APEX ULTIMA WITH ALL BASE

COATS) GFRC - PEDESTAL, COLUMN &

CAPITAL

GFRC -

JALI

BRICK

WORK

PROJECT:

VIBE center at sector 1
Vidhyadhar nagar, Jaipur

SHEET TITLE:

BASEMENT FLOOR PLAN

NOTES:

PARKING ON BASEMENT
FLOOR:
TWO WHEELER = 32
FOUR WHEELER = 12
PARKING ON GROUND
FLOOR :
FOUR WHEELER = 18
TOTAL PARKING
TWO WHEELER = 32
FOUR WHEELER = 30

FLOOR	BAR
BASEMENT	824.17 Sqm
GROUND FLOOR	612.00 Sqm
FIRST FLOOR	375.02 Sqm
SECOND FLOOR	612.00 Sqm
THIRD FLOOR	612.00 Sqm
MUMITY FLOOR	46.78 Sqm
TOTAL BAR	3081.97 Sqm

DATE:

25.05.2026



URBAN NIRMAN

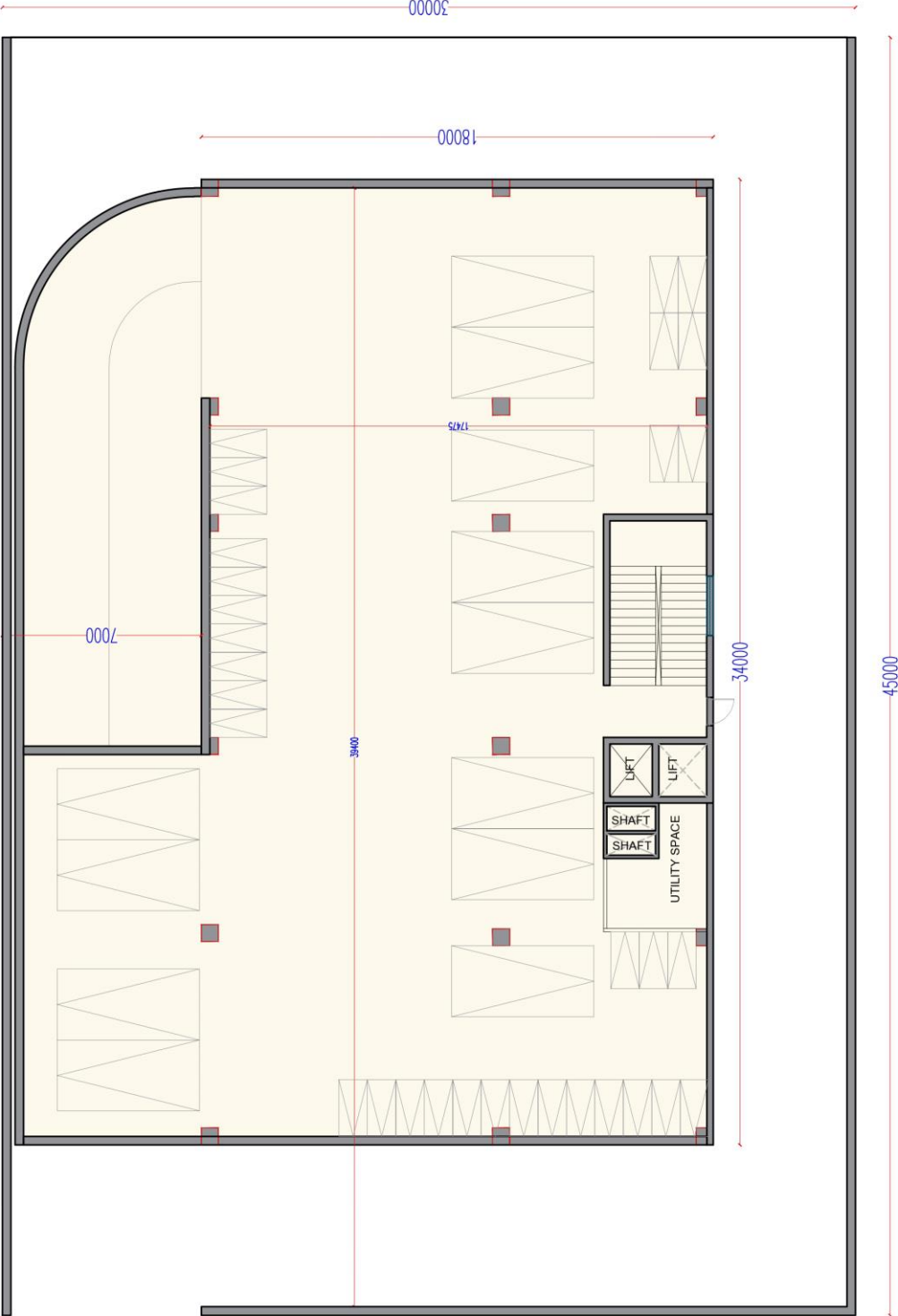
PLAN | DESIGN | BUILD

Architecture & Project Management Consultancy

Tel. : +91-7737043194, +91-7296964465

Email : teahurbannirman@gmail.com

Office No. 37, Rishi Singh, Mansarovar, Link Rd.



PROJECT:

VIBE center at sector 1
Vidhyadhar nagar, Jaipur

SHEET TITLE:

GROUND FLOOR PLAN

NOTES:

FLOOR	BAR
BASEMENT	824.17 Sqm
GROUND FLOOR	612.00 Sqm
FIRST FLOOR	375.02 Sqm
SECOND FLOOR	612.00 Sqm
THIRD FLOOR	612.00 Sqm
MUMTY FLOOR	46.78 Sqm
TOTAL BAR	3081.97 Sqm

DATE:

25.05.2026

NOTES:

Basement Clear Height - 3.3 M
Ground Floor Height - 3.75 M
First Floor Height - 3.75 M
Second Floor Height - 3.75 M
Third Floor Height - 3.75 M

Total building height (As
permissible) - 15 M (From
Ground Floor to Third Floor),
excluding Mumty Floor

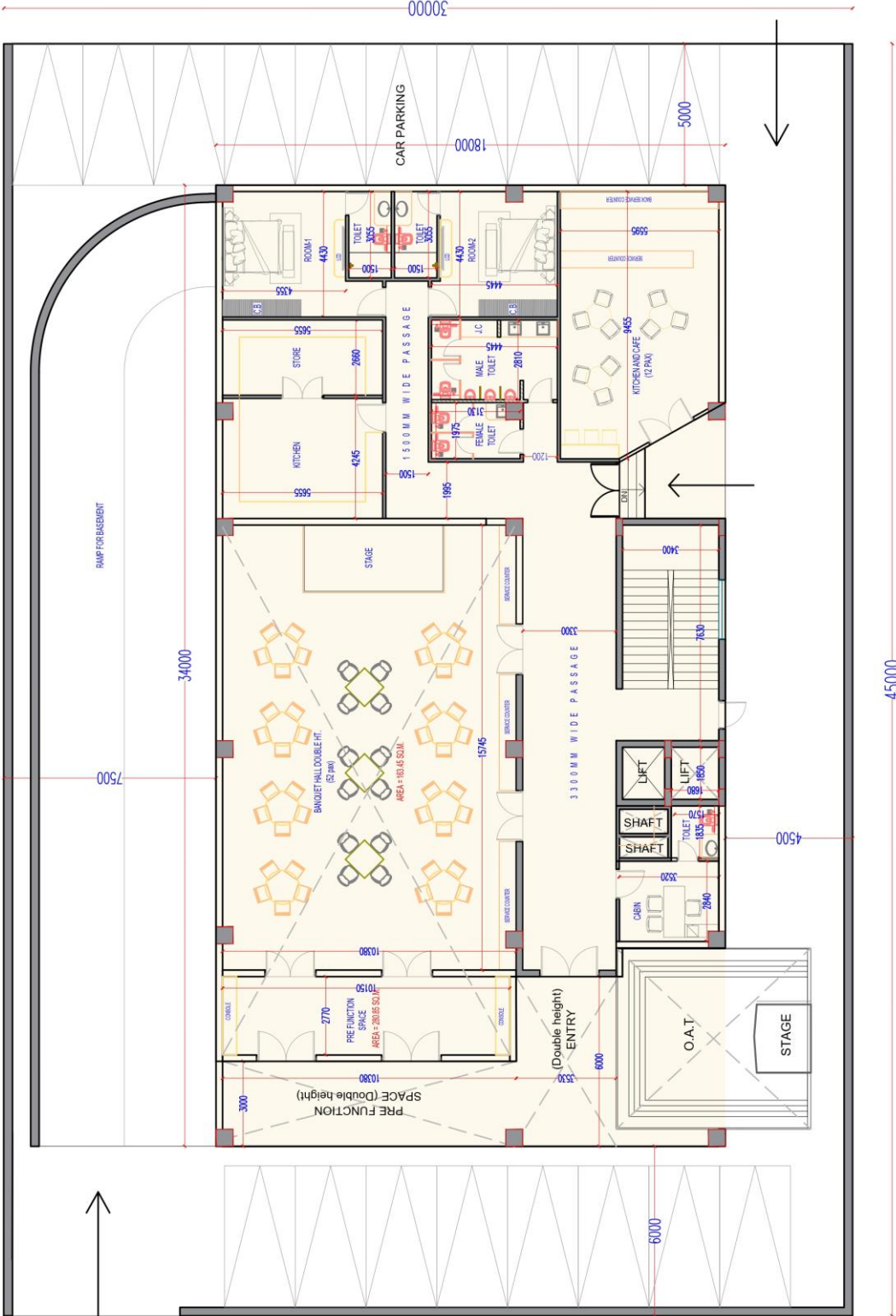
URBAN NIRMAL

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PROJECT:

VIBE center at sector 1
Vidhyadhar nagar, Jaipur

SHEET TITLE:

FIRST FLOOR PLAN

NOTES:

FLOOR	BAR
BASEMENT	824.17 Sqm
GROUND FLOOR	612.00 Sqm
FIRST FLOOR	375.02 Sqm
SECOND FLOOR	612.00 Sqm
THIRD FLOOR	612.00 Sqm
MUMTY FLOOR	46.78 Sqm
TOTAL BAR	3081.97 Sqm

DATE:

25.05.2026



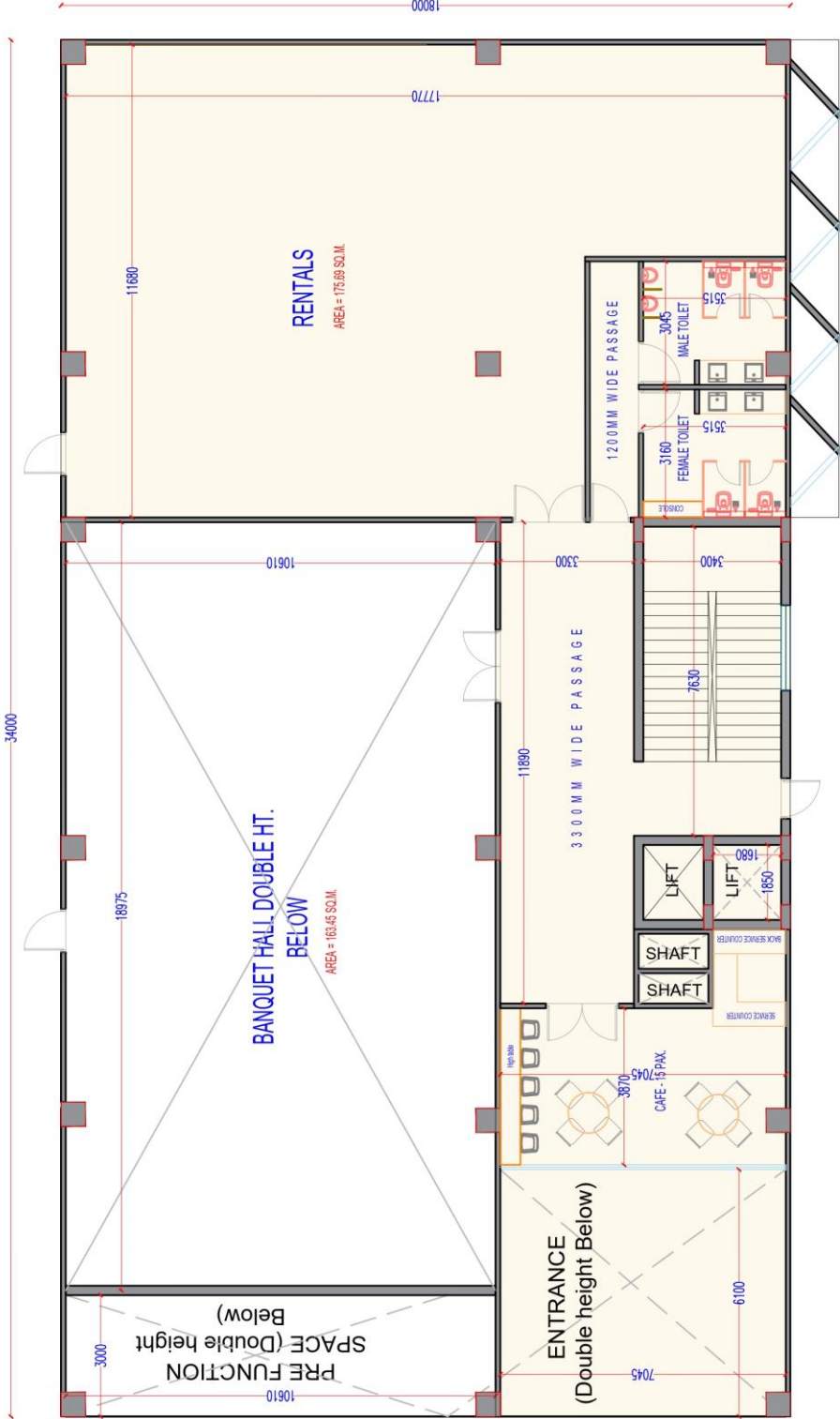
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Office No. 37 Right Side, Mansarovar Link Rd.



VIBE center at sector 1
Vidhyadhar nagar, Jaipur

NOTES:

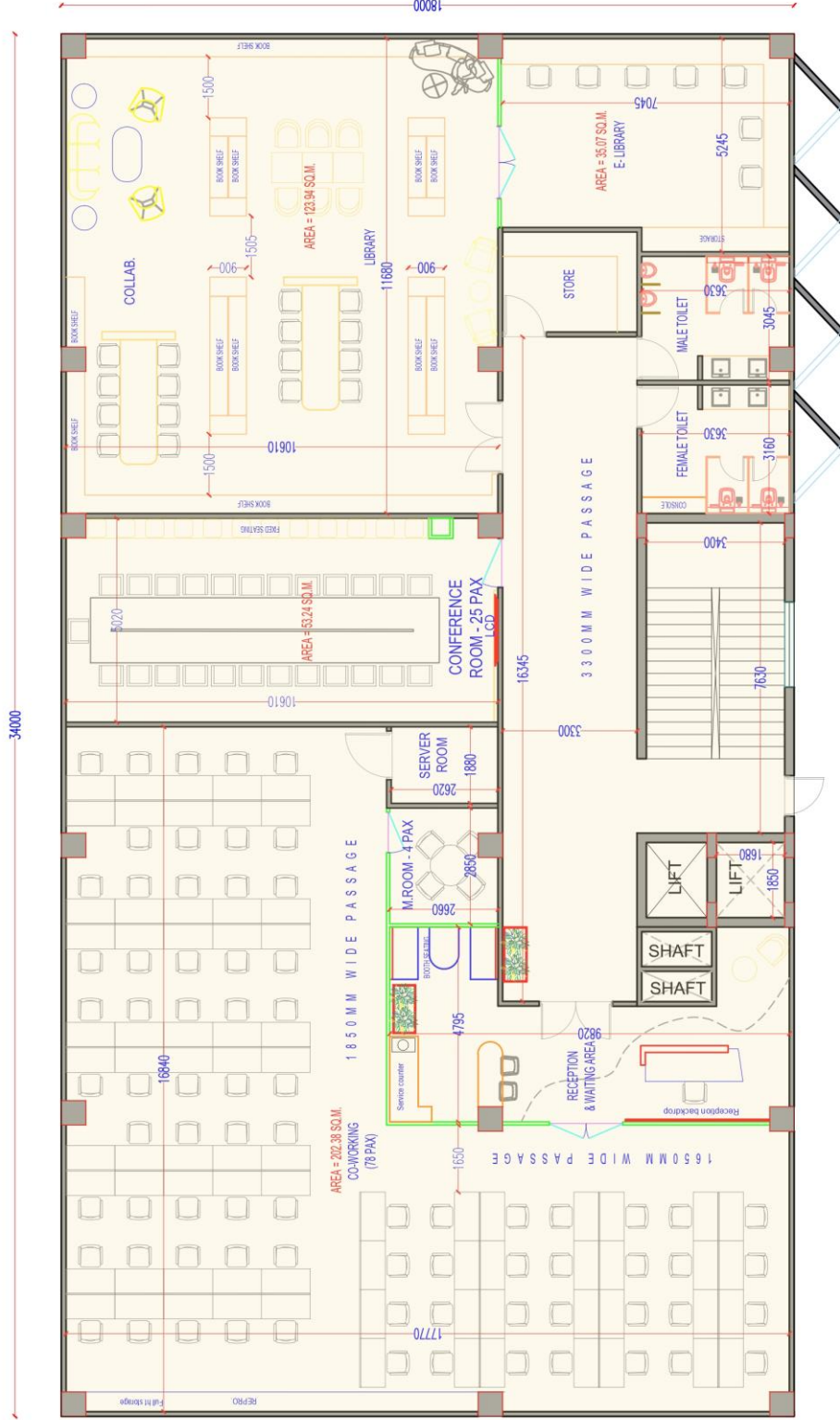
FLOOR	BAR
BASEMENT	824.17 Sqm
GROUND FLOOR	612.00 Sqm
FIRST FLOOR	375.02 Sqm
SECOND FLOOR	612.00 Sqm
THIRD FLOOR	612.00 Sqm
MUMTY FLOOR	46.78 Sqm
TOTAL BAR	3081.97 Sqm

DATE: 25.05.2026



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PROJECT:
VIBE center at sector 1
Vidhyadhar nagar, Jaipur

SHEET TITLE:
THIRD FLOOR PLAN

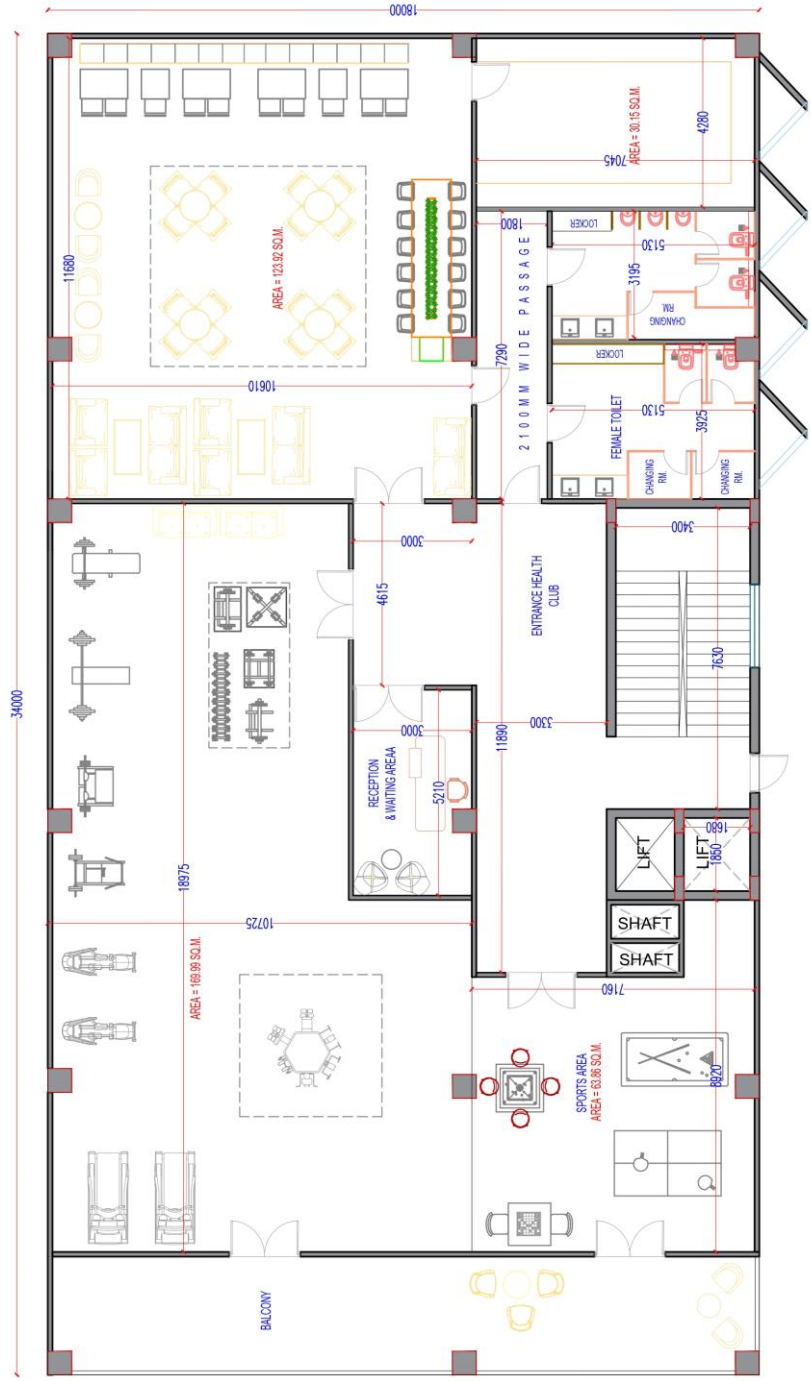
NOTES:

FLOOR	BAR
BASEMENT	824.17 Sqm
GROUND FLOOR	612.00 Sqm
FIRST FLOOR	375.02 Sqm
SECOND FLOOR	612.00 Sqm
THIRD FLOOR	612.00 Sqm
MUMTY FLOOR	46.78 Sqm
TOTAL BAR	3081.97 Sqm

DATE:
25.05.2026



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PROJECT:

VIBE center at sector 1
Vidhyadhar nagar , Jaipur

SHEET TITLE:

MUMTY FLOOR PLAN

NOTES:

FLOOR	BAR
BASEMENT	824.17 Sqm
GROUND FLOOR	612.00 Sqm
FIRST FLOOR	375.02 Sqm
SECOND FLOOR	612.00 Sqm
THIRD FLOOR	612.00 Sqm
MUMTY FLOOR	46.78 Sqm
TOTAL BAR	3081.97 Sqm

DATE:

25.05.2026



URBAN NIRMAL

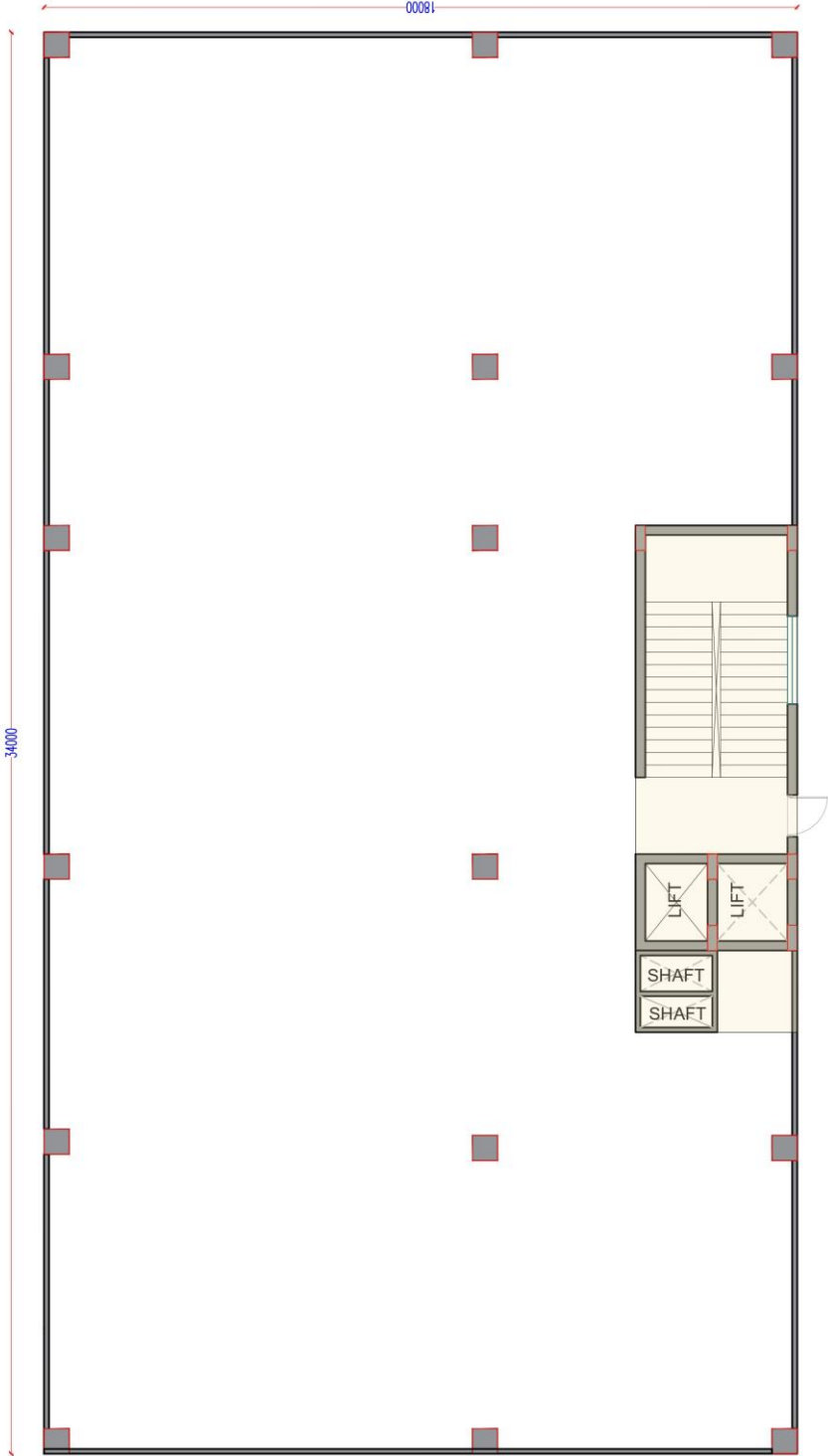
PLAN | DESIGN | BUILD

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VOLUME II

FINANCIAL BID

**Construction of Vidhyadhar Nagar
Information, Business & Entertainment (VIBE)
Centre in Sector-1, Vidhyadhar Nagar, JDA,
Jaipur**

FINANCIAL BID (EPC MODE)

Tender Inviting Authority; Jaipur Development Authority, Jaipur

Name of Work: Construction of Vidhyadhar Nagar Information, Business & Entertainment (VIBE) Centre in Sector-1, Vidhyadhar Nagar, JDA, Jaipur

Contract No; JDA/EE-B/2026-27/

Name of Bidding Firm:

This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the bidder's name and values only)

Number#	Text#	Number#	Text#	Number#	Text#
Sl No.	Item Description	Quantity	Units	Basic Rates in Figures Rs.	Total Amount in words
1	2	3	4	5	6
1	Construction of Vidhyadhar Nagar Information Business and Entertainment (VIBE) Centre on EPC including the following works complete in all respects including all materials, labour, T&P, machinery etc. required for complete execution of work as per specifications and direction of Engineer-in-Charge: - Preparation & submission of final architectural and working drawings, structural designs, HVAC, MEP layouts etc. approved from authority. - Preparation & submission of final structural drawings Vetted from MNIT/IIT. - Construction of proposed VIBE building including all civil works such as excavation, foundations, RCC structure, walls, slabs, staircases and other structural components - Complete interior works and finishing including flooring, wall cladding, panelling, partitions, false ceiling, doors/windows, glazing, painting, furnishing and fixtures. - Provision and installation of Electrical works including internal/external electrification, panels, cabling, lighting and power distribution systems.	1.00	Job		

Number#	Text#	Number#	Text#	Number#	Text#
SI No.	Item Description	Quantity	Units	Basic Rates in Figures Rs.	Total Amount in words
	- Construction of proper storm water drainage system, connection of PHED water supply, electrical connection, rain water harvesting, sewage connection - Installation of HVAC system including air-conditioning, ventilation and allied components. - Execution of complete MEP services including water supply, plumbing, drainage and sanitation systems - Provision and installation of Firefighting and fire detection systems as per applicable norms - Development of outer infrastructure including compound wall, main entrance gate, internal pathways, parking areas, landscaping and other site development works - Installation of lift, boom barrier, close circuit TV, lighting protection system - Development and provision of facilities including multipurpose hall with accommodation, open air theatre (OAT), e-library, co-working spaces, rental/commercial spaces and sports facilities along with required amenities, furniture and signage, testing, commissioning and handing over of all systems. - Testing, commissioning and handing over of all systems and components - Obtaining NOC like fire etc. from concerned departments. - Operation & Maintenance for a period of 5 years including upkeep of civil, electrical, MEP and firefighting systems, payment of electricity charges of common areas, deployment of security personnel, housekeeping and all allied activities.				
Total in Figures					

Quoted Rate In Words

Note : All duties, taxes and other levies payable by the Bidder under the contract, or for any other cause, shall be included in the rates and prices, and the total Bid Price submitted by the Bidder