



TECHNICAL BID DOCUMENTS

Jaipur Development Authority
Ram Kishore Vyas Bhawan
J.L.N. Marg
Jaipur

**Construction of Elevated Road from Sodala tri-Junction to
LIC Office near Ambedekar Circle, Jaipur**



NOTICE INVITING BIDS (NIB)

1.1 GENERAL

1.1.1 Name of Work : Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipur

Jaipur Development Authority invites Bids from experienced , technically & finically sound and reputed contractors / JV who are registered in JDA / any of Central department / State Govt. Department / local bodies / Railway or from public limited company for the work of "Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipur"

This work includes

1. Construction of Elevated Road form Sodala trijunction -Ajmer Road to LIC Building - Ambedekar Circle flying Bais Godam Circle at Hawa Sarak Construction of Elevated Road based on departmental design with broad plan as follows;

From Rambagh Circle to Ajmer side: The up ramp takes off from LIC building near Ambedekar Circle , Bhawani Singh Road and crosses 22 godam circle, Jaipur-Delhi railway line, existing 22 Godam ROB down ramp to Sudarshanpura Industrial area, Jaipur-Sawaimadhopur railway line, Civil lines circle, Nandpuri tri-junction, tri-junction of 80' vide road through JVVNL land, Ramnagar-Civil lines crossing and finally joins Ajmer Elevated road at Sodala crossing. This road stretch also includes a down ramp on 80' vide road of JVVNL land . This stretch is approx. 2.80 Kms in length

From Sodala to Rambagh side: The up ramp starts just after the tri-junction of 80' vide road of JVVNL land (Chambal Power House) and passes through Nandpuri crossing, Civil lines circle, Jaipur-Sawaimadhopur railway line, existing 22 Godam ROB down ramp to Sudarshan pura Industrial area, Jaipur-Delhi railway line, 22 Godam circle and finally lands on Bhawani Singh Road just before Ganda Nallah. This stretch is approx. 1.80 Kms in length

2. The structure for Elevated Road has been conceptualized on segmental construction typically on single pier with reinforced earth wall in approaches. The Railway portion superstructure is composite construction with Steel Girders and RCC deck. The main components in the construction are as follows but not limited to the same:

- Confirmatory Survey, true & proper setting out and layout of the work, providing location marks, bench marks.
- Site clearance / earthwork including work in foul conditions & dismantling as required



-
- Diversion of traffic as required including barricading, traffic calming devices, providing trained manpower for traffic management in entire affected reach of project including coordinating with police & local authorities for the same.
 - Pile foundation for the Elevated Road.
 - Construction of Elevated Road substructure
 - Construction of precast Segmental Elevated Road superstructure
 - Construction of Railway portion superstructure with steel girder & RCC composite construction with due compliance of Railway department directions, time schedule & norms.
 - Fixing of expansion joint and bearings.
 - Construction of approach Roads.
 - Construction of Reinforced Earth Retaining Wall
 - Casting of RCC Crash Barrier with Railings.
 - Providing and fixing of Pipe Railings.
 - Providing wearing coat.
 - Thermoplastic Road marking work.
- b) Miscellaneous
- Submission of monthly progress photograph as directed;
 - All aspects of quality assurance including pile load tests for various components of the work as specified or as directed;
 - Clearing of Site and handing over of the works, as specified or as directed;
 - Submission of detailed programme showing the sequence of activities, method of construction, details of constructional plant and equipments, with which the bidder proposes to carry out the entire work, as shown in the relevant drawings and as specified., Detail project planning programme is to be given by using Prima Vera/ MS Project software on fortnightly basis.
 - Any other work required to be carried out to complete the works in all respects in accordance with the provisions of the contract and / or as directed by the Engineer in Charge ensuring structural stability and safety during and after construction even though not specifically mentioned in the contract but reasonably implied as necessary for successful implementation of the contract.



Key details :

NOTICE INVITING BID

NIB No. : EE-(Project-I)/09/2015-16

Name & Address of the Procuring Entity	<ul style="list-style-type: none"> ➤ Name : Executive Engineer(Project-I), Jaipur Development Authority ➤ Address : Room No. 101, Main Building, First Floor, JDA Campus, Indira Circle, Jawahar Lal Nehru Marg, Jaipur-302004 (Rajasthan) ➤ Email : vivjda@gmail.com
Subject Matter of Procurement	➤ Construction of Elevated road from Sodala Tri Junction to LIC office near Ambedker Circle.
Bid Procedure	➤ Post qualification open competitive bidding as per eBid 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.jaipurjda.org
Website for online Bid application and payment	<ul style="list-style-type: none"> ➤ Website : www.jaipurjda.org ➤ 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 50000.00/-Rupees (Fifty Thousands only) ➤ RISL Processing Fee : Rs 1000.00 (Rupees One Thousand only) ➤ Requisite Bid Security Deposit
Estimated Procurement Cost	➤ INR 20500.00 Lacs (Rupees Twenty Thousand five hundred Lacs only)
Bid Security Deposit	➤ Amount (INR) : Rs 410.00 Lacs. (Rs 102.50 Lacs.) for Bidder registered as contractor in JDA,
Pre-Bid	➤ 29.02.2016 at 11.00 AM in "Manthan Hall", Third Floor, Main Building, JDA Campus, Jaipur.
Start/End date for Bid Applying, Online Payment and Bid Submission	<ul style="list-style-type: none"> ➤ Start Date : 18.02.2016. from 9.30 AM onwards ➤ End date : 18.03.2016. upto 6.00 PM
Date/Time? Place of Technical Bid Opening	➤ 28.03.2016 at 11.00 AM in Room No. 101, First Floor, Main Building, JDA Campus, Jaipur.
Date/Time/Place of Financial Bid Opening	<ul style="list-style-type: none"> ➤ Date will be informed on E Proc portal after evaluation of Technical Bids. ➤ SE-V, MB GF 33C, Ground Floor Near Electric Room, Main Building, Ram Kishore Vyas Bhavan, Indira Circle, Jawahar Lal Negru Marg, Jaipur- 302004 (Rajasthan)
Bid Validity	➤ 120 days from the bid submission deadline



Time period of completion of work	➤ 30 months
Job No.	➤ JDA/EE Project 01/A&F/2015-16/Dec/350 Dt.04.12.2015

- The amount is to be deposited online by bidder. In case the amount exceeds the online Payment limit the payment may be made through RTGS/NEFT in ICICI Bank Account Number 675401700586 IFSC Code ICIC0006754. After Successful payment, update the UTR/Instrument number on JDA tender portal against the tender you want to participate. The amount deposited will be confirmed by JDA and will be updated online.
- The bidder has a choice for depositing the Bid Security either 100% through "On Line Payment" mode or 100% in the form of Bank Guarantee from any nationalized / Scheduled Bank, valid up to period of 6 (six) months from the date / extended date of opening of bid whichever is later.
- The BG should be in standard format available in bid documents which should be encashable at respective branch of the bank in the Jaipur City.
- The bidder has to submit the original BG physically on or before due date of closing of bid up to 5.00PM to to Executive Engineer (Project-I) , Room No. MB 101 Main Building , JDA Campus, JLN Marg, Jaipur failing which bid will be rejected.
- In case BG is submitted by post or courier, JDA will not own responsibility of delay or lost of instrument and in such a case the bid will be rejected.
- The bidders should also note that the tender fee Rs. 50000/- and RISL fee Rs. 1000/- will be accepted through "on-line payment" mode only as mentioned in the bid documents.

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 tender Fee, BSD, and RISL Processing Fee, Online (Subject to Confirmation) his 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, Ncode 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 in their own interest requested to upload the complete bid well in advance in time so as to avoid 11 th hour issues like slow speed: chocking 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 (e-procurement) 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 documents (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 RTPP Act 2012 and Rules 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.



Part of NIB Document

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. Registered on JDA website www.jaipurjda.org (by depositing Rs 500.00 online, the validity of which remains 3 (three) years.)

For participating in the Bid, the Bidder has to apply for this Bid and pay the bid Document Fee, RISL Processing Fee and Bid Security Deposit online only.

2. Registered on e-Procurement Portal of Government of Rajasthan www.eproc.rajasthan.gov.in for online e-Bid submission.

Methods for depositing online amount

- Online through internet Banking, Debit card or Credit Card.
- In case the amount exceeds the online payment limit, the payment may be made through RTGS/NEFT/Transfer in Bank Account Number 675401700586 IFSC Code ICIC0006754 of ICICI Bank limited, JDA Campus Jaipur.

In Case of RTGS/NEFT/Transfer the bidder is required to deposit the requisite amount in the dedicated bank account number as mentioned above and has to get the UTR/ Reference number from the bank. This number requires to be updated while applying the bid on JDA portal.

While participation in the bid, a receipt will be generated through the system showing the submission details. The bidder is required to fill the instrument numbers for various heads on e-procurement portal www.eproc.rajasthan.gov.in as mentioned in the receipt.

More details about Registration Process, Terms and Conditions and FAQ along with contact details is available on JDA website www.jaipurjda.org under e-Services>>JDA tender.



Template of Online Receipt as part of NIB Document

JIPUR DEVELOPMENT AUTHORITY

Bid Participation Receipt

Date & Time :

Bid Detail

Bid ID : EE-pr-1/2015-16/D-9	Procurement Entity	Executive Engineer-Project-I, JDA, Jaipur.
Bid Title :	Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipur	
Bid Value : 20000 Lacs	Tech Bid Opening Place :	SE-V, Near Electric Room, Ground Floor, Main Building , JDA, Jaipur

Bidder Detail

Name of Entity	Mobile :
Registration Type :		Instrument Amount :
Payment Mode :	Online / UTR	Payment Channel : Payment Gateway/ ICICI Branch - JDA
Instrument No.		Instrument date :

Dates Detail

Sr. No.	Event Name	Event Date
1	Publishing date/On line start date for bid applying at 9.30 AM
2	Bid Opening Date at 3.00 PM

Specific Instrument detail for e Proc Rajasthan

Instrument Type : DD			
Instrument Number	Head Name	Amount	Date
10000	Tender Fee	50000.00
10001	RISL Processing Fee	1000.00
10002	Bid Security Deposit/- (for other bidders) &/- (for bidders registered in JDA)

Issuer Detail : Jaipur Development Authority

Challan Number :



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR SCHEDULE AND SPECIFICATIONS

Name of Work: Construction of Elevated Road from Sodala tri-Junction to LIC Office near
Ambedkar Circle, Jaipur

- | | | | |
|-----|---|---|--|
| 1. | NIB No. | : | NIB No. : EE-(Project-I)/09/2015-16 |
| 2. | Approximate cost | : | ₹ 20500.00 Lacs |
| 3. | Cost of the Bid document | : | ₹ 50000.00 through On Line Payment only. |
| 4. | Bid Processing Fees | : | ₹ 1000.00 , through On Line Payment only. |
| 5. | Bid Security (In favour of Secretary, JDA, Jaipur.) | : | ₹ 102.50 Lacs for AA Class Contractor enlisted in JDA)
or ₹ 410 Lacs for AA class Contractor enlisted in other Govt. Departments.) |
| 6. | Download Start of Bid document | : | From 18.02.2016 , 9.30 AM |
| 7. | Upload last date the Bid Document | : | From 18.03.2016 , up to 6:00 PM |
| 8. | Date of Pre Bid Meeting | : | 29.02.2016.2016 at 11.00AM |
| 9. | Last Date of submission of Bid cost, Bid Process cost & Bid Security. | : | 18.03.2016 up to 6.00 PM . |
| 10. | Date of opening of Bid | : | 28.03.2016 at 11.00 AM in Room No. SE-V,MB GF 33C, Ground Floor Near Electric Room, Main Building, Ram Kishore Vyas Bhavan, Indira Circle, JawaharLalNegru Marg, Jaipur- 302004 (Rajasthan. |
| 11. | Completion period of work | : | .30 Months |

SCHEDULE - A: INFORMATION USEFUL FOR THE BIDDERS:

The Bidder should see the site and fully understand the conditions of the site before bidding and include all lead, lift etc for the material in his item rate/percentage to be quoted on the rates give in the Schedule 'G'. The work shall be carried out in accordance with the MoRTH specification/IRC specification and to the entire satisfaction of the Engineer-In-Charge of the work.

SCHEDULE - B: LIST OF THE DRAWING :

1. General Arrangement Drawing (GAD) for tendering purpose only

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

List of the drawing to be supplied by the bidder- NIL



SCHEDULE - D: TEST OF THE MATERIALS:

The testing of the materials and workmanship shall be conducted by the JDA staff as necessary. The result of such tests should confirm to the standard laid down in the Indian standard MORTH/IRC/PWD detailed specification. 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 sample of the materials to be used by the bidder shall be deposited 15 days in advance with the Engineer In charge and be got approval by him before use.

SCHEDULE - F: TIME OF COMPLETION:

The work should start within 15 days of issue of work order and complete within time limit.

SCHEDULE – G: ATTACHED SEPARATELY BASED ON RUIDP BSR 2013, PWD ROAD BSR 2013, NH BSR 2013, PWD ELECTRICAL BSR 2013. AND JDA BSR ITEMS.

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 & BID SECURITY .

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 chapter "Instructions to Bidders" of the bid documents for process of online payment.

Signature of the Bidder

With full Address

Executive Engineer-Project-I,

JDA, Jaipur.



SPECIAL CONDITIONS

Schedule -H

01. If there is any typographical error or otherwise in the 'G' Schedule the rates given in the relevant BSR on which schedule 'G' has been prepared, shall prevail.
02. The bidder shall follow the bidder labour regulation and abolition Act 1970 & Rule 1971.
03. The JDA shall have right to cause on audit and technical examination of the work and the final bills of the bidder 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 bidder under the contract or any work claimed by him to have been done under this contract and found not to have been executed the bidder 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 bidder 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 bidder.
04. The bidder shall not work after the sunset and before sunrise without specific permission of the EIC.
05. Whenever any claim against the bidder 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 bidder. In the event of the security being insufficient or if no security has been taken from the bidder 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 bidder 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.
06. The rate quoted by the bidder shall remain valid for a period of 120 days from the last date of submission of the bids.



-
07. By submission of this bid the bidder agree to abide with all printed conditions provided in the PWD manual form 64 (Chapter 3-para 36) and subsequent modification.
 08. No conditions are to be added by the bidder and conditional bid is liable to be rejected.
 09. All transaction in the execution of this work and this bid will be liable to sale-tax vide section 2(B) read with sub clause (4) Sale-tax Rule, 1954.
 10. If any bidder withdraws his bid 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 bid 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 earnest money given in any form absolutely. If any bidder, who having submitted a bid does not execute the agreement or start the work or dose not complete the work and the work has to be put to rebidding, he shall stand debarred for six months from participating of biding in JDA in addition to forfeiture of Earnest Money / Security Deposit and other action under agreement
 11. Rules regarding enlistment of bidders provide that work up to five times limit for which they are qualified for biding can be allotted to them Therefore, before bid the bidders will keep this in mind, and submit the details of work. Bids with incomplete or incorrect information are liable to be rejected.
 12. Any material not conforming to the specifications collected at site shall have to be removed by the bidder 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 bidder after expiry of 3 days period.
 13. The material collected at site and paid provisionally shall remain under the watch and ward of the bidder till it is consumed, fully on the work.
 14. The rates provided in bid documents are inclusive of all Taxes royalty.
 15. For paver work at least 3 road rollers shall be simultaneously deployed.
 16. Bitumen for tack coat or any other purposes, shall be applied only be a bitumen sprayer of a mechanical pressure.



17. 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 Bidder at his own cost.
18. Undersigned has full right to reject any or all bids without given any reasons.
19. Mortar of Masonry work and lean concrete will be permitted using mixer with hopper only.
20. 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."
21. **Defect Liability Period (DLP) for Roads works or Bridge work, as the case may be, shall be applicable.**
22. The bidders are required to submit copy of their enlistment as bidder.
23. Conditions of RPWA-100 will be mandatory & acceptable to the bidder.
24. Any bid received with unattested cutting/overwriting in rates shall be rejected and such bidder will be debarred from bidding for three months in JDA.
25. All the provisions of THE RAJASTHAN TRANSPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and Rules, 2013 will be applicable. If there is any contradiction 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.
26. 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.
27.

If any

bidder quotes a rate below than the schedule "G" rates, i.e., rates below than at par, then the bidder has to deposit the difference amount i.e. amount between the rates as per at par and below, as work performance guarantee. This amount has to be deposited before the commencement of work and will be refunded after successful completion of work. Lowest bidder will be issued LOA (Letter of Acceptance) and within 7 days period he has to deposit difference amount in the form of B.G/FDR/NSC. The validity of these shall be for a period three months beyond the stipulated date of completion/actual date of completion. In case of non deposition of the same in specified period, the 2% Bid security will be forfeited. In case work is not completed satisfactorily, the work performance security will be forfeited along with Bid security.

Signature of Bidder

Executive Engineer

Project-I , JDA, Jaipur



1.1.2 QUALIFICATION CRITERIA :

1.1.2.1 Eligible Applicants :

- i. The Bids for this contract will be considered only from those Bidders (proprietorship firms, partnerships firms, companies, corporations, consortia or joint ventures) who meet requisite eligibility criteria prescribed in the sub-clauses of clause 1.1.2 of NIT. In the case of a JV or Consortium, all members of the Group shall be jointly and severally responsible for the performance of whole contract.
- ii. A non-Indian firm is permitted to Bid only in a consortium arrangement or Joint Venture with their wholly owned Indian subsidiary registered in India under Companies Act - 1956 or any other Indian firm having minimum participation interest of 26%.
- iii. Bidders shall not have a conflict of interest. All Bidders found to have a conflict of interest in this Bid process shall be disqualified. Bidders shall be considered to have a conflict of interest as per RTPP Act 2013 Rule 81. :
- iv. Bidder must not have been blacklisted or deregistered by any central / state government department or public sector undertaking. Also no work of the Bidder must have been rescinded by client after award of contract during last 10 years. The Bidder should submit undertaking on NON-judicial stamp of Rs. 10 and duly attested by Notary Public to this effect in Performa of Annexure-4.

1.1.2.2 Minimum Eligibility Criteria :

A. Work Experience: The Bidders will be qualified only if they have executed work(s) during last Calendar five years ending **31.12.2015 (The bidder can choose work executed upto time of submission of bids also without yearly price level up gradation beyond 31.12.2015)** as given below:

- (i) At least one work of "**Work of Elevated Road /Viaduct/ Bridge/Metro Corridor/ Flyover by segmental construction method** of value of **Rs 120.00 crores** or more, **or**
- (ii) Two different works, as defined in Para (i) above, each of value **Rs. 70.0 crores** or more, **or**
- (iii) Four different works, as defined in Para (i) above, each of value **Rs.40 .00 crores** or more or
- (iv) Any combination of works as defined on Para (i) above each of value more than Rs. 40.0 Cr. or more adding up to **Rs. 160.0 Cr.**

Notes:

- The Bidder shall submit details of work executed by them in the Performa of for the



works to be considered for qualification of work experience criteria. Documentary proof such as completion certificates from client clearly indicating the nature/scope of work, actual completion cost and actual date of completion for such work should be submitted. ***The offers submitted without this documentary proof shall not be evaluated. In case the work is executed for concessionaire , copy of the contract entered into with the private party/ contractor, bill of quantities ordered and for which payment has been received duly certified by Independent Engineer , T.D.S certificates issued by the client for payments made for such contract and copy of final/last bill paid for such contract shall be submitted.***

- For completed works, value of work done shall be updated to **31.03.2015** price level assuming 10% inflation for Indian Rupees every year and 2% for foreign currency portions per year. Ongoing works will be considered but the value of work executed after 31.03.2015 will not be updated for price level .
- In case of Joint Venture / Consortium, full value of the work, if done by the same Joint Venture or any of the members of the Joint Venture shall be considered. However, if the work done by them in JV/Consortium, value of work as per the member's percentage participation only shall be considered. Relevant document confirming the same should be submitted by bidder to establish the same.

B . The average annual turnover of last five audited financial years should be atleast **Rs. 120.00 crores.**

B . The bidder should have executed following quantities of work in last five financial year. i.e. from 2010-11 to 2014-15, however he may include the work done of year 2015-2016 also.

S. No.	Item	Quantity
1	*RCC/ PSC/ Design Mix concrete M 30 or above grade.	32863.50 Cum
2	*Steel Reinforcement/Steel Strands/Structural Steel	7485.58 MT

*These quantities are either in isolation or in continuity of above.

C. The starting & completion date of the work is to be in between above said financial year. If no then minimum work (70%) is to be completed in above said financial year.

Notes :

- Financial data for latest last five audited financial years shall be submitted by the Bidder in the format given along with audited balance sheets. The financial data in the prescribed format shall be certified by Chartered Accountant with his stamp and signature. In case audited balance sheet of the last financial year is not made



available by the bidder, he shall submit an affidavit certifying that 'the balance sheet has actually not been audited so far'. In such a case the financial data of previous '5' audited financial years will be taken into consideration for evaluation. If the Bid document is submitted without latest years audit balance sheet, the Bid will be considered as non-responsive.

1.1.2.3 Bid Capacity Criteria :

Bid Capacity: The Bidders will be qualified only if their available bid capacity is more than the approximate cost of work as per NIT. Available bid capacity will be calculated based on the following formula:

$$\text{Available Bid Capacity} = 3 \cdot A \cdot N - B$$

Where,

A = Maximum of the value of the Civil Engineering works executed in any one year during the latest last five financial years (updated to 31.03.2015 price level assuming 10 % inflation for Indian Rupees every year and 2% for foreign currency portions per year). The bidder may opt for the current financial year also

N = No. of years prescribed for completion of the work ie 2.5

B = Value of existing commitments (as on **31.03.2015**) for on-going construction works

Notes :

- Financial data for latest last five financial years shall be submitted by the Bidder along with audited financial statements. The financial data in the prescribed format shall be certified by the Chartered Accountant with his stamp and signature.
- Value of existing commitments for on-going construction works shall be submitted by the Bidder . These data shall be certified by the Chartered Accountant with his stamp and signature.
- If current year or last year has been opted by bidder whose balance sheet is not submitted till the submission of bid then certificate from Chartered Accountant should be enclosed.
- Litigation History:- Bidder should provide an accurate information on any litigation or arbitration resulting from contracts completed or under execution by him over the last FIVE years. The maximum value (updated at the present price level) of disputed amount claimed in the litigation/arbitration resulting from contracts executed in last FIVE years shall be deducted from the calculated Bid Capacity of the bidder. The details shall be furnished in Schedule VI.
- The present price level for turnover, cost of completed work & disputed amount of



similar nature, the previous year's value shall be given weight age of 10% per year as follows :-

(a)	For Current Year-	2015-16	1.00
(b)	For last year -	2014-15	1.00
(c)	For one year before –	2013-14	1.10
(d)	For two years before –	2012-13	1.21
(e)	For three years before –	2011-12	1.33
(f)	For four years before –	2010-11	1.46

1.1.3 The Bid documents

The Bid submitted by of Bidders, who do not qualify the minimum eligibility criteria and bid capacity criteria stipulated in the clauses 1.1.2.2 to 1.1.2.3 above, shall not be considered for further evaluation and therefore rejected. The mere fact that the Bidder is qualified as mentioned in sub clause 1.1.2.2 to 1.1.2.3 shall not imply that his bid shall automatically be accepted. The same should contain all technical data as required for consideration of Bid prescribed in the ITT (Instruction to Bidders).

The Bid documents consist of :

Volume 1

- Notice Inviting Bid (NIT)
- Instructions to Bidders (ITT)
- General Conditions of Contract
- Special Conditions of Contract (SCC)
- Conditions of contract on Safety, Health and Environment (SHE)
- Technical Specifications
- Bill of Quantities (BOQ)
- Bid Drawings
- All Bidders are hereby cautioned that Bids containing any material deviation or reservations as described in Clause 24.0 of "Instructions to Bidders" and/or minor deviation without quoting the cost of withdrawal shall be considered as non-responsive and are liable to be rejected.
- Late Bids fee / bid security shall not be accepted under any circumstances.
- The bidder has a choice for depositing the Bid Security either 100% through "On Line Payment" mode or 100% in the form of Bank Guarantee from any nationalized / Scheduled Bank, valid up to period of 6 (six) months from the (original date) / (extended date) of opening of bid whichever is later.
- The BG should be in standard format available in bid documents which should be en-cashable at respective branch of the bank in the Jaipur City.



-
- The bidder has to submit the original BG physically on or before due date of closing of bid up to 5.00PM to Executive Engineer (Project-I) , Room No. MB 101 Main Building , JDA Campus, JLN Marg, Jaipur, failing which bid will be rejected.
 - In case BG is submitted by post or courier, JDA will not own responsibility of delay or lost of instrument and in such a case the bid will be rejected.
 - JDA reserves the right to accept or reject any or all proposals without assigning any reasons, No Bidder shall have any cause of action or claim against the JDA for rejection of his proposal.
 - For any other information the contact person shall be Shri N.K Singhal email: se4.jda@gmail.com / Vivek Sharma email: vivjda@gmail.com

Executive Engineer (Project-1)
Jaipur Development Authority



SCOPE OF WORK

2.0 GENERAL

Jaipur Development Authority invites Bids from experienced , technically & finically sound and reputed contractors / JV who are registered in JDA / any of Central department / State Govt. Department / local bodies / Railway or from public limited company for the work This work includes

"Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipur" as follows;

2.1 The structure for Elevated Road has been conceptualized on segmental construction typically on single pier with reinforced earth wall in approaches. The Railway portion superstructure is composite construction with Steel Girders and RCC deck.

2.2 Work Content

2.1.1 This is a Construction Bid as per the design provided by JDA . The work content shall be as per details given below :-

2.1.1 Brief Scope

The scope of work shall include detailed confirmatory survey & staking out of the alignment, construction of substructure , super structure, ramp, and construction of following components of viaduct including related works:

(i) Detailed confirmatory survey and staking out of the alignment for execution of the work as shown in the GAD drawings provided by department.

a) FOUNDATION & SUBSTRUCTURE

(i) 1200 mm/1000 mm dia pile foundation with hydraulic rotary piling rigs.

a) Pile foundations with socketting in rock of any type and Pile cap including leveling course.

(ii) The viaduct/flyover shall be on single pier , portals, cantilever spans as per drawing. Piers are located on the median of road/service road/footpath or off the road supporting single pre-cast, pre-stressed segmental box girder, with or without cantilever arms, supported on POT/PTFE as per finalized design.

(iii) Pier and pier head as per the size, shape and finishes shown in the drawing including monograms , designs etc which may require use of specialized moulds- the cost of which is deemed to be included in cost of work.

(iv) Cantilever piers, portal piers and portal beam of size, shape and finishes as shown in the Bid drawings

(v) Location of pier shown is indicative and may be changed to address the site specific issues.



- (vi) Pier locations of Special Spans, obligatory Spans, Portals and cantilever Spans have been shown in the alignment GAD drawings. These are indicative and can be changed by JDA.
- (vii) Bid drawings show only tentative dimensional details of piles, pile cap, piers and pier head. Height of piers and type of alignment (straight or curve) are for reference only.

b) SUPER STRUCTURE

- (i) Pre-cast prestressed box girder for Elevated Road super structure by segmental construction using launching girders for main middle section of segment and truss for lateral members to address the site specific requirements submitted by contractor & approved by JDA .
- (ii) Construction of Railway portion superstructure with steel girder & RCC composite construction with due compliance of Railway department directions, time schedule & norms.
- (iii) The design of POT/PTFE bearing shall be submitted by the contractor, which shall be approved by JDA.
- (iv) Bearing pedestals, seismic devices shall be as per approved drawings
- (v) Precast parapets and railing as per approved drawing.
- (vi) Precast cable ducts and covers. The top of duct cover should have proper neat cement finish as per drawing.
- (vii) Expansion joint, sealant in the expansion joints of ramp walls.
- (viii) Man holes with manhole covers as per drawing.
- (ix) Provision for cutouts in the viaducts required for services in coordination with various system contractors

c) Launching girder used by contractor for launching/erection of segments & cantilever arms shall be got designed by the contractor, get proof checked from MNIT/ IIT/ MORT&H empanelled consultant as approved by EIC at his own cost and got approved by JDA prior to use. Any directions by JDA shall be incorporated by the contractor as regards to the same.

d) R.E.WALL & MISCELLANEOUS

- (i) Ramp: Reinforced Earth Wall, which is solid approach, filling the solid portion, GSB & bituminous road etc for ramp of flyover
- (ii) Crash barrier as per drawing
- (iii) Drainage system, inserts for lighting masts in parapets.
- (iv) **Approved grooves, monograms/impression on the parapet and pier as per drawing. This may require use of special moulds. The cost of the same will be deemed to be included in the cost of main work.**

2.1.2 There is possibility of some of the items not getting mentioned in the above list of works. Contractors are requested to go through the Bid drawings also in details as the works mentioned above as well as indicated in the Bid drawings would be considered inclusive in the



scope of work. Employer decision shall be final in this regard in case of dispute. Some of the major utilities cannot be diverted. Contractor shall identify the location of these utilities that are in conflict with foundations & design the foundation at these locations to avoid the impact on the utilities. The contractor may have to reschedule his work or have to temporarily support the utilities for which no extra payment shall be payable.

2.1.3 -

2.1.4 The scope of works shall further include the following also:

- a) Utility identification at foundation location will be done by the Contractor in advance and in case utility(s) is encountered or obligatory requirements are to be met out, the JDA may require the contractor to modify the span configuration at such location out of the standard spans configuration to save the utility(ies) or to meet the obligatory requirements. The shifting of the utility(ies) would be undertaken only in exceptional circumstances where in the opinion of the Engineer no other option is available. Cost of such utility identification & shifting will be paid separately or will be executed by JDA directly. No claim as regard to delay in utility diversion will be entertained.
- b) Site clearance and dismantling of obstructions etc., before commencement of work as specified or as directed;
- c) True and proper setting out and layout of the Works, bench marks and provision of all necessary labour, instruments and appliances in connection therewith as specified or as directed. Conducting load test on piles as per IS-2911- Part IV.
- d) All aspects of quality assurance, including testing of materials and other components of the work, as specified or as directed;
- e) The Contractor shall ensure cleanliness of the roads and footpaths by deploying man power for the same. The Contractor shall have to ensure proper brooming, & cleaning of roads and footpaths on all the times throughout the entire stretch till the project duration of the contract including disposal of sweepage. Nothing extra shall be payable on this account and the cost of work will be deemed to be included in main work. ;
- f) Day to day cleaning of worksite throughout the execution period.
- g) Clearing of site and handing over of all the Works, as specified or as directed;
- h) Maintenance of the completed Work during the period as specified or as directed.
- i) Submission of completion (i.e. 'As-Built') drawings and other related documents as specified;
- j) Barricading: The contractor shall have to provide barricading as per the drawing provided in the Bid drawing. The payment of the same shall be made as per BOQ'.
- k) Results of sub-surface investigations conducted at project site are enclosed with the Bid document. This information about the soil and sub-soil water conditions is being made



available to the contractor in good faith. No claim whatsoever on account of any discrepancy between the sub surface conditions that may be actually encountered at the time of execution of the work and those given in these Bid documents shall be admissible to the contractor under any circumstances.

2.1.5 Any other item of work as may be required to be carried out for completing the construction of elevated structure of specified in all respects in accordance with the provisions of the Contract and/or to ensure the structural stability and safety during and after construction.

The value of the work shall be % basis above/below/at par as accepted in letter of acceptance subject to such additions thereto or deductions there from as may be made under the provisions of the Contract.

2.3 Interface Works

The Contractor shall be required to carry out various miscellaneous works as per interfacing requirements.

2.4 Structures

The construction of structures will have to be planned in such a manner that they do not obstruct or interfere with the existing roads/railways and other utilities. Where work is required to be carried out at locations on / adjacent to such roads/railways, utilities, structures, monuments etc. suitable safety and protection arrangements will have to be ensured for which payment will be made as per BOQ. It should be ensured that no damage is caused to any such elements. In case of such damages JDA shall be indemnified

2.5 Standards & Specification

Results of the sub surface investigations conducted at the project site are enclosed with the Bid document. The information about the soil and sub soil water conditions is being made available to the contractor in good faith and the contractor is advised to obtain results independently as may be considered necessary by him before quoting rates in the Bid.

No claims whatsoever on account of any discrepancy between the sub surface conditions that may be actually encountered at the time of execution of work and those given in these Bid documents shall be admissible to the contractor under any circumstances whatsoever.

2.4.1 Reference to the Standard Codes of Practice

2.4.1.1 All Standards, Technical Specifications and Codes of practice referred to shall be latest editions updated to those released upto 30 days prior to last date of submission of bids including all applicable official amendments and revisions. The Contractor shall make available at site all relevant/applicable Indian Standard Codes of practice Codes for use of JDA staff .



2.4.1.2 Wherever Indian Standards do not cover some particular aspects of design/ construction, relevant British/German Standards will be referred to. The Contractor shall make available at site such standard codes of practice.

2.4.1.3 In case of discrepancy among Standard codes of practice, Technical Specifications and provisions in sub clauses in this NIT, the order of precedence will be as below:

- i) Provision in NIT
- ii) Technical Specifications,
- iii) PWD/CPWD specifications
- iv) Standard Codes of Practice.

In case of discrepancy among Standard Codes of Practice, the order of precedence will be , IRC, IS, BS, DIN.

2.4.2 **Dimensions**

2.4.2.1 As regards errors, omissions and discrepancies in Specifications and Drawings, relevant clause of Special Conditions of Contract will apply.

2.4.2.2 The levels, measurements and other information concerning the existing site as shown on the conceptual / layout drawings are believed to be correct, but the Contractor should verify them for himself and also examine the nature of the ground as no claim or allowance whatsoever will be entertained on account of any errors or omissions in the levels or strata from what is shown on days the drawings.

2.5 **Associated Works**

Works to be performed shall also include all general works preparatory to the construction and works of any kind necessary for the due and satisfactory construction, completion and maintenance of the works to the intent and meaning of the drawings adopted and technical specifications, to best Engineering standards and orders that may be issued by the Engineer from time to time, compliance by the agency with all Conditions of Contract, supply of all materials, apparatus, plants, equipment, tools, fuel, water, strutting, timbering, transport, offices, stores, workshop, staff, labour and the provision of proper and sufficient protective works, traffic diversion, temporary fencing, lighting and watching required for the safety of the public and protection of works on adjoining land; first –aid equipment, sanitary accommodation for the staff and workmen, effecting and maintenance of all insurances, the payment of all wages, salaries, fees, royalties, duties or the other charges arising out of the erection of works and the regular clearance of rubbish, clearing up, leaving the site perfect and tidy on completion.

2.6 **CONSTRUCTION DEPOT**

The land for casting yard, batching plant, stacking yard and other activities shall be



arranged by the contractor. However on request of the contractor , JDA may provide plot of land temporarily during the construction period of contract on rent as determined by EIC on the availability of Govt. land in area of JDA region. This land shall be made good for such offsite activities as needed by the Contractor at no extra cost to the employer. The land shall be cleared from debris & all structures made by the contractor including, RCC footings and rafts etc. before handing over back to the Employer. The final bill shall be released to the contractor after all structures from the construction depot are removed.

2.7 TIME SCHEDULE

The agency shall submit with the Bid “Time Schedule” for completion of various portions of works. This schedule is to be within the overall completion period of 30 months. The detailed programme in the form of a quantified bar chart or CPM network shall include all activities to completion.

2.8 TRAFFIC MANAGEMENT

The Contractor shall make the detailed traffic diversion plans in consultation with Jaipur Traffic Police. The work is to be executed with proper liaison with Jaipur Traffic Police. Necessary assistance will be given by JDA. The scheme should be such that minimum of two lane of traffic on each direction of the road should be available for the smooth flow of traffic. The Contractor should inspect the site. **The construction barricading for execution of work will be restricted to 10 m width of the road.** These will be paid by JDA as per relevant item of BOQ.

2.9 Deleted

2.10 UTILITIES

Utility identification at foundation locations will be done by the contractor and in case utility(s) is encountered or obligatory requirement is to be met out, JDA may modifying the span configuration at such location out of the standard spans configuration to save the utility(ies) or to meet obligatory requirements. Shifting of utility(ies) would be done only in exceptional cases where in the opinion of the Engineer no other option is available. **The contractor has to check the utility at each pier location by actual trenching to the required depth, taking photographs of each utilities.. The identification of utilities is to be completed within 2 months of letter of acceptance.** No payment shall however be made for supporting the utilities during course of work. The utilities which are not to be diverted but require supporting, proper supporting be done so that they are not damaged along their branches. Precautions to be taken while handling the utilities are mentioned as under:

- (i) Utilities must not be damaged, but, if due to some or the other reason, mishap occurs, it should be rectified immediately by the Contractor at his own cost under intimation of JDA with proper liasoning of utilities owning agency.



-
- (ii) Till rectification of the damaged trunk sewers, the Contractor shall arrange substitute arrangement for sewer pumping and its disposal as per directions of Concerned agency. The similar arrangement be done for other utility.
 - (iii) The manholes of T/Sewers should not be covered under the foundation as these may create hindrances to the annual de-silting/cleaning of sewer lines.
 - (iv) Sufficient distance of foundation from outer edge of T/ Sewers be kept in view of further maintenance/Safety of T/Sewers.
 - (v) The covers of manholes be saved from heavy machinery movement to avoid any accident/Slippage of malba in manholes etc into the T/Sewers which may cause blockage of lines. In case of damage of manhole cover & frame the same shall be replaced immediately by the Contractor at his own cost.
 - (vi) Manholes of the trunk sewer should be kept freely accessible for cleaning and removal of blockages and malba should not be dumped over these manholes.
 - (vii) Branch sewer connections which are connected with the trunk sewers should also be taken care of. If the same are damaged, the same should be restored immediately on priority.

These are only indicative for one of the utility. Similarly, necessary precautions which are specified from time to time by the utility owning agencies shall also be followed. The Central verge/footpath furnishings which are to be dismantled be handed over to the concerned department in their stores. Contractor should make his own survey for identification of underground/above ground utilities.



SITE INFORMATION

3.1 Worksite

3.1.1 The project site is located in the Capital of Rajasthan. The location of the work and the general site particulars are shown in the General Arrangements Drawings enclosed in the Bid documents.

3.1.2 DELETED.

3.1.3 The Contractor shall plan his works keeping in view restriction of approach and availability of space and time.

3.2 GENERAL CLIMATIC CONDITIONS

3.2.1 The recorded normal maximum and minimum temperatures in summer is 45 & 25.8 degree Celsius and in winter is 22 & 5 degree Celsius respectively.

3.2.2 Summer season is from April to June and winter season is from November to March.

3.2.3 Mean average annual rainfall in the area over a five-year period is of the order of 43 cm varying from minimum 29.8 cm and maximum 58.5 cm. Monsoon generally start from the last week of June and end by mid of September.



PROCEDURE

1. Procedure:

Procedure for **PRE QUALIFICATION** would be as follow:

- (a) Bid document shall be submitted on line through E-procurement website **http:// www.eproc.rajasthan.gov.in** with Digital Signature Certificate (DSC) . The bid is to be submitted in **3 envelops** which shall comprise of-
Envelop-1 being for Registration, Bid Security, Bid fee, Bid Processing Fee, Tax Clearance Certificate.
Envelop-2 being for Technical Bid and
Envelope-3 being for Financial Bid.
- (b) The technical bid will be opened only of those bidders who deposit Cost of Bid, Bid processing fee and Bid Security, VAT clearance certificate (Valid up to Six months back from the opening of Technical Bid) and copy of registration of contractor in required category are found to be in order. All the payments will be accepted through on line process only.
- (c) The Technical Bid envelope would be opened on the date 28.03.2016 at 11.00 AM in the room of **SE-V, MB GF 33C, Ground Floor Near Electric Room, Main Building, Ram Kishore Vyas Bhavan, Indira Circle, Jawahar Lal Negru Marg, Jaipur- 302004 (Rajasthan)**
- (d) The Financial Bid envelope would be opened only of those bidders who fulfill all the **PRE QUALIFICATION** criteria :--
- (e) The bidder should be registered in "AA" class in JDA/ Any Central Government Department/State Government Department/local body/railways or Corporations,
If VAT clearance certificate is not applicable in any State then appropriate proof is to be enclosed by bidder with certificate which is applicable in place of VAT.

2. 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 works executed in the last FIVE years in Schedule–II



-
- (c) Certificates from the concerned Engineer-In-Charge in support and verification of the information furnished in Schedule-II
 - (d) Affidavit regarding machinery and equipment required for deployment, as detailed in scheduled – III.
 - (e) Information regarding details of maximum value of civil engineering works executed during the last five years taking into account the completed as well as works in progress in schedule – IV.
 - (f) Information regarding existing commitments and ongoing works to be completed in schedule – V.
 - (g) Information regarding details of litigation or arbitration contracts to be furnished in schedule – VI.
 - (h) Calculation of Bid capacity in schedule – VII.
 - (i) Affidavit as per Annexure I.
 - (j) Information regarding technical staff to be furnished in Schedule-VIII
 - (k) RTPP Annexure A,B,C,D duly signed and uploaded by bidder.

3. Important Notes:

- (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.

4. 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.

- a. If Bid is not accompanied with the requisite documents mentioned in clauses 3 (a) to 3 (k) or is not in accordance with procedure specified in Para 1, or is not accompanied with earnest money & VAT clearance Certificate and registration of bidder in required category it would be liable for rejection.
- b. Furnishing of incorrect or incomplete or concealment of any information required in the bid documents would render the bid liable for rejection.



-
- c. If RTPP Annexure A,B,C,D not duly signed and uploaded by bidder.
5. In case the bidder comprises a joint venture or consortium, following requirements shall also be complied with:
- a. The JV will have to be formed before submission of the tender and total number of JV partners shall not exceed 2 (Two).
 - b. They must designate lead partner duly authorised by all the members who will represent the J.V. Any of the two partners can be a lead partner. The lead partner shall be nominated as being partner-in-charge and this authorization shall be evidenced by submitting power of attorney signed by the legally authorized signatories of all the partners.
 - c. The partner-in- charge (or, the lead partner) shall be authorized to incur liabilities and to receive instructions on the behalf of the partners of the Joint Venture, whether jointly or severally, and entire execution of the contract (including payment) shall be carried out exclusively through the partner- in- charge.
 - d. The share of one of the two partners shall not be less than 26% and rest of the share shall be held by other partner (For example if share of one partner is 26% then for other partner it will be 74%.) The JDA will only send communication to the lead partner, which will be deemed to have been sent to all the J.V. partners. Similarly, any negotiation and / or agreement with the lead partner shall be deemed to have been concluded with all the J.V. partners. All the members of J.V. shall be bound by the said communication and all acts/ deeds of the lead member.
 - e. Any one of the two partners, alone, should fulfill the Technical Criteria laid down. Similarly, any one of the two partners , alone, should fulfill the Financial Criteria . For rest of the eligibility criteria, qualifications of the two partners may be clubbed together.
 - f. The individual partner of J.V. alone or with other partners can not participate in the same bid.
 - g. Bid capacity is to be calculated by clubbing turn over and work in hand of all the firms of joint venture.
 - h. Attested copy of the MoU / Agreement/ Power of attorney entered into by the joint venture / consortium members duly notarized, shall be submitted along with the Technical Bid with intended percentage participation nomination of lead member and division of responsibility to clearly define the work of each member etc.
 - i. All the members of the joint venture/ consortium shall be jointly and severally liable for the execution of the Contract.



-
- j. In the event of default by any member of the joint venture/ consortium in the execution of his part of the contract, the partner-in-charge will have the authority to assign the work to any other party acceptable to the employer to ensure the execution of the part of contract.
 - k. In case J.V. bidder is given the work order, the bidder will submit details of JV bank account to which payment is to be deposited by JDA.
 - l. The experience certificate will be issued as per percentage of the share holders defined in JV agreement of the two partners.

To qualify for award of contract, the bidders shall submit a written power of attorney authorizing the signatory (ies) of the bid to commit the bidder or each member of the joint venture/ consortium. In case of foreign members, power of attorney(s) and board resolution confirming authority on the persons issuing the power of attorney for such actions, shall be submitted duly notarized by the notary public in the country of origin and stamped by the Indian Embassy/ High Commission.

- (i) Cancellation, modification or creation of a document such as power of attorney, partnership deed, constitution of firm etc., which may have bearing on the bid / contract, shall be communicated forthwith in writing by the bidder to the Engineer-in-charge or Employer.
- (ii) The bidder should confirm and declare that in the bid submitted that they, or any associate have not engaged in any fraudulent and corrupt practice and that no agent, middleman, or any intermediary has been, or will be, engaged to provide any services, or any other items of work related to the award of this contract.

7. Bid Evaluation Sheet :-

The contractor has to submit on line, duly filled Bid Evaluation Sheet in the prescribed form given. For this purpose the bidder should mark page numbers on all the documents being uploaded by him in support of the bid and mention carefully the relevant page number in the Bid Evaluation Sheet. Any unwanted pages should not be uploaded. Only the page number mentioned by the bidder in the respective column No 5 of the Bid Evaluation sheet will be considered for evaluation of the bid.

Executive Engineer-Project-1

JDA, Jaipur



Schedule – I
FINANCIAL RESOURCES AND CAPABILITY

[Reference clause 3 (a)]

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

2. Total financial turnover achieved by the bidder in the last Five financial years:

S.No.	Year	Turnover
(1)	2014-15	
(2)	2013-14	
(3)	2012-13	
(4)	2011-12	
(5)	2010-11	

- i. Note: Balance Sheets and Profit & Loss Accounts is to be enclosed by the bidder which is considered by him as per criteria 2 (a).
 - ii. Separate Performa shall be used for each member in case of JV/Consortium.
 - iii. Attach attested copies of the Audited Financial Statements of the last five financial years as Annexure.
 - iv. All such documents reflect the financial data of the Bidder or member in case of JV/Consortium, and not that of sister or parent company.
 - v. The financial data in above prescribed format shall be certified by Chartered Accountant / Company Auditor under his signature & stamp.
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:

(With Seal wherever applicable)



SCHEDULE - II**[Reference clause 3(b)]****Details of Quantities of work executed during last Five financial years**

S.No.	Name of Works (With agreement No. & Date)	Client	Place (district)	Financial Year	RCC/PSC /Design Mix CC M30 grade or above	Steel Reinforcement/ Structural steel/ PSC Strands	Page No.

Signature of Bidder

Note : Certificate from concerned Engineer-in-Charge should be enclosed in support and verification of the above statement.



To be given on Non-Judicial stamp Paper of Rs. 10/- only.

SCHEDULE - III [Reference Clause 3(d)]

AFFIDAVIT

I/We Proprietor/Partner/Authorized signatory of M/s
..... under take the oath that I/We will deploy the machinery and equipment listed
below as and when required in the execution of this work.

S. No.	Type of equipment required for the work	Minimum No. of of equipment required for the work (nos.)	Owned	Leased	Hired
a)	Piling Equipment Hydraulic Rig (with bits for 1000mm and 1200mm dia piling)	3			
b)	Fully Automatic and Computerized Batching Plant (One 30 Cum/hr at casing yard and two 30 cum/hr at site) with a Reverse Osmosis Plant of suitable capacity for proper quality of water. One of the plant should also have chiller attachment for hot climate concreting	2			
c)	Concrete Pumps	3			
d)	Cranes 10 T to 20 T capacity	4			
e)	Gantry in casting yard	2			
f)	Pre-casting beds (typical segments and	5 of 30 m			
g)	Launchers for box girders	2			
h)	Launching Truss for lateral segment member	2 set			
	Transit Mixtures 6 cum capacity	6			
i)	Trailers for carrying Segments- 75 T capacity	3			
j)	Pre-stressing equipments	4 Sets			
k)	Survey Instruments – Total station with 1 deg, LC (with one Surveyor and one CAD Operator during entire construction period)	3			
p)	Cranes for Railway viaduct (min capacity 75 Ton) (3) or Alternative arrangement	As per requirement			
q)	Lab Testing equipments-fully equipped for site tests. (Minimum 2 labs are required for site and casting yard) with UTM	As per requirement			
r)	Hydraulic Pile breaker (Splitter) machine	2			

NOTE: In case contractor opts for short-line method for casting of segments the no. of precasting beds would increase accordingly

We confirm to deploy resources as per the above-mentioned minimum requirement and also confirm to deploy plants & equipments over and above the minimum numbers indicated above. In violation of the same we understand that liquidated damages will be levied on us as per relevant clause/ conditions of bid.

Signature of Bidder



SCHEDULE - IV

[Reference Clause 3(e)]

DETAILS OF MAXIMUM VALUE CIVIL ENGINEERING WORKS OF SIMILAR NATURE - "ELEVATED ROAD/ VIADUCT/BRIDGE/FLYOVER/ METRO CORRIDOR BY SEGMENTAL CONSTRUCTION METHOD" EXECUTED IN ANY ONE YEAR DURING THE LAST FIVE YEARS TAKING INTO ACCOUNT THE COMPLETED AS WELL AS WORKS IN PROGRESS

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

1. Separate Performa shall be used for each work. Details of only similar works prescribed in the minimum eligibility criteria shall be submitted.
2. Only the value of contract as executed by the Bidder / member of the JV/Consortium in his own name should be indicated. Where a work is undertaken by a group, the portion of the contract which is undertaken by the Bidder / member of JV/Consortium should be indicated and the remaining done by the other members of the group be excluded while filling the item.
3. All the details should be supported by documentary proof e.g. completion certificates from client and concerned Consultant/Architect otherwise it will not be considered.
4. In case the work is executed for private client, copy of the contract entered into with the concessionaire /private party/ contractor, bill of quantities ordered and for which payment has been received duly certified by Independent Engineer ., T.D.S certificates issued by the client for payments made for such contract and copy of final/last bill paid for such contract shall be submitted .

Signature of Bidder



SCHEDULE - V

[Reference Clause 3(f)]

DETAILS OF EXISTING COMMITMENTS & ON GOING WORKS TO BE COMPLETED

S. No.	Name of Works (with agreement No. & Date)	Client	Cost of Work as per Work Order	Stipulated date of commencement	Stipulated date of completion	Value of balance work on date of bid	Likely date of completion of balance work

Signature of Bidder



SCHEDULE -VII

[Reference Clause 3(h)]

BID CAPACITY

Name of Bidder: - _____

1.	A = Maximum value of civil Engineering works of similar nature Executed in any one year during the last three Years (Updated to present price level)	_____Lacs	Certified details enclosed at Page No. _____
2.	N = Number of years prescribed for completion of the Work for which bids are invited	2..5	
3.	B = Value, at present price level of existing Commitments and ongoing works to be Completed during the next N Period.	_____Lacs	Certified details enclosed at Page No. _____

$$\text{Bid Capacity} = A \times N \times 3 - B$$

$$= \text{_____ Lacs}$$

Signature of Bidder



SCHEDULE – VIII

[Reference Clause 3(j)]

INFORMATION REGARDING TECHNICAL STAFF ON PAYROLL OF THE CONTRACTOR SINCE LAST ONE YEAR

Name of bidder: -

S. No.	Name	Designation	Technical Qualification	Month and year of Joining The contractor

Signature of bidder with Seal



ANNEXURE 1
(Reference Clause 3(i))

To be given on Non-Judicial stamp
Paper of Rs. 10/- only,

AFFIDAVIT

I/We.....Proprietor/Partner/Authorize
signatory of M/s under take the oath that the
information furnished by me/us in schedule I to VII of the assessment Bid for the work of
Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar
Circle, 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.

.....

Proprietor/ Partner/ Authorized signatory
M/s

.....



ANNEXURE 2

UNDERTAKING FOR NOT BLACKLISTED
(On a Non Judicial Stamp of Rs 10/-)

We do hereby undertake that we have not been Blacklisted or De-registered by any Central/ State Government or Public Sector Undertaking, Autonomous Bodies etc., and also that none of our work has rescinded by the client after award of contract during last 10 years.

Stamp and Signature of Authorized Signatory

NOTE:

1. In case of JV/Consortium, the undertaking shall be submitted by each member of the JV/Consortium.
2. The undertaking shall be signed by authorized signatory of the Bidder or constituent member in case of JV/Consortium.



GENERAL INFORMATION OF TENDERER

A. BIDDER INFORMATION SHEET		
BIDDER s Legal Name	Sole Proprietorship Firm/Partnership Firm /Private Limited Company/Public Limited Company/ Joint Venture/Consortium	
In case of single entity, ownership & control of the Tenderer		
In case of JV/Consortium, Legal name of each partner with percentage participation (also Provide information of each member in separate sheet (page 2 of 2)	Legal Name of JV/Consortium member	% participation
Lead member of JV/Consortium,		
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 in case of JV/Consortium, (name, designation address)		

SIGNATURE OF AUTHORIZED SIGNATORY
ON BEHALF OF BIDDER



B. JV/CONSORTIUM MEMBER INFORMATION	
JV/Consortium Member of Legal Name	
Legal status of the JV/Consortium Member	Sole Proprietorship Firm/Partnership Firm /Private Limited Company/Public Limited Company
Ownership & control of the JV/Consortium Member	
JV/Consortium Member country of constitution	
JV/Consortium Member of legal address, telephone numbers, fax numbers, e-mail address)	
JV/Consortium Member's authorized representative (name, designation address)	

ATTACH ATTESTED COPIES OF FOLLOWING ORIGINAL DOCUMENTS

- Document in support of legal status and ownership & control of the bidder or each member in case of JV/Consortium (undertaking for sole proprietorship/ partnership deed/ Memorandum & Articles of Association
- In case JV/Consortium, submit MoU/Agreement (duly notarized) entered into by the joint venture/consortium members, containing intended percentage participation, nomination of Lead Member and division of responsibility to clearly define the work of each member etc.
- Authorization/POA in favour of authorized representative of tenderer to represent the bidder and also in favour of authorized representative of each member in case of JV/Consortium

SIGNATURE OF AUTHORIZED SIGNATORY
ON BEHALF OF BIDDER



Bid Evaluation Sheet

Name of Work :-- Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipu

S.No.	Criteria	Required Qualification	Bidders qualification	Bidders uploaded document Page No. in support of qualification.	Remark
1	2	3	4	5	6
1	Registration Certificate - As per Clause 1e of Special Conditions of Contract for Pre Qualification.	The bidder should have a valid Registration Certificate in AA Category as specified.			
2	VAT Clearance Certificate- As per Clause 1(i) of Special Conditions of Contract for Pre Qualification.	Should be Valid up to Six Months back from the opening of Technical Bid			
3	Fee Payment Details (Please enclose copy of electronic receipt)				
(i)	Cost of Bid	Rs.			
(ii)	Bid Processing Fee	Rs.			
(iii)	Bid Security	Rs.			
4	The bidder should have executed following quantities of work as per Clause 2a of Special Conditions of Contract for Pre Qualification.				
i	RCC/ PSC/ Design Mix concrete M 30 or above grade.				
A	Year of execution				
B	Quantity executed				
ii	Reinforcement steel/Strands/Structural steel				
A	Year of execution				



B	Quantity executed				
5	The bidder should have completed at least one similar nature work in last FIVE financial years (including current year, if opted by the bidder) of value as specified				
A	Value of work executed				
B	Financial year				
6	The bidder should have achieved an annual financial turnover				
A	Annual Turn over				
B	Financial Year				
7	Affidavit to deploy machinery and equipment as specified				
8	Bid Capacity=(A x N x 3 - B)				
(i)	A= Maximum value(at present price level) of Civil Engineering work				
(ii)	N= 2 .5years				
(iii)	B=Value at present price level of existing commitments and on going works to be executed during "N" period.				
(iv)	Litigation History				
9	Affidavit for Correctness of documents				
10	Declaration by bidder under RTTP Act. (Annexure A, B, C, D)				
11	Undertaking for not being blacklisted.				

Signature of Bidder with Seal



ANNEXURE- 5

UNDERTAKING FOR CORRUPT & FRAUDULANT PRACTICE

(On a Non- Judicial Stamp of Rs. 10/-)

It is confirmed and declared that we, or any of our associate, have not been engaged in any fraudulent and corrupt practice as defined in the General Conditions of Contract and that no agent, middleman or any intermediary has been, or will be, engaged to provide any services, or any other items of work related to the award and performance of this contract

STAMP & SIGNATURE OF AUTHORIZED SIGNATORY

NOTE:

1. In case of JV/Consortium, the undertaking shall be submitted by each member of the JV/Consortium.
2. The undertaking shall be signed by authorized signatory of the Bidder or constituent member in case of JV/Consortium.



INSTRUCTIONS TO BIDDERS (ITB)

1.0 GENERAL

1.1 Jaipur Development Authority invite e-Bids, from eligible applicants who fulfill the *qualification criteria* as stipulated in clause 1.1.2 of NIB, for the work, "Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipur"

The Bid documents consist of various documents listed in clause 1.1.3 of NIB, along with their annexure, appendices, addenda and errata, if any.

Bids shall be prepared and submitted in accordance with the instructions herein.

1.2 Key Relevant information and address for purchase of documents, correspondence and submission of Bid are provided in NIB. More details are as follows:

- a. Period for which the Bid is to be kept valid is 120 days from the date of deadline of submission of Bid.
- b. Date of "commencement" of work (Form A) shall be 15 days from the date of issue of "Letter of acceptance" or as indicated in the letter of acceptance.
- c. "Defects Liability Period" is (Form A) **36 months** from the date of actual date of Completion of the work.
- d. Period of completion for the work is (Form A) **30 Months** from the date of "commencement" of the work.

2.0 ELIGIBILITY REQUIREMENTS

2.1 The Bids for this contract will be considered only from those Bidders (proprietorship firms, partnerships firms, companies, corporations, consortia or joint ventures) who meet requisite qualification criteria prescribed in clause 1.1.2 of NIB.

2.1.1 A firm shall submit only one Bid either by himself, or as a partner in a joint venture, or as a member of a consortium. If a firm submits more than one Bid himself, or as a partner in a joint venture, or as a member of a consortium, all the Bids in which he has participated shall be considered invalid.

2.2 All Bids submitted shall include the following information :

2.2.1 The Bidder shall submit with his Bid, general information about the Bidder in prescribed Performa of **Form T-I** with full details of his ownership and control (Form T-I, Page 1 of 2) and, if the Bidder is a joint venture or consortium, full details of ownership and control of each member thereof (Form T-I, Page 2 of 2).

2.2.2 In case the Bidder comprises a joint venture or consortium, following requirements shall also be complied with:



- a. They must designate lead partner duly authorised by all the members who will represent the J.V. the lead partner must also be the largest share holder of the JV not less than 51%, and each partner should have share holding of at least 26%. JDA will only sent communication to the lead partner, which will be deemed to have been sent to all the JV partner. Similarly any negotiation and / or agreement with the lead partner shall be deemed to have been concluded with all the JV partners. All the members of JV shall be bound by the said communication and all acts / deeds of the lead member.
 - b. The total number of the JV partners shall not exceed 2 (Two).
 - c. The agreement between JV partners duly attested shall be submitted with the bid.
 - d. The individual partner of JV alone or with other partners cannot participate in the same bid.
 - e. Bid capacity is to be calculated by clubbing turnover and work in hand of all the Joint Venture firms.
 - f. Attested copy of the MoU / Agreement entered into by the joint venture / consortium members, duly notarized, shall be submitted along with the Bid with intended percentage participation, nomination of Lead Member and division of responsibility to clearly define the work of each member etc.
 - g. Nomination of one member of the joint venture / consortium to be person-in-charge; and this authorization shall be covered in the power of attorney signed by the legally authorized signatories of all the members of the joint venture / consortium.
 - h. The person-in-charge as aforesaid shall be authorized to incur liabilities and receive instructions for and on behalf of any and all the members of the joint venture / consortium and the entire execution of the contract including payment shall be carried out exclusively through the person-in-charge.
 - i. All members of the joint venture / consortium shall be jointly and severally liable for the execution of the Contract.
 - j. In the event of default by any member of the joint venture / consortium in the execution of his part of the contract, the person-in-charge will have the authority to assign the work to any other party acceptable to the Employer to ensure the execution of that part of the contract.
- 2.2.3 To qualify for award of contract, the Bidders shall submit a written power of attorney authorizing the signatory of the Bid to commit the Bidder or each member of the joint venture / consortium. In case of foreign members, power of attorney(s) and board resolutions confirming authority on the persons issuing the power of attorney for such actions, shall be submitted duly notarized by the notary public in the country of origin and stamped by the Indian Embassy / High Commission.
- 2.2.4 Deleted
- 2.3 Deleted.
- 2.4 Deleted



2.5 The Bidder should confirm and declare in the Bid submittal that they, or any associate, have not engaged in any fraudulent and corrupt and that no agent, middleman or any intermediary has been, or will be, engaged to provide any services, or any other items of work related to the award and performance of this contract.

3.0 COST OF BIDDING

3.1 The Bidder shall bear all costs associated with the preparation and submission of his Bid. JDA will not be in any way responsible towards the same. This will hold good in event of cancellation of bids also.

4.0 SITE VISIT

4.1 Any site information given in this Bid document is for guidance only. The Bidder is advised to visit and examine the Site of Works and its surroundings at his/their responsibility, risk and cost and obtain for himself on his own responsibility, all information that may be necessary for preparing the Bid and entering into a Contract.

4.2 The Bidder shall be deemed to have inspected the Site and its surroundings beforehand and taken into account all relevant factors pertaining to the Site in the preparation and submission of his Bid.

5.0 BID DOCUMENTS

5.1 CONTENTS OF BID DOCUMENTS

The Bidder is expected to examine carefully all the contents of the Bid documents listed in NIB including instructions, conditions, forms, terms, specifications and drawings and take them fully into account before submitting his offer. Failure to comply with the requirements as detailed in these documents shall be at the Bidder's risk. Bids, which are not responsive to the requirements of the Bid documents are liable to be rejected.

The RTPP rules will have overriding effect on all provisions not in coherence with the ACT if mentioned anywhere in Bid document

6.0 CLARIFICATION ON BID DOCUMENTS

6.1 While all efforts have been made to avoid errors in the drafting of the Bid documents, the Bidder is advised to check the same carefully and seek clarifications during pre bid meeting. No claim on account of any errors detected in the Bid documents shall be entertained.

6.2 A Bidder requiring any clarification of the Bid documents including any error or mismatch in the Bid documents, may notify the SE V , JDA by mail at his mailing address indicated in NIB.

7.0 AMENDMENT TO BID DOCUMENTS

During the Bid period, the Employer may issue further instructions to Bidders or any modifications to existing Bid documents in the form of an addendum. Such an amendment in the form of an addendum will issued as per provision of RTPP act & e- proc during the Bid period.



Without prejudice to the order of preference as specified in General Conditions of Contract, the provisions in such addenda shall take priority over the Invitation to Bid and Bid Documents issued previously

In order to afford prospective Bidders reasonable time for preparing their Bids after taking into account such amendments, the Employer may, at his discretion, extend the deadline for submission of the Bids .

PREPARATION OF BIDS

8.0 LANGUAGE OF BID

8.1 All documents shall be in English Language.

9.0 DOCUMENTS COMPRISING THE BID

The Bidder shall, on or before the date and time given in the Notice of Invitation to Bid, submit his Bid alongwith the following as per procedure at <http://eproc.rajasthan.gov.in> :

9.1 TECHNICAL Envelop

9.1.1 The technical Envelop shall comprise the followings :

- a. Proof of deposited Bid fee cost in valid instrument.
- b. Copy of deposited Bid Security instrument.
- c. All volumes of Bid documents as listed and Addendums issued subsequently except Bill of Quantities (BOQ) .
- d. Deleted
- e. Documents for qualification of eligibility criteria :
 - (i) Work experience of NIB along with completion certificates from client clearly indicating the nature/scope of work, actual completion cost and actual date of completion for such work.
 - (ii) Financial data for last five audited financial years of NIB along with audited balance sheets. The financial data in the prescribed format shall be certified by Chartered Accountant with his stamp and signature.
 - (iii) Financial data for last five financial years of NIB along with audited financial statements. The financial data in the prescribed format shall be certified by the Chartered Accountant with his stamp and signature.
 - (iv) Undertaking for not blacklisted of NIB.
 - (v) Undertaking for not engaged in corrupt & fraudulent practice of NIB.



- f. Self attested copy of the registration certificate and clearance certificate under Rajasthan VAT Act, 2003 is required to be submitted. In case of Joint ventures/consortia, the above is required to be submitted by all partners of the same. In case of the foreign based contractors they shall be required to submit the necessary documents as applicable to them according to Rajasthan VAT Act 2003. As per Rajasthan VAT Act, the party who is executing work in Rajasthan has to have registration with VAT authorities of Rajasthan. If a Bidder from outside Rajasthan intends to participate in JDA Bid, he can be permitted provided he gives an undertaking to the fact that he will get himself registered with Rajasthan VAT authorities, in the event of issue of Letter of acceptance to the Bidder and shall submit registration number before claiming iNIBial advance or first payment whichever is earlier. In the absence of registration detail with Rajasthan VAT Department, EPF authority, first payment shall not be released.
- g. General Information of Bidder in Form T-I (Page 1 & 2) along with :
 - (i) Document in support of legal status and ownership & control of the Bidder or each member in case of JV / Consortium (undertaking for sole proprietorship / partnership deed / Memorandum & Articles of Association).
 - (ii) In case of JV/Consortium, MoU/Agreement (duly notarized) entered into by the joint venture / consortium members, containing intended percentage participation, nomination of Lead Member and division of responsibility to clearly define the work of each member etc.
 - (iii) Attested Copy of Power of Attorney/ Authorization in favour of authorized representative of Bidder or person-in-charge in case of JV/Consortium to represent the Bidder.
 - (iv) Power of Attorney in favour of authorized representative of each member in case of JV/Consortium

9.1.2 In addition to above, technical package shall also contain following :

- a. Names and addresses of sub-contractors who are proposed to be engaged for execution of different types of works as well as the details of the experience and past performance of such Sub-contractors will be required to be furnished in the format prescribed . This information shall be given for all critical items of works on/off site irrespective of the status of the Sub-contractors in the Bid. The total sub-contracting shall not exceed 50% of the value of work. In case of sub-contractors the complete details as per the format prescribed will be furnished.
- b. Undertaking for deployment of required Project Personnel by the Bidder for the work in format conforming to the minimum educational & experience requirements stipulated therein.
- c. Site organization chart with narrative description along with relationship between head-office and site management .
- d. Details of Plant & Equipment proposed to be deployed by the Bidder for the work in the format prescribed



- e. . Major Plant & Equipments are to be provided as per the minimum scale indicated in Format. Any proposal with major Plant & Equipment lesser than specified will not be acceptable and will be penalized as detailed in special conditions of contract. .

f. **Technical Proposal (Form T-VI)::**

The proposal should cover in detail the following:

- i. Understanding and comprehension of the work involved.
- ii. The general approach and methodology proposed for carrying out the services covered in the Scope of Work, including such detailed information as deemed relevant.
- iii. Bid Work Schedule (Form T-VII).

A detailed overall Work Programme in terms of weeks from Commencement Date of Works and a bar chart indicating the duration and timing of all major activities shall be prepared and submitted along with the Bid. Bar chart shall be made showing the activity to be performed along with duration of each activity. Broadly all the major activities required for carrying on the work should be shown.

The Works Programme given in the Bid shall not in any event be construed as a submission of the Works Programme as required to be furnished according to the Employer's requirements.

g. **Quality Assurance Plan**

- (i) The Bidders shall submit their corporate quality policy document duly signed by the corporate head or authorized person.
- (ii) The Bidders shall submit an OUTLINE Quality Plan, illustrating the intended means of compliance as per JDA stringent quality requirements and setting out in summary form an adequate basis for the development of the more detailed document. The Outline Quality Plan shall contain sufficient information to demonstrate clearly the proposed method of achieving the Bidder's Quality objectives with regard to the requirements of the contract and shall, as a minimum, address the quality system elements as required by ISO 9001. Details of the quality assurance system and organization to enforce the same (Bidder may furnish the details in a narrative form).
- (iii) The contractor shall also associate for the checks conducted by JDA / nominated agencies for the QA and take necessary steps for improvement/ confirmation.

h. **Safety, Health And Environmental Plan :**

- (i) The Safety, Health and Environmental (SHE) document has been provided alongwith the bid documents. The bidder is not required to upload this document alongwith other bid documents. The acceptance of compliance of this document will be deemed alongwith submission of bids.



- (ii) The contractor should associate themselves with any Safety checks undertaken by the Employer or any agency nominated by it for Safety and take necessary steps for improvement / confirmation.

9.2 BOQ

9.2.1 The financial package, clearly labeled as “ BOQ” will contain the following:

a. Bill of Quantities

9.2.2 The prices shall be entered at the prescribed place as per e-Bid procedure. These prices should include all costs associated with the contract & applicable taxes.

9.3 Documents to be submitted by the Bidder have been described under the respective Clauses 9.1 and 9.2. This list of documents has been prepared for the convenience of the Bidder and any omission on the part of the Employer shall not absolve the Bidder of his responsibility of going through the various clauses in the Bid Documents including the specifications and to submit all the details specifically called for (or implied) in those clauses.

9.4 In the case of a joint venture/consortium, information as required under Clause 2.2.2, in respect of each partner/company will be required to be furnished. Additional sheets of Performa may be used where necessary.

9.5 DELETED

10.0 BID PRICE

The Contract shall be for the whole works as described in scope of work. The Bid prices shall be governed by General Conditions of Contract and shall be subject to limitations of Special Conditions of Contract and nothing extra which is not included in the contract price shall be payable.

10.1 Deleted. .

10.2 Deleted

10.3 The Bidder shall keep the contents of his Bid and rates quoted by him confidential.

10.4 Deleted

10.5 The Bidder should quote his rates inclusive of all taxes, duties, royalties etc. No price revision will be considered for any revision in taxation structure whatsoever. The successful Bidder (the Contractor) shall maintain meticulous records of all the taxes and duties paid and provide the same as and when required by the Employer to seek reimbursement. Alternatively, the Employer may direct the Contractor to get the reimbursements based on exemption certificates / government's order and it shall be obligatory on part of the Contractor to get the exemptions / reimbursements as the case may be and pass it on to JDA.

11.0 CURRENCIES OF THE BID



11.1 Bid prices shall be quoted in Indian Rupees only.

12.0 BID VALIDITY

12.1 The Bid shall remain valid and open for acceptance for a period of 120 days from the Last date of submission of Bid as indicated in NIB.

12.2 In exceptional circumstances, prior to expiry of the original Bid validity period, the Employer may request the Bidders for a specified extension in the period of validity in writing or by Tele-fax. A Bidder may refuse the request without forfeiting his Bid security. A Bidder agreeing to the request, shall not be required or permitted to modify his Bid but will be required to extend the validity of his Bid security correspondingly.

13.0 BID SECURITY

13.1 The Bidder shall furnish with his Bid, a bid security of Rs. 410.0 lacs (Rs.four hundred & ten lacs only) for bidders registered with any Govt. Department in AA Class. For bidders registered in AA class in JDA bid security will be 102.50 lacs (One hundred two lacs & fifty thousands only).

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. Registered on JDA website www.jaipurjda.org (by depositing Rs.500.00 online, the validity of which remains 3 (three) years.)
For participating in the Bid, the Bidder has to apply for this Bid and pay the bid Document Fee, RISL Processing Fee and Bid Security Deposit online only.
2. Registered on e-Procurement Portal of Government of Rajasthan www.eproc.rajasthan.gov.in for online e-Bid submission.

Methods for depositing online amount.

- Online through internet Banking, Debit card or Credit Card.
- In case the amount exceeds the online payment limit, the payment may be made through RTGS/NEFT/Transfer in Bank Account Number 675401700586 IFSC Code ICIC00006754 of ICICI Bank limited, JDA Campus Jaipur.



In Case of RTGS/NEFT/Transfer the bidder is required to deposit the requisite amount in the dedicated bank account number as mentioned above and has to get the UTR/ Reference number from the bank. This number requires to be updated while applying the bid on JDA portal.

While participation in the bid, a receipt will be generated through the system showing the submission details as per Annexure-4. The bidder is required to fill the instrument numbers for various heads on e-procurement portal www.eproc.rajasthan.gov.in as mentioned in the receipt.

More details about Registration Process, Terms and Conditions and FAQ along with contact details is available on JDA website www.jaipurjda.org under e-Services>>JDA tender.

NOTE :

JDA will not be responsible for delay in online submission due to any reason. To avoid this, bidders are requested to upload the complete bid well advance in time so as to avoid 11 th hour issues like slow speed, chocking of web site due to heavy load or any other unforeseen problems.

13.2 Deleted

13.3 Any Bid not accompanied by an acceptable Bid security will be summarily rejected.

13.4 The Bid securities of unsuccessful Bidders shall be discharged / returned by the Employer as promptly as possible but not later than 30 days after the expiration of the period of Bid validity.

13.5 The Bid security of the successful Bidder shall be returned upon the Bidder executing the Contract Agreement after furnishing the required performance guarantee for performance, as per the Contract.

13.6 The Bid security shall be forfeited:

- a. If a Bidder withdraws his Bid during the period of Bid validity, or
- b. In the case of a successful Bidder, if he fails to enter into the Contract within the time limit specified.

13.7 No interest will be payable by the Employer on the Bid security amount cited above.

14.0 PRICING OF CONDITIONS, QUALIFICATIONS, DEVIATIONS ETC.

The Bidder shall submit his Bid without any conditions, deviations etc to the Bid documents.

15.0 PRE- BID MEETING

Pre-bid meeting will be held on date & time as specified in NIB.

16.0 FORMAT AND SIGNING OF BIDS

16.1.1 If the Bid is submitted by a proprietary firm it shall be signed by the proprietor above his full name and the full name of his firm with its current address.

16.1.2 If the Bid is submitted by a firm in partnership, it shall be signed by a partner holding the power of



Attorney for the firm. A certified copy of the Partnership deed and power of attorney shall accompany the Bid. Alternatively, it shall be signed by all the partners.

- 16.1.3 If the Bid is submitted by a limited company or a limited corporation, it shall be signed by a duly authorized person holding the power of attorney for the firm. A certified copy of the power of attorney shall accompany the Bid.
- 16.1.4 If a Bid is submitted by a joint venture or consortium of two or more firms, it shall submit complete information pertaining to each firm in the joint venture or consortium and state along with the Bid as to which one of the firms shall have the responsibility for Biding and also furnish evidence admissible in law in respect of the authority assigned to such firm on behalf of the joint venture or consortium for Biding. All members shall be jointly and severally responsible for all aspects of the Bid and the consequent Contract.
- 16.2 All amendments/corrections/ overwriting shall be notarized by the person or persons signing the Bid.
- 16.3 All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be written below their signatures.

17.0 Submission of of Bids

- 17.1 The Bid security is required to be submitted as detailed above in the along with Bidding document fee: Rs. 50000.00 Rupees (Rs. Fifty Thousands only) ,
RISL Processing Fee: Rs. 1000 (Rupees One Thousand only) and bid security.
- 17.2 Bids shall be submitted as per e-Bid procedure at <http://eproc.rajasthan.gov.in>

18.0 Deleted

19.0 Deleted

20.0 Deleted

BID OPENING AND EVALUATION

21.0 BID OPENING

- 21.1 Technical bids of only those bidders will be opened on due date whose Bid Security, Bid document fee & RSIL fee have been submitted as per clause 17 of this document
- 21.2 On opening of the main Bid envelopes, it will be checked for proper uploading of Bid.
- 21.3 Technical Package of the Bid will thereafter be opened and examined to see if they are complete. If the documents do not meet the requirements of the Employer, a note will be recorded accordingly by the Bid Opening Authority and the said Bidder's Financial Package will not be considered for further



processing.

- 21.4 The Technical Bid evaluation summary will be uploaded on e-proc site.
- 21.5 Financial bids (BOQ) will be opened as per outcome of the technical bids after intimation as per clause 21.4.

22.0 BID EVALUATION PROCESS TO BE CONFIDENTIAL

- 22.1 Deleted.
- 22.2 Any effort by a Bidder to influence the Employer/Engineer in the process of examination, clarification, evaluation and comparison of Bids and in decisions concerning award of contract, may result in the rejection of the Bidder's Bid.

23.0 CLARIFICATION OF BIDS

- 23.1 To assist in the examination, evaluation and comparison of bids, the employer may ask the Bidders individually for clarifications of their bids as per order issued in JDA vide No.-169 dated 21.11.2014 (copy enclosed)

DETAIL EVALUATION PROCESS OF BIDS

24.0 EVALUATION OF TECHNICAL PACKAGE

- 24.1 Technical packages will first be evaluated which will cover following items:

24.2 General Evaluation:

- 24.2.1 The Employer will determine whether each Bid :
- i. is accompanied by the required Bid Security, Bid Document Fee & RSIL Fee.;
 - ii. contains all Bid documents and addendum.;

24.4 Evaluation of eligibility :

- 24.4.1 The Employer, keeping in view the *eligibility criteria* as specified in NIB (clause 1.1.2) will check the evaluation parameters. Further technical evaluation of their submission shall be evaluated only when they qualify the *eligibility criteria*.

24.2 Evaluation of Responsiveness:

- 24.2.1 The evaluation of bids will be in pursuant to relevant clause of the RTPP ACT .The Employer will determine whether each Bid is substantially responsive to the requirements of the Bid Documents i.e. it conforms to all the terms, conditions and specifications of the Bid documents without material deviation or reservation which include exceptions, exclusions & qualifications. A material deviation or reservation is one which affects in any substantial way the scope, quality, performance or administration of the works to be undertaken by the Bidder under the Contract, or which limits in any substantial way, the Employer's rights or the Bidders obligations under the Contract as provided for in



the Bid documents and / or is of an essential condition, the rectification of which would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids at reasonable price.

24.2.2 If a Bid is not substantially responsive to the requirements of the Bid documents, it will be rejected by the Employer, and will not subsequently be permitted to be made responsive by the Bidder by correction or withdrawal of the non-conformity or infirmity. The financial package of such bidder will not be opened

24.3 The decision of the Employer as to which of the Bids are not substantially responsive shall be final.

24.4 Evaluation of Technical proposal & other technical data :

24.4.1 The Employer will evaluate the technical suitability and acceptability of the proposals as per the employer's requirements.

24.5 Where a Bidder's technical submittal has major inadequacies his Bid will be considered to be non-compliant and will be rejected.

25.0 EVALUATION OF FINANCIAL PACKAGE

25.1 All technically acceptable Bids will be eligible for opening of their financial proposals. The Employer shall upload the opening of the financial proposal on e-proc site. The financial proposal will then be opened as notified .

25.2 Deleted

25.3 Deleted

25.4 Deleted.

25.5 Evaluation of financial offer will be based on quantities in Bill of quantities (BOQ) and percentage variation quoted on the total price quoted.

26.0 CORRECTION OF ERRORS

26.1 Deleted

AWARD OF CONTRACT

27.0 AWARD CRITERIA

27.1 Subject to Clause 25.0, the Employer will award, the Contract to the Bidder, whose Bid is responsive, complete and in accordance with the Bid documents, and who's Evaluated Price is determined to be the lowest.

28.0 EMPLOYER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

28.1 Notwithstanding Clause 27.0, the Employer reserves the right to accept or reject any Bid, and to annul the Bid process and reject all Bids, at any time prior to award of Contract, or to divide the Contract between/amongst Bidders without thereby incurring any liability to the affected Bidder or Bidders or



any obligations to inform the affected Bidder or Bidders of the grounds for the Employer's action.

29.0 NOTIFICATION OF AWARD

29.1 Prior to the expiry of the period of Bid validity prescribed by the Employer, the Employer will notify the successful Bidder by recorded mail/ Email/ Tele-fax, with uploading on e-proc site, that his Bid has been accepted. This letter (hereinafter and in the Conditions of Contract called 'the Letter of Acceptance') shall name the sum which the Employer will pay to the Contractor in consideration of the execution, completion, maintenance and guarantee of the works by the Contractor as prescribed by the Contract (hereinafter and in the conditions of Contract called 'the Contract Price'). The "Letter of acceptance" will be sent in duplicate to the successful Bidder, who will return one copy to the Employer duly acknowledged and signed by the authorized signatory, within one week of receipt of the same by him. No correspondence will be entertained by the Employer from the unsuccessful Bidders.

29.2 The Letter of Acceptance will constitute a part of the contract.

29.3 Upon "Letter of acceptance" being signed and returned by the successful Bidder as per Clause 29.1, the employer will promptly notify the unsuccessful Bidders and discharge / return their Bid securities.

30.0 SIGNING OF AGREEMENT

30.1 Within 2 weeks of receipt of the documents as mentioned in clause 30.2, the successful Bidder will be required to execute the Contract agreement. One copy of the Agreement duly signed by the Employer and the Contractor through their authorized signatories, will be supplied by the Employer to the Contractor.

30.2 The successful Bidder shall submit the following documents within 15 days from the date of issue of the Letter of Acceptance:

- a. Physically Signed GCC with required Non Judicial stamps for contract agreement.
- b. Additional Performance Guarantee for the difference of the amount for the rate quoted below the scheduled rates .
- c. Power of Attorney(s) and Board Resolution (In case of Foreign Partners, to be duly notarized by notary public and stamped by the Indian Embassy/High Commission) in case of any change than submitted along with Bid submittals.

31.0 PERFORMANCE SECURITY

The successful Bidder shall furnish to the Employer a performance security only for the difference of the amount for the rate quoted below the scheduled rates .



PROFORMA OF FORMS - GENERAL

FORM OF BID

- Note : i. The Appendix forms part of the Bid
ii. Bidders are required to fill up all the blank spaces in this form of Bid and Appendix.

Name of Work : Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipur

To,

Superintending Engineer (V)

MB GF 33C, Ground Floor Near Electric Room,

Main Building, Ram Kishore Vyas Bhavan, Indira Circle,

Jawahar Lal Negru Marg, Jaipur- 302004 (Rajasthan)

1. Having visited the site and examined the General as well as Special conditions of contract, Specifications, relevant BSR with updated correction slip, Special Specifications, Instructions to Bidders, Bid Drawings and Addenda for the execution of above named works, we the undersigned, offer to execute and complete such works and remedy defects therein in conformity with the said Conditions of Contract, Specifications, Bid Drawings and Addenda for the sum quoted in BOQ
2. We acknowledge that the Appendix forms an integral part of the Bid.
3. We undertake, if our Bid is accepted, to commence the works within 15 days of issue of the Engineer's order to commence and to complete the whole of the Works comprised in the Contract within **30 Months** calculated from the date of commencement of work, as indicated in the Appendix.
4. If our Bid is accepted, we will furnish a Bank Guarantee for additional Performance security for the due performance of the Contract. The amount and form of such guarantee or bond will be in accordance with Conditions of the Contract..
5. We have independently considered the amount shown in the General Conditions of Contract and Special conditions of contract as liquidated damages and agree that they represent a fair estimate of the damages likely to be suffered by you in the event of the work not being completed in time.
6. We agree to abide by this Bid for a minimum period of 120 days from the last date of submission of bids and it shall remain binding upon us and may be accepted at any time before the expiry of that period or any extended period mutually agreed to.
7. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
8. We declare that the submission of this Bid confirms that no agent, middleman or any intermediary has been, or will be engaged to provide any services, or any other item of work related



to the award and performance of this Contract and that we have not breached or will be breaching the Conditions of Contract. We acknowledge the right of the Employer, if he finds to the contrary, to declare our Bid to be non-compliant and if the Contract has been awarded to declare the Contract null and void.

- 9. We understand that you are not bound to accept the lowest or any Bid you may receive.
- 10. If our Bid is accepted we understand that we are to be held solely responsible for the due performance of the Contract.

Dated this.....day of..... 2016

Signature

Name..... in the capacity of

duly authorized to sign Bids for and on behalf of.....

Address

Witness :

Signature :.....

Name :.....

Address :.....



Form of (Bank Guarantee) -En cashable at 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 the Bid Security for Bid for Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipur.r.

WHEREAS, _____ [name of Bidder with address] (hereinafter called "the Bidder") has submitted his Bid dated for the work of Construction of Elevated Road from Sodala tri-Junction to LIC Office near Ambedekar Circle, Jaipur.r.
. (Name of Work) (hereinafter 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 encashable at 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, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

The amount covered under the above Bank Guarantee shall be automatically be credited in the accounts of JDA in ICICI Bank, JDA Campus, Jaipur through **ISFC code No ICICI0006754. 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 written for its release.

Date _____ Signature of the Bank _____

Witness _____ Seal _____

[Signature, Name and Address]

[Note: To be furnished on appropriate non-judicial stamps.]



FORM T-I (PAGE 1 OF 2)

GENERAL INFORMATION OF BIDDER

A. BIDDER INFORMATION SHEET		
Bidder' s Legal Name		
Legal status of the Bidder	Sole Proprietorship Firm / Partnership Firm / Private Limited Company / Public Limited Company / Joint Venture / Consortium	
In case of single entity, ownership & control of the Bidder		
In case of JV/Consortium, Legal name of each partner with percentage participation (also provide information of each member in separate sheet (page 2 of 2))	Legal Name of JV/Consortium member	% participation
	1.	
	2.	
Lead member of JV/Consortium		
Bidder's actual or intended country of constitution		
Bidder's legal address, telephone numbers, fax numbers, email address)		
Bidder's authorized representative or person-in-charge in case of JV/Consortium (name, designation, address)		



- ATTACH COPIES OF FOLLOWING ORIGINAL DOCUMENTS :**
- Document in support of legal status and ownership & control of the Bidder or each member in case of JV/Consortium (undertaking for sole proprietorship / partnership deed / Memorandum & Articles of Association).
 - In case of JV/Consortium, submit MoU/Agreement (duly notarized) entered into by the joint venture / consortium members, containing intended percentage participation, nomination of Lead Member and division of responsibility to clearly define the work of each member etc.
 - Authorization/POA in favour of authorized representative of Bidder to represent the Bidder, and also in favour of authorized representative of each member in case of JV/Consortium.

B. JV/CONSORTIUM MEMBER INFORMATION	
MEMBER – 1	
JV/Consortium Member’s Legal Name	
Legal status of the JV/Consortium Member	Sole Proprietorship Firm / Partnership Firm / Private Limited Company / Public Limited Company
Ownership & control of the JV/Consortium Member	
JV/Consortium Member’s country of constitution	
JV/Consortium Member’s legal address, telephone numbers, fax numbers, email address)	
JV/Consortium Member’s authorized representative (name, designation, address)	

**SIGNATURE OF AUTHORIZED SIGNATORY
ON BEHALF OF BIDDER**



EXPERIENCE RECORD OF SUB-CONTRACTORS

Note :

- (i) In Para 2 furnish experience record of each sub-contractor by way of works executed during the last five years and of works in progress now. Details may be furnished of only works similar in nature to the work proposed for Sub-contracting.
- (ii) In Para 2 col.3 “Employer” means the organization which paid for the works and the “Engineer” means the consulting Engineer for the project.

Sl. No.	Description of Works proposed for sub-contracting	Name and Address of Sub-Contractor/Associate identified for executing such work
1	2	3

UNDERTAKING:

We confirm that subcontracting will not exceed 50 % of the Total contract amount.

(Signature of the Bidder)

**Form T-II**

Page 2 of 2

Sl. No.	Name of Sub-contractor	Name of work executed by the pro-posed sub-contractor with location and name & address of “Employer” as well as “Engineer”	Total value of the work (Rs. Crore)	Value for which the proposed subcontract or was responsible (Rs. Crores)	Contract Period			Certificates Placed at	
					Stipulated (Years)	Actual		Annexure No.	Page No.
						Start (date)	Completion (date)		
1	2	3	4	5	6a	6b	6c	7a	7b

Notes :

- (i) Details submitted in any other proforma will not be considered.
- (ii) All the details should be supported by attested copies of certificates from clients for each entry otherwise it will not be considered.
- (iii) Additional pages may be attached if required.
- (iv) All the pages must be signed by the authorized signatory of the Bidder.



RESOURCES PROPOSED FOR THE PROJECT – PERSONNEL

S. NO.	KEY POSITION/ DESIGNATION	REQUIREMENTS OF PROJECT PERSONNEL	
		NOS.	QUALIFICATION AND EXPERIENCE
1.	Project Manager	1	Graduate in Civil Engg., Minimum 3 years as In-charge of similar works and minimum 15 years total experience
2.	Dy. PM	1	Graduate in Civil Engg. Minimum 2 years as In-Charge of similar works and minimum total experience 10 years.
3.	Planning Engineer	1	Graduate in Civil Engg. With knowledge in MS project software. Total minimum experience of 10 years out of which minimum 5 years experience in relevant field .
4.	Survey Expert	1	Graduation /Diploma in concerned Civil Engineering / surveying, Total minimum experience of 10 years
5.	Civil Engineer	12	Graduation /Diploma in concerned Disciplines, Total minimum experience of 10 years out of which minimum 3 years experience should be of segmental construction. However these conditions will be binding for 6 only . Other can be fresher.
6.	Structural Engineer	1	Graduation in concerned Disciplines, Total minimum experience of 10 years out of which minimum 5 years experience in relevant field.
7.	Quality Assurance/Quality Control Specialists	1	Graduate in Civil Engg. Certificate /Diploma in Quality Assurance with minimum 5 years of experience.
8.	Safety Officer	1	Degree/Diploma with Minimum 5 yrs. In safety (field) and out of which one year as In-Charge.
9.	Procurement Specialist	1	Graduation, Minimum 5 yrs. in QA (field) and out of which one year as In-Charge. Minimum total experience 10 years.
10.	Electrical/Mechanical Engineer	2	Graduation in respective discipline with Minimum 5 yrs. In safety (field) and out of which one year as In-Charge. Minimum total experience 10 years.
11.	CAD operator	1	Diploma in civil engineering with minimum 2 years in Auto Cad operation

NOTE:



- i) Deployment of the Project Personnel shall be as per actual requirement from time to time to be approved by the Engineer.

UNDERTAKING:

- i) We confirm to deploy project-personnel required to achieve progress of work as per base-line program of the work approved by Engineer.
- ii) We confirm to deploy manpower requirement of SHE Organization as required under General Instructions: Under condition of contract on Safety, Health & Environment, and also confirm to deploy manpower over and above the minimum numbers.

**SIGNATURE OF AUTHORIZED SIGNATORY
ON BEHALF OF BIDDER**



FORM T-IV

PROPOSED SITE ORGANISATION

SITE ORGANISATION CHART WITH NARRATIVE DESCRIPTION ALONG WITH RELATIONSHIP BETWEEN HEAD-OFFICE AND SITE MANAGEMENT :



TECHNICAL PROPOSAL

A. UNDERSTANDING AND COMPREHENSION OF THE WORK INVOLVED.

(The Bidder shall give a brief on these items)

B. GENERAL APPROCH AND METHODOLOGY INCLUDING SUCH DETAILED INFORMATION AS DEEMED RELEANT.

(The Bidder shall give a brief on these items)

C. BID WORK SCHEDULE

(Please attach the work schedule)



APPENDIX I

CHECK LIST OF DOCUMENTS TO BE SUBMITTED WITH THE BID

Sl. No.	Document	YES / NO / NA
Envelop-1		
1.	Bid security (q1 Photocopy of Original)	
2.	Cost of Bid document /RISL Cost	
Envelop-2		
Folder -1 (Uploading)		
1.	All Bid documents except SHE document	
2.	All Addendums	
Folder -2 (Uploading)		
1.	Annexure-1 : Work Experience -I	
2.	Client's Completion Certificates (Work -I)	
3.	Annexure-1 : Work Experience -II	
4.	Client's Completion Certificates (Work -II)	
5.	Annexure-1 : Work Experience -III	
6.	Client's Completion Certificates (Work -III)	
7.	Annexure-2 : Financial Data (duly certified by CA)	
8.	Annexure-3A : Financial Data (duly certified by CA)	
9.	Annexure-3B : Financial Data (duly certified by CA)	
10.	Annexure-4 :Undertaking for not Blacklisted	
11.	Annexure-5 :Undertaking for corrupt & Fraudulent Practice	
12.	Tax Registration Certificate	
13.	General Information of Bidder (Form T-I)	
14.	Document in support of legal status and ownership & control of the Bidder or each member in case of [JV/Consortium (undertaking for sole proprietorship / partnership deed / Memorandum & Articles of Association)	
15.	MOU/Agreement for consortium / joint venture	
16.	Authorization/POA in favour of authorized person signing on behalf of the Bidder(including authorization in favour of person issuing POA/authorization)	
17.	Power of attorney in favour of authorized person of each member in case of Joint Venture/ Consortium(including authorization in favour of person issuing POA)	
18.	Experience Record of Sub-Contractors (Form T-II)	
19.	If proposing any subcontracting undertaking for not exceeding more than 50 % of total contract.	
20.	Resources for the Project – Personnel (Form T-III)	
21.	Proposed Site Organization Chart (Form T-IV), ensuring that the period proposed should not spill beyond the completion period given in the NIB.	
22.	Resource for the Project – Plants & Equipments (Form T-V)	
23.	Bid Work Schedule (Form T-VII)	
1.	Bill of Quantities	



BID

I/We have read and examined the notice inviting bid, schedule of quantities, specifications applicable, drawings and designs, general rules and direction, conditions of contract, clauses of contract, special conditions, schedule of rates and other documents and Rules referred to in the conditions of contract and all other contents in the bid documents for the work.

I/We hereby bid for the execution, for the JDA, of the work specified in the underwritten memorandum within the time specified in such memorandum at the rate quoted in the schedule of quantities and in accordance in all respect with the specifications, designs, drawings and instructions in writing referred to in General Rules and Directions and the conditions of contract and with such materials as are provided for, by and in all respects in accordance with such conditions so far as applicable.

I/We agree to keep the bid open for **one twenty days** from the due date of submission thereof and not to make any modifications in its terms and conditions.

A sum of **Rs 410.0 Lacs (102.50 lacs for contractors registered in appropriate category in JDA)** hereby forwarded in the required form as Bid security.

If I/We fail to commence the work as specified I/We agree that the JDA shall without prejudice to any other right or remedy available in law be at liberty to forfeit the said Bid Security, other wise the said Bid Security shall be retained by them towards performance security, to execute all the works referred to in the bid documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, up to a maximum of **50%Percent**, herein after referred to as the deviation limit of bided amount, at the rates quoted in the bid documents and those in excess of that limit at the rate so to be determined in accordance with the provisions contained in clauses of the bid form.

Further, I/we agree that in case of forfeiture of Bid Security as aforesaid, I / we shall be debarred for participation in the bidding process in JDA for 6 months.

I/We hereby declare that I/We shall treat the bid documents, drawings and other records connected with the works as secret/confidential documents and shall not communicate information derived there from to any person other than a person to whom I/We/am /are authorized to communicate the same or use the information in any manner prejudicial to the safety of the state.

Dated.....

Signature of Contractor

Witness:

Address

Address:



ANNEXURE -'J'

SPECIAL CONDITIONS OF CONTRACT REGARDING DEFECT LIABILITY PERIOD

1. Conditions Regarding Security Deposit

1.1 Security Deposit -

Security deposit @ 10% of work order amount shall be solicited from all successful bidders as per RTPP act & orders.

1.2 Refund of Performance Security.

The Security deposit will be released after satisfactory performance certificate issued by Engineer-In-Charge after completion of 36 months or three complete rainy season whichever is later.

1.3 Forfeiture of Security deposit

In case contracting agency fails to rectify the defects within stipulated period notified to him by the Engineer-in-charge concerned under contract agreement, the Engineer-in-charge shall serve a final notice for 5 days time reckoned from the date of issue of notice to rectify the defects. In case the contracting agency not responding to the notice and fails in rectification of defects the Engineer-in-charge will get the defect removed at the risk and cost of the contracting agency. Action such as encashment of Bank Guarantee and action under enlistment rules etc. shall also be taken against the contracting agency by the competent authority.

1.4 Force Majeure

The defect arises due to earthquake, cyclone, and natural calamities shall not be the responsibly of contracting agency.

**Executive Engineer(Pr-I)
JDA, Jaipur.**

**Signature of Contractor
With full name, address & phone.**



Annexure A: 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 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 anticompetitive 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 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.

(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.



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 :



Annexure C : Grievance Redressal during Procurement Process

The designation and address of the First Appellate Authority is **EC of JDA**

The designation and address of the Second Appellate Authority is **ACS/PS (UDH)**

(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 thereunder, 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 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 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

(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 first appellate authority or second appellate authority, as the case may be, in person or through registered post or authorised representative.

(6) 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.

(7) 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 or 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.



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. 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 contract, the quantity of Goods, works or services originally specified in the Bidding Document 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 Document. 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 in circumstances, the Bidder shall not be entitled for any claim or compensation except otherwise provided in the Conditions of Contract.
- (i) 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 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, in such cases, the quantity may be divided between the Bidder, whose Bid is accepted and the second lowest Bidder or even more Bidders in that order, in a fair, transparent and equitable manner at the rates of the Bidder, whose Bid is accepted.



SCHEDULE 'H': CONDITION OF CONTRACT

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 :

AGREEMENT NO.

Year

Circle

Division

Sub-Division

Name of Work

Name of Contractor

Sanction No. Dt. Rs.

Technical Sanction No.

Job No.

(a) Stipulated Date of Start of work

(b) Stipulated Date of Completion of work

(c) Actual Date of Completion

Extension applied on & sanctioned

Vide : C.E./S.E./E.E. No. Dt. 20

Page

Details of Documents

(a) Percentage Rate Tender R.P.W.A. 100
(See rule-322 & note 1 below rule 331)

(b) Schedule A to F

(c) Schedule H

(d) Schedule G

(e) Schedule

(f) General Specification and Conditions of Contract

(g) Contractor's Labour Regulations

(h)

(i)

No.

Date

- Copy forwarded to :
1. The Accountant General Rajasthan, Jaipur/Chief Accounts Officer
 2. The Superintending Engineer
 3. The Divisional Accountant/Divisional Accounts Officer/Sr. DAO
 4. The Assistant Engineer/JEN
 5. Auditor
 6. Shri Contractor
 7. M/s

Amended up to 25-9-2013

**GOVERNMENT OF RAJASTHAN OFFICE OF
THE
DEPARTMENT.....
NOTICE INVITING TENDERS FOR WORKS**

**APPENDIX XI
(RPWA-100)
(See Rule 322 & Note 1
below Rule 331)**

1. Tenders are hereby invited on behalf of the Governor of Rajasthan for the works of from enlisted contractors of the appropriate class. Contractors enlisted with the CPWD, Postal, Telecom, Railway, MES, other State Governments/Central Government Undertakings/Organisations equivalent to AA and A Class of Rajasthan are also eligible after giving prescribed Earnest Money to tender for works as under :-
 - (i) Contractors equivalent to AA Class of Rajasthan Works of which cost exceeds Rs. 1.5 crores
 - (ii) Contractors equivalent to A Class of Rajasthan Works of which cost exceeds Rs. 1.5 crore but not exceed Rs. 3.00 crores
2. Contract document consisting of the detailed plan, complete specifications, the Schedule of the quantities of the various classes of work to be done and the set of Conditions of Contract to be complied with by the persons whose tender may be accepted, which will also be found printed in the form of tenders, can be seen at the office of the (name of the officer) every day except on Sundays and Public Holidays, during office hours.
3. Tenders, which should always be placed in sealed covers with the name of the work written on the envelopes, will be received by the (name of the officer) upto am/pm (time) on the (date) and will be opened by him in his office at am/pm (time) on, (date) in the presence of such Contractors or their authorised representatives, as are present.
4. Tenders are to be submitted on a prescribed form, which can be obtained from the office(s) of the (name of the officer(s)) on payment of a sum of Rs. in cash or by demand draft. The sale of tender forms will start at least days before the date of receipt of tenders. The sale of tenders will be closed one day before actual time of receipt of tender. Before submitting tenders, it should be ensured that all the tender papers including Conditions of Contract are signed by the tenderer. Eligibility to get tender forms shall be with reference to the amount mentioned in the NIT.
5. The work is to be completely finished to the satisfaction of Engineer-in-charge within months from the 10th day after the date of written order to commence the work.
6. Earnest Money, amounting to Rs., must accompany each tender, and each tender is to be in a sealed cover, superscribed "Tender for" and addressed to the (name of the officer). Earnest Money, in cash or Bankers Cheque in the name of officer inviting tender or Demand Draft of Nationalised/Scheduled Banks, should be deposited with the cashier or authorised clerk and his receipt should be attached with tenders. In case of tenders for works of which tendered cost is Rs. 5 crores and above, Earnest Money of Rs. 10 lac shall be accepted in cash as above and remaining part of Earnest Money can be accepted either in the form of Bank Guarantee (Form RPWA 87) or in cash. Enlisted contractors shall be required to deposit 1/2% of estimated cost of work as Earnest Money while tendering within their enlistment zone. For outside their zone, 2% Earnest Money shall be required to be deposited.
7. 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. However, the amount of security deposit deducted from running bills shall not be converted into any mode of securities like bank guarantee, FDR etc. The earnest money deposited shall however be adjusted while deducting security deposit from first running bill of the contractor. There will be no maximum limit of security deposit.

However, a contractor may elect to deposit full amount of 10% security deposit in the shape of bank guarantee or any acceptable form of security before or at the time of executing agreement. In that case earnest money may be refunded only after deposition of full 10% as above. However, in case during execution cost of works exceeds as shown at the time of depositing 10% as above, balance security deposit shall be deducted from the Running Account Bills.
8. The acceptance of the tender will rest with the Competent Authority who does not bind itself to accept the lowest tender, and reserves to itself the authority to reject any or all of the tenders received without assigning any reason.
9. Tender forms, as issued from the office(s) mentioned above (Para 4), must be returned, with all enclosures, to the following office/offices, on the date of receipt of tenders :

Value of Tenders	Name of office
(i) Tenders for which sanctioning authority is Executive Engineer/Superintending Engineer	Divisional Office
(ii) Tenders for which the sanctioning authority is Additional Chief Engineer/Chief Engineer	Circle Office
(iii) Tenders for which sanctioning authority is Board/State Government.	Additional Chief Engineer/ Chief Engineer Office

10. No refund of tender fees is claimable for tenders not accepted or forms returned or for tenders not submitted.
11. The tenders for works shall remain open for acceptance for the period as given below from the date of opening of Potential assessment bid/post-qualification bid/pre-qualification bid, where 2 envelopment system is followed, otherwise from the date of opening of financial bid :

1. For tenders to be accepted by Executive Engineer	20 days
2. For tenders to be accepted by Superintending Engineer	30 days
3. For tenders to be accepted by Additional Chief Engineer	40 days
4. For tenders to be accepted by Chief Engineer	50 days
5. For tenders to be accepted by Administrative Department	60 days
6. For tenders to be accepted by Finance Committee Board/Empowered Committee/Empowered Board	70 days
Note : Communication of acceptance of tender shall also be within the above limits.	

If any tenderer withdraws his tender prior to expiry of said validity period or mutually extended period 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 earnest money given in any form absolutely. If any contractor, who having submitted a tender does not execute the agreement or start the work or does not complete the work and the work has to be put to retendering, he shall stand debarred from participating in such retendering in addition to forfeiture of Earnest Money/Security Deposit and other action under agreement.

12. All tenders, in which any of the prescribed conditions are not fulfilled or which have been vitiated by errors in calculations, totalling or other discrepancies or which contain over-writing in figures or words or corrections not initialled and dated, will be liable to rejection.
13. Enlisted Contractors, will be required to pay Earnest Money @ $\frac{1}{2}$ % of estimated cost of work put to tender, in case of work for which they are authorised to tender under Rules for enlistment of contractors, but the amount to the extent of full Earnest Money shall be liable to be forfeited in the event of circumstances explained in Clause 11 above. Degree/Diploma holder Engineers may pay Earnest Money equal to one half of the normal rates, subject to the provisions of Rules for enlistment of Contractors.
14. The tender should be accompanied with Sales Tax Clearance Certificates from the concerned departmental authorities, without which the tenders may not be entertained.
15. The whole work may be split up between two or more contractors or accepted in part and not in entirety if considered expedient.
16. If the contractor does not submit performance guarantee within 10 days from the date of communication of acceptance of his tender, his earnest money shall be liable to be forfeited.

Signature of Engineer-in-charge
For and on behalf of the Governor of Rajasthan

CONTRACT FOR WORK

GENERAL RULES AND DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS

1. All works, proposed for execution by Contract, will be notified in a form of invitation to tender pasted on public place and on a board hung up in the office of and signed by the Chief Engineer or other duly authorised Engineer.

The form of invitation to tender will state the work to be carried out, as well as the date of submitting and opening of tenders and the time allowed for carrying out the work, also the amount of Earnest Money to be deposited with the tender and the amount of the Security Deposit to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and estimated rates/scheduled rates and any other documents required in connection with the work signed for the purpose of identification by the Executive Engineer shall be open for inspection by the Contractor at the office of the Chief Engineer or other duly authorised Engineer during office hours.
2. In the event of the tender being submitted by a firm, it must be signed separately by each partner, thereof, or in the event of the absence of any partner, it must be signed on his behalf, by a person holding a power of Attorney, authorising him to do so. Such power of Attorney will be submitted with the tender and it must disclose that the firm is duly registered under the Indian Partnership Act, by submitting the copy of registration certificate.
3. Receipts for payments, made on account of a work when executed, by a firm must also be signed by the several partners except where the contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners or by some other person having authority to give effectual receipts for the firm.
4. Any person, who submits percentage rate tender, shall fill up the usual printed form stating at how much percent above or below the rates specified in Schedule G, he is willing to undertake the work. Only one rate of percentage, more or less, on all the estimated rates/scheduled rates shall be mentioned. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, will be liable to rejection. No single tender shall include more than one work, but Contractors who wish to tender for two or more works, shall submit a separate tender for each work. Tenders shall have the name and number of work, to which they refer, written outside the envelope.
5. The Chief Engineer or other duly authorised Engineer will open the tenders in the presence of any contractor(s) or their authorised representatives who may be present at the time, and will announce and enter the rates/amounts of all tender in the Register of Opening of Tenders, (Form RPWA 20A). In the event of the tender being accepted, a receipt for the Earnest Money deposited shall be given to the Contractor, who shall sign copies of the specifications and other documents mentioned in Rule 1. In the event of a tender being rejected, the Earnest Money forwarded with such unaccepted tender shall, be returned to the Contractor making the same.
6. The Chief Engineer or other duly authorised Engineer shall have the right of rejecting all or any of the tender without assigning any reason.
7. The receipt of an Accountant, Cashier or any other official, not authorised to receive such amount, will not be considered as an acknowledgment of payment to the Chief Engineer or other duly authorised Engineer.
8. The memorandum of work tendered for, memorandum of materials and of tools and plant to be supplied by the Department and their rates, shall be filled in and completed in the office of the Chief Engineer or duly authorised Engineer before the tender form is issued.
9. If it is found that the tender is not submitted in proper manner, or contains too many corrections and or unreasonable rates or amounts, it would be open for the Engineer-in-charge not to consider the tender, forfeit the amount of earnest money and/or delist the contractor.
10. The tenderer shall sign a declaration under the Official Secrets Act for maintaining secrecy of the tender documents drawings or other records connected with the work given to him in form given below. The unsuccessful tenderers shall return all the drawings given to them.

Declaration

"I/We hereby declare that I/We shall treat the tender documents, drawings and other records, connected with the work, as secret confidential documents, and shall not communicate information derived therefrom to any person other than a person to whom I/We am/are authorised to communicate the same or use the information in any manner prejudicial to the safety of the same."

11. Any percentage rate tender containing item-wise rates, and any item rate tender containing percentage rate below or above estimated/scheduled rates, will be summarily rejected. However, if a tenderer voluntarily offers a rebate for payment within a stipulated period, this may be considered.
12. On acceptance of the tender, the name of the accredited representative(s) of the Contractor (with a photograph and signature attested), who would be responsible for taking instructions from the Engineer in charge, shall be communicated to the Engineer-in-charge.
13. Sales tax or any other tax on materials, or Income Tax in respect of the contract shall be governed by Clause 36 A, B and C and D of the Conditions of Contract. Deduction of Income Tax at source will be made as per provisions of the Income Tax Act, in force from time to time.
14. The tender to work shall not be witnessed by a Contractor or Contractors who himself/ themselves has/have tendered or who may and has/have tendered for the same work. Failure to observe the secrecy of the tenders will render tenders of the contractors, tendering as well as witnessing the tender, liable to summary rejection.
15. If on check, there are some discrepancies, the following procedure shall be followed :-
 - (i) Where there is a difference between the rates in figures and words, lower of the two rates shall be taken as valid and correct rate.
 - (ii) When the rate quoted by the contractor in figures and in words tallies, but the amount is not worked out correctly, the rate quoted by the contractor shall be taken as correct and not the amount worked out.
 - (iii) While quoting rates, if rate/rates against any item or items are found to be omitted, the rate given in the Schedule 'G' by the department for such items will be taken into account while preparing comparative statement and contractor shall be bound to execute such item on 'G' Schedule rates.
 - (iv) In case where percentage is given but the 'above' or 'below' not scored, the tender will be non-responsive.
16. 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 the contract and the original sanctioning authority in his discretion may cancel the contract. The Contractor shall also be liable for any pecuniary liability arising on account of violations by him of the provisions of the Act.
17. The Contractor shall read the specifications and study the working drawings carefully before submitting the tender.
18. The site for execution of the work will be made available as soon as the work 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 programme accordingly. No claim, whatsoever, for not giving the site in full on award of the 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..
19. The tender documents show already the specific terms and conditions on which tenders are required by the Government. Hence, all tenders should be in strict conformity with the tender documents and should be fulfilled in, wherever necessary, and initialed. Incomplete tenders are liable to be rejected. The terms and conditions of the tender documents are firm, as such conditional tenders are liable to be rejected.
20. The tenderer, while submitting tender, must provide adequate information regarding his financial, technical and organisational capacity and working experience to execute the work of the nature and magnitude.
21. The Chief Engineer or other duly authorised Engineer reserves the right to ask for submission of samples as in respect of materials for which the tenderer has quoted his rates before the tender can be considered for acceptance. If the tenderer, who is called upon to do so, does not submit within seven days of written order to do so, the Engineer-in-Charge shall be at liberty to forfeit the said earnest money absolutely.

22. The Contractor shall submit the list of the works, which are in hand (progress), in the following form :-

Name of work	Name and particular of the Sub-Division/Division, where work is being executed	Amount of work	Position of works in progress	Remarks
1	2	3	4	5

23. The Contractor should quote his rates only in one language i.e. either in Hindi or English. Rates should be quoted in figures as well as in words. In case a Contractor has quoted rates in both the languages, and the rates so quoted differ, then the lower of the two shall be treated as the rate quoted by the Contractor.
24. All additions, deletions, corrections and overwritings, must be serially numbered and attested by the Contractor at every page, so also by the officer opening the tenders, so as to make further disputes impossible on this score.
25. After acceptance of the tender, the Contractor or all partners (in the case of partnership firm), will append photographs and signatures duly attested, at the time of execution of Agreement.
26. If any contractor, who having submitted a tender does not execute the agreement or start the work or does not complete the work and the work has to be put to retendering, he shall stand debarred from participating in such retendering in addition to forfeiture of Earnest Money/Security Deposit and other action under agreement.
27. The tender documents shall be issued to those contractors only having valid enlistment as on the date of issue of documents.
28. (a) If a tenderer reduces the rates voluntarily after opening of the tenders/ negotiations, his offer shall stand cancelled automatically, his earnest money shall be forfeited and action for debarring him from business shall be taken as per enlistment rules.
- (b) If a non-tenderer offers lower rates after opening of tenders, action for debarring him from business shall be taken as per enlistment rules.
29. Contractors shall submit only unconditional tenders. Conditional tenders are liable to be rejected summarily.

TENDER FOR WORKS

I/We hereby tender for the execution for the Governor of the State of Rajasthan of the work specified in the underwritten memorandum within the time specified in such memorandum at the rates, (in figures) % (as well as in words) percent below/above the amount, entered in the schedule G in all respects in accordance with the specifications, designs, drawings and instructions in writing referred to in Rule 1 in all respects in accordance with such conditions so far as applicable. I/We have visited the site of work and am/are fully aware of all the difficulties and conditions likely to affect carrying out the work. I/We have fully acquainted myself/ourselves about the conditions in regard to accessibility of site and quarries/kilns, nature and the extent of ground, working conditions including stacking of materials, installation of tools & plant, conditions effecting accommodation and movement of labour etc. required for the satisfactory execution of contract.

Memorandum

- (a) General description of work
- (b) Estimated cost Rs.
- (c) Earnest money Rs. @ 2% for enlisted contractors outside their zone and $\frac{1}{2}$ % within their zone of enlistment.
- (d) Security Deposit :
- (i) 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. However, the amount of security deposit deducted from running bills shall not be converted into any mode of securities like bank guarantee, FDR etc. The earnest money deposited shall however be adjusted while deducting security deposit from first running bill of the contractor. There will be no maximum limit of security deposit.
- (ii) However, a contractor may elect to deposit full amount of 10% security deposit in the shape of bank guarantee or any acceptable form of security before or at the time of executing agreement. In that case earnest money may be refunded only after deposition of full 10% as above. However, in case during execution cost of works exceeds as shown at the time of depositing 10% as above, balance security deposit shall be deducted from the Running Account Bills.
- (iii) Bank Guarantee shall in all cases be payable at the headquarter of the Division or the nearest District Headquarters.
- (e) Time allowed for the completion of work (to be reckoned from the 10th day after the date of written order to commence the work) is months. Should this tender be accepted in whole or in Part, I/We hereby agree to abide by and fulfill all the terms and provisions of the conditions of contract annexed hereto and of the Notice Inviting Tender, or in default thereof, to forfeit and pay to the Governor of Rajasthan or his successors in office, the sum of money mentioned in the said conditions.

A sum of Rs. is forwarded herewith in the form of Cash, Bank Draft, Bankers Cheque as Earnest Money. This amount of earnest money shall absolutely be forfeited to the Governor of Rajasthan or his successor in office without prejudice to any other right or remedies of Governor of Rajasthan or his successor in his office, should I/We fail to commence the work specified in the above memorandum.

Signature of Witness
Witness's address & occupation

Signature of Contractor
Address of Contractor

Date :

The above tender is hereby accepted by me on behalf of the Governor of Rajasthan.

Dated the Engineer-in-charge

CONDITIONS OF CONTRACT

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.

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 Nationalised/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 Nationalised/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 upto 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 authorised 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 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, through-out 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 the work before 3/4 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 (..... days)	1/2th (..... days)	3/4th (..... days)	Full (..... days)
B. Work to be completed in terms of money.	1/8th (Rs.....)	3/8th (Rs.....)	3/4th (Rs.....)	Full (Rs.....)
C. Compensation payable by the contractor for delay attributable to contractor at the stage of :	Delay upto 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 :

(i) First time span is of 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).

Total normal compensation of 30 days as per clause 2 of agreement is 2.5% which can be reduced as $2.5 \times 15/30 = 1.25\%$ 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 forgoing 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 to 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 :-

- (i) If 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 unworkmanlike 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,
- (ii) 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,
- (iii) If the Contractor commits breach of any of the terms and conditions of this contract,
- (iv) If the Contractor commits any acts mentioned in Clause 19 hereof.

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 :-

- (a) 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.
- (b) 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 amount payable to the Contractor at his agreement rates, the difference shall not be paid to the Contractor.

- (c) 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 : (i) 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, not with standing, 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/Performance Guarantee/ 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 :

(ii) 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 authorised 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 authorised 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 authorised 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 authorised 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 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 powers or other duly authorised Engineer shall, if in his opinion, (which shall be final) reasonable grounds be shown therefor, authorise 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 realised 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 ten/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 alongwith 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.

(delete whichever is not applicable). (Ten days will apply to works at the headquarters of Engineer-in-charge and thirty days for works at other place.)

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 therefor, 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 7 A : 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 3 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 alongwith 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 monthly : A bill shall be submitted by the Contractor each month on or before the date fixed by the Engineer-in-charge for all work executed in the previous month and the Engineer-in-charge shall take or cause to be taken the requisite measurement for the purpose of having the same verified and the claim, as far as admissible, authorised or paid, if possible, before the expiry of ten days from the presentation of the bill. If the Contractor does not submit the bill within the time fixed, as aforesaid, the Engineer-in-charge may depute a subordinate to measure up the said work in the presence of the Contractor whose signature in the Measurement Book will be sufficient warrant and the Engineer-in-charge may prepare a bill from such Measurement Book, which shall be binding on the Contractor in all respects.

Clause 8 A : Contractor to be given time to file objection to the Measurements recorded by the Department : Before taking any measurement of any work, as have been referred to in preceding Clauses 6, 7 & 8, the Engineer-in-charge or a subordinate, deputed by him, shall give reasonable notice to the Contractor. If the Contractor fails to be present at the time of taking measurements after such notice or fails to sign or to record the difference within a week from the date of measurement in the manner required by the Engineer-in-charge, then in any such event, the measurements taken by the Engineer-in-charge or by the subordinates deputed by him, as the case may be, shall be final and binding on the Contractor and the Contractor shall have no right to dispute the same.

Clause 8 B : Recovery of cost of preparation of the Bill : In case of Contractors of Class "A" and "AA" do not submit the bill within time fixed, the Engineer-in-Charge may prepare the bill as per provision of clause 8 of the Conditions of Contract but deduction @ 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 9 A : Payments of Contractor's Bills to Banks : Payments due to the Contractor may if so desired by him, be made to his Bank instead of direct to him, provided that the contractor has furnished to the Engineer-in-charge (i) an authorisation 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 favour of the Bank any rights vis-a-vis the Governor.

Clause 10 : Stores supplied by Government : If the specification or estimate of the work provides for the use of any special description of material, to be supplied from Engineer-in-charge's stores, or if, it is required that contractor shall use certain stores to be provided by the Engineer-in-charge specified in the schedule or memorandum hereto annexed, the Contractor shall be bound to procure and shall be supplied such materials and stores as are, from time to time, required to be used by him for the purpose of the contract only, and the value of the full quantity of materials and stores, so supplied, at the rates specified in the said schedule or memorandum, may be set off or which may be deducted from any sum, then due or thereafter become due, to the contractor under the contract or otherwise or against or from the Performance Guarantee and/or Security Deposit or the proceeds of sale, if the same is held in Government securities, the same or a sufficient portion thereof being in this case, sold for this purpose. All materials supplied to the Contractor, either from departmental stores or with the assistance of Government, shall remain the absolute property of Government. The Contractor shall be the trustee of the Stores/Materials, so supplied/procured, and these shall not, on any account, be removed from the site of work and shall be, all times, open to inspection by the Engineer-in-charge. Any such material, unused and in perfectly good condition at the time of completion or determination or rescinding of the contract, shall be returned to the Divisional Officer's Stores, if, by a notice in writing under his hand, he shall so require, and if on service of such notice, the contractor fails to return the materials, so required, he shall be liable to pay the price of such materials in accordance with the provision of Clause 10 B *ibid*. But the Contractor shall not be entitled to return any such materials, unless with such consent, and shall have no claim for compensation on account of any such materials, so supplied to him as aforesaid being unused by him, or for any wastage in or damage to any such materials. For the stores returned by the Contractor, he shall be paid for, at the price originally charged excluding storage charges, in case of materials supplied from departmental stores and actual cost including freight, cartage, taxes etc., paid by the Contractor, in case of supplies received with the assistance of Government, which, however, should in no case exceed market rate prevailing at the time the materials are taken back. The decision of the Engineer-in-charge, as to the price of the stores returned, keeping in view its condition etc., shall be final and conclusive. In the event of breach of the aforesaid condition, the Contractor shall, in addition to throwing himself open to account for contravention of the terms of the license or permit and/or for criminal breach of trust, pay to the Government, all advantages or profits resulting, or which in the usual course, would result to him by reason of such breach. Provided that the Contractor shall, in no case be entitled to any compensation or damage on account of any delay in supply, or non-supply thereof, all or any such materials and stores.

Clause 10 A : 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 or 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 born by the Contractor.

Clause 10 B : 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 RPWA 35A, 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 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 and 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 Executive Engineer 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 :

- (i) 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.
- (ii) 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.
- (iii) If the rates for the altered, additional or substituted work can not 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.
- (iv) If the rates for the altered, additional or substituted work item can not 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.
- (v) Except in case of items relating to foundations, provisions contained in sub-clauses (i) to (iv) above shall not apply to contract or substituted items as individually exceed the percentage set out in the tender documents under clause 12A.

For the purpose of operation of clause 12 (v) the following works shall be treated as work relating to foundations :

- (a) For buildings, compound wall plinth level or 1.2 metres (4 ft.) above ground level whichever is lower, excluding items above flooring and D.P.C. but including base concrete below the floors.
- (b) For abutments, piers, retaining wall of culverts and bridges, walls of water reservoir and the bed of floor level.
- (c) For retaining walls, where floor levels is not determinate 1.2 metres above the average ground level or bed level.
- (d) For roads, all items of excavation and filling including treatment of sub base and soling work.
- (e) For water supply lines, sewer lines under ground storm water drains and similar work, all items of work below ground level except items of pipe work for proper masonry work.
- (f) For open storm water drains, all items of work except lining of drains.
- (g) Any other items of similar nature which Engineer-in-Charge may decide relating to foundation.

The rate of any such work, except the items relating to foundations, which is in excess of the deviation limit shall be determined in accordance with the provisions contained in Clause 12A.

Clause 12A : The quantum of additional work for each item shall not exceed 50% of the original quantity given in the agreement and the total value of additional work shall not exceed 20% of the total contract value, unless otherwise mutually agreed by the Engineer-in-charge and the Contractor. This limit shall not be applicable on items relating to foundation work which shall be executed as per original rates or provision of clause 12(i) to (iv).

In case of contract substituted items or additional items, which results in exceeding the deviation limit laid down in this clause except items relating to foundation work, which the contractor is required to do under clause 12 above, the contractor shall within 7 days from the receipt of order, claim revision of the rate supported by proper analysis in respect of such items for quantities in excess of the deviation limit notwithstanding the fact that the rates for such items exist in the tender for the main work or can be derived in accordance with the provision of sub clause (ii) of clause 12 and the Engineer-in-Charge, may revise their rates having regard to the prevailing market rates and the contractor shall be paid in accordance with the rates so fixed. The Engineer-in-Charge shall, however, be at liberty to cancel his order to carry out such increased quantities of work by giving notice in writing to the contractor 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 of items failing under this Clause.

All the provisions of the preceding paragraph shall equally apply to the decrease in rates of items for quantities in excess of the deviation limit notwithstanding the fact that the rates for such items exist in the tender for the main work or can be derived in accordance with the provisions of sub-clause(ii) of the preceding clause 12 and the Engineer-in-Charge

may revise such rates having regard to the prevailing market rates unless otherwise mutually agreed by the Engineer-in-charge and the Contractor.

Clause 13 : No compensation for alterations 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 bonafide 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 authorised authority or the Engineer-in-Charge or his subordinates in-charge of the work, or to the committee of 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 open 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 authorised 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 authorised 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, weighing 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 Performance Guarantee and/or 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 contract shall not be assigned or sublet without the written approval of the Chief 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 the Performance Guarantee 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 therefor, 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 where under 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 : Works 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 :

- (i) Administrative Secretary concerned.
- (ii) Finance Secretary or his nominee, not below the rank of Deputy Secretary.
- (iii) Law Secretary or his nominee, not below the rank of Joint Legal Remembrancer.
- (iv) Chief Engineer-cum-Addl. Secretary of the concerned department.
- (v) Chief Engineer concerned (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 months 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 23 A : 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 therefrom 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 lumpsum 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 Rule 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 some thing 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 27 A : 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 can not 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 considers reasonable, in the preparation of final or on account bills, and his decision in the matter shall be final and binding.

Clause 29 A : 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 : Contractor's percentage, whether applied to net or gross amount of bills : 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. Deductions 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 prorata 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, levelling and dressing of 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 36 A : The liability, if any, on account of quarry fees, royalties, octroi and any other taxes and duties in respect of materials actually consumed on public work, shall be borne by the Contractor.

Clause 36 B : 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 36 C : 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 36 D : 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 Performance Guarantee and Security Deposit : The Performance Guarantee and /or Security Deposit will be refunded after the expiry of the period, as prescribed below :-

- (a) In case of contracts relating to hiring of trucks and other T & P, transportation including loading, unloading of materials, the amount of Performance Guarantee/ Security Deposit is refundable alongwith the final bill.
- (b) Supplies of material : As per provisions of the G.F. & A.R.
- (c) Ordinary repairs : 3 months after completion of the work provided the final bill has been paid.
- (d) Original works/special repairs 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.
- (e) In case of PWD original works/special repairs works costing more than Rs. 10.00 lacs, partial amount of Security Deposit will be refunded during the defect liability period @ 10% of SD amount after lapse of one year of completion and there after 10% of original amount of SD at the end of each subsequent year. The remaining amount of SD be refunded after the expiry of defect liability period.

Clause 38 : Fair Wage Clause :

- (a) 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 any thing 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 the Minimum Wages Act, 1948.

- (b) 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.
- (c) 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 Contractor's 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 unauthorised deductions, maintenance of wages register, wage card, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and other matters of a like nature.
- (d) The Engineer-in-charge 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 condition 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.
- (e) 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.
- (f) 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.

Clause 39 : Contractor to engage technical staff : The Contractor shall engage the technical staff, as follows, on the contract works.

- (a) For works costing Rs. 100 lac and above - One Graduate Engineer.
- (b) For works costing between Rs. 50 lac to Rs. 100 lac - One qualified diploma holder having experience of not less than 3 years.
- (c) For works costing between Rs. 15 lac and Rs. 50 lac - One qualified diploma holder.

The technical staff should be available at site, whenever required by Engineer-in-charge to take instructions.

Clause 39 A : 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 of the Department.

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 is 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, performance guarantee, security deposit and enlistment deposit and the 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 grand children, 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. The 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 authorised Engineer shall have the option of terminating the contract without any compensation.

Clause 45 : Price Variation Clause : If, during the progress of the contract of value exceeding Rs. 50 lac (accepted tendered amount minus cost of material supplied by the department), and where stipulated completion period is more than 3 months (both the conditions should be fulfilled), the price, of any materials/bitumen/diesel and petrol/cement/steel incorporated in the works (not being materials to be supplied by the department) and/or wages of labour increases or decreases, as compared to the price and/or wages prevailing at the date of opening of tender or date of negotiations for the work, the amounts payable to contractors for the work shall be adjusted for increase or decrease in the rates of materials (excepting those materials supplied by the department)/labour/bitumen/ diesel and petrol/cement/steel. If negotiated rates have been accepted, prices as on the date of negotiation shall be considered for price adjustment. Similarly, if rates received on the date of opening of tenders have been accepted, then prices on the date of opening of tender shall be considered for price adjustment.

Increase or decrease in the cost of labour/material/diesel and petrol/cement/steel shall be calculated quarterly and cost of bitumen shall be calculated on monthly basis in accordance with the following formula :-

(A) Labour

$$V_L = 0.75 \times \frac{P_L}{100} \times R \frac{(I_{L1} - I_{L0})}{I_{L0}}$$

- V_L = Increase or decrease in the cost of work during the quarter under consideration due to change in rates for labour.
- R = The value of the work done in rupees during the quarter under consideration excluding the cost of materials supplied by the department and excluding other items as mentioned in this clause.
- I_{L0} = The average consumer price index for industrial workers (whole-sale prices) for the quarter in which tenders were opened/negotiated (as published in Reserve Bank of India Journal/Labour Bureau Simla, for the area).
- I_{L1} = The average consumer price index for industrial workers (whole-sale prices) for the quarter of calendar year under consideration (as published in Reserve Bank of India Journal/ Labour Bureau Simla, for the area).

P_L = Percentage of labour components.

Note : In case of revision of minimum wages by the Government or other competent authority, nothing extra would be payable except the price escalation permissible under this clause.

(B) Material (excluding material supplied by the department)

$$V_M = 0.75 \times \frac{P_M}{100} \times R \frac{(L_{M1} - L_{M0})}{L_{M0}}$$

- V_M = Increase or decrease in the cost during the quarter under consideration due to change in the rates of material.
 R = The value of the work done in rupees during the quarter under consideration excluding the cost of materials supplied by the department and excluding other items as mentioned in this clause.
 L_{M0} = The average wholesale price index (all commodities) for the quarter in which tenders were opened/negotiated (as published in Reserve Bank of India Journal/ Economic Adviser to Government of India, Ministry of Industries, for the area.)
 L_{M1} = The average wholesale price index (all commodities) for the quarter under consideration (as published in Reserve Bank of India Journal/ Economic Adviser to Government of India, Ministry of Industries, for the area).
 P_M = Percentage of material component (excluding materials supplied by the Department).

(C) Bitumen

$$V_b = 0.85 \times \frac{P_b}{100} \times R \frac{(B_i - B_o)}{B_o}$$

- V_b = Increase or decrease in the cost of work during the month under consideration due to changes in the rate for bitumen.
 R = The value of the work done in rupees during the month under consideration excluding the cost of materials supplied by the department and excluding other items as mentioned in this clause.
 B_o = The official retail price of bitumen at the IOC depot at nearest center on the day 28 days prior to date of opening of Bids.
 B_i = The official retail price of bitumen of IOC depot at nearest center for the 15th day of the month under consideration.
 P_b = Percentage of bitumen component of the work.

(D) Petroleum

$$V_f = 0.75 \times \frac{P_f}{100} \times R \frac{(F_i - F_o)}{F_o}$$

- V_f = Increase or decrease in the cost of work during the quarter under consideration due to change in the rates for fuel and lubricants.
 R = The value of the work done in rupees during the quarter under consideration excluding the cost of materials supplied by the department and excluding other items as mentioned in this clause.
 F_o = The average wholesale price Index of High Speed Diesel (HSD) as published by the Economic Adviser to the Government of India, Ministry of Industry on the day of opening of tender/negotiations.
 F_i = The average wholesale price Index of H.S.D. for the quarter under consideration as published weekly by the Economic Adviser to the Government of India, Ministry of Industry for the quarter under consideration.
 P_f = Percentage of fuel and lubricants component excluding fuel and lubricants supplied by the Department (Specified in the sanctioned estimate for the work).
 R = Total work done during the quarter as prescribed under this clause.

Note: For application of this clause price of HSD is chosen to indicate fuel and lubricant component.

(E) Cement

$$V_c = 0.75 \times \frac{P_c}{100} \times R \frac{(L_{c1} - L_{c0})}{L_{c0}}$$

- V_c = Increase or decrease in the cost of the work during the quarter under consideration due to change in the rates of cement.
 R = The value of the work done in rupees during the quarter under consideration excluding the cost of cement supplied by the department and excluding other items as mentioned in this clause.
 L_{c0} = The average wholesale price index for the quarter in which tenders were opened/negotiated (as published by the Economic Adviser to Government of India, Ministry of Industries).
 L_{c1} = The average wholesale price index for the quarter under consideration (as published by the Economic Adviser to Government of India, Ministry of Industries).
 P_c = Percentage of cement components (excluding cement supplied by the Department).

(F) Steel

$$V_s = 0.75 \times \frac{P_s}{100} \times R \frac{(L_{SI} - L_{SO})}{L_{SO}}$$

- V_s = Increase or decrease in the cost of the work during the quarter under consideration due to change in the rates of steel.
- R = The value of the work done in rupees during the quarter under consideration excluding the cost of steel supplied by the department and excluding other items as mentioned in this clause.
- L_{SO} = The average wholesale price index for the quarter in which tenders were opened/negotiated (as published by the Economic Adviser to Government of India, Ministry of Industries).
- L_{SI} = The average wholesale price index for the quarter under consideration (as published by the Economic Adviser to Government of India, Ministry of Industries).
- P_s = Percentage of steel components (excluding steel supplied by the Department)].

Clause 45 A : Price Variation in installation of elevators, supply/installation of Centrally Air Conditioning and Central Evaporating Cooling Works :

In all cases of contracts for installation of elevators, supply/installation of Central Air Conditioning and Central Evaporating Cooling Works, the price quoted shall be based on the Indian Electrical and Electronics Manufacturers Association (IEEMA) price variation clause based on the cost of raw materials/components and labour cost as on the date of quotation/tender, and the same is deemed to be related to wholesale price index number of metal products and All India Average consumer price index number of industrial workers as specified below. In case of any variation in these index numbers, the prices shall be subject to adjustment up or down in accordance with following formula.

$$P = \frac{P_o}{100} \left(15 + 55 \frac{MP}{MP_o} + 15 \frac{W_o(D)}{W_o} + 15 \frac{W_o(1)}{W_o} \right)$$

Where :

- P = Price payable as adjusted in accordance with the above price variation formula.
- P_o = Price quoted/confirmed.
- MP_o = Wholesale Price Index Number for metal products as published by the office of the Economic Adviser, Ministry of Industry, Government of India, in their weekly bulletin, Revised Index Number of Wholesale Prices (Base : 1981-82=100) for the week ending first Saturday of the relevant calendar month. The relevant month shall be that in which price was offered or negotiated whichever is later.
- W_o = All India Average Consumer Price Index Number for Industrial workers (Base : 1982=100), as published by Labour Bureau, Ministry of Labour, Government of India, for relevant calendar month. The relevant month shall be that in which price was offered or negotiated whichever is later.
- The above index number MP_o & W_o are those published by IEEMA as prevailing on the first working day of the calendar month FOUR months prior to the date of tendering.
- MP = Wholesale Price Index Number of Metal Products as published by the office of Economic Adviser, Ministry of Industry, Government of India, in their weekly bulletin Revised Index Number of wholesale prices (Base: 1981-82=100). The applicable wholesale price Index Number for Metal Products as prevailing on 1st Saturday of the month covering the date FOUR months prior to the date of delivery and would be as published by IEEMA.
- $W_o(D)$ = All India Average Consumer Price Index Number for Industrial workers prevailing for the month covering the date FOUR months prior to the date of delivery of manufactured material and would be as published by IEEMA.
- $W_o(1)$ = All India Average Consumer Price Index Number for Industrial workers (Base :1982=100) as published by Labour Bureau, Ministry of Labour, Government of India. The applicable All India Consumer Price Index Number of Industrial workers prevailing for the FOUR months prior to the date of completion of installation/progress parts of installation and would be as published by IEEMA. The date of delivery shall be the date on which the manufactured material is actually supplied at site. The date of completion of installation (or progress part of installation shall be the date on which the work is notified as being completed and is available for inspection/duly tested. In the absence of such notification, the date of completion is not intimated, such completion shall be considered by the Engineer-in-charge which shall be final.

Note-1 : The Wholesale Price Index Number for Metal Products is published weekly by the office of the Economic Adviser, but if there are any changes, the same are incorporated in the issue appearing in the following week. For the purpose of this Price Variation Clause, the final index figures shall apply.

Note-2 : The sole purpose of the above stipulation is to arrive at the entire contract under the various situations. The above stipulation does not indicate any intentions to sell materials under this contract as movables.

Note-3 : The indices MP & W_o are regularly published by IEEMA in monthly basic price circulars based on information bulletins from the authorities mentioned. These will be used for determining price variation and only IEEMA Circulars will be shown as evidence, if required.

the date of satisfying both the conditions and only for work done beyond Rs. 50 lacs and in period of work beyond 3 months.

17. The contractor shall for the purpose of this conditions keep such books of account and other documents as are necessary to show the amount of any increase climbed or reduction available and shall allow inspection of the same by a duly authorised representative of Government and further shall at the request of the Engineer-in-Charge furnish, verified in such a manner as the Engineer-in-Charge may require any documents so kept and such other information as the Engineer-in-Charge may require.
18. Price variation clause shall be applicable in case of lump sum contracts estimated to more than Rs. 100 crore with stipulated completion period of more than 18 months.
19. The component of operation and maintenance (O&M) cost included in the contract price shall not be subject to price variations. The price may be adjusted by the use of prescribed formula (or formulae) which breaks down the total price into components.
20. The amount of price variation in case of lump sum contracts will be made by adding or deducting, as the case may be, from the payments made at the stages of work specified in the contract document.

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 the 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 & Technical Examination : The Government 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 48 A : Pre Check or Post Check of Bills : The Government shall have right to provide a system of pre-check of Contractor's bills by a specified Organisation, and payment by an Engineer or an Accounts Officer/Sr. Accounts Officer/ Chief Accounts Officer/ Financial Advisor, as the Government may in its absolute discretion prescribe. Any over-payments/ excess payments detected, as a result of such pre-check or post-check of Contractor's bills, can be recovered from the Contractor's bills, in the manner, herein before provided, and the Contractor will refund such over/excess payments.

Clause 48 B : 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 upto the date of completion and the defect removal period specified else-where 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 Performance Guarantee and/or 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 Demands 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.

Schedule of Materials to be supplied by the Department, if available
(Referred to in Clause 10)

S.No.	Particulars	Quantity	Rates		Place of Delivery
			Unit	Rupees	

Schedule of Machinery/T & P to be supplied by the Department

The following Machinery/T & P shall be supplied by the Department, if available, to the Contractor, on hire as per "Rules of the Department for supply for machinery and T & P to the Contractors on hire" (Referred to in Clause 10 C)

S. No.	Item	Rate	Place of Delivery and Return

Progress Statement referred to in Clause 2 of Conditions of Contract

Name of Work	Date from which the work should be commenced	Date by which the work should be completed	Monthly rate of Progress

The Contractor has been informed that his tender has been accepted.

Dated Signature of Engineer-in-charge

Dated signature of Contractor

Notes : For Filling in the Progress Statement Form

1. Columns 2,3 and 4 must be initialled and dated by the Contractor.
2. Column 4 must be initialled and dated by the Chief Engineer or other duly authorised Engineer also.
3. The date in column 2 should correspond to the date on which the order to commence work is given to the contractor read with Clause 2 of the conditions of contract.
4. The date in column 3 must correspond to the period stated in Sub clause (e) of the Memorandum below "Tender for works".
5. Column 4. This will ordinarily be worked out proportionately; thus if Rs. 24,000/- is the cost of the whole or portion of work tendered for, and six months period of completion, then the monthly rate of progress should be Rs. 4,000/-. If necessary, quantities may also be specified in this column at the discretion of the Chief Engineer.
6. The Certificate as to intimation of acceptance of tender printed at the foot of the form, must be signed and dated both by the Chief Engineer or other duly authorised Engineer and the Contractor.

General Conditions for admissibility of Escalation

1. The exact percentage of labour/material (excluding materials to be supplied by the department)/bitumen/diesel and petrol/cement/steel component for the work shall be approved by the authority while sanctioning the detailed Estimates.
2. The break-up of components of labour/materials (excluding materials to be supplied by the department)/bitumen/diesel and petrol/cement/steel as indicated in Clause 45 have been pre-determined as below :-

(a) Labour	14.60%	percent
(b) Material	14.27%	percent
(c) Bitumen	1.11%	percent
(d) Diesel and Petrol	5.71%	percent
(e) Cement	9.09%	percent
(f) Steel	55.22%	percent
<hr/>		
Total	100%	
3. While allowing price escalation the following shall be deducted from the value of work done (R):
 - (a) Cost of material supplied by the Department.
 - (b) Cost of services rendered as per clause 34.
 - (c) Secured Advance/any advance added earlier but deducted now after work is measured.
 - (d) Cost of extra items, the rates for which have been worked out based on market rates/mutually agreed rates.
4. The first statement of escalation shall be prepared at the end of three months in which the work was awarded and the work done from the date of start to the end of this period shall be taken into account. For subsequent statement, cost of work done during every quarter shall be taken into account. At the completion of work, the work done during the last quarter or fraction, thereof, shall be taken into account.
5. For the purpose of reckoning the work done during any period, the bills prepared during the period shall be considered. The dates of recording measurements in the Measurement Book by the Assistant Engineer shall be the guiding factor to decide the bills relevant to any period. The date of completion, as finally recorded by the competent authority in the Measurement Book, shall be the criterion.
6. The index relevant to any quarter, for which such compensation is paid, shall be the arithmetical average of the indices relevant of the calendar month.
7. Price adjustment clause shall be applicable only for the work that is carried out within the stipulated time, or extension thereof, as are not attributable to the contractor.
8. If during the progress in respect of contract works stipulated to cost Rs. 50 lacs or less, the value of work actually done excluding cost of material supplied by the Department, exceeds Rs. 50 lacs and completion period is more than 3 months, then escalation would be payable only in respect of value of work in excess over Rs. 50 lacs from the date of satisfying both the conditions.
9. Where originally stipulated period is 3 months or less but actual period of execution exceeds beyond 3 months on account of reasons not attributable to contractor, escalation amount would be payable only in respect of extended period if amount of work is more than Rs. 50 lacs.
10. In case the contractor does not make prorata progress in the first or another time span and the short fall in progress is covered up by him during subsequent time span within original stipulated period then the price escalation of such work expected to be done in the previous time span shall be notionally given based upon the price index of that quarter in which such work was required to be done.
11. No claims for price adjustment other than those provided herein, shall be entertained.
12. If the period of completion including extended period attributable to Government exceeds three months but cost does not exceeds more than Rs. 50 lacs, no escalation is admissible.
13. Similarly, if cost of works increases more than Rs. 50 lacs but completion period including extended period attributable to government is less than 3 months, no escalation is admissible.
14. No provisional escalation is payable on the basis of indices of the previous quarter in absence of non publication of indices for concerned quarter by the RBI.
15. Escalation is always payable quarterly and no provisional escalation is payable monthly or fortnightly.
16. In case at the time of executing agreement, both the conditions (completion period 3 months and amount of work Rs. 50 lacs) for admissibility of price escalation are not fulfilled and subsequently due to additional work and extension of time attributable to Government, both the conditions become fulfilled, in that case the escalation shall be payable from

ANNEXURE TO APPENDIX XI
RAJASTHAN PUBLIC WORKS DEPARTMENT CONTRACTORS
LABOUR REGULATIONS

1. **Short title :** These regulations may be called "The Rajasthan Public Works Department Contractor's Labour Regulations."
 2. **Definition :** In these regulations unless otherwise expressed or indicated, the following words and expressions shall have the meaning hereby assigned to them respectively, that is to say:-
 - (i) "**Labour**" means workers employed by a Rajasthan P.W. Department contractor directly, or indirectly through a sub-contractor or other person or by an agent on his behalf.
 - (ii) "**Fair Wage**" means minimum wages for time or piece work fixed or revised by the State Government under the Minimum Wages Act., 1948.
 - (iii) "**Contractor**" shall include every person whether sub-contractor or headman or Agent employing labour on the work taken on contract.
 - (iv) "**Wages**" shall have the same meaning as defined in the Payment of Wages Act and includes time and piece rate wages.
 3. **Display of Notice regarding wages etc. :** The contractor shall (a) before he commences his work on contract, display and correctly maintain and continue to display and in conspicuous places on the work notices in English and the correctly maintain in Hindi by the majority of the workers giving the rate of wages which have been certified by the Executive Engineer, the Superintending Engineer, the Chief Engineer or Labour Commissioner, as fair wages and the hours of works for which such wages are earned, and (b) send a copy of such notices to the Certifying Officers.
 4. **Payment of Wages :**
 - (i) Wages due to every worker shall be paid to him direct.
 - (ii) All wages shall be paid in current coin or currency or in both.
 5. **Fixation of wage periods :**
 - (i) The contractor shall fix the wage periods in respect of which the wages shall be payable.
 - (ii) No wage period shall exceed one month.
 - (iii) Wages of every workman employed on the contract shall be paid before the expiry of ten days after the last day of the wage period in respect of which the wages are payable.
 - (iv) When the employment of any worker is terminated by or on behalf of the contractor, the wages earned by him shall be paid before the expiry of the day succeeding the one on which his employment is terminated.
 - (v) All payments of the wages shall be made on a working day except when the work is completed before the expiry of the wage period, in which case, final payments shall be made within 48 hours of the last working day.
- Note :** The term "working day" means a day on which the labour is employed in progress.
6. **Wage Book and Wage Slips etc. :**
 - (i) The Contractor shall maintain a Wage Book of each worker in such form as may be convenient but the same shall include the following particulars :-
 - (a) Rate of daily or monthly wages.
 - (b) Nature of work on which employed.
 - (c) Total number of days worked during each wage period.
 - (d) Total amount payable for the work during each wage period.
 - (e) All deductions made from the wages with an indication in each case of the ground for which the deduction is made.
 - (f) Wages actually paid for each wage period.
 - (ii) The contractor shall also maintain a wage slip for each worker employed on the work.
 - (iii) The Executive Engineer may grant an exemption from the maintenance of the wage books and wages slips to a contractor who, in his opinion, may not directly or indirectly employ more than 50 persons on the work.

7. Fines and deductions which may be made from wages :

(i) The wages of a worker shall be paid to him without any deductions of any kind except those authorized, namely the following :-

(a) Fines.

(b) Deductions for absence from duty i.e. from the place or places where, by the terms of his employment, he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.

(c) Deductions for damages to or loss of goods expressly entrusted to the employed person for custody or for loss or any other deductions of money, which he is required to account where such damages or losses are directly attributable to his neglect or default.

(i-a) The Rajasthan Government may, from time to time, allow deductions other than those specified in clause I above.

(ii) No fines shall be imposed on a worker and no deductions for damage or loss shall be made until worker has been given an opportunity of showing cause against each fine or deductions.

(iii) The total amount of fines, which may be imposed in any one wage period on a worker, shall not exceed an amount equal to three paise in rupee of the wage payable to him in respect of that wage period.

(iv) No fine imposed on any worker shall be recovered from him by installments or after the expiry of 60 days from the date on which it was imposed.

8. Register of fines etc. : The contractor shall maintain a register of fines and of all deductions for damage or loss. Such register shall mention the reasons for which fine was imposed or deduction for damage or loss was made.

The Contractor shall maintain both in English and local Indian Language, a list approved by the Labour Commissioner clearly stating the acts and omission for which penalty of fine may be imposed on a workman and display it in a good condition in a conspicuous place on the work.

9. Preservation of Register : The wage register, the wage card and the register of fines deductions required to be maintained under these regulations, shall be preserved for 12 months after the date of the 1st entry made in them.

10. Powers of Labour Welfare Officer to make investigation or enquiry: The Labour Welfare Officer or any other person, authorized by the State Government on their behalf, shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of the fair wage clauses and provisions of the regulations. He shall investigate into any complaint regarding default made by the Contractor or Sub-Contractor in regard to such provisions.

11. Report of Labour Welfare Officer : The Labour Welfare Officer or other person, authorized as aforesaid, shall submit a report of the result of his investigation or enquiry to the Executive Engineer concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractors bill be made and the wage and other dues be paid to the labour concerned. In case an appeal is made by contractor under clause 12 of these regulations, actual payment to Labours will be made by the Executive Engineer after the Labour Commissioner had given decision on such appeal.

12. Appeal against the decision of Labour Welfare Officers : Any person aggrieved by the decision and recommendation of the Labour Welfare Officer or other persons, so authorised, may appeal against such decision to the Labour Commissioner within 30 days from the date of decision forwarding simultaneously a copy of his appeal to Executive Engineer concerned but subject to such appeal the decision of the Officer shall be final and binding upon the contractor.

12-A. No party shall be allowed to be represented by a lawyer during any investigation, enquiry, appeal or any other proceedings.

13. Inspection of Wage Books and Slips : The Contractor shall allow inspection of the wage books and wage slips and register of fines and deductions to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Welfare Officer or any other person authorised by the State Government on his behalf.

14. Submission of Returns : The Contractor shall submit periodical returns, as may be specified from time to time.

15. Amendments: The State Government may, from time to time, add to or amend these regulations and on any questions as to the application, interpretation or effect of these regulations, the decision of the Labour Commissioner to the Government of Rajasthan or any other person authorised by the State Government in that behalf, shall be final.

SCHEDULE OF FAIR WAGE TO BE GIVEN BY EXECUTIVE ENGINEER LIST OF ACTS AND COMMISSION FOR WHICH FINE CAN BE IMPOSED

- (1) Willful insubordination or disobedience whether alone or in combination with another.
- (2) The fraud or dishonesty in connection with the contractor's business or property of the Rajasthan P.W.D.
- (3) Taking or giving bribes or any illegal gratification.
- (4) Habitual late attendance.
- (5) Drunkenness, fighting, riot or disorderly or indecent behaviour.
- (6) Habitual negligence.
- (7) Smoking near or around the area where combustible or other materials are stocked.
- (8) Habitual indiscipline.
- (9) Causing damage work in progress or to property of the Rajasthan P.W.D. or the contractor.
- (10) Sleeping on duty.
- (11) Malingering or sowing down work.
- (12) Giving of false information regarding name, age, father's name.
- (13) Habitual loss of wage cards supplied by the employers.
- (14) Unauthorised use of employer's property or manufacturing or making of unauthorised articles at the work places.
- (15) Bad workmanship in construction and maintenance by skilled workers which is not approved by the department and for which contractors are compelled to undertake rectification.
- (16) Making false complaints and/ or misleading statement.
- (17) Engaging in trade within the premises of the establishment.
- (18) Any delinquency of business affairs of the employers.
- (19) Collection or canvassing for the collection of any money within the premises of an establishment unless authorised by the employer.
- (20) Holding meeting inside the premises without previous sanction of the employer.
- (21) Threatening or intimidating any workman or employee during the working hours within the premises.

Schedule showing (approximately) materials to be supplied from the Public Works Store for work contracted to be executed and the rates of which they are to be charged for

Particulars	Rates which the materials will be charged to the contractor			Place of delivery
	Unit	Rs.	NP.	
Doors, with Chowkhats				
—— do ——				
—— do ——				
Windows with Chowkhats				
—— do ——				
—— do ——				
Steel Shapes				
—— do ——				
—— do ——				
Bars Mild Steel				
Sheets plain, G.I.				
——do—— Corrugated G.I. etng, Wire				
Belts Tower				
—— do ——				
Locks, Mortice				
——do—— Rim				
Hinges, Butt				
—— do ——				
Hinges, Spring				
Cement, Portland				

Note : The person or firm submitting the tender should see that the rates in the above schedule are filled up by the Engineer-in- Charge on the issue of the form prior to the submission to the tender.

(Signature of Contractor)

(Signature of Engineer)

Progress Statement referred to in Clause 3 of Conditions of Contract

Name of Works	Date from which the work should be commenced	Date by which the work should be completed	Monthly rate of progress
1	2	3	4

The contractor has been informed that his tender has been accepted.

Date :
Engineer-in-charge

Date :
Contractor

NOTES FOR FILLING IN THE PROGRESS STATEMENT FORM ON THE LAST PAGE

1. Columns 2,3 and 4 must be initialled and dated by the contractor.
2. Column 4 must be initialled and dated by the Chief Engineer or other duly authorised Engineer also.
3. The date in column 2 should correspond to the date on which the order to commence work is given to the contractor; specified in line 3, clause 2, page 3 of the "conditions of contract".
4. The date in column 3 must correspond to the period stated in clause (f) page 2, of the tender.
5. Column 4. This will ordinarily be worked out proportionately; thus if Rs. 24,000/- is the cost of the whole or portion of work tendered for, and six months period of completion, then the monthly rate of progress should be Rs. 4,000. If necessary, quantities may also be specified in this column at the discretion of the Chief Engineer.
6. The certificate as to intimation acceptance of tender printed at the foot of the form, must be signed and dated both by the Chief Engineer or other duly authorised Engineer and the contractor.

STATEMENT OF PAYMENTS & RECOVERIES TO BE ATTACHED WITH THE AGREEMENT OF WORKS

S.No. of bill	Gross Amt. of Bill	Progressive Total Amt. of Bills	Recoveries								Net Amount of Payment	B.B. Vr. No. & Date	Dated initials of		
			Materials T & P	Quantity Hours	Amount	S.D.	Income tax deduction	Sales Tax/VAT	Royalty	Other Recoveries			Total Recoveries	D.A.O.	E.E.
1	2	3	4(a)	4(b)	4(c)	4(d)	4(e)	4(f)	4(g)	4(h)	4(i)	5	6	7	8



Special Conditions of Contract

1. GENERAL

These Special conditions of contract (SCC) shall be applicable to this bid in amplification/modification of the General Conditions of Contract (GCC). In case any clause provided in GCC is modified/amplified in SCC, then provision in SCC will be binding and will prevail over the corresponding provisions in GCC.

1. 1 The Contractor shall carry out the Works based on the following:

- (i) MORT&H/IRC Specifications (latest revision) wherever applicable
- (ii) Rajasthan PWD Standard Specifications (Civil works)
- (iii) Indian Electric Rules 1956, Indian Electric Act 1910 and Rajasthan PWD specifications for electrical works or as specified in this document as directed by employer/engineer.

Any item not covered by the aforementioned documents shall be covered by CPWD specifications.

The attention of the contractor is drawn to those clauses of codes, which require supporting specification either by the engineer or by mutual agreement between the Contractor and Employer. In such cases, it is the responsibility of the Contractor to seek clarification on any uncertainty and obtain prior approval of the Engineer before taking up the supply/construction. In absence of such prior clarification, the Engineer's choice/design will be final and binding on the Contractor without involving separately any additional payment.

The latest edition of all Specifications / Standards till 30 (Thirty) days before the final date of submission of the bid, shall be adopted.

1.2 Insurance

1.2.1 Requirements

Before commencing execution of works, it shall be mandatory for the contractor to obtain at his own cost insurance cover to meet the cost of compensation to be paid by the contractor for any accidents/incidents pertaining to J.D.A staff, site execution staff, labour, materials, plant and third party damages etc., under the following requirements:

- a. Contractor's all risk and Third Party Cover.
- b. Liability under the Workmen's Compensation Act, 1923, Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act 1970.
- c. Accidents to staff, Engineer, Supervisors and others who are not governed by Workmen's Compensation Act.
- d. Damage to Material, Machinery and works due to fire, theft etc.



- e. Any other risk may be specified in the Special Conditions of Contract.

1.2.2 Insurance policy in joint names of Contractor and Employer

The policy referred to under sub-clause 1.2.1 above shall be obtained in the joint names of the contractor and the employer and shall inter-alia provide coverage against the following, arising out or in connection with execution of works, their maintenance and performance of the contract.

- Loss of life or injury involving public, employee of the contractor, or that of Employer or Engineer, labour etc.
- Injury, loss or damages to works or property belonging to public, Government Bodies, Local Authorities, utility organizations, contractors, employers or others etc.

1.2.3 Currency of Insurance Policy

The policies shall remain in force throughout the period of execution of the works and till the expiry of the maintenance period. The contractor shall, submit to the Engineer or his representative the copies of various insurance policies obtained by him as also the rates of premium and the receipts for premium paid by him to ensure that the policies indeed continue to be in force.

1.2.4 Deduction of Income Tax (TDS)

Deduction towards income tax and any other tax shall be made at source from each on account bill by the employer as per rules of Central Govt./ State Govt.

1.2.5 Release of Security Deposit

The Security Deposit will be release after passing of Final Bill in the following stages after satisfactory performance certificate issued by Engineer-In-Charge:-

1	After completion of one year	@20 % of SD Amount
2	After completion of two years	@20 % of SD Amount
3	After completion of three years	Remaining 60% of SD Amount

The Security Deposit of Rs.10 Lacs shall be withheld against the amount, expansion joints and bearings and shall remain valid throughout the respective maintenance period of 10 years.

Provided always that, no 'Security Deposit' amount shall become due nor payable to the contractor unless all the stipulations of the contract have been fulfilled by the contractor and all claims and demands made by the employer for and in respect of damage or loss by, from or in consequence of the works have been finally satisfied.

2. SITE AND CONTRACTOR'S OFFICE



- 2.1 The Contractor shall set up an office in Jaipur in case he does not have one already, for planning and co-ordination of the present bid/contract. He shall furnish to the Employer postal address of the same.
- 2.2 The Contractor shall also have an office at site and shall furnish to the Employer/E.I.C. the postal address of his site office
- 2.3 The contractor shall provide and maintain at the work site, an air conditioned site office for Employer's engineering staff, of floor area upto 50 Sq M with two rooms of adequate size and attached toilets separately for either sex, reasonably furnished with furniture , computer with operating system software and latest (authenticated) working software like Auto Cad, Primavera / MS project MS word, MS Excel, etc, and coloured multi functional printer (MFP) A-3 size printer. The site office shall also be equipped with broadband connection (speed not less than 2.0 mpbs), watch and ward and one attendant. The contractor shall also arrange all necessary IRC codes, IS codes MoRTH Specifications and other technical literature, etc as directed by EIC of latest version in soft copies as well as hard copies, in the site office. The contractor shall also bear the monthly cost of electricity, water consumption, broadband, stationary and other consumables of the site office.

Nothing extra shall be payable on this account and the cost of the same shall be deemed to be include in the rates quoted for the main works. In case of non satisfaction of the services being provided or maintained a deduction of upto Rs. 25,000.00 per month will be made by the EIC.

- 2.4 Any notice or instructions to be given to the Contractor under the terms of the contract shall be deemed to have been served on him if it has been delivered to his authorised agent or representative at site, or if it has been sent by registered post to the site office or to the address of the firm last provided by the Contractor.

2.5 Use and Care of Site

- 2.5.1 The Contractor shall not demolish, remove or alter structure or other facilities on the site without prior approval of the EIC.
- 2.5.2 All garbage shall be removed from the site as it accumulates. All surface and sub soil drains shall be maintained in clean, sound and satisfactory state of performance.

2.6 Storage of Materials

- 2.6.1 Materials required for the work whether purchased by the contractor or supplied by the Employer shall be stored by the Contractor only at places, in standard profiles and in the manner approved by the EIC. The Contractor shall construct suitable godown at the site of work for safety against damage due to sun, rain, dampness, fire, theft etc. Storage of cement at site of work shall be at Contractor's expense and risk. In the event of any damage occurring to cement



due to faulty storage in Contractor's sheds, or on account of negligence on his part, such damage shall be the liability of the Contractor.

- 2.6.2 The staking yard for precast material of adequate quantity will also be developed and maintained by the contractor at no additional cost to the employer other than the bided cost of the item. The ward & watch and shifting etc will be also deemed to be included in the same.

2.7 Safety of materials

Storage and safe custody of materials shall be the responsibility of the Contractor. He shall employ necessary watch and ward establishment for that purpose and no extra claim whatsoever shall be entertained on this account.

2.8 Supply of water and electric power

- 2.8.1 The contractor shall have to make his own arrangement for water supply and electric power necessary for the work. Any recommendatory letters to the concerned department shall be issued by the JDA for this purpose if requested by the contractor. However, JDA shall not be responsible for any delay in getting the required supply and no claim on this account will be acceptable by JDA.

- 2.8.2 The electric connections shall be obtained by the contractor for use for the work under the contract subject to the following conditions:-

- a) The charges pertaining to electric supply including installation of temporary connection including the cost of making electric sub-station if needed, laying cables wherever necessary upto the meter from the relevant electricity supply authority pole and from meter upto actual consumption point and the cost of electricity shall be borne by the Contractor. The Contractor shall also bear the entire cost of connection charges in case electric connection is discontinued by the electric supply authority.
- b) It will be the responsibility of the Contractor to make necessary arrangements for the illumination to be provided on the main road in the work area. The Contractor shall make his own arrangement for any further requirements in respect of illumination at site of work. No claim whatsoever on this ground shall be entertained and the Contractor shall bear the full expenses in respect of the same.
- c) The Contractor shall at all times observe the Indian Electricity Rules and any other rules/bye laws applicable at the time and any damage/penalty on account of violation of any of the rules/bye laws shall be responsibility of the Contractor.
- d) The Employer shall in no way be responsible for any delay in getting the electric connection and no claim on this account whatsoever, shall be entertained. It should be clearly understood that the Contractor has to make his own arrangement for use before the electric connection is made available and also to be used as a stand-by arrangement in case of power failure etc.



or in the case of disconnection of electric supply by electric supply authority for any reason.

- e) It shall be mandatory for contractor to provide safety light during night for safe movement of traffic and provide follow safety instruction provided in IRC code for safety in construction zone.

2.9 ACCESS ROADS AND HAUL ROADS

2.9.1 Existing public roads may be used by the Contractor to carry out construction activities with prior approval of the competent authority. The Contractor shall pay all statutory vehicle licenses and permit fees for the use of public roads.

2.9.2 The Contractor shall indemnify the Employer against all claims for damage to any road or bridge caused by movement of his traffic, including such claims as may be made directly against the Employer and shall negotiate and pay all claims arising out of such damage.

2.9.3 No extra payment will be made for construction and maintenance of any temporary haul roads including any special protection or strengthening required and all cost of such works shall be deemed to have been included in the cost quoted by the Contractor.

3. SAFETY, LIGHTING AND FIRE PREVENTION

Safety of Workers

The Safety Code annexed to the General Conditions of Contract supplemented by the other instructions by the EIC and Conditions of Contract for Safety, Health and Environment (SHE), shall be strictly followed. All the safety procedures as per law of the land shall be binding on the Contractor.

Over and above the provisions made in Safety Code included in GCC and Conditions of Contract for Safety, Health and Environment (SHE), the following will also be applicable.

In respect of all workmen directly employed on the work for the performance of the Contractor's part of this agreement, the Contractor shall at his expense arrange for the safety provisions as per Indian Standard Safety Codes given below and shall at his own expense provide for all facilities in connection therewith. In case the Contractor fails to make arrangements, and provide necessary facilities as aforesaid, he shall be liable to pay penalty prescribed under relevant clauses of these bid documents for each default and in addition the EIC shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost incurred on that account from the contractor and no claims whatsoever shall be entertained.

1. IS 3696 (Part I); Safety Code for Scaffolds and Ladders.
2. IS 3696 (Part II); Safety Code for Scaffolds and Ladders Part II.
3. IS 3764, Safety Code for excavation work.



4. IS 4081 , Safety Code for blasting and drilling operations
 5. IS 4138, Safety Code for working in compressed air.
 6. IS 5121; Safety Code for piling and other deep foundations.
 7. IS 5121, Safety Code construction involving use of hot bituminous materials.
 8. IS 7293, Safety Code for working with construction machinery.
 9. IS 7969, Safety Code for storage and handling of building materials.
 10. IRC safety code for construction zone IRC(SP) 55 2001
 11. Any other code and/or as per directions of EIC.
12. The contractor shall be responsible for providing following services/ measures for which no extra payment shall be made as per directions of Engineer In charge.
- (a) The contractor shall take all necessary precautions for excavation of required depth up to 6.0 m 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 only be adopted after approval from Engineer In charge. The contractor should cover all the expenses due to methodology adopted and construction difficulties in the quoted rates.
 - (b) Contractor has to divert and manage traffic by deploying marshals with reflective shirts, torch/reflective sticks. In the absence of marshals JDA shall deploy the marshals at market rate and recovery from the contractor will be done at double the rate paid from his running payments. The open excavation shall be done taking proper care for land sliding as per IS Code 3764 and other. Slope shall be limited to space available at site at least 2 lanes should be available for either side traffic such arrangement as approved by Engineer In charge shall be done by contractor at his own cost.
 - (c) In case of any lapse , if found in barricading the site of work then, agency will be liable for penalty @ Rs. 5000/-per day (Rs. Five Thousand per day) till the rectification of the same as per directions of Engineer In charge in construction area. The contractor shall enclose the area completely. The steel plates should have the Name of Agency, Name of Client and
"Construction in Progress" duly written as approved by Engineer In charge.
 - (d)
 - (e) The contractor shall be responsible for immediately removing the accident vehicle/ material due to any reasons / fault by mobile crane for least hindrance to the traffic in construction area and to arrange the ambulance as per requirement immediately.
 - (f) The contractor shall take all necessary measures for the safety of traffic and the workers during construction and provide, erect and maintain such barricades



including signs, markings, flags, lights and flagmen as necessary, all around the excavation/construction area and at such intermediate points, as directed by the EIC including the proper identification of the construction areas. He shall be responsible for all damages and accidents on account of construction and other relevant activities. Nothing extra shall be paid on account of above.

The temporary warning signs/lamps shall be installed at all barricades during the hours of darkness and kept lit there at all times during these hours and nothing shall be paid extra on this account. However, traffic police signals shall not be the responsibility of the contractor.

(g) 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. He will appoint safety induction officer having minimum qualification, Diploma in such field with minimum 5 years experience in similar nature of works.

(h) Nothing extra will be payable on account of Dewatering etc for any purpose .

4. a. NIGHT WORK

- i. For completing the work in time, the Contractor might be required to work in two or more shifts (including night work) and no claim whatsoever shall be entertained on this account, notwithstanding the fact that the Contractor will have to pay to the labour and other staff engaged directly or indirectly on the work according to the provisions of the labour regulations and the agreement entered upon and/or extra amounts for any other reason.
- ii. Night working shall be resorted to only with prior approval of the EIC. Sufficient lighting and safety arrangements shall be made by the Contractor at no extra cost.
- iii. The Contractor shall provide and maintain adequate firefighting equipment and take adequate fire protection measures for the safety to all personnel and temporary and permanent workers and shall take action to prevent damage or destruction by fire of trees, shrubs and grass. All existing rules and laws of land in respect of fire prevention shall be binding on the Contractor.
- iv. No extra payment shall be made for the provision of temporary lighting and fire prevention measures and entire cost of all such works shall be deemed to have been included in cost tendered by the Contractor as accepted by JDA.

b. SECURITY MEASURES

Security arrangement for the work shall be adequate conforming to IS Codes, applicable rules and laws of the land. The contractor shall be held responsible for the action or inaction on the part of his staff and employees and also those of any approved sub-contractor. The Contractor shall also provide and maintain adequate



security personnel on continuous basis for ensuring security of the works for duration of contract.

The requirement of security measures to be taken by the Contractor shall include, but not be limited to maintenance of law and order at site, provision of all lighting, guards, flagmen and all other measures necessary for protection of works within the colonies, camps and elsewhere at site, all materials delivered to the site and all persons employed in connection with the work continuously throughout working and non-working periods including nights, Sundays and holidays for the duration of the contract. In close proximity of traffic corridors where public are likely to come close to the work area, suitable barriers/fencing as directed by EIC shall be provided.

c. ANCILLARY AND TEMPORARY WORKS

- i. The contractor's proposals for execution of all ancillary and temporary works shall be in conformity with the proposals submitted along with the Tender and modification thereto as approved by the EIC.
- ii. The Contractor shall submit drawings, supporting design calculations when called for by the EIC and other relevant details of all such work to the EIC for approval well before he desires to commence such works. Approval by the EIC of any such proposal shall not relieve the Contractor of his responsibility.
- iii. No extra payment shall be made for complying with the provisions of this clause. The cost of the same shall be deemed to be included in the Tendered Cost as accepted by the Employer.

d. ECOLOGICAL BALANCE

- i. The Contractor shall maintain the ecological balance by preventing deforestation, water pollution and defacing of natural landscape. The Contractor shall so conduct his construction operations as to prevent any destruction, scarring or defacing of natural surroundings in the vicinity of work or damage to any tree, shrub or water course unless any of the same is specifically required to be cleared or removed for construction purposes. Such removal shall only be done with prior approval of EIC who may require the contractor to do compensatory plantation at his cost.
- ii. No separate payment shall be made for complying with provisions of this clause and all costs shall be deemed to have been included in the Tendered Cost as accepted by the Employer.
- iii. The Contractor shall make his own arrangement for the disposal of the spoils from the works to such place where the same shall not cause nuisance and shall be acceptable to the authorities concerned.

5. PROGRESS & PROJECT MONITORING

(Amplification of clause 2 of GCC)

- i After the work order issued by JDA, the contractor shall submit within 15 days the complete detailed work programme mentioning Key Dates for the mile stones



defined in section **9.2.** and got it approved by JDA, failing which JDA may fix key dates at its own which shall be binding to the contractor and shall be applicable for deduction of liquidated damages as mentioned in clause The contractor shall also submit monthly programme in the first week of every month to the EIC an up to date primavera / MS project hard copy detail showing changes and covering backlog of previous month, if any, in planning or scheduling and reflecting the project status as at the end of previous month. If the contractor fails to submit the proper work program within first week of the month, penal deduction of Rs. 5,000.00 (Rupees Five Thousand) per day will be made.

- ii Whenever the contractor proposes to change the construction programme he shall immediately advise the EIC in writing and, if the EIC considers the change a major one, the contractor shall submit a revised programme for approval.
- iii If the contractor falls behind the approved construction programme, he shall, within fourteen days of the date of such default, submit for approval a revision of the construction programme showing the proposed measures, including augmentation of plant, labour and material resources to complete the works on time.
- iv Whenever required by the Engineer, the contractor shall also prepare and submit system-wise network in a similar manner after award of the work. These networks will be computerized to generate the following reports :-
 - System-wise Activity List for the next two months.
 - Criticality report.
 - Hold up and Slippage Report.

v **Master Control Network**

- a) Master Control Network shall give details of broad scheduling, major milestones, critical path and provide a control for the overall project implementation. This network plan shall be used for joint monitoring of the project schedule by the EIC and the Contractor. Detailed Network Plan shall be prepared by the Contractor for each and every activity within the same time frame and in the same sequence as indicated in the master work plan.
- b) If so required by the EIC, the Contractor shall select PC-based broad planning and control software on which the two networks shall be implemented. Software selected shall be such that it should be possible to monitor the project programme continuously and obtain periodical reports in the form of GANTT chart and/or PERT chart. The contractor shall supply one licensed copy of the software selected along with the Master Control Network and Detailed Network Plan free of cost and load it on the PC system of the EIC so that uniform monitoring of the project is done and any slippages are identified well in time and corrective action taken.
- c) The following reports in agreed formats and frequency shall be submitted by the Contractor at his own cost.



Progress Reports.

Material Status Reports

Equipment and Manpower Deployment Reports.

Any other reports desired by the Employer or the Engineer

- d) The EIC's monitoring team will have access to all the data/information of the contractor, required for the assessment of the progress and monitoring. If necessary, the monitoring team will visit the Contractor's works in order to assess the details of critical activities.
- e) The Employer or the EIC will hold periodical Progress Status Review Meeting. The Contractor shall depute his Engineers/Managers at appropriate level as decided by the EIC to attend the Review Meeting.
- f) Progress photographs of the major events shall be submitted by the Contractor along with the Progress Reports. No extra payment will be made for supply of progress photographs. Video recording of the progress of works shall be maintained from beginning till completion of work as directed by the EIC and two copies of Video Cassettes shall be submitted at no extra cost to the Employer.
- g) Contractor shall provide additional inputs whenever the PERT-CPM diagram indicates a possible slippage in the completion schedule. Such additional inputs may require supplementing of equipment, personnel, work in excess of the normal work per day, work in excess of the normal work per week or other resources.
- h) No separate payment shall be made for the requirement under this clause and the same shall be deemed to be included in the Tendered Cost as accepted by the Employer.

6. RIGHT OF WAY

- i. Right of way to the work site will be provided to the contractor. The contractor shall prepare at his own cost approach road to the site of work. The Employer reserves the right to make use of the service road for themselves, all other connected agencies in the area as and when necessary without any payment to the contractor. If the contractor wishes to use the existing roads, he may do so after taking permission from competent authority and after due strengthening of such roads to take any anticipated heaviest traffic at their own cost as may be required by the authority.
- ii. The contractor shall plan transportation of construction materials, components and equipments over public roads in accordance with traffic regulations as applicable at the time and without causing any obstruction to other traffic or causing accident. No claim whatsoever will be entertained on this account.
- iii. All arrangements for maintenance of traffic diversion including traffic signals/regulations during construction and maintenance period shall be considered as incidental to the work and contractor's responsibility and nothing extra shall be payable in this respect.



- iv. The contractor shall take all necessary measures for the safety of traffic and the workers during construction and provide, erect and maintain such barricades including signs, markings, flags, lights and flagmen as necessary, all around the excavation/construction area and at such intermediate points, as directed by the EIC including the proper identification of the construction areas. He shall be responsible for all damages and accidents on account of construction and other relevant activities. Nothing extra shall be paid on account of above.
- v. The temporary warning signs/lamps shall be installed at all barricades during the hours of darkness and kept lit there at all times during these hours and nothing shall be paid extra on this account. However, traffic police signals shall not be the responsibility of the contractor.

7. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The contractor shall construct one toilet block including all civil, water supply, and sanitary works and electrical installation (covered area 15 SqM approx.) duly finished in all respect in the nearby Government School or any other location at his own cost as per direction of Engineer-in charge. Cost to be incurred on this account will be deemed to be included in the cost of main work and no extra payment on this account will be made. However in the event of non execution of this work proportionate amount as decided by Engineer in charge will be deducted.

8. Handing over, Possession and Use of Site

- i. No land belonging to or in the possession of the Employer shall be occupied by the Contractor without the permission of the Engineer or the Employer. The Contractor shall not use, or allow the Site to be used for any purpose other than that of executing the Works.
- ii. The Employer shall give the Contractor, right to or right of access to or possession of all or parts of Site as the case may be from time to time as stated to in the Contract and as conforming with the requirement of the programme of the Work.
- iii. The Contractor shall allow the Engineer or the Engineer's Representative, at all times access to the Site, and to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where Materials or plant are being manufactured, fabricated and/or assembled for the Works. The Contractor shall ensure that sub Contracts if any shall contain provisions entitling the Engineer or any person authorised by him to have such access.
- iv. Providing access roads/ way leaves to the Site will be Contractor's responsibility.

9. Liquidated Damages



9.1 In case the Engineer decides to extend the Contract with liquidated damages for delays due to Contractor, in that case without prejudice to any other right or remedy available to the Employer, the liquidated damages shall be levied as per clause 9.2

The decision of the Engineer as to the Liquidated Damages payable by the Contractor under this Clause shall be final and binding. For submission of detailed work programme, key dates etc, Clause 5 i may be referred.

9.2 The intermediate mile stones are identified as below.

For Viaduct

1. Foundations
2. Substructure.
3. Casting of Segments in Casting Yard.
4. Fabrication of steel girders for Railway Portion.
5. RE wall panel casting.
6. Launching of Segments in position.

- Liquidated damages for not achieving key dates will be levied separately and it shall be Rs. 1,00,000.00 (Rupees One Lacs) per week for each key date.
- Liquidated damages for mobilizing less number of Piling Rig Machines as stipulated in Schedule will be levied @ Rs.60 ,00,000.00 (Rupees sixty Lacs) per piling rig mobilized less beyond the key date.
- Liquidated damage for installing less number of casting beds for Segments in the casing yard @Rs.36,00,000.00 (Rupees thirty six lacs) per bed mobilized less beyond the key date.

These liquidated damages shall not relieve the contractor from his obligation to complete the works or from any other of his obligations and liabilities under this contract.

These liquidated damages levied shall be clubbed / included in liquidated damages as per clause 2 of GCC. However the total liquidated damages will not exceed 10 % of the final bill amount.

9.3 Rate of Progress

If for any reason which does not entitle the Contractor to an extension of time, the rate of progress of the Works is at any time, in the opinion of the Engineer too slow to ensure timely completion of the Works or any part thereof, the Engineer may so notify the Contractor in writing. The Contractor shall thereupon take such steps as are necessary or in default of taking such steps, shall take such steps as the Engineer may reasonably instruct to expedite progress so as to complete the Works or any part thereof within date of Completion. The Contractor shall not be entitled to any additional payment for taking such steps.



If any step taken by the Contractor in meeting his obligations under this Sub clause cause the Employer to incur additional costs, such costs shall be recoverable from the Contractor and shall be deducted by the Employer from any monies due, or become to the Contractor.

9.4 Non-exercise of power not to constitute waiver

Provided always that in case any of the powers conferred upon the Employer by Sub-clause 9.1 and Sub-clause 9.2 above, shall have become exercisable, and the same may not have been exercised, the non-exercise thereof shall not constitute waiver of any of the conditions thereof.



TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS.

PREAMBLE

The Technical Specification (Appendix-“A”) shall be read with the other volumes of the Bid Document (Volumes I & II)

1 General

The Technical specifications covering the materials and the workmanship aspects as well as method of measurements and payments are included in this section. These specifications cover the items of civil and non-civil works coming under scope of this document. All work shall be carried out in conformity with the same. These specifications are not intended to cover the minute details. The works shall be executed in accordance with good practices followed for achieving high standards of workmanship, thus ensuring safety and durability of the construction. All codes and standards referred to in these specifications shall be the latest thereof, unless otherwise stated.

Inclusive Documents

The provisions of special conditions of contract, those specified elsewhere in the bid document, as well as execution drawings and notes, or other specifications issued in writing by the Engineer shall form part of the technical specifications of this project.

The attention of the contractor is drawn to those clauses of codes which require supporting specification by the Engineer. In such cases, it is the responsibility of the bidder /contractor to seek clarification on any uncertainty and obtain prior approval of the Engineer before taking up the supply/construction. In absence of such prior clarification, the Engineer's choice/design will be final and binding on the contractor without involving separately any additional payment.

Measurement And Payment

The methods of measurement and payment shall be as described under various items and in the Bill of Quantities. Where specific definitions are not given, the methods described in B.I.S. Code/MoRTH/IRC will be followed. Should there be any detail of construction or materials which has not been referred to in the Specification or in the Bill of Quantities and Drawings but the necessity for which may be implied or inferred there from, or which is usual or essential to the completion of the work in the trades, the same shall be deemed to be included in the rates and prices entered by the contractor in the Bill of Quantities.

2. GENERAL REQUIREMENTS

The specification for works shall be in two parts, Technical Specifications and Supplementary Technical Specifications, which shall be read together:

In the absence of any definite provision on any particular issue in the Specifications, the work shall be carried out in accordance with Special Specifications to be prepared by Contractor and approved by Engineer. Such Special Specification shall be based on technical literature comprising national MoRTH/(IRC and IS) and international specifications and good engineering practice. In case of any dispute, the decision of the Engineer shall be final and binding on the Contractor.

3. GENERAL TECHNICAL SPECIFICATIONS

Part I - General Technical Specifications

This part shall comprise the “Specifications for Road and Bridge Works” (Fifth Revision), 2013 along with other addendum Corrigendum issued up to 28 days before the final dated of submission of the bid, issued by the Ministry of Road Transport & Highways, Government of India, and published by the Indian Road Congress (IRC), Jamnagar House, New Delhi - 110 011, with a cross reference to relevant Bureau of Indian Standards (BIS) for materials for other aspects not covered by the IRC, all deemed to be bound into this document.

Part II - Supplementary Technical Specifications

The Supplementary Technical Specifications shall comprise various Amendments/Modification/ Additions to the “SPECIFICATION FOR ROAD AND BRIDGE WORKS” referred to in Part I above and additional specifications for particular items of work not already covered in Part I.

If a particular clause or a part thereof in "SPECIFICATION FOR ROAD AND BRIDGE WORKS" referred to under Part I above, is amended/modified/ substituted/added upon, and incorporated under Part II, referred to above, the Amendment/Modification/ Substitution/Addition to the relevant Clause or part of the Clause shall prevail.

When an amended/modified/substituted/added clause supersedes a Clause or part thereof in the said Specifications, then any reference to the Clause shall be deemed to refer to the amended/modified/substituted/added Clause or part thereof.

Insofar as amended/modified/substituted/added Clause may come in conflict or be inconsistent with any of the provisions of the said Specifications under reference, the amended/modified/ substituted/added Clause shall always prevail.

The Additional Specifications shall comprise specifications for particular item of works not already covered in Part I.

Amendments, modifications, substitutions, additions have been made to the following clauses of specifications for Road and Bridge Works (Fourth Revision).

Specifications for Road & Bridge Works by Ministry of Surface Transport (MOST), Govt. of India

Unless specifically mentioned otherwise hereafter or/and directed by the Engineer-in-charge to do so, all the civil engineering works shall be carried out in accordance with the provisions of the "Specifications for Road and Bridge Works (Fifth Revision), called MOST Specifications hereinafter published at New Delhi in 2013, or the latest version available, by Indian Roads Congress on behalf of MOST.

4. MATERIALS AND TEST STANDARDS

Testing

The Contractor shall set up a field laboratory with necessary equipments for testing of water, aggregates, cement and concrete used in the construction as per requirements of the relevant specifications. The testing of all materials shall be carried out by the Engineer-in-charge or his representative for which the contractor shall make all the necessary arrangements and bear the entire cost.

Tests which cannot be carried out in the field laboratory shall be sent for testing by the contractor to any NABL accredited or recognized laboratory/testing establishment approved by the Engineer-in-charge. The cost of making any and all the Tests shall be borne by the Contractor if such Test is clearly intended by or provided for in the Contract.

The following instruments / apparatus (but not the least), are required in the field laboratory.

1. Digital Compression testing Machine 2000 KN Capacity, electrically operated.
2. Vicat Needle Apparatus with dashpot.
3. Concrete soundness test hammer.
4. Cement autoclave.
5. Cube Moulds (ISI Marked) of different sizes.
6. Aggregate Crushing Value.
7. Aggregate impact value test apparatus.
8. Sieve Shaker.
9. Sieves of different sizes (ISI Marked).
10. Flakiness index test apparatus.
11. Proctor Compaction Apparatus.
12. Bitumen extraction test.

However, as per the site requirement EIC may direct the contractor to arrange some additional testing apparatus required in the field laboratory which are not included in the above mentioned list, at his own cost. Then the cost of such Test shall be borne by the Employer. If, however, the Test shows the workmanship or Materials not to be in accordance with the Contract, then the cost of such Test will be borne by the Contractor

The contractor shall appoint separate engineer (Degree holder) of experience not less than 5 years for quality control and site laboratory who shall provide all assistance to JDA to conduct such tests. The salary/ wages of such engineer shall be deemed to be included in the cost of work and no extra payment shall be made on this account. In case of not appointing separate engineer by the contractor the JDA may appoint such engineer at its own and actual wages/ salary be deducted from the due payments of contractor

5. Sampling of Materials

Samples provided to the Engineer-in-charge for retention are to be in labeled boxes suitable for storage. Materials or workmanship not corresponding in character and quality with the approved samples will be rejected by the Engineer-in-charge or his representative and shall be removed from site as directed by the Engineer-in-charge or his representative at the contractor's cost.

Samples required for approval and testing must be supplied well in advance to allow for testing and approval. Delay to works arising from the late submission of samples will not be acceptable as a reason for delay in the completion of the work.

6. CONSTRUCTION EQUIPMENT

Tolerance

The contractor shall ensure that the major plant and equipment proposed to be deployed on the work shall meet the performance criteria specified herein. The contractor shall be required to give trial runs of these equipments for establishing their capabilities to achieve the laid down specification and tolerance to the satisfaction of the Engineer-in-charge before commencement of the work. All these equipments provided shall be of proven efficiency and shall be maintained at all time.

Batching Equipment

For individual batches the following tolerances shall apply based on the required weight of material.

Percentage

Cement : ± 1

Aggregate	:	± 2
Water	:	± 1

Notwithstanding above tolerances the construction and accuracy of equipment shall conform to IS:2722, except that an accuracy off 0.4% over the entire range of equipment will be required.

Batch Type Concrete Mixer

The mixer shall be tested under normal working conditions in accordance with the method specified in IS: 4634 with a view to checking its ability to mix the ingredients to obtain a concrete of desired uniformity. The conformity of mixed concrete shall be evaluated by fixing the percentage variation in quantity of cement, fine aggregate and coarse aggregate in a freshly mixed batch of concrete.

The percentage variation between the quantities of cement, fine aggregate and coarse aggregates (as found by weighing in water) in the two halves of a batch and the average of the two halves of the batch shall not be more than the following limits:

Cement	:	8%
Fine Aggregate	:	6%
Coarse aggregate	:	5%

Concrete Transit Mixers

The mixer shall conform to IS: 5892 and be tested under normal working condition in accordance with the method specified in IS:4634. The tolerance limits for the variation between quantities of cement, fine aggregate and coarse aggregates shall be same as for batch type concrete mixer.

Competent authority shall have the right to determine whether all or any of the materials offered or delivered for use in the works are suitable for the purpose.

SETTING OUT

The works unless otherwise specified, shall be set symmetrical to the centre line of the bridge as shown on the drawings and design.

Reference pillars shall be established by the contractor at his own cost after carrying out the necessary survey with reference to the said drawings.

The centre line of the bridge shall be extended on both ends to at least 60.0 m and the centre line pillars located not less than 3.0 m from the two ends of the bridge. These shall be so located that they are in no way disturbed during flood or during the period of construction.

The reference pillars shall be connected with some permanent features on the site that they can be correctly relocated in case they get disturbed during the construction period.

For the layout work and establishing the centre line of the bridge, only steel tape shall be utilised throughout the work and where work is done by traversing, the traverse shall be closed. In case of minor errors these shall be corrected by interpolation of the layout and the centre line pillars got approved by the Engineer-in-charge.

7.MATERIALS FOR STRUCTURE

General

All the basic construction materials viz. cement, aggregates (coarse and fine both), reinforcement and water to be used in works shall be procured from sources approved by the Engineer-in-charge. Unless otherwise mentioned in these specifications the contractor shall identify the sources of basic materials and propose the same for approval after satisfying himself about the quality and quantity required for the work.

Cement

Ordinary Portland Cement (OPC) 43/53 grade conforming to relevant IS standards shall be used throughout construction. Flyash will not be allowed in any form in the construction works. Cement shall be procured from reputed manufacturers who have requisite infrastructure for conducting various tests for the conformance to chemical and physical requirements specified in IS: 269. The frequency of such tests in manufacturer's laboratory shall be as per IS: 3535. Since a very good degree of quality control is desired at works, fresh cement from a single source shall be procured unless alternative source is approved by the Engineer-in-charge in writing. The make and quality of cement to be used in the work shall be subject to the approval of Engineer-in-Charge. Along with each lot of cement delivered to site a certificate from the manufacturer shall be forwarded, to the effect that the cement was tested and analysed in accordance with the methods given in IS:4031 and IS:4032. The test results shall be included in the manufacturer's certificate.

Notwithstanding manufacturer's certificate the Engineer-in-charge if so desired may ask for retesting of cement at site or through any other recognised and approved laboratory. The cost of additional tests and samples shall be borne by the contractor.

Coarse Aggregate

Coarse aggregates shall consist of naturally occurring crushed stones. The aggregates shall be hard, strong, dense, durable, clear and free from veins and adherent coating, and free from injurious amounts of disintegrated pieces, alkali, vegetable matter and other deleterious substances. The presence of flaky, scoriaceous and elongated pieces shall be avoided. The coarse

aggregates which conform to the following requirement may only be considered for approval by the Engineer-in-charge:

Deleterious materials	Refer to Table 1 of IS:383
Aggregate Crushing Value	18%
Aggregate Abrasion Value	20%

Aggregate shall be supplied in single sizes. The nominal maximum size of aggregate to be used in work shall be 20mm. The other requirements for coarse aggregates shall be as per IS:383.

While submitting samples of aggregates for approval the contractor shall furnish following information pertaining to the aggregates:

Source of supply, that is, precise location of source from where the materials were

procured.

Trade group of principal rock type present.

Presence of reactive minerals.

Physical characteristics.

Specific gravity.

Moisture content

Absorption value.

Aggregate crushing value.

Abrasion value

Presence of deleterious materials.

Potential reactivity of aggregate.

The tests carried out for the above shall be done in accordance with the methods specified in IS:2386.

The contractor shall satisfy himself that the material complies with the requirement of IS:383 and shall furnish a certificate to this effect to the Engineer-in-charge whenever asked for. In case the aggregates tested do not comply with any requirement of the IS standards the source for the same shall be rejected. No further samples from the rejected source shall be considered for approval. The Engineer-in-charge shall have full liberty of getting the material tested independently through recognised agency. The Contractor shall supply free of charge the material required for tests and bear all expenses for such tests.

Fine Aggregate

The quality, tests and acceptance criteria for fine aggregates shall be same as mentioned for the coarse aggregates. The fine aggregates shall conform to Zone II of Table 4 of IS:383.

STEEL

Steel reinforcement

Steel shall be procured from primary manufacturers only. High strength deformed steel bars of TMT500D grade shall be used and shall comply with the provisions of IS: 1786 (Latest revision) For each batch of steel delivered to site the contractor shall supply the Engineer-in-charge with manufacturer's certificate stating the process of manufacture and also the test sheets signed by the manufacturer giving the result of each mechanical test and the chemical composition. Steel / Strands shall be manufactured by the open hearth, electric, duplex, basic oxygen process or a combination of these processes like TATA (Mumbai), SAIL or equivalent as approved by EIC. In case any other process is employed by the manufacturer, prior approval of the purchaser from EIC should be obtained. Steel / Strands shall be manufactured by primary manufacturers like TATA, SAIL, RISNL or equivalent as approved by the EIC shall be used. In case any other process is employed by the manufacturer, prior approval of the purchaser should be obtained

WATER

Water to be used for mixing and curing shall be clear and free from injurious amounts of oils, acids, alkalis, salts, sugar, organic materials or other substances that may be deleterious to concrete or steel. Potable water is generally considered satisfactory for mixing concrete. The maximum permissible limits for solids shall be as given below:

- Organic : 300 mg/1
- Inorganic : 3000 mg/1
- Sulphates (as SO₄) : 500 mg/1
- Chlorides (as C1) : 1000 mg/1 for reinforced concrete
250 mg/1 for pre stressed concrete
- Suspended matter : 2000 mg/1
- pH : < 6

STORAGE OF MATERIALS

All materials shall be placed at site in a proper way so as to prevent their deterioration or intrusion of foreign matter and to ensure their satisfactory quality and fitness for the work. The storage space must also permit easy inspection, removal and re-storage of the materials. Materials though stored in approved godown must be subjected to acceptance test prior to their immediate use.

The cement shall be stored in a suitable weather-tight building to protect it from dampness and minimise warehouse deterioration. Each consignment of

cement shall be stored separately so that it may be readily identified and inspected. Cement shall be used in the sequence in which it is delivered at site.

The contractor shall prepare and maintain proper records on site in respect of the delivery, handling, storage and use of cement and shall be made available for inspection by Engineer-in-charge at any time.

The cement more than 3 to 4 months old shall invariably be tested at contractor's cost to ascertain that it satisfies the acceptability requirements.

FORMWORK AND SURFACE FINISH FOR STRUCTURES

Construction Operation

Only rigid steel forms shall be used unless otherwise approved by the Engineer-in-charge. Formwork shall include all temporary or permanent forms of moulds required for forming the concrete which is cast-in-situ, together with all temporary construction required for their support.

The chamfers, beveled edges and mouldings shall be made in the formwork itself. Opening for fixtures and other fittings connected with services shall be provided in the shuttering as directed by the Engineer-in-charge.

Formed surfaces and finish

The formwork shall be made as to produce a finished concrete true to shape, lines, levels, plumb and dimensions as shown on the drawings, subject to the following tolerances unless otherwise specified in these documents or drawings or as directed by the Engineer-in-charge.

- | | | |
|----|---------------------|---|
| a) | Sectional dimension | + 5 mm |
| b) | Plumb | + 1 in 1000 of height |
| c) | Levels | + 3 mm before any deflection has taken place. |

Tolerances given above are specified for local aberrations in the finished concrete surface and should not be taken as tolerance for the entire structure taken as a whole or for the setting and alignment of formwork, which should be as accurate as possible to the entire satisfaction of the Engineer-in-charge. Errors if noticed in any lift/tilt of the structure after stripping of forms, shall be corrected in the subsequent work to bring back the surface of the structure to its true alignment.

PREPARATION OF FORMWORK BEFORE CONCRETING

Special Provisions

Wherever the concreting in narrow members is required to be carried out within shutters of considerable depth, temporary openings in the sides of the shutters shall, if so directed by the Engineer-in-charge, be provided to facilitate the pouring and consolidation of the concrete. Small temporary openings shall be provided as necessary at the bottom of shutters of walls and deep beams to permit the expulsion of rubbish etc.

Formation of blotches and stains due to detachment of formwork panel from the concrete when adjacent portion in the same lift is still adhering, shall not be allowed to occur, and for this purpose, all shutters shall be struck off at the same time.

Bending of Reinforcement

Bending of reinforcement shall be done as per Bar Bending Schedule to be prepared and got approved by the contractor prior to commencement of work.

Placing of reinforcement

Reinforcement left projecting from newly placed concrete shall be supported in such a way that there is no sag or risk or damage to the newly placed concrete. The projecting bars which are likely to be exposed for a long time shall be protected by a thick coat of neat cement grout. These shall be thoroughly cleaned and wire brushed before depositing fresh concrete around it.

CEMENT CONCRETE FOR STRUCTURES

Grade of concrete

Only design mix concrete shall be used in the work. The design mix concrete shall have the minimum compressive strength of 150 mm cubes at 28 days according to the denomination of the grade the concrete e.g. M 35 grade concrete shall have the minimum characteristic compressive strength of 35 Mpa.

Design mix concrete

The determination of the cement, aggregates and water to attain the strength specified in clause 5.11.1 above shall be made by designing the concrete mix in accordance with IS: 10262. The trial mixes for mix design shall be prepared with approved aggregates, cement and water.

Coarse aggregates of different sizes shall be combined in suitable proportion so as to result in an overall grading conforming to IS : 383.

Fly ash will not be allowed to be used in the mix.

Minimum six cubes shall be prepared from each trial mix for testing compressive strength at 28 days. Based upon the successful preliminary crushing and workability tests, the contractor shall submit mix proposals to the Engineer-in-

charge who will have the right to accept any trial mix. The strength tests for concrete shall be done in accordance with IS : 516. All preliminary tests, approval, etc. shall be got done in advance by the contractor prior to commencement of actual work at site. Failure on the part of the contractor to do so and consequent delay in completion of the works will not entitle him for any compensation whatsoever, either financially or by way of extension of time.

General

In proportioning concrete the quantity of both cement and aggregates shall be determined by weight. The cement shall be weighed separately from the aggregates. Water shall either be measured by volume in calibrated tanks or weighed. All measuring equipment shall be maintained in a clean and serviceable condition. The amount of mixing water shall be adjusted to compensate for moisture content in both coarse and fine aggregates. The moisture content in both coarse and fine aggregates shall be determined in accordance with IS : 2386 (Part-III). Suitable adjustments shall also be made in the weights of aggregates to allow for the variation in weight of aggregates due to variation in moisture content.

Production of concrete

The concrete shall be produced in a central batching and mixing plant producing at least 30 cum mixed concrete per hour. The batching plant shall be fully automatic type

The compartments of storage bins shall be approximately of equal size. The cement compartment shall be centrally located in the batching plant. It shall be water-tight and provided with necessary air vent, aeration fittings for proper flow of cement, emergency cement cut off gate. The aggregate and sand shall be charged by power operated centrally revolving chute. The entire plant from mixer floor upward shall be enclosed and insulated. The batch bins shall be constructed so as to be self cleansing during drawdown. The batch bins shall be general conform to the requirement of clause 4.0 of IS: 4925.

The batching equipment shall be capable of determining and controlling the prescribed amounts of various constituent materials for concrete accurately i.e. water, cement, sand, individual size of coarse aggregates, etc. The should have double shaft pan mixer for mixing of concrete..

Transportation, placing and compaction of concrete

Mixed concrete from the batching plant shall be transported to the point of placement by transit mixers or through concrete pumps. In case the concrete is proposed to be transported by transit mixer it shall not be less than 4 rev/min of the drum or greater than a speed resulting in a peripheral velocity of the drum 70 m/min at its largest diameter. The agitating speed of the agitator shall be not less than 2 rev/min nor more than 6 rev/min of the drum. The number of

revolution of the mixing drum or blades at mixing speed shall be between 70 to 100 revolutions for a uniform mix, after all ingredients, have been charged into the drum. Unless tempering water is added, all rotation after 100 revolutions shall be at agitating speed of 2 to 6 rev/min and the number of such rotations shall not exceed 250. The general construction of transit mixer and other requirement shall conform to IS:5892.

In case concrete is to be transported by pumping, the conduit shall be primed by pumping a batch of mortar through the line to lubricate it. Once the pumping is started, it shall not be interrupted (if at all possible) as concrete standing idle in the line is liable to cause a plug. The operator shall ensure that some concrete is always there in the pump receiving hopper during operation. The lines shall always be maintained clean and shall be free of dents.

Except where otherwise agreed to by the Engineer-in-charge, concrete shall be deposited in horizontal layers to a compacted depth of not more than 450 mm. Unless agreed to by the Engineer, concrete shall not be dropped into place from a height exceeding 2 m. In order to avoid such situations chutes shall be used. The chutes shall be kept clean and used in such a way as to avoid segregation. Slope of the chute shall be so adjusted that concrete flows without the use of excessive quantity of water. The delivery end of chute shall be as close as possible to the point of deposit. The chute shall be thoroughly flushed with water before and after each working period and the water used for this purpose shall be discharged outside the formwork. The concrete shall be compacted by using immersion type vibrators. When the concrete is being continuously deposited to a uniform depth along a member, vibrator shall not be operated within one meter of free end of the advancing concrete. Every effort shall be made to keep the surface of the previously placed layer of concrete alive so that the succeeding layer can be amalgamated with it by the vibration process. In case the concrete in underlying layer has hardened to such an extent that it cannot be penetrated by the vibrator but is still fresh (that is, just after initial set), an imposed bond shall be achieved between the top and underlying layer by first satisfying the lower layer before the new concrete is placed by systematically and thoroughly vibrating the new concrete. The points of insertion of vibrator in the concrete shall be so spaced that the range of action overlap to some extent and the freshly filled concrete is sufficiently consolidated at all locations. The spacing between the dipping positions of vibrator shall be maintained uniformly throughout the surface of concrete so that concrete is uniformly vibrated. The vibrating head shall be regularly and uniformly inserted in the concrete so that it penetrates of its own accord and shall be withdrawn slowly whilst running so as to allow redistribution of concrete in its way and allow the concrete to flow back into the hole behind the vibrator. The vibrator head shall be kept in one position till the concrete within its influence is completely consolidated. Vibration shall be continued until the coarse aggregate particles have blended into the surface but have not

disappeared. The contractor shall keep one additional vibrator in serviceable condition to be used in the event of breakdowns.

The vibrator head shall not be brought more than 200 mm near to the formwork as this may cause formation of water stagnations. The formwork shall be strong and great care shall be exercised in its assembly. It shall be designed to take up increased pressure of concrete and pressure variations caused in the neighbourhood of vibrating head which may result in excessive local stress on the formwork. The joints of the formwork shall be made and maintained tight and close enough to prevent the squeezing out of grout or sucking in of air during vibration. The formwork to receive concrete shall be cleaned and made free from standing water, dust, etc.

In case the reinforcement has mild scales or dirt the same shall be cleaned by wire brushes. No concrete shall be placed in any part of the structure until the approval of Engineer-in-charge has been obtained. If concreting is not started within 24 hours of the approval being given, it shall have to be obtained again from the Engineer-in-charge. Concreting shall be done continuously over the area between construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed. When concreting has to be resumed on a surface which has hardened, it shall be roughened, swept, clean, thoroughly wetted and covered with a 13 mm thick layer of mortar composed of cement and sand in same ratio as in the concrete mix itself. This 13 mm layer of mortar shall be freshly mixed and placed immediately before placing of new concrete.

Where concrete has not fully hardened, all laitance shall be removed by scrubbing the net surface with wire or bristle brushes. Care shall be taken to avoid dislodgement of particles of coarse aggregate. The surface shall then be thoroughly wetted, all free water removed and then coated with neat cement grout. The first layer of concrete to be placed on this surface shall not exceed 150 mm in thickness and shall be well rammed against old work. Particular attention shall be given to corners and close spots.

3.14 : VARIOUS CLAUSES OF MoRTH

Sl. Nr.	Section Nr.	Section Title	Clause (Morth V TH Revision)
1.	100	General	102, 105, 106, 107, 108, 111, 112, 114, 115, 121, and 126

Sl. Nr.	Section Nr.	Section Title	Clause (Morth VTH Revision)
2.	200	Site Clearance	201 and 202
3.	300	Earthwork, Erosion Control and drainage.	301, 305, 306 and 309
4.	400	Granular Sub-Bases	401
5.	600	Concrete Pavement	601,602and 603.
6.	800	Traffic Signs, Markings and other Road Appurtenances	801, 803 and 804
7.	900	Quality Control for Road works	901, 903
8.	1000	Materials for Structures	1002, 1006, 1007, 1008, 1009, 1012, 1013, 1014 and 1015
9.	1100	Pile Foundations	1101, 1103, 1104, 1107, 1113, 1115, 1118 & 1119
10.	1500	Form work	1501, 1502, 1503, 1504, 1506, 1508, 1509, 1510 & 1513
11.	1600	Steel Reinforcement (untensioned)	1602, 1604, 1605, 1606 & 1607
12.	1700	Structural Concrete	1703, 1704, 1705, 1707, 1709, 1710, 1712, 1713 & 1715
13.	2200	Substructure	2204, 2210
14.	2300	Superstructure	2305, 2306
15.	2600	Expansion Joints	2601, 2606 and 2609
16.	2700	Wearing Coat & Appurtenances	2702, 2703,2706 and 2709

Sl. Nr.	Section Nr.	Section Title	Clause (Morth V TH Revision)
17.	3000	Maintenance of roads	3001,3002, 3004 and 3005
18.	2000	Bearings	2005
19.	1800	Prestressing	1801,1802, 1803,1804,1805, 1806,1807, 1808

Additional Specifications

The Clauses A-1 to A-7 have been added to the "SPECIFICATIONS FOR ROAD AND BRIDGE WORKS" - 2013.

CLAUSE A-1	PLANTATION OF TREES AND HEDGES
CLAUSE A-2	LEVELLING AND GRADING ROAD SIDE LAND
CLAUSE A-3	UTILITY DUCTS
CLAUSE A-4	SPECIFICATIONS FOR SCARIFICATION OF EXISTING PAVEMENT AND PROVIDING OVERLAY WITH GRANULAR BASE/DBM.
CLAUSE A-5	REFLECTIVE PAVEMENT MARKERS (ROAD STUDS)
CLAUSE A-6	CURING USING LIQUID MEMBRANE FORMING COMPOUND
CLAUSE A-7	PAVEMENT QUALITY CONCRETE

In the absence of any definite provisions on any particular issue in the aforesaid Specifications, reference may be made to the latest codes and specifications of IRC and BIS in that order. Where even these are silent, the construction and completion of the works shall conform to sound engineering practice as approved by the Engineer and in case of any dispute arising out of the interpretation of the above, the decision of the Engineer shall be final and binding on the Contractor.

However, work shall be executed as per latest edition of MoRTH/MoST. Where any specification of MoRTH/ IRC/ BIS are silent then best international practice shall be followed including BRITISH / AASTHO Standards.

Construction of Elevated Road from Sodala
tri-Junction to LIC Office near Ambedekar
Circle, Jaipur

**Conditions for Contract for
SHE**



Conditions of Contract on Safety, Health and Environment.(SHE).



LIST OF CONTENTS

SL.NO	CONTENTS	PAGE NO.
<u>PART – I : SHE MANAGEMENT</u>		
1.0	General.....	4
2.0	SHE targets and goals.....	5
3.0	Compliance.....	5
4.0	Contractor SHE Policy and plan.....	7
5.0	Designer’s role.....	8
6.0	Contractor SHE Organisation.....	10
7.0	Contractor SHE committee.....	11
8.0	ID card and first day at work, SHE orientation training.....	14
9.0	SHE training.....	14
10.0	SHE inspection.....	15
11.0	SHE audit.....	17
12.0	SHE communication.....	21
13.0	SHE submittals to the Employer.....	22
14.0	Accident reporting and investigation.....	23
15.0	Emergency preparedness plans.....	25
16.0	Experts / Agencies for SHE services.....	26
<u>PART – II : SAFETY</u>		
17.0	Housekeeping.....	27
18.0	Working at Height	28
19.0	Overhead protection.....	37
20.0	Slipping, Tripping, Cutting, Drowning and Falling Hazards.....	37
21.0	Lifting Appliances and Gear.....	38



22.0	Launching operation.....	41
23.0	Construction machinery.....	42
24.0	Machine and general area guarding.....	44
25.0	Manual lifting and carrying of excessive weight.....	44
26.0	Site electricity.....	44
27.0	Lighting.....	48
28.0	Hand Tools and Power Tools.....	49
29.0	Welding, gouging and cutting.....	51
30.0	Dangerous and harmful environment.....	52
31.0	Fire prevention, protection and fighting system.....	52
32.0	Corrosive substances.....	53
33.0	Demolition.....	53
34.0	Excavation and tunnelling.....	54
35.0	Work permit system.....	55
36.0	Traffic management	56
37.0	Work adjacent to live railways.....	58
38.0	Batching plant and casting yard layout.....	59
39.0	Personal Protective Equipments (PPEs)	59
40.0	Visitors to site.....	61

PART – III : OCCUPATIONAL HEALTH AND WELFARE

41.0	Physical fitness of workmen.....	63
42.0	Medical Facilities.....	63
43.0	Noise	65
44.0	Ventilation and illumination.....	67
45.0	Radiation.....	68
46.0	Welfare measures for workers.....	68

PART – IV : ENVIRONMENTAL MANAGEMENT

47.0	Air Quality.....	70
------	------------------	----



48.0	Water Quality.....	71
49.0	Archaeological and Historical Preservation.....	72
50.0	Landscape and Greenery.....	73
51.0	Felling of Trees.....	73
52.0	Fly Ash.....	73
53.0	Waste.....	74
54.0	Hazardous Waste Management.....	74
55.0	Energy Management.....	75

PART – V : PENALTY AND AWARDS

56.0	Charges to be recovered from contractor for unsafe act or condition.....	76
57.0	Stoppage of work.....	84
58.0	Awards	84

Appendix 1 : Memorandum of understanding.....	85
Appendix 2 : SHE requirements as per BOCWA & BOCWR.....	87
Appendix 3 : Contents of contractors SHE plan.....	91
Appendix 4 : Employers' work place policy on HIV/AIDS prevention and control for workmen engaged by contractors	93
General Instruction 1 : SHE manpower requirement.....	94
General Instruction 2 : Qualification an experience of SHE professionals	96
General Instruction 3 : Minimum requirements of SHE monitoring and Audio-visual equipments	98
General Instruction 4 : First day at work.....	100
General Instruction 5 : ID card format.....	101
General Instruction 6 : SHE training matrix	102
General Instruction 7 : SHE training matrix for Managers & Supervisor	103



General Instruction 8 : Days to be observed for creating SHE awareness..	105
General Instruction 9 : SHE posters.....	106
General Instruction 10 : Experts / Agencies for SHE services ...	109
General Instruction 11 : Minimum lighting required.....	113
General Instruction 12 : Warning traffic sign.....	114
Sample Form 1 : Formation of site SHE committee.....	115
Sample Form 2 : Minutes of SHE committee meeting.....	116



1.0 General

1.1 Scope

1.1.1 This document defines the principal requirements of the Employer on Safety, Health and Environment (SHE) associated with the contractor / sub-contractor and any other agency to be practiced at construction worksites at all time.

1.2 Definition / languages

1.2.1 In this document

- i) The use of 'shall' indicates a mandatory requirement.
- ii) The use of 'should' indicates a guideline that is strongly recommended.
- iii) The use of 'may' indicates a guideline that is to be considered.
- iv) 'SHE' means Safety, Health and Environment.
- v) Employer means Jaipur Development Authority., (JDA).
- vi) Chief Safety Officer means an officer nominated by JDA who is overall responsible for monitoring all SHE functions prescribed in this document.
- vii) BOCWA means Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
- viii) BOCWR means Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998
- ix) RBOCWR means Rajasthan Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Rules, 2002
- x) DG means Director General of Ministry of Labour, Govt. of India.
- xi) CIIBC means Chief Inspector of Inspection of Building and Other Construction of Govt. of Rajasthan.

1.3 Application of this document

1.3.1 This document applies to all aspects of the contractor's scope of work, including all aspects conducted by sub-contractors and all other agencies. There shall be no activity associated to the contract, which is exempted from the purview of this document.

1.4 Purpose of this document

1.4.1 The objective of these guidelines is to ensure that adequate precautions are taken to avoid accidents, occupational illness and harmful effects on the environment during construction.

1.4.2 This document:

- i) Describes the SHE interfaces between Employer and the Contractor.
- ii) Details the processes by which the contractor shall manage SHE issues while carrying out the work under the contract.
- iii) Describes by reference, the practices and procedures as given in the JDA Project Safety, Health & Environment manual for best SHE performance.



1.4.3 **These requirements shall be read together with JDA Project SHE Manual, OHSAS 18001-1999, Occupational Health and Safety Management System and ISO 14001: 2004 Environmental Management Systems. Definition of key terms used in these requirements related to OHSAS 18001 and ISO 14001 standard are found in JDA's Project SHE Manual.**

2.0 'SHE' Targets and Goals

2.1 The SHE targets, goals and aim for the Works are to achieve:

- i) Zero total recordable injuries.
- ii) Zero reportable environmental incidents
- iii) All personnel inducted in accordance with the approved contractor SHE plan
- iv) Total compliance of conducting inspections and audits as per approved SHE plan
- v) 100% incident recording and reporting
- vi) 100% adherence of usage of appropriate PPEs at work.
- vii) Executing construction work with least disturbance to the environment, adjoining road users and traffic.

3.0 Compliance

3.1 Memorandum of Understanding (MOU)

3.1.1 A Memorandum of Understanding placed at **Appendix No.: I** shall be executed before the award of contract by the contractor with regard to various provisions on Safety, Health and Environment to be practiced during the construction work.

3.2 JDA's SHE Policy and Management Systems

3.2.1 The construction works shall be undertaken in accordance with JDA's SHE Policy and Management Systems as amended from time to time provided in Project SHE Manual.

3.3 Indian statutory requirements

3.3.1 Primary statutory regulations

3.3.1.1 **Contractor shall develop thorough understanding about Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996, Central Rules 1998, Building and Other Construction Workers' Welfare Cess Act, 1996 and Central Rules, 1998 and, not only to satisfy the Inspectors' perspective but the use of legislation as the strong tool for effective SHE management at construction worksites. Contractor is strongly advised to practice the principle of voluntary compliance.**

3.3.1.2 In order to facilitate the contractor for better understanding on the various provisions of the above Act and Rajasthan Govt. Rules, a tabulated information highlighting the Sections/Rules referring to the corresponding registration of contractors, maintenance of registers and records, hours of work and wages, welfare, medical facilities and safety



requirements are given in Appendix No.: 2. It is an indicative one and not a limiting list.

3.3.2 In addition, the construction works shall be undertaken in accordance with all applicable legislation and Indian statutory requirements listed below but not limiting to:

- i) Indian Electricity Act 2003 and Rules 1956
- ii) National Building Code, 2005
- iii) Factories Act, 1948, Central Govt, Rajasthan Govt Factories Rules.
- iv) Motor Vehicles Act as amended in 1994 and The Central Motor Vehicles Rules, 1989.
- v) Indian Road Congress Code IRC: SP: 55-2001 'Guidelines on Safety In Road Construction Zones.
- vi) The Petroleum Act, 1934 and Rules 1976
- vii) Gas Cylinder Rules, 2003
- viii) Indian Explosives Act. 1884, along with the Explosives substance Act 1908 and the Explosives Rules 1983
- ix) The (Indian) Boilers Act, 1923
- x) The Public Liability Insurance Act 1991 and Rules 1991
- xi) Minimum Wages Act, 1948 and Rules 1950
- xii) Contract Labour Act, 1970 and Rules 1971
- xiii) Child Labour (Prohibitions & Regulations) Act, 1986 and Rules 1950
- xiv) Environment Protection Act, 1986 and Rules 1986
- xv) Air (Prevention and control of Pollution) Act, 1981
- xvi) Water (Prevention and Control of Pollution) Act, 1974
- xvii) The Noise Pollution (Regulation & Control) Rules, 2000
- xviii) Notification on Control of Noise from Diesel Generator (DG) sets, 2002
- xix) Recycled Plastic Usage Rules, 1998
- xx) Notification, Central Ground Water Board, Act January 1997
- xxi) Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989
- xxii) The Hazardous Waste (Management & Handling) Rules, 1989
- xxiii) Hazardous Waste Management Rules 1989 (as amended in 1999)
- xxiv) Delhi Tree Preservation Act (1994)
- xxv) Batteries (Management and Handling) Rules
- xxvi) Fly ash utilization notification, Sept 1999 as amended in August 2003

3.3.3 Workman Compensation Act, 1923 along with allied Rules

3.3.3.1 **The contractor shall ensure that all his employees / workmen are covered under 'Workmen Compensation Act' and shall pay compensation to his workmen as and when the eventuality for the same arises.**

3.3.4 Notwithstanding the above Act/Rules, there is nothing in those to exempt the contractor from the purview of any other Act or Rule in Republic of India for the safety of men and materials.



3.3.5 If the requirements stated in this document are less stringent than or in conflict with the country's applicable legislation, the latter shall apply.

3.4 International Standards, Guidelines & ISO Certifications

3.4.1 The works should be undertaken in accordance with the applicable international guidelines, standards and specifications on SHE and every contract shall aim to achieve ISO certifications listed below during the currency of the contract:

OHSAS 18001-1999 : Occupational Health and Safety Management System.

ISO 14001-2004 : Environmental Management Systems.

3.4.2 The process of certification shall start immediately after the award of the work and complete within reasonable time. Towards this, the contractor shall undertake the required steps including appointment of ISO consultant for obtaining the certification on Occupational Health and Safety Management System and Environment Management System.

3.4.3 **In case of failure on the part of the contractor, the Employer at the cost of the contractor shall do the same.**

4.0 CONTRACTOR SHE POLICY AND PLAN

4.1 The contractor as per Section 39 of the BOCW Act shall formulate a SHE policy and get it approved by JDA respectively and display it at conspicuous places at work sites in Hindi and a local language understood by the majority of construction workers.

4.2 WITHIN 4 WEEKS OF THE NOTIFICATION OF ACCEPTANCE OF THE TENDER, THE CONTRACTOR SHALL SUBMIT A DETAILED AND COMPREHENSIVE CONTRACT SPECIFIC SHE PLAN. THE SHE PLAN SHALL INCLUDE DETAILED POLICIES, PROCEDURES AND REGULATIONS WHICH, WHEN IMPLEMENTED, WILL ENSURE COMPLIANCE OF THE CONTRACT PROVISIONS. THE SHE PLAN SHALL INCLUDE THE FOLLOWING BUT NOT BE RESTRICTED TO:

- i) *A statement of the Contractor's policy, organisation and arrangements for SHE*
- ii) *The name(s) and experience of person(s) within the Contractor's proposed management who shall be responsible for co-ordinating and monitoring the Contractor's SHE performance;*
- iii) *The number of SHE staff who shall be employed on the Works, their responsibilities, authority and line of communication with the proposed Contractor's agent;*
- iv) *A statement of the Contractor's policy and procedures for identifying and estimating hazards, and the measures for addressing the same;*
- v) *A list of SHE hazards anticipated for this Contract and sufficient information to demonstrate the Contractor's proposals for achieving effective and efficient health and safety procedures;*
- vi) *A description of the SHE training courses and emergency drills which shall be provided by the Contractor, with an outline of the syllabus to be followed;*



- vii) *Details of the safety equipment which shall be provided by the Contractor, including personal protective equipment;*
 - viii) *A statement of the Contractor's policy and procedures for ensuring that Contractor's Equipment used on the Project Site are maintained in a safe condition and are operated in a safe manner;*
 - ix) *A statement of the Contractor's policy and procedures for ensuring that sub-contractors comply with the Contractor's safety plan;*
 - x) *A statement of the Contractor's disciplinary procedures with respect to SHE related matters, and*
 - xi) *A statement of the Contractor's procedure for reporting and investigating accidents, dangerous occurrences or occupational illnesses*
- 4.3 The Contractor shall, from time to time and as necessary are required by the Employer to produce supplements to the SHE Plan such that it is at all times a detailed, comprehensive and contemporaneous statement by the Contractor of his site safety, industrial health and environment obligations, responsibilities, policies and procedures relating to work on Site. Any and all submissions of supplements to the SHE Plan shall be made to the Employer in accordance with the agreed procedures.
- 4.4 If at any time the SHE plan is, in the Employer's opinion, insufficient or requires revision or modification to ensure the security of the Works and the safety of all workmen upon and visitors to the Site, the Employer may instruct the Contractor to revise the SHE plan and the Contractor shall within 7 days submit the revised plan to the Employer for review.
- 4.5 Any omissions, inconsistencies and errors in the SHE Plan or the Employer's acceptance or rejection of the SHE Plan and/or supplements thereto shall be without prejudice to the Contractor's obligations with respect to site safety, industrial health and environment and shall not excuse any failure by the contractor to adopt proper and recognized safety practices throughout the execution of the Work.
- 4.6 The Contractor shall adhere to the SHE Plan and shall ensure, as far as practically possible, that all sub-contractors of all tiers require that contracting parties each have a copy of the Site SHE Plan and comply with its provisions.
- 4.7 The details of contents to be covered in the site SHE plan are given in **Appendix No.: 3.**
- 5.0 Designer's role**
- 5.0 Designer's role in Safety, Health and Environment
- 5.1 Designer's primary role includes to minimise the risk to health and safety of those who are going to construct, maintain, clean, repair, dismantle or demolish the structures and any one else like adjoining road users/general public, who might be affected by the work.
- 5.2 General philosophy
- 5.2.1 When considering health and safety in designer's work, they shall be expected to do what is reasonable at the time the design is prepared. It may be possible for**



hazards, which cannot be addressed at the feasibility stage to be looked at during detailed design. In deciding what is reasonably practicable, the risk to health and safety produced by a feature of the design has to be weighed against the cost of excluding the feature. The overall design process does not need to be dominated by a concern to avoid all risks during the construction phase and maintenance. However, a judgement has to be made by weighing up one consideration against another so the cost is counted not just in financial terms, but also those of fitness for purpose, aesthetics, buildability or environmental impact. By applying these principles, it may be possible to make decisions at the design stage, which will avoid or reduce risks during construction work. In many cases, the large number of design considerations will allow a number of equally valid design solutions. What is important is the approach to the solutions of design problems. This should involve a proper exercise of judgement, which takes account of health and safety issues.

5.3 Hierarchy of Risk Control

5.3.1 Designers shall need, so far as reasonably practicable, to avoid or reduce risks by applying a series of steps known as the hierarchy of risk control or principles of prevention and protection. The steps to be adopted shall include the following:

- i) consider if the hazard can be prevented from arising so that the risk can be avoided (eg, alter the design to avoid the risk);
- ii) if this cannot be achieved, the risk should be combated at source (eg, ensure the design details of items to be lifted include attachment points for lifting);
- iii) failing this, priority should be given to measures to control the risk that will protect all people;
- iv) only as a last resort should measures to control risk by means of personal protection be assumed (eg, use of safety harnesses).

5.4 Duty to provide health and safety risks in the drawing itself

5.4.1 In case of situations where the designers have carried out the design work and concluded that there are risks, which was not reasonably practicable to avoid, detailed information shall be given about the health and safety risks, which remain. This information needs to be included with the design to alert others to the risks, which they cannot reasonably be expected to know. This is essential for the parties who have to use the design information.

5.4.2 If the designers' basic design assumptions affect health or safety, or health and safety risks are not obvious from the standard design document, the designer shall provide additional information. The information shall include a broad indication of the assumptions about the precautions for dealing with the risks. The information will need to be conveyed in a clear manner; it shall be included on drawings, in written specifications or outline method statements. The level of detail to be recorded will be determined by the nature of the hazards involved and the associated level of risk.

5.5 Employer's approval

5.5.1 Every structure like scaffold, false work, launching girder, earth retaining structures etc. shall have its design calculations included in the method statements in addition to



health and safety risks. Employers' designer or his approved proof check consultants as applicable as per the contract conditions shall approve all these designs.

- 5.6 Any non-standard structures like trestles made up of re-bars or structures which are very old, corroded, repaired for many times etc. for which no design calculations can be made accurately from any national standards, shall not be allowed to be used at sites even for short duration.
- 5.7 If any of the above mentioned clauses are not adhered penalty shall be imposed depending upon the gravity of the unsafe act and or condition

6.0 Contractor SHE Organisation

6.1 Education and Experience

6.1.1 The contractor shall appoint the required SHE personnel as prescribed in General Instruction [JDA/SHE/GI/001/MPR/281105](#) (enclosed at the end) based upon the statutory requirement and establish the safety organisation based upon the contract value. The minimum educational qualification and the work experience are given in General Instruction [JDA/SHE/GI/002/QE/281105](#).

6.1.2 **In order to effectively interact on labour welfare matters with the Employer and the statutory authorities enforcing the labour welfare legislations every contractor shall employ a full time Labour Welfare Officer duly qualified and experienced as per clause [6.1.1](#).**

6.2 Conduct and competency

6.2.1 The conduct and functioning of the contractor SHE personnel shall be monitored by the Employer. Any default or deficiency shall attract penalty as per details given under penalty clause [56.0](#) of this document.

6.2.2 The Contractor shall ensure that all personnel are competent to perform the job assigned to them. In the event that the Contractor is unable to demonstrate the competency of any person whose activities can directly impact on the Works' SHE performance, the Employer shall remove that person from the site without any procedural formalities.

6.3 Approval from Employer

6.3.1 The name, address, educational qualification, work experience and health condition of each personnel deployed for SHE jobs shall be submitted to the Employer in the format prescribed for the purpose for comments and approval well before the start of the work. Only on approval by the Employer these personnel are authorised to work. In case any of the SHE personnel leaves the contractor the same shall be intimated to the Employer. The contractor shall recruit new personnel and fill up the vacancy.

6.4 Responsibility of SHE personnel



- 6.4.1 **For all works carried out by the contractor and his sub-contractors, the responsibility of ensuring the required SHE manpower lies with the main contractor only. The minimum required manpower indicated by the Employer includes the sub-contractors' work also. It shall be the responsibility of the main contractor to provide required SHE manpower for all the works executed by all contractors. Necessary conditions shall be included in all sub-contract documents executed by the main contractor.**
- 6.5 Employment status of SHE personnel
- 6.5.1 **No contractor shall engage SHE manpower from any outsourcing agencies in which case the effectiveness would be lost. All SHE manpower shall be on the payroll of the main contractor only and not on the payroll of any subcontractor or outsourcing manpower agencies etc. This condition does not apply to positions like traffic marshals who are engaged almost on a daily requirement basis.**
- 6.6 Reporting of SHE personnel
- 6.6.1 All SHE personnel are to report to the Chief SHE Manager who shall report directly to the Chief Project Manager. The Employer shall monitor adherence to this procedure at all times. In case of non-adherence penalty shall be levied as indicated in the penalty clause.
- 6.7 **Inadequate SHE personnel**
- 6.7.1 **In case if the contractor fail to provide the minimum required manpower as illustrated in General Instruction JDA/SHE/GI/001/MPR/281105, or fail to fill up vacancies created within 14 days, the same shall be provided by the Employer at contractor's cost. Any administrative expenses involved to provide the same like paper advertisement or manpower consultant charges, etc shall also be at the cost of contractor.**
- 6.8 Prohibition of performance of other duties
- 6.8.1 As per Schedule VIII of DBOCWR no SHE personnel shall be required or permitted to do any work which is unconnected to, inconsistent with or detrimental to the performance of the SHE duties for respective category mentioned in General Information JDA/SHE/GI/001/MPR/281105
- 6.9 Facilities to be provided to SHE personnel
- 6.9.1 **AS PER SCHEDULE VIII OF BOCWR, THE CONTRACTOR SHALL PROVIDE ALL SHE PERSONNEL WITH SUCH FACILITIES, EQUIPMENT AND INFORMATION THAT ARE NECESSARY TO ENABLE HIM TO DISPATCH HIS DUTIES EFFECTIVELY.**
- 6.9.2 **THE MINIMUM EMPLOYER'S REQUIREMENTS OF SUCH FACILITIES / EQUIPMENTS TO BE PROVIDED FOR SHE PERSONNEL ARE GIVEN IN THE GENERAL INSTRUCTION JDA/SHE/GI/003/AVE/28112005.**
- 7.0 **Contractor SHE Committee**



- 7.1 All employees should be able to participate in the making and monitoring of arrangements for safety, industrial health and environment at their place of work. The establishment of site SHE committees in which employees and Contractor and sub-contractor management are represented can increase the involvement and commitment of employees. The contractor shall ensure the formation and monitor the functioning of contractor SHE committees.
- 7.2 Terms of Reference
- 7.2.1 The Terms of Reference for the committee shall be as follows;
- i) To establish company safety policies and practices
 - ii) To monitor the adequacy of the contractor's site SHE plan and ensure its implementation
 - iii) To review SHE training
 - iv) To review the contractor's monthly SHE report.
 - v) To identify probable causes of accident and unsafe practices in building or other construction work and to suggest remedial measures.
 - vi) To stimulate interest of Employer and building workers in safety by organizing safety week, safety competition, talks and film-shows on safety, preparing posters or taking similar other measures as and when required or as necessary.
 - vii) To go round the construction site with a view to check unsafe practices and detect unsafe conditions and to recommend remedial measures for their rectifications including first-aid medical and welfare facilities.
 - viii) Committee team members should perform a site inspection before every committee meetings and to monitor SHE inspection reports.
 - ix) To bring to the notice of the Employer the hazards associated with use, handling and maintenance of the equipment used during the course of building and other construction work
 - x) To suggest measures for improving welfare amenities in the construction site and other miscellaneous aspect of safety, health and welfare in building or other construction work.
 - xi) To look into the health hazards associated with handling different types of explosives, chemicals and other construction materials and to suggest remedial measures including personal protective equipment.
 - xii) To review the last safety committee meeting minutes and to take action against persons/sub-contractors for non-compliance if any.
- 7.3 Within 14 days of award of contract, the SHE committee shall be constituted and notification regarding the same shall be communicated to the members and employees as per the format provided in **Form No.: SF 001**
- 7.4 Site SHE Committee meeting shall be conducted at least once in a **month** with the minimum members listed below:

Chairman	Project Manager
Secretary	SHE Manager (In-charge)
Members	<ol style="list-style-type: none"> i) Labour Welfare Officer ii) In charge of plant and machinery iii) In charge of site electrics iv) In charge of stores. v) Senior Managers/ Engineers heading different



	sub functions. vi) Sub – contractor’s representative vii) Labour Contractor’s representative viii) Workers’ representative ix) Co-contractor representative. x) SHE staffs
Employer’s Representatives	JDA SHE in charge and other representatives

7.5 Construction SHE Committee meeting shall be conducted at least once in a **week** with the minimum members listed below:

Chairman	Project Manager
Secretary	SHE Manager (In-charge)
Members	i) Labour Welfare Officer ii) In charge of plant and machinery iii) In-charge of site electricians iv) Senior Managers / Engineers heading different sub functions v) Sub- Contractor’s representative vi) Labour contractor’s representative vii) Workers’ representatives viii) All SHE Staffs

7.6 Co-contractors’ participation

7.6.1 In case of depot, station and other contiguous areas where more than one main contractors are working together, the Employer shall instruct the other contractors to join for the monthly SHE committee meeting of the main civil contractor, so as to discuss and decide about the common provision of security, lighting, toilet, drinking water etc. and sharing the maintenance cost of the same etc.

7.6.2 **The general principle for sharing the cost shall be either based on the contract value of works executed at the contiguous area or the daily average number of workmen employed by each contractor in the contiguous area.**

7.7 Minimum time between two monthly SHE Committee meetings

7.7.1 A minimum period of **21 days** shall be maintained between any two SHE monthly committee meetings.

7.8 Agenda

7.8.1 The Secretary shall circulate the agenda of the meeting at least seven working days in advance of the scheduled date of the meeting to all members.

7.8.2 The agenda should broadly cover the following:



- i) Confirmation of minutes
- ii) Chairman's review/overview of site SHE performance / condition
- iii) Previous month SHE statistics
- iv) Incident and Accident Investigation / dangerous occurrence / near miss report
- v) Site SHE inspection
- vi) Sub-contractors' SHE issues
- vii) Safety presentation by Members
- viii) Report from Employer
- ix) Matters arising
- x) Any other business

7.9 Minutes of the meeting

7.9.1 The Minutes of the meeting shall be prepared as per the format provided at **Form No.: SF- 002** and sent to all members within 2 working days preferably by mail/fax followed by hardcopy. Safety Committee meeting minutes shall also be displayed in the notice board for wider publicity to all concerned.

7.10 Disciplinary Action

7.10.1 The chairman shall inform the members of any outstanding issues in the meeting and in case of repeated offence/ non-compliance by some members or other co/sub contractors and propose suitable disciplinary action including provisions of monetary penalty as per the relevant contract clauses, the Employer shall ensure that the same is implemented.

8.0 ID Card and First day at work, SHE orientation training

8.1 The Contractor shall ensure that all personnel working at the site receive an induction SHE training explaining the nature of the work, the hazards that may be encountered during the site work and the particular hazards attached to their own function within the operation. The training shall cover the contents as given in the General Instruction **JDA/SHE/GI/004/OT/281105**.

8.2 **All personnel shall be issued a photo identity card of size 85mm x 55mm duly signed by the authorized representative of the contractor before they are engaged for any work as per the format given in the General Instruction JDA/SHE/GI/005/IDC/281105**

8.3 Contractor shall also issue a personnel SHE handbook in a language known to the workers, which provides information on SHE and emergency procedures that all personnel working on contract are required to know and the need to follow. Contractor shall ensure that this is distributed and its content introduced to all personnel working at the site.

9.0 SHE Training

9.1 The behaviour of people at all levels of the contractor is critical for SHE performance.



- 9.2 The contractor shall organise quality SHE training to engage Managers, supervisors and other personnel in behavioural change and improve safety performance.
- 9.3 The Contractor shall analyse the training requirements for all the employees and initiate a training program to demonstrate that all persons employed, including subcontractors, are suitably qualified, competent and fit. This will include:
- i) Detailed Job descriptions for all personnel, to include their specific SHE responsibilities
 - ii) Specification of qualifications, competency and training requirements for all personnel
 - iii) Assessment and recording of training needs for all personnel, including subcontractors' employees in the workforce, vendor representatives and site visitors
 - iv) A system for assessing new hirers e.g. previous training
 - v) A means of confirming that the system is effective
 - vi) A matrix and schedule of training requirements, covering general, task-specific and SHE-related training, showing the training frequency and interval between refresher courses
 - vii) Timely, competent delivery of training courses
- 9.4 The contractor shall arrange behavioural-based training programmes for all the executives to identify, recognise and eliminate unsafe act and unsafe conditions.
- 9.5 The minimum Employer's requirement of training needs for various categories of employees are given in general **instruction JDA/SHE/GI/006/TM/281105**
- 9.6 The contents of SHE training to Managers/Supervisors as given in general instruction **JDA/SHE/GI/007/TMS/281105** shall be conducted.
- 9.7 **The refresher-training programme to all employees shall be conducted once in six months.**
- 9.8 **Toolbox talk as given in the Employer's Project SHE manual shall be conducted to all high-risk workmen everyday.**
- 9.9 **On-the spot practical skill development training on height safety including scaffold safety, crane safety, welding safety, electrical safety, traffic safety for marshals shall also be conducted to all foremen/ workmen who were associated to the concerned jobs.**
- 9.10 **Daily Safety Oath as given in Project SHE manual shall be taken by every employee including workman without fail.**
- 9.11 **All vehicle drivers including Hydra operators shall be trained on defensive driving at Delhi Govt. and Maruti Institute for Driver Training and Research at Wazirabad Road, Adjoining Loni Road Flyover, Delhi-110094. All vehicle drivers shall also undergo refresher training on defensive driving provided by the same institute once in 6 months.**



9.12 All the above listed training programmes except at clause **9.11** shall be organised by the contractor only after taking approval from the Employer for the training faculty / organization, content and durations.

9.13 **In case of failure on the part of the contractor to provide all the above-mentioned training programs to all employees in time, the same shall be provided by the Employer through accredited agencies if required by formulating a common scheme to all contractors. Any administrative expenses and training fee towards the same shall be at the cost of the contractor.**

10.0 SHE Inspection

10.1 The contractor shall evolve and administer a system of conducting SHE inspections and other risk management analysis on a periodical basis.

10.2 The purpose of SHE inspection is to identify any variation in construction activities and operations, machineries, plant and equipment and processes against the SHE Plan and its supplementary procedures and programs.

10.3 Following SHE inspections program shall be adopted.

- i) Planned General Inspection
- ii) Routine Inspection
- iii) Specific Inspection
- iv) Other Inspection

10.3.1 Planned General Inspection

10.3.1.1 Planned general inspections are performed at predetermined intervals and it usually involves the representation from both Contractor and the Employer.

10.3.1.2 Inspections that will be classified under this inspection program are:

- i) Monthly contractor and subcontractors site safety committee Inspection.
- ii) Weekly safety inspection by construction supervisors (Contractors and Sub-contractors).
- iii) Daily safety inspection by contractor site SHE team.

10.3.2 Routine Inspection

10.3.2.1 Routine inspections are often referring to the inspection of work site, equipment and temporary structures performed by site and equipment operators and temporary structure erectors.

Inspections that will be classified under this inspection program are:

- i) Daily Inspection of plant and equipment by operator
- ii) Weekly Inspection of scaffold by scaffolding supervisor
- iii) Monthly Inspection of electrical hand tools by competent electrical supervisor
- iv) Quarterly Inspection of temporary electrical systems by competent electrical supervisor
- v) Half-yearly inspection of lifting machinery, lifting appliances, equipment and gears by Govt. approved competent person.



10.3.2.2 The list mentioned above is not exhaustive. Contractor may add additional categories. Contractors' Site SHE Manager will ensure that a system of routine inspections are carried out periodically to all plants, equipment, powered tools and any other temporary structures that will pose a hazard to operators and workmen.

10.3.3 Specific Inspection

10.3.3.1 Specific inspections are performed on activities without a predetermined date. Competent supervisors usually perform inspections for ensuring an activity whether it is executed in accordance to a general set of rules; method statement submitted or developed procedures.

The following are examples that will be commonly performed as required on the construction site:

- i) Inspection performed before a heavy lifting operation.
- ii) Inspection performed before and after the entry of person into a confined space.
- iii) Inspection performed before and after a welding and gas cutting operation.
- iv) Inspection of formwork before concreting by formwork erector.

The list mentioned above is not exhaustive. The contractor shall ensure that a competent supervisor inspects all high-risk processes and activities.

10.3.4 Other Inspection

Other inspections includes the following:

- i) Mandatory Inspections by Labour Department of Government.
- ii) JDA site SHE management team

10.3.5 The contractor shall prepare all required safety inspection checklist for all activity operations and equipment. Checklists will be prepared based on the Indian standards, rules and regulations and Employer's requirements. The formats provided in the Project SHE manual may be referred.

10.3.6 All inspection records and reports will be properly kept and filed for audit purpose. Inspection reports of Planned General Inspection and Routine Inspection will be used for discussion during Safety Committee Meetings.

11.0 SHE Audit

11.1 General

11.1.1 The purpose and scope of SHE audit is to assess potential risk, liabilities and the degree of compliance of construction, Safety, Health & Environmental plan and its supplementary procedures and programs against applicable and current SHE legislation regulations and requirements of the employer.

Deleted: ,

11.1.2 Project Manager holds the ultimate responsibility in ensuring implementation of SHE audit program during the construction work.



11.2 Monthly Audit Rating Score (M A R S)

11.2.1 Monthly Audit Rating Score (MARS) will be performed once in a month. A team consisting of Project manager and Employer representative based on the pre-designed score-rating format will conduct it. The details of the pre-designed monthly audit score rating formats are given in the Project SHE manual.

11.2.2 This Monthly SHE Audit Rating Score (MARS) report will enable the Employer to evaluate the general compliance by the Contractor with the Conditions of Contract, the Employer's Project SHE Manual and the Contractor's site specific SHE Plan.

11.2.3 Monthly Audits will be conducted in accordance with JDA Guidelines. The Project Manager accompanied by the Employer's representatives shall carry out the Audit. The Contractor's senior manager and SHE in-charge should also be invited to attend.

11.2.4 Timing

The Monthly Audit Rating Score (MARS) should be conducted at least 7 days prior to the scheduled date of Monthly SHE Committee meeting.

11.2.5 Evaluation

11.2.5.1 The numerical scoring has been weighed on a 1-10 scale. The audit team will use their observations noted in evaluating the points to be awarded against each of the elements of the audited section. Wherever some topics and sub-topics are not applicable the score rating need not be given. The overall audit ratings shall be achieved by:

$$\text{Overall Audit rating} = \frac{\text{Actual Score Achieved}}{\text{Maximum Possible Score}} \times 100$$

11.2.5.2 The criticality of the required actions for the respective sections of the Audit will be classified as:

Sl. No.	Score	Description	Action
1	< 60%	Immediate	Require Contractor to rectify within 24 hours
2	< 75%	Improvement Necessary	Contractor rectification within 7 days and confirmed in writing to Employer
3	< 90%	Improvement Desirable	Contractor rectification within one month and confirmed in writing to Employer

11.2.6 Report

A copy of each Audit Report will be sent to Employer and to all subcontractors, with whom it will then be discussed in detail at the Monthly SHE Committee Meeting in order to ensure that any corrective actions are agreed upon.



11.3 Monthly Electrical Safety Audit

11.3.1 A team comprising of contractor's senior SHE (Electrical) engineer and Employer's representative shall conduct monthly electrical safety audit covering the following and submit the report to Employer.

- i) Electrical accidents investigation findings and remedy
- ii) Adequacy of power generation and power requirements
- iii) Power distribution and transmission system in place
- iv) Updated electrical single line diagram showing the current condition of power source and distribution including the IP44 DBs arrangement.
- v) Electrical protection devices – selection, installation and maintenance.
- vi) Earth or ground connection and earth pit maintenance details
- vii) Education and training of electrical personnel undertaken
- viii) Routine electrical inspection details
- ix) Electrical maintenance system and register.
- x) Name plate details of major electrical equipment
- xi) Classified zones in the site, if any.

11.4 External SHE Audit

11.4.1 External SHE audits are to be conducted by external agencies that are competent with ISO qualified auditors with the prior approval of the Employer.

11.4.2 Areas of competence of Audit team

11.4.2.1 Practical understanding of BOCW Act and Rules, statutory requirements on health/medical and welfare of workmen, construction hazards and its prevention and control, traffic management, electrical safety, rigging, safety of construction equipment and environment management.

11.4.2.2 Audit shall be conducted as per the guidelines of ISO, ILO, and national standards. Audit report shall also be presented as per the above formats.

11.4.3 External SHE audit shall be conducted on a quarterly basis throughout the currency of the contract.

11.4.4 Targets of SHE Audit:

The contents and coverage of the external audit shall include the following items

11.4.4.1 SHE management:

- i) Organization



- ii) Communication and Motivation
- iii) Time office
- iv) Inspection
- v) Emergency preparedness
- vi) Budget allocation
- vii) Education and Training
- viii) Work permit system

11.4.4.2 Technical:

- i) Building and Structure
- ii) Construction operational safety
- iii) Material safety
- iv) Hand tools and Power tools
- v) Electrical system
- vi) Safety Appliances
- vii) Fire prevention and control
- viii) Housekeeping
- ix) Maintenance and Machinery safety
- x) First-aid and Medical Facilities
- xi) Welfare measures
- xii) Environmental Management

11.4.5 Audit Documents:

11.4.5.1 Contractor shall make the below listed documents available for the review by the Audit team.

- i) SHE policy
- ii) SHE manual
- iii) SHE Rules and Regulation
- iv) SHE organization chart
- v) Annual SHE objectives / programs
- vi) Accident / near miss statistics and analysis
- vii) SHE Training program / records for all personnel
- viii) Operating manuals and maintenance manual of all equipments
- ix) Safe worthiness certificates of all lifting appliances and gears
- x) Medical fitness record for all personnel
- xi) Risk identification, assessment and control details
- xii) Environmental management reports
- xiii) Emergency management records including mock drill

11.4.6 Audit Preparation:

- i) Audit team members are required to gather information by observations through interviews and by checks of hardware and documentation.



- ii) Audit team shall prepare checklist to cover all parts based on SHE legislations rules and regulations and JDA requirements.
- iii) Audit team members shall verify the facts and findings leading to the identified gaps and weakness.
- iv) Audit leader has overall responsibility for reaching a conclusion.

11.4.7 Reporting:

11.4.7.1 Audit report shall be prepared and directly sent to the Employer within 7 days of conducting the audit with a copy to the contractor.

11.4.8 Report contents:

- i) Executing summary - based on the finalized checklists as written the findings to the Employer by the audit team members, the audit leader will compile a concise and accurate summary of observations and findings.
- ii) Introduction - this will contain basic information regarding the facilities or organization audited, the specific audit dates (inclusion of those for preparation and post-audit activities).
- iii) Principal positive findings - This will contain the summary of positive aspects as observed by the auditors. It will also contain highlights of those issue, which may warrant dissemination as best practice regarding methodology used or achievement.
- iv) Audit Findings - All audit findings as detailed in the audit checklists shall be grouped together as priority 1 and 2 as detailed below in a separate listing.
 - a) Priority 1: Actions to rectify gaps or weakness should generally be implemented within two-weeks time, if risk potential is high or unacceptable.
 - b) Priority 2: Actions should be generally implemented or rectified with a maximum of 3 – 4 weeks, if not rectified would create a likelihood of minor injury or business loss.

11.4.9 Conformity Report & Action by Employer

11.4.9.1 The auditor shall inspect the site after 14 days of conducting initial audit for checking the adequacy of implementation of items maintained under priority 1 by the contractor and shall submit a conformity / non-conformity report to the Employer with a copy to the contractor.

11.4.9.2 The auditor shall again inspect after 28 days of conducting initial audit for checking the adequacy of implementation of items mentioned under priority 2 by the contractor and shall submit a conformity / non-conformity report to the Employer with a copy to the contractor.

11.4.9.3 In case of non-conformity of items mentioned by auditor, the Employer shall take necessary steps including stoppage of work and or imposing any penalty for getting the item implemented.



11.4.10 Failure of contractor to conduct External SHE Audit

11.4.10.1 If the contractor fails to conduct the external SHE audit in time, the Employer at the cost of contractor shall get it done.

12.0 SHE Communication

Deleted: ¶

12.1 The contractor shall take every effort to communicate the Safety, Occupational health and Environment management measures through posters campaigns / billboards / banners / glow signs being displayed around the work site as part of the effort to rise safety awareness amongst to the work force. Posters should be in Hindi, English and other suitable language deemed appropriate. Posters / billboards / banners/ glow signs should be changed at least once in a month to maintain the impact.

12.2 The contractor shall also observe important days as listed in General Instruction JDA/SHE/GI/008/DAY/281105 and printing and displaying safety signage, and posters as listed in General Instruction JDA/SHE/GI/009/PS/281105.

Deleted: s

12.3 The list indicated are the minimum requirements of the Employer and the contractor is encouraged to further the SHE communication activities by formulating suitable reward schemes for safety performers and any other activities, which deem fit for the purpose.

13.0 SHE Submittals to the Employer

13.1 The contractor's SHE management should send the following reports to the Employer periodically:

- i) Daily Reporting of total no of workmen (as given in Clause 13.2)
- ii) Monthly SHE Report (as given in Clause 13.3)
- iii) SHE Committee Meeting Minutes (as given in Clause 7.9.1)
- iv) SHE Inspection Reports
- v) SHE Audit Reports
 - a) Monthly Audit Rating Score (MARS) report
 - b) External SHE Audit
 - c) Electrical Safety Audit
- vi) Air and Noise Quality monitoring report

13.2 Daily Reporting of total no of workmen

13.2.1 The contractor shall report to the Employer the total no of workmen engaged by all including any subcontractor within 2 hours of starting of any shift in any day. This reporting shall be the primary duty of the Chief SHE Manager of the contractor and reporting shall be through tele-fax / email. The onus of checking the receipt of the same by the Employer lies with the contractor. If the information is not received or received more than 2 hrs after starting of the shift, penalty shall be levied as per relevant clause.



13.3 Monthly SHE Report

13.3.1 The contractor shall prepare a monthly SHE report consisting of the following and submit 3 copies within 7th of next month to the Employer as specified in the Project SHE manual.

- i) Monthly man-hour details as specified in the Project SHE manual
- ii) Monthly accident / incident details as specified in the Project SHE manual
- iii) SHE committee details
- iv) Details of SHE training conducted in the month
- v) SHE Inspection
- vi) SHE internal audit details like electrical audit etc.
- vii) SHE Communication activities under taken in the month indicating the number of posters displayed and balance availability in stock.
- viii) Air quality / Noise monitoring details
- ix) Toolbox talks details
- x) PPE details: Quantity purchased, issued to the workmen and stock available.
- xi) Details on IP 44 panel boards, lighting poles, welding and cutting equipments, Ladders, Hoists, tools & tackles.
- xii) Monthly Lux meter study results
- xiii) Housekeeping
- xiv) Barricade maintenance details
- xv) No of critical excavations
- xvi) Health & Welfare activities
- xvii) Safety walk conducted by Contractors' Project Manager in the month
- xviii) SHE Activities Planned for next month

14.0 Accident reporting and investigation

14.1 Reporting to Employer

14.1.1 **All accidents and dangerous occurrences shall immediately be informed verbally to the Employer. This will enable the Employer to reach to the scene of accident / dangerous occurrences to monitor/assist any rescue work and/or start conducting the investigation process so that the evidences are not lost.**

14.1.2 **Reports of all accidents (fatal / injury) and dangerous occurrences shall also be sent within 24 hours as per format provided in the Employer's Project SHE manual.**

14.1.3 **No accident / dangerous occurrences is exempted from reporting to the Employer.**

14.1.4 **Any wilful delay in verbal and written reporting to the Employer shall be penalised as per relevant clause.**

14.2 Reporting to Govt. organisations



- 14.2.1 In addition to the above verbal and written reporting to the Employer, as per Rule 210 of BOCWR, notice of any accident to a worker at the building or construction site that:
- a) causes loss of life; or
 - b) disables a worker from working for a period of 48 hours or more immediately following the accident;
 - c) shall forthwith be sent by telegram, telephone, fax, or similar other means including special messenger within four hours in case of fatal accidents and 72 hours in case of other accidents, to:
 - i) the Regional Labour Commissioner (central), wherein the contractor has registered the firm/work
 - ii) the board with which the worker involved was registered as a beneficiary;
 - iii) Director General and
 - iv) the next of kin or other relative of the worker involved in the accident;
- 14.2.2 Further, notice of accident shall be sent in respect of an accident which
- (a) causes loss of life; or
 - (b) disables the injured worker from work for more than 10 days to
 - i) the officer-in-charge of the nearest police station;
 - ii) the District Magistrate or, if the District Magistrate by order so desires, to
 - iii) the Sub-Divisional Magistrate
- 14.2.3 In case of an accident causing minor injury, first-aid shall be administered and the injured worker shall be immediately transferred to a hospital or other place for medical treatment.
- 14.2.4 Where any accident causing disablement that subsequently results in death, notice in writing of such death, shall be sent to the authorities mentioned in clause 14.2.1 and 14.2.2 above within 72 hours of such death.
- 14.2.5 Reporting of dangerous occurrences:
- 14.2.5.1 The following classes of dangerous occurrences shall be reported to the Inspector having jurisdiction, whether or not any disablement or death caused to the worker, namely:
- (a) collapse or failure of lifting appliances, or hoist, or conveyors, or similar equipment for handling of building or construction material or breakage or failure of rope, chain or loose gears; or overturning of cranes used in construction work;
 - (b) falling of objects from height;
 - (c) collapse or subsidence of soil, tunnel, pipe lines, any wall, floor, gallery, roof or any other part of any structure, launching girder, platform, staging, scaffolding or means of access including formwork;
 - (d) explosion of receiver or vessel used for storage of pressure greater than atmospheric pressure, of any gas or gases or any liquid or solid used as building material;
 - (e) fire and explosion causing damage to any place on construction site where building workers are employed;
 - (f) spillage or leakage of any hazardous substance and damage to their container;



- (g) collapse, capsizing, toppling or collision of transport equipment;
- (h) leakage or release of harmful toxic gases at the construction site;

14.2.6 In case of failure of launching girder, lifting appliance, loose gear, hoist or building and other construction work, machinery and transport equipment at a construction site, such appliances, gear, hoist, machinery or equipment and the site of such occurrence shall, as far as practicable, be kept undisturbed until inspected by the Authorities;

14.2.7 Every notice given for fatal accidents or dangerous occurrences shall be followed by a written report to the concerned Authorities under Section 39 of BOCWA and the in the specified Form XIV of BOCWR.

14.3 Accident investigation

14.3.1 General

14.3.1.1 Investigations should be conducted in an open and positive atmosphere that encourages the witnesses to talk freely. The primary objective is to ascertain the facts with a view to prevent future and possibly more serious occurrences

14.3.1.2 Accidents and Dangerous Occurrences which result in death, serious injury or serious damage must be investigated by the Contractor immediately to find out the cause of the accident/occurrence so that measures can be formulated to prevent any recurrence.

14.3.1.3 Near misses and minor accidents should also be investigated by the Contractor as soon as possible as they are signals that there are inadequacies in the safety management system.

14.3.2 Procedure of incident investigation

14.3.2.1 It is important after any accident or dangerous occurrence that information relating to the incident is gathered in an organised way. The following steps shall be followed;

- a) **take photographs and make sketches**
- b) **examine involved equipment, workpiece or material and the environmental conditions**
- c) **interview the injured, eye-witnesses and other involved parties**
- d) **consult expert opinion where necessary**
- e) **identify the specific contractor or sub-contractor involved.**

14.3.2.2 Having gathered information, it is then necessary to make an analysis of incident

- a) **establish the chain of events leading to the accident or incident**
- b) **find out at what stage the accident took place**
- c) **consider all possible causes and the interaction of different factors that led up to the accident, and identify the most probable cause The cause of an accident should never be classified as carelessness. The specific act or omission that caused the accident must be identified.**

14.3.2.3 The next stage is to proceed with the follow-up action

- a) **report on the findings and conclusions**



- b) formulate preventive measures to avoid recurrence
- c) publicise the findings and the remedial actions taken

14.4 Employers' independent incident investigation

- 14.4.1 In case of fatal / dangerous occurrence the Employer shall also conduct independent investigation. Contractor and his staff shall extend necessary co-operation and testify about the accident.
- 14.4.2 The contractor shall take every effort to preserve the scene of accident till the Employer completes the investigation.
- 14.4.3 All persons summoned by the Employer in connection to witness recording shall obey the instructions with out delay. Any wilful suppression of information by any person shall be removed from the site immediately and / or punishable as per relevant penalty clause.

15.0 Emergency preparedness plan

- 15.1 The Contractor shall prepare an Emergency Response Plan for all work sites as a part of the Contractor SHE Plan. The plan shall integrate the emergency response plans of the Contractor and all other subcontractors. The Emergency Response Plan shall detail the Contractor's procedures, including detailed communications arrangements, for dealing with all emergencies that could affect the Site. This include where applicable, injury, sickness, evacuation, fire, chemical spillage, severe weather and rescue.
- 15.2 The contractor shall ensure that an Emergency Response Plan is prepared to deal with emergencies arising out of:
 - i) Fire and explosion
 - ii) Collapse of lifting appliances and transport equipment
 - iii) Collapse of building, sheds or structure etc.
 - iv) Gas leakage or spillage of dangerous goods or chemicals
 - v) Bomb threatening, Criminal or Terrorist attack
 - vi) Drowning of workers
 - vii) Landslides getting workers buried floods, Earthquake, storms and other natural calamities.
- 15.3 Arrangements shall be made for emergency medical treatment and evacuation of the victim in the event of an accident or dangerous incident occurring, the chain of command and the responsible persons of the contractor with their telephone numbers and addresses for quick communication shall be adequately publicized and conspicuously displayed in the workplace.
- 15.4 Contractors shall require to tie-up with the hospitals and fire stations located in the neighbourhood for attending to the casualties promptly and emergency vehicle kept on standby duty during the working hours for the purpose.
- 15.5 Contractor shall conduct an onsite emergency mock drill once in every month for all his workers and his subcontractor's workers.



15.6 It shall be the responsibility of the contractor to keep the Local Law & Order Authorities informed and seek urgent help, as the case may be, so as to mitigate the consequences of an emergency. Prompt communication to JDA, telephonically initially and followed by a written report, shall be made by the contractor.

16.0 Experts / Agencies for SHE services

16.1 Contractors may utilise the services of experts/agencies empanelled under Rule 250 of BOCWR and Rule 297 of DBOCWR for the purpose of training, internal audit and any other SHE services with prior approval of the Employer.

16.2 As an aide to contractors, a list of experts/agencies and the offered service are given in General Instruction **JDA/SHE/GI/010/AE/281105** for ready reference. In addition to it if the contractor would like to use any expert/agencies' services for any SHE activities the same can also be allowed provided that they are competent and meet to the general requirements of Employer. In every case prior approval of the Employer is mandatory.



PART – II : SAFETY

17.0 Housekeeping

- 17.1 Housekeeping is the act of keeping the working environment cleared of all unnecessary waste, thereby providing a first-line of defence against accidents and injuries.
- 17.2 Contractor shall understand and accept that improper housekeeping is the primary hazard in any construction site and ensure that a high degree of house keeping is always maintained. Indeed “Cleanliness is indeed next to Godliness”
- 17.3 Housekeeping is the responsibility of all site personnel, and line management commitment shall be demonstrated by the continued efforts of supervising staff towards this activity.
- 17.4 General House keeping shall be carried out by the contractor and ensured at all times at Work Site, Construction Depot, Batching Plant, Labour Camp, Stores, Offices and toilets/urinals. Towards this the Contractor shall constitute a special group of house keeping personnel as per General Instruction [JDA/SHE/GI/001/MPR/281105](#). This group shall ensure daily cleaning at work sites and surrounding areas and maintain a register as per the approved format by the Employer.
- 17.5 Adequate time shall be assigned to ensure that good housekeeping is maintained. This shall be carried out by team of housekeeping squad.
- 17.6 The contractor shall be responsible to provide segregated containers for disposal of debris at required places and regular cleaning of the same.
- 17.7 Full height fence, barriers, barricades etc. shall be erected around the site in order to prevent the surrounding area from excavated soil, rubbish etc, which may cause inconvenience to and endanger the public. The barricade especially those exposed to public shall be aesthetically maintained by regular cleaning and painting as directed by the Employer. These shall be maintained in one line and level.
- 17.8 The structure dimension of the barricade, material and composition, its colour scheme, JDA logo and other details shall be in accordance with specifications laid down in tender document.
- 17.9 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.
- 17.10 Lumber with protruding nails shall be either bent / removed and properly stacked.
- 17.11 All surplus earth and debris are removed/disposed off from the working areas to officially designated dumpsites. Trucks carrying sand, earth and any pulverized materials etc. in order to avoid dust or odour impact shall be covered while moving. **The tyres of the trucks leaving the site shall be cleaned with water, wherever the possibility of spillage on carriageways meant for regular road traffic exists.**



- 17.12 No parking of trucks/trolleys, cranes and trailers etc. shall be allowed on roads, which may obstruct the traffic movement.
- 17.13 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.
- 17.14 Water logging or bentonite spillage on roads shall not be allowed. If bentonite spillage is observed on road endangering the safety of road users, the contractor shall be penalised as per relevant clause.
- 17.15 Proper and safe stacking of material are of paramount importance at yards, 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.
- 17.16 Flammable chemicals / compressed gas cylinders shall be safely stored.
- 17.17 Unused/surplus cables, steel items and steel scrap lying scattered at different places within the working areas shall be removed to identified locations(s).
- 17.18 All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from work place to identified location(s).
- 17.19 Empty cement bags and other packaging material shall be properly stacked and removed.
- 17.20 The Contractor shall ensure that all his sub-contractors maintain the site reasonably clean through provisions related to house keeping

18.0 Working at Height

18.1 Definitions

- 18.1.1 "access" and "egress" include ascent and descent.
- 18.1.2 "fragile surface" means a surface, which would be able to fail if any reasonably foreseeable loading were to be applied to it.
- 18.1.3 "line" includes rope, chain or webbing
- 18.1.4 "personal fall protection" means -
- a fall prevention, work restraint, work positioning, fall arrest or rescue system, other than a system in which the only safeguards are collective safeguards; or
 - rope access and positioning techniques;
- 18.1.5 "work at height" means -
- work in any place, including a place at or below ground level;
 - obtaining access to or egress from such place while at work, except by a staircase in a permanent workplace,



where, if protective measures were not taken, a person could fall a distance liable to cause personal injury;

- 18.1.6 "work equipment" means any machinery, appliance, apparatus, tool or installation for use at work (whether exclusively or not) and includes
- (a) a guard-rail, toe-board, barrier or similar collective means of protection
 - (b) a working platform
 - (c) a net, airbag or other collective safe guard for arresting falls.
 - (d) personal fall protection system
 - (e) ladders
- 18.1.7 "working platform"
- (a) means any platform used as a place of work or as a means of access to or egress from a place of work;
 - (b) includes any scaffold, suspended scaffold, cradle, mobile platforms, trestle, gangway, gantry and stairway which is so used.
- 18.2 Organisation and planning
The contractor shall ensure that work at height is
- i) properly planned for any emergencies and rescue**
 - ii) appropriately supervised; and**
 - iii) carried out in a manner, which is reasonably practicable safe.**
- 18.3 The contractor shall ensure that work at height is carried out only when the weather conditions do not jeopardise the health or safety of persons involved in the work.
- 18.4 Competence
The contractor shall ensure that no person engages in any activity, including organization, planning and supervision, in relation to work at height or work equipment for use in such work unless he is competent to do so or, if being trained, is being supervised by a competent person.
- 18.5 Avoidance of risks from work at height
The contractor shall ensure that work is not carried out at height where it is reasonably practicable to carry out the work safely otherwise than at height.
- 18.6 Where work is carried out at height, the contractor shall take suitable and sufficient measures as given below to prevent, so far as is reasonably practicable, any person **falling a distance liable to cause personal injury.**
- (a) his ensuring that the work is carried out
 - (i) from an existing place of work; or
 - (ii) (in the case of obtaining access or egress) using an existing means, complying to the requirements as given in **18.15** where it is reasonably practicable to carry it out safely and under appropriate ergonomic conditions; and
 - (b) where it is not reasonably practicable for the work to be carried out in accordance with sub-paragraph (a), his providing sufficient work equipment for preventing, so far as is reasonably practicable, a fall occurring.



- 18.7 Where the measures taken under clause 18.6 do not eliminate the risk of a fall occurring, every contractor shall
- (a) so far as is reasonably practicable, provide sufficient work equipment to minimise -
 - (i) the distance and consequences; or
 - (ii) where it is not reasonably practicable to minimise the distance, the consequences, of a fall; and
 - (b) Without prejudice to the generality of clause 18.4, provide such additional training and instruction or take other additional suitable and sufficient measures to prevent, so far as is reasonably practicable, any person falling a distance liable to cause personal injury.
- 18.8 Selection of 'work equipment' for work at height
- 1) the contractor, in selecting work equipment for use in work at height, shall
 - a) give collective protection measures priority over personal protection measures; and
 - b) take account of
 - i) the working conditions and the risks to the safety of persons at the place where the work equipment is to be used;
 - ii) in the case of work equipment for access and egress, the distance to be negotiated;
 - iii) the distance and consequences of a potential fall;
 - iv) the duration and frequency of use;
 - v) the need for easy and timely evacuation and rescue in an emergency; and
 - vi) any additional risk posed by the use, installation or removal of that work equipment or by evacuation and rescue from it;
 - (2) The contractor shall select work equipment for work at height which:
 - a) has characteristics including dimensions which:
 - (i) are appropriate to the nature of the work to be performed and the foreseeable loadings; and
 - (ii) allow passage without risk; and
 - b) is in other respects the most suitable work equipment, having regard in particular to the purposes specified in 18.5 and 18.6.
- 18.9 Fragile surfaces
- 18.9.1 The contractor shall ensure that no person at work passes across or near, or working on, from or near, a fragile surface where it is reasonably practicable to carry out work safely and under appropriate ergonomic conditions without his doing so.
- 18.9.2 Where it is not reasonably practicable to carry out work safely and under appropriate ergonomic conditions without passing across or near, or working on, from or near, a fragile surface, every contractor shall,



- (a) ensure, so far as is reasonably practicable, that suitable and sufficient platforms, coverings, guard rails or similar means of support or protection are provided and used so that any foreseeable loading is supported by such supports or borne by such protection;
 - (b) where a risk of a person at work falling remains despite the measures taken under the preceding provisions of this regulation, take suitable and sufficient measures to minimise the distances and consequences of his fall.
- 18.9.3 Where any person at work may pass across or near, or work on, from or near, a fragile surface, every contractor shall ensure that
 - (a) prominent warning notices are so far as is reasonably practicable affixed at the approach to the place where the fragile surface is situated; or
 - (b) where that is not reasonably practicable, such persons are made aware of it by other means.
- 18.10 Falling objects
 - 18.10.1 The contractor shall, where necessary to prevent injury to any person, take suitable and sufficient steps to prevent, so far as is reasonably practicable, the fall of any material or object.
 - 18.10.2 Where it is not reasonably practicable to comply with the requirements of 18.9, every contractor shall take suitable and sufficient steps to prevent any person being struck by any falling material or object which is liable to cause personal injury.
 - 18.10.3 The contractor shall ensure that no material or object is thrown or tipped from height in circumstances where it is liable to cause injury to any person.
 - 18.10.4 Every employer shall ensure that materials and objects are stored in such a way as to prevent risk to any person arising from the collapse, overturning or unintended movement of such materials or objects.
- 18.11 Danger areas
 - 18.11.1 Without prejudice to the preceding requirements of these Regulations, every contractor shall ensure that
 - (a) where a workplace contains an area in which, owing to the nature of the work, there is a risk of any person at work
 - i) falling a distance; or
 - ii) being struck by a falling object, which is liable to cause personal injury, the workplace is so far as is reasonably practicable equipped with devices preventing unauthorised persons from entering such area; and
 - (b) such area is clearly indicated.
- 18.12 Inspection of work equipment



- 18.12.1 The contractor shall ensure that, where the safety of work equipment depends on how it is installed or assembled, it is not used after installation or assembly in any position unless it has been inspected in that position.
- 18.12.2 The contractor shall ensure that work equipment exposed to conditions causing deterioration which is liable to result in dangerous situations is inspected
- (a) at suitable intervals; and
 - (b) each time that exceptional circumstances which are liable to jeopardise the safety of the work equipment have occurred,
- to ensure that health and safety conditions are maintained and that any deterioration can be detected and remedied in good time.
- 18.12.3 Without prejudice to paragraph 18.12.1, the contractor shall ensure that a working platform
- (a) used for construction work; and
 - (b) from which a person could fall 2 metres or more,
- is not used in any position unless it has been inspected in that position or, in the case of a mobile working platform, inspected on the site, within the previous 7 days.
- 18.12.4 The contractor shall ensure that the reports of all inspections are properly maintained and shown to the Employer as and when required.
- 18.12.5 In this clause "inspection",
- (a) means such visual or more rigorous inspection by a competent person as is appropriate for safety purposes;
 - (b) includes any testing appropriate for those purposes,
- 18.13 Inspection of places of work at height
- 18.13.1 The contractor shall so far as is reasonably practicable ensure that the surface and every parapet, permanent rail or other such fall protection measure of every place of work at height are checked on each occasion before the place is used.
- 18.14 Duties of persons at work
- 18.14.1 Any workmen employed by the contractor shall report to the supervisor about any defect relating to work at height which he knows is likely to endanger the safety of himself or another person.
- 18.14.2 Every workmen shall use any work equipment or safety device provided to him for work at height by the contractor, in accordance with
- (a) any training in the use of the work equipment or device concerned which have been received by him; and
 - (b) the instructions respecting that use which have been provided to him by the contractor as per the requirements of the Employer
- 18.15 Requirements for existing places of work and means of access or egress at height
Every existing place of work or means of access or egress at height shall



- (a) be stable and of sufficient strength and rigidity for the purpose for which it is intended to be or is being used;
- (b) where applicable, rest on a stable, sufficiently strong surface;
- (c) be of sufficient dimensions to permit the safe passage of persons and the safe use of any plant or materials required to be used and to provide a safe working area having regard to the work to be carried out there;
- (d) possess suitable and sufficient means for preventing a fall;
- (e) possess a surface which has no gap
 - (i) through which a person could fall;
 - (ii) through which any material or object could fall and injure a person; or
 - (iii) giving rise to other risk of injury to any person, unless measures have been taken to protect persons against such risk;
- (f) be so constructed and used, and maintained in such condition, as to prevent, so far as is reasonably practicable -
 - (i) the risk of slipping or tripping; or
 - (ii) any person being caught between it and any adjacent structure;
- (g) where it has moving parts, be prevented by appropriate devices from moving inadvertently during work at height.

18.16 Requirements for guardrails, toe-boards, barriers and similar collective means of protection

- i) Unless the context otherwise requires, any reference in this section to means of protection is to a guardrail, toe-board, barrier or similar collective means of protection.
- ii) Means of protection shall
 - (a) be of sufficient dimensions, of sufficient strength and rigidity for the purposes for which they are being used, and otherwise suitable;
 - (b) be so placed, secured and used as to ensure, so far as is reasonably practicable, that they do not become accidentally displaced; and
 - (c) be so placed as to prevent, so far as is practicable, the fall of any person, or of any material or object, from any place of work.
- iii) In relation to work at height involved in construction work
 - (a) the top guard-rail or other similar means of protection shall be at least 950 millimetres above the edge from which any person is liable to fall;
 - (b) toe-boards shall be suitable and sufficient to prevent the fall of any person, or any material or object, from any place of work; and
 - (c) any intermediate guardrail or similar means of protection shall be positioned so that any gap between it and other means of protection does not exceed 470 millimetres.
- iv) Any structure or part of a structure which supports means of protection or to which means of protection are attached shall be of sufficient strength and suitable for the purpose of such support or attachment.

18.17 Requirements for all Working Platforms

- i) Every working platforms requires a supporting structure for holding it
- ii) Any surface upon which any supporting structure rests shall be stable, of sufficient strength and of suitable composition safely to support the supporting



structure, the working platform and any loading intended to be placed on the working platform.

iii). Stability of supporting structure

Any supporting structure shall

- (a) be suitable and of sufficient strength and rigidity for the purpose for which it is being used;
- (b) in the case of a wheeled structure, be prevented by appropriate devices from moving inadvertently during work at height;
- (c) in other cases, be prevented from slipping by secure attachment to the bearing surface or to another structure, provision of an effective anti-slip device or by other means of equivalent effectiveness;
- (d) be stable while being erected, used and dismantled; and
- (e) when altered or modified, be so altered or modified as to ensure that it remains stable.
- (f) Have suitable base plates and properly footed thereby.

iv). Stability of working platforms

A working platform shall

- (a) be suitable and of sufficient strength and rigidity for the purpose or purposes for which it is intended to be used or is being used;
- (b) be so erected and used as to ensure that its components do not become accidentally displaced so as to endanger any person;
- (c) when altered or modified, be so altered or modified as to ensure that it remains stable; and
- (d) be dismantled in such a way as to prevent accidental displacement.

v) Safety on working platforms

A working platform shall

- (a) be of sufficient dimensions to permit the safe passage of persons and the safe use of any plant or materials required to be used and to provide a safe working area having regard to the work being carried out there;
- (b) possess a suitable surface and, in particular, be so constructed that the surface of the working platform has no gap
 - i) through which a person could fall;
 - ii) through which any material or object could fall and injure a person; or
 - iii) giving rise to other risk of injury to any person, unless measures have been taken to protect persons against such risk; and
- (c) be so erected and used, and maintained in such condition, as to prevent, so far as is reasonably practicable
 - i) the risk of slipping or tripping; or
 - ii) any person being caught between the working platform and any adjacent structure.

vi) Loading

A working platform and any supporting structure shall not be loaded so as to give rise to a risk of collapse or to any deformation, which could affect its safe use.

vii) Additional requirements for scaffolding

Strength and stability calculations for scaffolding shall be carried out unless



- (a) a note of the calculations, covering the structural arrangements contemplated, is available; or
 - (b) it is assembled in conformity with a generally recognised standard configuration.
- viii) Depending on the complexity of the scaffolding selected, a competent person shall draw up an assembly, use and dismantling plan. This may be in the form of a standard plan, supplemented by items relating to specific details of the scaffolding in question.
- ix) A copy of the plan, including any instructions it may contain, shall be kept available for the use of persons concerned in the assembly, use, dismantling or alteration of scaffolding until it has been dismantled.
- x) The dimensions, form and layout of scaffolding decks shall be appropriate to the nature of the work to be performed and suitable for the loads to be carried and permit work and passage in safety.
- xi) While a scaffold is not available for use, including during its assembly, dismantling or alteration, it shall be marked with general warning signs in accordance with and be suitably delineated by physical means preventing access to the danger zone.
- xii) Scaffolding may be assembled, dismantled or significantly altered only under the supervision of a competent person and by persons who have received appropriate and specific training in the operations envisaged which addresses specific risks which the operations may entail and precautions to be taken, and more particularly in
- (a) understanding of the plan for the assembly, dismantling or alteration of the scaffolding concerned;
 - (b) safety during the assembly, dismantling or alteration of the scaffolding concerned;
 - (c) measures to prevent the risk of persons, materials or objects falling;
 - (d) safety measures in the event of changing weather conditions which could adversely affect the safety of the scaffolding concerned;
 - (e) permissible loadings;
 - (f) any other risks which the assembly, dismantling or alteration of the scaffolding may entail.
- 18.18 Requirements for collective safeguards for arresting falls
- i) Collective safeguard are a safety net, airbag or other collective safeguard for arresting falls
 - ii) A safeguard shall be used only if
 - (a) a risk assessment has demonstrated that the work activity can so far as is reasonably practicable be performed safely while using it and without affecting its effectiveness;
 - (b) the use of other, safer work equipment is not reasonably practicable; and
 - (c) a sufficient number of available persons have received adequate training specific to the safeguard, including rescue procedures.



- iii) A safeguard shall be suitable and of sufficient strength to arrest safely the fall of any person who is liable to fall.
- iv) A safeguard shall
 - (a) in the case of a safeguard which is designed to be attached, be securely attached to all the required anchors, and the anchors and the means of attachment thereto shall be suitable and of sufficient strength and stability for the purpose of safely supporting the foreseeable loading in arresting any fall and during any subsequent rescue;
 - (b) in the case of an airbag, landing mat or similar safeguard, be stable; and
 - (c) in the case of a safeguard, which distorts in arresting a fall, afford sufficient clearance.
- v) Suitable and sufficient steps shall be taken to ensure, so far as practicable, that in the event of a fall by any person the safeguard does not itself cause injury to that person.

18.19 Requirements for personal fall protection systems

- i) A personal fall protection system shall be used only if
 - (a) a risk assessment has demonstrated that
 - (i) the work can so far as is reasonably practicable be performed safely while using that system; and
 - (ii) the use of other safer work equipment is not reasonably practicable; and
 - (b) the user and a sufficient number of available persons have received adequate training specific to the operations envisaged, including rescue procedures.
- ii) A personal fall protection system shall
 - (a) be suitable and of sufficient strength for the purposes for which it is being used having regard to the work being carried out and any foreseeable loading;
 - (b) where necessary, fit the user;
 - (c) be correctly fitted;
 - (d) be designed to minimise injury to the user and, where necessary, be adjusted to prevent the user falling or slipping from it, should a fall occur; and
 - (e) be so designed, installed and used as to prevent unplanned or uncontrolled movement of the user.
- iii) A personal fall protection system designed for use with an anchor shall be securely attached to at least one anchor, and each anchor and the means of attachment thereto shall be suitable and of sufficient strength and stability for the purpose of supporting any foreseeable loading.
- iv) Suitable and sufficient steps shall be taken to prevent any person falling or slipping from a personal fall protection system.



18.20 Requirements for Ladders

- 1) Every contractor shall ensure that a ladder is used for work at height only if a risk assessment has demonstrated that the use of more suitable work equipment is not justified because of the low risk and
 - i) The short duration of use; or
 - ii) Existing features on site, which he cannot alter.
- 2) Only metal ladders shall be allowed. Bamboo ladders are prohibited.
- 3) Any surface upon which a ladder rests shall be stable, firm, of sufficient strength and of suitable composition safely to support the ladder so that its rungs or steps remain horizontal, and any loading intended to be placed on it.
- 4) A ladder shall be so positioned as to ensure its stability during use
- 5) A suspended ladder shall be attached in a secure manner and so that, with the exception of a flexible ladder, it cannot be displaced and swinging is prevented.
- 6) A portable ladder shall be prevented from slipping during use by -
 - i) securing the stiles at or near their upper or lower ends;
 - ii) an effective anti-slip or other effective stability device; or
 - iii) any other arrangement of equivalent effectiveness.
- 7) A ladder used for access shall be long enough to protrude sufficiently above the place of landing to which it provides access, unless other measures have been taken to ensure a firm handhold.
- 8) No interlocking or extension ladder shall be used unless its sections are prevented from moving relative to each other while in use.
- 9) A mobile ladder shall be prevented from moving before it is stepped on.
- 10) Where a ladder or run of ladders raises a vertical distance of 9 metres or more above its base, there shall, where reasonably practicable, be provided at suitable intervals sufficient safe landing areas or rest platforms.
- 11) Every ladder shall be used in such a way that
 - (a) a secure handhold and secure support are always available to the user; and
 - (b) the user can maintain a safe handhold when carrying a load unless, in the case of a step ladder, the maintenance of a handhold is not practicable when a load is carried, and a risk assessment has demonstrated that the use of a stepladder is justified because of
 - (i) the low risk; and
 - (ii) the short duration of use.

19.0 Overhead protection

All contractors shall provide overhead protections as per Rule 41 of BOCWR

- i) Overhead protection should be erected along the periphery of every building which is under construction and the building height shall be 15m or above after construction.
- ii) Overhead protection shall be minimum 2m wide and the outer edge shall be 150mm higher than the inner edge and an angle not more than 20° to its horizontal sloping into the building.
- iii) Overhead protection shall not be erected more than a height of 5m from the base of the building.
- iv) Areas of inadvertent hazard of falling of material shall be guarded or barricaded or roped-off thereby by the contractor.



20.0 Slipping, Tripping, Cutting, Drowning and Falling Hazards

As per Rule 42 of BOCWR,

- i) All places should be free from dust, debris or similar materials.
- ii) Sharp projections or any protruding nails or similar objects shall be suitably guarded or shall even be avoided to make the place safe to work.
- iii) Contractor shall not allow workmen to work or use platforms, scaffolds/passageways or any walkways, which has water, or oil or similar substances spilt and has a slipping hazard, unless it is cleaned off or covered or sanded or saw dusted or make it safe with any suitable material.
- iv) When workers are exposed to areas where fall into water is possible, the contractor shall provide suitable and adequate equipment for saving the workers from drowning and rescuing from such hazard. If the Employer considers, the contractor shall provide well-equipped boat or launch, manned with trained personnel at the work place.
- v) Open side or opening where worker, equipment, vehicle or lifting appliance may fall at a building or outside shall be guarded suitably except in places of free access by reasons of nature of work.
- vi) Suitable safety net shall be provided at places of material / man falling is possible in accordance with national standards.

21.0 Lifting Appliances and Gear

21.1 Lifting appliances means a crane, hoist machinery, derrick, winch, gin pole, sheer legs, jack, hoist drum, slewing machinery, slewing bearing fasteners, luffing machinery sheaves, pulley blocks, hooks or other equipment used for lifting materials, objects or building workers and lifting gears means ropes, chain slings, shackles, hooks, lifting lugs, wire ropes, lifting eyebolts and eye nuts and other accessories of a lifting appliance..

21.2 No machine shall be selected to do any lifting on a specific job until its size and characteristics are considered against:

- i) the weights, dimensions and lift radii of the heaviest and largest loads
- ii) the maximum lift height, the maximum lift radius and the weight of the loads that must be handled at each
- iii) the number and frequency of lifts to be made
- iv) how long the crane will be required on site
- v) the type of lifting to be done (for example, is precision placement of loads important?)
- vi) the type of carrier required (this depends on ground conditions and machine capacity In its operating quadrants: capacity is normally greatest over the rear, less over the side, and non-existent over the front
- vii) whether loads will have to be walked or carried
- viii) whether loads will have to be suspended for lengthy periods
- ix) the site conditions, including the ground where the machine will be set up, access roads and ramps it must travel, space for erection and any obstacles that might impede access or operation



- 21.3 The contractor shall ensure that a valid certificate of fitness issued as per clause 21.5 is available for all lifting appliances including synchronised mobile jacks, pre-stressing hydraulic jacks, jacks fitted with launching girders etc. and Employers approval before inducting to the site. **Only after obtaining the approval from the Employer any lifting appliances and gear shall be used.**
- 21.4 The laminated photocopies of fitness certificate issued by competent person, the Employers' approval letter, the operators' photo, manufacturer's load chart and competency certificate shall always be either kept in the operator cabin or pasted on the visible surface of the lifting appliances.
- 21.5 All lifting appliances and loose gears shall be clearly marked for its safe working load and identification by stamping or other suitable means.
- 21.6 The contractor shall also maintain a register containing a system of identification of all tools and tackles, its date of purchase, safe working load, competent person date of examination etc.
- 21.7 Test and periodical examination of lifting appliances and gears
- 21.7.1 All lifting appliances including all parts and gears thereof, whether fixed or movable shall be thoroughly tested and examined by a competent person once at least in every six months or after it has undergone any alterations or repairs liable to affect its strength or stability. Within the validity, if the lifting appliances are shifted to a new site, re-examination by the same competent person for ensuring its safety shall also be done.
- 21.7.2 Contractors can utilise the services of any competent person as defined in Factories Act, 1948 and approved by Chief Inspector of Factories with the permission of the Employer.
- 21.7.3 All alarms and signals like automatic safe load indicators (SLI), boom angle indicators, boom extension indicators, over lift boom alarm, swing alarm, hydraulic safety valves, mechanical radius indicators, load moment indicators etc. shall be periodically examined and maintained always in working condition
- 21.8 Automatic safe load indicators**
- 21.8.1 As stipulated in Rule 57 of DBOCW Rules, every lifting appliances and gears like cranes, hydras etc, if so constructed that the safe working load may be varied by raising or lowering of the jib or otherwise shall be attached with an automatic indicator of safe working loads approved by Bureau of Indian standards/ International certifying bodies which gives a warning to the operator and arrests further movements of the lifting parts.
- 21.9 Qualification of operator of lifting appliances and of signaller etc
- 21.9.1 The contractor shall not employ any person to drive or operate a lifting machine like crane, hydra etc whether driven by mechanical power or otherwise or to give signals to work as a operator of a rigger or derricks unless he



- i) is above twenty-one years of age and possesses a valid heavy transport vehicle driving licence as per Motor Vehicle Act and Rules.
- ii) is absolutely competent and reliable
- iii) possesses the knowledge of the inherent risks involved in the operation of lifting appliances by undergoing a formal training at any institution of national importance acceptable to Employer
- iv) is medically examined periodically as specified in schedule VII of BOCW Rules.

21.10 General requirements of appliances

21.10.1 Out-of level

21.10.1.1 One of the most severe effects of being out-of fit level is that side loads develop in the boom. Because of side loads all mobile cranes lose capacity rapidly as the degree of out-of-level increases and therefore

21.10.2 Boom

- i) The boom is one of the more critical elements of the crane and must be in perfect condition at all time. No boom section with a bent lattice member shall be allowed
- ii) All welds shall be crack and corrosion free
- iii) No member of the boom shall be bent
- iv) All telescopic boom shall be free from cracks, rust, flaking or cracked paint, bulges, greases or varnishes

21.10.3 The sweep area (work area) of the construction machinery shall be always free from obstructions.

21.10.4 All hydraulic piping and fittings shall be maintained leak proof.

21.10.5 The operator cab shall possess good and safe:

- i) structure, windows and windshield wipers
- ii) Drivers chair and foot rest
- iii) Control handles
- iv) Cab instrumentation
- v) Telecommunication
- vi) Cab out fitting
- vii) wind indicator with an adjustable set point shall be in a position representative for the wind on the crane. The indicator shall give continuous information regarding constant speeds and gusts.

21.11 **Mandatory rigging requirements**



- 21.11.1 **Rigging shall be done under experienced and qualified rigger only.**
- 21.11.2 **The primary requirement in rigging shall be to assess the weight of load before attempting any lift.**
- 21.11.3 **All hooks shall be fitted with Master Rings having certificate of fitness from the competent person, so that the hooks are subjected to balanced vertical loading only.**
- 21.11.4 **Only four legged slings shall be allowed which includes master link (ring), intermediate master link (ring) if necessary, chain / wire rope sling, sling hook or other terminal fitting.**
- 21.11.5 **Hand spliced slings up to 32mm diameter shall not be used at site for any lifting purpose.**
- 21.11.6 **No load shall be slewed over public areas without stopping the pedestrians and road traffic first.**
- 21.11.7 **Requirements of outriggers**
 - i) **All outriggers shall be fully extended and at all tyres are clear of the ground**
 - ii) **Heavy duty blocking having large bearing area shall be necessary to prevent sinking of floats**
- 21.11.8 **All loads shall have tag-lines attached in order to ensure that the load can be controlled at all times.**
- 21.11.9 **No close working to any live overhead power line is permitted without the operation of a strict Permit to Work.**
- 21.11.10 **Minimum lighting is to be ensured at all lifting operations.**
- 21.12 **Failure to do any of the above shall attract penalty from the Employer as per relevant clause**

22.0 Launching Operation

- 22.1 As launching operation is one of the riskiest job, the contractor shall take utmost precaution at all stages like; planning, establishing casing yard, casting segments, transporting segments, fabrication and erection of launching girders, launching of segments, pre-stressing, auto launching of girders and dismantling of launching girders.
- 22.2 The contractor shall prepare a comprehensive Method Statement for the launching operation, adhering to the SHE conditions laid down in conditions of contract on SHE and project SHE manual. Particular reference shall be made to the provisions on working at height. As the entire process of launching has to be undertaken at an elevated level the safety of workers and the girder is paramount important. The following general guidelines shall be adhered throughout the launching operation.



- i) Necessary 'working platforms' and fall protection anchorage arrangement shall be provided in the launching girder itself.
- ii) Provisions for mounting light fittings shall also be made available in the launching girder.
- iii) The casting yard shall be established ensuring the provision given in clause **38.0**
- iv) The workmen engaged in fabrication of reinforcement, concreting the segment shall be provided with necessary PPEs including compulsory hand protection gloves.
- v) Casting and curing of segment shall be undertaken under the direct supervision of the responsible engineer of the contractor.
- vi) Trucks with valid registration, license, safe worthiness certificate, Employer's approval certificate, and pollution under check certificate shall only be used for transport of segments
- vii) Drivers engaged for driving these trucks, shall be trained once in 6 months at Delhi Government and Maruti Institute of Driver Training and Research, Wazirabad Road, Adjoining Loni Road Flyover, Delhi – 110 094 on defensive driving.
- viii) Drivers shall also have undergone proper medical examination as per relevant clause mentioned under 'Medical Facilities'.
- ix) The segments shall rigidly secured to the truck with necessary wooden wedges and necessary red indicators/safety tapes provided so that the vehicle is clearly seen by other road users both in day / night time.
- x) Every launching girder shall have a responsible engineer on duty all the time.
- xi) All the time from erection to dismantling the area between the two piers wherein launching is in progress shall always be barricaded.
- xii) Unloading of segments from trucks, lifting of segments, shifting of segments, gluing shall be done under the direct supervision of the approved engineer of the contractor.
- xiii) Auto launching shall be done only after approval from the Employer. After every auto launching the stability of launching girder shall be ensured.
- xiv) The vertical deflection of launching girder shall be monitored at all critical stages like with/without loads and after every auto launching.
- xv) A register containing all important operational details from erection to dismantling of launching girders shall be maintained and made available to Employer whenever called for.
- xvi) Test certificate for all lifting gears including Macalloy bars shall be maintained at a location closer to the launching girder itself so that it can be referred during all inspections.
- xvii) Adequate lighting at all time shall be ensured in the entire area of operation.
- xviii) Access to drinking water & toilet shall be ensured to all workmen engaged for launching process.
- xix) Proper access ladders/stairways shall be maintained for safe ascending / descending of workmen / engineers.

22.3 Non-adherence to any of the clauses mentioned above shall be viewed seriously by the Employer and penalty levied as per relevant clause.

23.0 Construction machinery



- 23.1 Construction machineries may include dumpers and dump trucks, lift trucks and telescopic handlers piling rigs, vibro hammers, rail welding equipments, mobile elevating work platforms, cranes, tipper lorries, lorry loaders, skip wagons, 360° excavators, 180° backhoe loaders, crawler tractors, scrapers, graders, loading shovels, trenchers, side booms, pavers, planers, chippers, road rollers, locomotives, tankers and bowsers, trailers, hydraulic and mechanical breakers etc.**
- 23.2 Safe worthiness certificate
- 23.2.1 Every construction equipment shall be in sound mechanical working condition and certified by either competent person under Factories Act or manufacturers' warranty in case of brand new equipments or authorized persons / firms approved by Employer before induction to any site.**
- 23.2.2 Every such certificate shall have the date of purchase, main overhauling undertaken in the past, any accident to the equipment, visual examination details, critical components safety check, list of safety devises and its working condition, manufacturer's maintenance checklist, past projects wherein the equipments were used etc as its minimum content.
- 23.3 **Reverse Horns**
- 23.3.1 **All Vehicles shall be fitted with audible reverse alarms and maintained in good working condition. Reversing shall be done only when there is adequate rear view visibility or under the directions of a banksman**



23.4 General operating procedures

- i) Drivers entering site shall be instructed to follow the safe system of work adopted on site. These shall be verbal instructions or, preferably, written instructions showing the relevant site rules, the site layout, delivery areas, speed limits, etc.
- ii) No passengers shall be carried, unless specific seating has been provided in accordance with the manufacturers recommendations.
- iii) Working on gradients beyond any equipments capability shall not be allowed.
- iv) Prevention of dumper and dump truck accidents should be managed by providing wheel stops at a sufficient distance from the edges of excavations, spoil heaps, pits, etc.
- v) The manufacturer's recommended bucket size must not be exceeded in excavators.
- vi) If excavators operating on a gradient which cannot be avoided, it must be ensured that the working cycle is slowed down, that the bucket is not extended too far in the downhill direction, and that travel is undertaken with extreme caution. A large excavator must never be permitted to travel in a confined area, or around people, without a banksman to guide the driver, who should have the excavator attachment close in to the machine, with the bucket just clear of the ground. On wheeled excavators, it is essential that the tyres are in good condition and correctly inflated. If stabilizing devices are fitted, they should be employed when the machine is excavating.
- vii) When the front shovel of the 180⁰ backhoe loaders is being employed, the backhoe attachment shall be in its "travel" position, with the safety locking device in place.
- viii) When operating the backhoe in poor ground conditions, the stabilisers tend to sink into the surface of the ground, reducing stability. Therefore frequent checks shall be made for the stability of the machine. The loading shovel should always be lowered to the ground to stabilise the machine when the backhoe is employed.
- ix) The netting operation of the skip wagons should be carried out prior to lifting the skip to reduce the risks of working on the rear platform
- x) If a tractor dozer is employed on clearing scrub or felling trees, it shall be provided with adequate driver protection.
- xi) When two or more scrapers are working on the same job, a minimum distance of at least 25m shall be kept between them.
- xii) Incase of hydraulic breakers, hydraulic rams and hoses shall be in good working condition

23.5 All wood working machines shall be fitted with suitable guards and devices such as top guard, riving knife, push stick, guards for drive belts and chains, and emergency stop switch easily accessible by the operator.

23.6 Penalty

23.6.1 **If any of the above clauses are not adhered, penalty shall be imposed as per relevant clause depending upon the gravity of the unsafe act and or condition.**



24.0 Machine and general area guarding

24.1 The contractor shall ensure at the construction site all motors, cogwheels, chains and friction gearing, flywheels, shafting, dangerous and moving parts of machinery are securely fenced or legged. The fencing of dangerous part of machinery is not removed while such machinery is in motion or in use.

25.0 Manual lifting and carrying of excessive weight

25.1 The contractor shall ensure at his construction site of a building or other construction work that no building worker lifts by hand or carries overhead or over his back or shoulders any material, article, tool or appliances exceeding in weight as said below as per Rule 38 of BOCWR, Unless aided by another building worker or device.

Person	Maximum weight in kg.
Adult man	55
Adult woman	30

25.2 No building worker aided by other building worker shall lift or carry weight higher than or exceeding the sum of total of maximum limits set out for each building worker separately as mentioned in the table above.

26.0 Site Electricity

26.1 Competency of Electrical personnel:

26.1.1 **The contractor shall employ qualified and competent electrical personnel as specified in general instruction JDA/SHE/GI/001/MPR/281105.**

26.2 Assessment of power

26.2.1 The contractor shall assess the size and location of the electrical loads and the manner in which they vary with time during the currency of the contract.

26.2.2 The contractor shall elaborate as to how the total supply is to be obtained / generated. The details of the source of electricity, earthing requirement, substation / panel boards, distribution system shall be prepared and necessary approval from Employer obtained before proceeding of the execution of the job.

26.2.3 **The main contractor shall take consideration, the requirements of the sub / petty contractors' electric power supply and arrive at the capacity of main source of power supply from diesel generators.**

26.2.4 **As the sub / petty contractors' small capacity generators create more noise and safety hazard, no small capacity diesel generators shall be allowed for whatsoever the type of job to be executed under this contract.**

26.2.5 **If any unsafe noise making small capacity diesel generators are found used by sub / petty contractors the main contractor shall only be penalised.**



26.3 Work on site

26.3.1 The contractor shall also submit electrical single line diagram, schematic diagram and the details of the equipment for all temporary electrical installation and these diagrams together with the temporary electrical equipment shall be submitted to the Employer's for necessary approval. Failure to do so shall invite penalty as per relevant clause.

26.4 Strength and capability of electrical equipment

26.4.1 No electrical equipment shall be put into use where its strength and capability may be exceeded in such a way as may give rise to danger.

26.5 Adverse or hazardous environments

26.5.1 Electrical equipment which may reasonably foreseeably be exposed to-

- (a) mechanical damage;
- (b) the effects of the weather, natural hazards, temperature or pressure;
- (c) the effects of wet, dirty, dusty or corrosive conditions; or
- (d) any flammable or explosive substance, including dusts, vapours or gases, shall be of such construction or as necessary protected as to prevent, so far as is reasonably practicable, danger arising from such exposure.

26.6 Distribution system:

26.6.1 The contractor shall provide distribution system for control and distribution of electricity from a main AC supply of 50Hz for typical appliances,

- i) Fixed plant – 400V 3 phase
- ii) Movable plant fed via trailing cable over 3.75 kW – 400 3 phase
- iii) Installation in site buildings – 230V single phase
- iv) Fixed flood lighting – 230V single phase
- v) Portable and hand tools – 115V single phase
- vi) Site lighting - 115V single phase
- vii) Portable hand lamps – 115V single phase

26.7 Electrical protection circuits

26.7.1 Precautions shall be taken, either by earthing or by other suitable means, to prevent danger arising when any conductor (other than a circuit conductor) which may reasonably foreseeable become charged as a result of either the use of a system, or a fault in a system, becomes so charged. A conductor shall be regarded as earthed when conductors of sufficient strength and current-carrying capability to discharge electrical energy to earth connect it to the general mass of earth.

If a circuit conductor is connected to earth or to any other reference point, nothing which might reasonably be expected to give rise to danger by breaking the electrical continuity or introducing high impedance shall be placed in that conductor unless suitable precautions are taken to prevent that danger.



- 26.7.2 Appropriate electrical protection shall be provided for all circuits, against over load, short circuit and earth fault current.
- 26.7.3 The contractor shall provide sufficient ELCBs (maintain sensitivity 30 mA) / RCCBs for all the equipments (including Potable equipments), electrical switchboards, distribution panels etc. to prevent electrical shocks to the workers.
- 26.7.4 All protection devices shall be capable of interrupting the circuit without damage to any equipments and circuits in case of any fault may occur.
- 26.7.5 Rating of fuses and circuit breakers used for the protection of circuits should be coordinate with equipment power ratings.
- 26.7.6 Protection against lightning shall be ensured to all equipment kept in open at sites.
- 26.8 Cables:
- 26.8.1 Cables shall be selected after full consideration of the condition to which they shall be exposed and the duties for which they are required. Supply cable up to 3.3 kV shall be in accordance with BS 6346.
- 26.8.2 For supplies to mobile or transportable equipment where operating of the equipment subjects the cable to flexing, the cable shall conform to any of these codes BS 6007 / BS 6500 / BS 7375.
- 26.8.3 Flexible cords with a conductor cross sectional area smaller than 1.5 mm² shall not be used and insulated flexible cable shall conform to BS 6500 and BS 7375.
- 26.8.4 Where low voltage cables are to be used, reference shall be made to BS 7375. The following standards shall also be referred to particularly for under ground cables BS 6346 and BS 6708
- 26.8.5 Cables buried directly in the ground shall be of a type incorporating armour or metal sheath or both. Such cables shall be marked by cable covers or a suitable marking tape and be buried at a sufficient depth to avoid their being damaged by any disturbance of the ground. Cable routes shall be marked on the plans kept in the site electrical register.
- 26.8.6 Cabling passing under the walk way and across way for transport and mobile equipment shall be laid in ducts at a minimum depth of 0.6 meters.
- 26.8.7 Cables that need to cross open areas, or where span of 3m or more are involved, a catenary wire on poles or other supports shall be provided for convenient means of suspension. Minimum height shall be 6 m above ground.
- 26.8.8 Cables carrying a voltage to earth in excess of 65V other than supply for welding process shall have metal armour or sheath, which has been effectively earthed and monitored by the contractor. In case of flexible and trailing cables such earthed metal sheath and/or armour should be in addition to the earth core in the cable and shall not be used as the protective conductor.



- 26.8.9 Armoured cables having an over-sheath of polyvinyl chloride (PVC) or an oil resisting and flame retardant compound shall be used whenever there is a risk of mechanical damage occurring
- 26.9 **Plugs, socket-outlets and couplers:**
- 26.9.1 **The contractor shall ensure plugs, socket-outlets, and couplers available in the construction site as “splash proof” type. The minimum degree of Ingress Protection should be of IP44 in accordance with BS EN 60529.**
- 26.9.2 Only plugs and fittings of the weatherproof type shall be used and they should be colour coded in accordance with the Internationally recognised standards for example as detailed as follows:
- (a) **110 volts : Yellow.**
 - (b) **240 volts : Blue.**
 - (c) 415 volts : Red.
- 26.10 **Connections**
- 26.10.1 **Every joint and connection in a system shall be mechanically and electrically suitable for use to prevent danger. Proper cable connectors as per national/international standards shall only be used to connect cables.**
- 26.10.2 **No loose connections or tapped joints shall be allowed any where in the work site, office area, stores and other areas. Penalty as per relevant clause shall be put in case of observation of any tapped joints.**
- 26.11 Portable and hand-held equipments:
- 26.11.1 The contractor shall ensure the use of double insulated or all-insulated portable electrical hand equipment may be used without earthing (i.e. two core cables), but they shall still be used only on 110V because of the risk of damage to trailing leads.
- 26.12 Other equipments:
- 26.12.1 All equipment shall have the provision for major switch/cut-off switch in the equipment itself.
- 26.12.2 All non-current carrying metal parts of electrical equipment shall be earthed through insulated cable
- 26.12.3 Isolate exposed high-voltage (over 415 Volts) equipment, such as transformer banks, open switches, and similar equipment with exposed energized parts and prevent unauthorised access.
- 26.12.4 Approved perimeter markings shall be used to isolate restricted areas from designated work areas and entryways and shall be erected before work begins and maintained for entire duration of work. Approved perimeter marking shall be installed with either red barrier tape printed with the words "DANGER—HIGH VOLTAGE" or a barrier of yellow or orange synthetic rope, approximately 1 to 1.5 meter above the floor or work surface.



26.13 Work on or near live conductors

26.13.1 No person shall be engaged in any work activity on or so near any live conductor (other than one suitably covered with insulating material so as to prevent danger) that danger may arise unless-

- a) it is unreasonable in all the circumstances for it to be dead; and
- b) it is reasonable in all the circumstances for him to be at work on or near it while it is live; and
- c) suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent injury.

26.14 Inspection and Maintenance

26.14.1 All electrical equipment should be permanently numbered and a record kept of the date of issue, date of last inspection and recommended inspection period.

26.14.2 Fixed installations shall be inspected at least at three monthly intervals; routine maintenance being carried out in accordance with equipment manufactures recommendations.

27.0 Lighting:

27.1 The contractor shall provide sufficient site lighting, of the right type and at the right place 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.

27.2 Selection of Luminaries:

The contractor shall select the luminaries as per the area requirement indicated below:

Type of Lighting	Area of Requirement	Luminaries
Area Lighting	Workmen and vehicles to move about in safely.	i) Shovel type: non-symmetrical ii) Symmetrical or non-symmetrical tungsten halogen
Beam flood lighting	Concentrated light over an area from a relatively great distance.	i) Portable flood light (Conical beam) ii) Wide angle flood (fan shaped beam) iii) Medium or narrow angle flood (Conical beam)
Dispersive lighting	Lighting for indoor	i) Dispersive (Mercury florescent) ii) Cargo cluster iii) Florescent trough
Walkway lighting	Lighting for stairways, ladder ways, corridors, scaffold access routs, etc.	i) Well glass unit ii) Bulkhead unit (tungsten filament)



		iii) Bulk head unit (Florescent)
Local lighting	Lighting on sites and fittings are generally accessible to operatives	i) PAR (Parabolic Aluminised Reflector) lamp cluster ii) Festoons (with or without shades) iii) Adjustable florescent work lamp iv) Portable flood lamp (mounted on own cable drum)

27.3 The contractor shall ensure that luminaries should always be placed so that no person is required to work in their own shadow and so 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.

27.4 Luminaries should be robust, resistant to corrosion and rain proof especially at the point of the cable entry.

27.5 The correct type of lamp for each luminaries should always be used and when lamps need to be replaced if shall be in accordance with the supply voltage.

27.6 Lamp holders not fitted with a lamp should be capped off.

27.7 The contractor shall take every effort to illuminate the work site as per the Employer's requirement illustrated in general instruction [JDA/SHE/GI/0011/ILL/281105](#).

28.0 Hand Tools and Power Tools

28.1 General

28.1.1 The contractor is wholly responsible for the safe condition of tools and equipment used by his employees and that of his sub-contractors.

28.1.2 Use of short / damaged hand tools shall be avoided and the contractor shall ensure all his hand tools used at his worksite are safe to work with or stored and shall also train his employees (including his sub-contractors) for proper use thereby.

28.1.3 All hand tools and power tools shall be duly inspected before use for safe operation.

28.1.4 All hand tools and power tools shall have sufficient grip and the design specification on par with national/international standards on anthropometrics.

28.2 Hand tools

28.2.1 Hand tools shall include saws, chisels, axes and hatches, hammers, hand planes, screw drivers, crow bars, nail pullers.

28.2.2 The contractor shall ensure that,



- i) For crosscutting of hardwood, saws with larger teeth points (no. of points per inch) shall be preferred to avoid the saw jumping out of the job.
- ii) Mushroom headed chisels shall not be used in the worksite where the fragments of the head may cause injury.
- iii) Unless hatchet has a striking face, it shall be used as a hammer.
- iv) Only knives of retractable blades shall be used in the worksite.
- v) No screwdrivers shall be used for scraping, chiselling or punching holes.
- vi) A pilot hole shall always be driven before driving a screw.
- vii) Wherever necessary, usage of proper PPEs shall be used by his employees.

28.3 Power tools

28.3.1 Power tools include drills, planes, routers, saws, jackhammers, grinders, sprayers, chipping hammers, air nozzles and drills.

28.3.2 The contractor shall ensure that

- i) Electric tools are properly grounded or / and double insulated.
- ii) GFCIs/ RCCBs shall be used with all portable electric tool operated especially outdoors or in wet condition.
- iii) Before making any adjustments or changing attachments, his workers shall disconnect the tool from the power source.
- iv) When operating in confined spaces or for prolonged periods, hearing protection shall be required. The same shall also apply to working with equipments, which gives out more noise as mentioned in clause **43.0** of this contract document.
- v) Tool is held firmly and the material is properly secured before turning on the tool.
- vi) All drills shall have suitable attachments respective of the operations and powerful for ease of operation.
- vii) When any work / operation need to be performed repeatedly or continuously, tools specifically designed for that work shall be used. The same is applicable to detachable tool bit also.
- viii) Size of the drill shall be determined by the maximum opening of the chuck n case of drill bit.
- ix) Attachments such as speed reducing screwdrivers and buffers shall be provided to prevent fatigue and undue muscle strain to his workers.
- x) Stock should be clamped or otherwise secured firmly to prevent it from moving.
- xi) Workers shall never stand on the top of the ladder to drill holes in walls / ceilings, which can be hazardous, instead standing on the fourth or fifth rung shall be recommended.
- xii) Electric plane shall not be operated with loose clothing or long scarf or open jacket.
- xiii) Safety guards used on right angle head or vertical portable grinders must cover a minimum of 180⁰ of the wheel and the spindle / wheel specifications shall be checked.
- xiv) All power tools / hand tools shall have guards at their nip points.
- xv) Low profile safety chain shall be used in case of wood working machines and the saw shall run at high rpm when cutting and also correct chain tension shall be ensured to avoid “kickback”.
- xvi) Leather aprons and gloves shall be used as an additional personal protection auxiliary to withstand kickback.



- xvii) Push sticks shall be provided and properly used to hold the job down on the table while the heels moves the stock forward and thus preventing kickbacks.
- xviii) Air pressure is set at a suitable level for air actuated tool or equipment being used. Before changing or adjusting pneumatic tools, air pressure shall be turned off.
- xix) Only trained employees shall use explosive actuated tools and the tool shall also be unloaded when not in use.
- xx) Usage of such explosive actuated tools shall be avoided in case of places where explosive/flammable vapours or gases may be present.
- xxi) Explosive actuated tools and their explosives shall be stored separately and be taken out and loaded only before the time of immediate use.
- xxii) Misfired cartridges of explosive actuated tools must be placed in a container of water and be removed safely from the project.
- xxiii) No worker shall point any power operated / hand tool to any other person especially during loading / unloading.

29.0 Welding, Gouging and Cutting

- 29.1 Gas cylinders in use shall be kept upright on a custom-built stand or trolley fitted with a bracket to accommodate the hoses and equipment or otherwise secured. The metal cap shall be kept in place to protect the valve when the cylinder is not connected for use.
- 29.2 Hose clamp or clip shall be used to connect hoses firmly in both sides of cylinders and torches.
- 29.3 All gas cylinders shall be fixed with pressure regulator and dial gauges
- 29.4 Non-return valve and Flashback arrester shall be fixed at both end of cylinder and torch.
- 29.5 Domestic LPG cylinders shall not be used for Gas welding and Cutting purpose.
- 29.6 DCP or CO₂ type Fire Extinguisher not less than 5 kg shall be fixed at or near to welding process zone in an easily accessible location. Fire Extinguisher should confirm to IS 2190: 1992.
- 29.7 Use firewatchers if there is a possibility of ignition unobserved by the operator (e.g. on the other side of bulkheads).
- 29.8 Oxygen cylinders and flammable gas cylinders shall be stored separately, at least 6.6 meters (20 feet) apart or separated by a fire proof, 1.6 meters (5 feet) high partition. Flammable substances shall not be stored within 50 feet of cylinder storage areas.
- 29.9 Transformer used for electrical arc welding shall be fixed with Ammeter and Voltmeter and also fixed with separate main power switch.
- 29.10 Welding grounds and returns should be securely attached to the work by cable lugs, by clamps in the case of stranded conductors, or by bolts for strip conductors. The ground cable will not be attached to equipment or existing installations or apparatus.



- 29.11 Use a low voltage open circuit relay device if welding with alternating current in constricted or damp places.
- 29.12 Take precautions against the risk of increased fume hazards when welding with chrome containing fluxed consumables or high current metal inert gas (MIG) or tungsten inert gas (TIG) processes.
- 29.13 Avoid being in contact with water or wet floors when welding. Use duckboards or rubber protection.
- 29.14 All electrical installations shall meet the IS: 5571: 1997 and NFPA 70 for gas cylinder storage area and other hazardous areas.
- 29.15 The current for Electric arc welding shall not exceed 300 A on a hand welding operation.

30.0 Dangerous and harmful environment

As per BOCWR Rule 40,

- i) When internal combustion engines are to be used into a confined space or excavation or tunnel or any other workplace where neither natural or artificial ventilation system is inadequate to keep carbon monoxide below 50ppm, exposure of building workers shall be avoided unless suitable measures are taken and provided by the contractor.
- ii) No worker shall be allowed into any confined space or tank or trench or excavation wherein there is given off any dust, fumes / vapours or other impurities which is likely to be injurious or offensive, explosive or poisonous or noxious or gaseous material or other harmful articles unless steps are carried out by the contractor and certified by the responsible person to be safe.

31.0 Fire prevention, protection and fighting system

- 31.1 **The contractor shall ensure that construction site is provided with fire extinguishing equipment sufficient to extinguish any probable fire at construction site. An adequate water supply is provided at ample pressure as per national standard.**
- 31.2 Recharging of fire extinguishers and their proper maintenance should be ensured and as a minimum should meet Indian National Standards
- 31.3 All drivers of vehicles, foreman, supervisors and managers shall be trained on operating the fire extinguishers and fire fighting equipment.
- 31.4 The contractor shall also give consideration to the provision of adequate fire fighting arrangements within the underground and tunnelling operations including the provision of Fire Service compatible hose connections and emergency lighting
- 31.5 As per the RBOCW Rules 2002, Rule 63(a)(vii), all lifting appliances' driver cabin should be provided with a suitable portable fire extinguisher.
- 31.6 Combustible scrap and other construction debris should be disposed off site on a regular basis. If scrap is to be burnt on site, the burning site should be specified and



located at a distance no less than 12 metres from any construction work or any other combustible material.

31.7 Every fire, including those extinguished by contractor personnel, shall be reported to the Employer representatives.

31.8 Emergency plans and Fire Evacuation plans shall be prepared and issued . Mock drills should be held on a regular basis to ensure the effectiveness of the arrangements and as a part of the programme, the Telephone Number of the local fire brigade should be prominently displayed near each telephone on site.

32.0 Corrosive substances

32.1 As per BOCWR Rule 44, corrosive substances including alkalis and acids shall be stored and used by a person dealing with such substances at a building / construction site in a manner that it does not endanger the building worker and suitable PPE shall be provided by the contractor to the worker during such handling and work. In case of spillage of such substances on building worker, the contractor shall take immediate remedial measures.

33.0 Demolition

33.1 The Contractor shall ensure that

- i) all demolition works be carried out in a controlled manner under the management of experienced and competent supervision.
- ii) the concerned department of the Government or local authority be informed and permission obtained wherever required. Media shall also be informed regarding this concern.
- iii) all glass or similar materials or articles in exterior openings are removed before commencing any demolition work and all water, steam, electric, gas and other similar supply lines are put-off and such lines so located or capped with substantial coverings so as to protect it from damage and to afford safety to the building workers and public..
- iv) examine the walls of all structures adjacent to the structure to be demolished to determine thickness, method of support to such adjacent structures
- v) no demolishing work be performed if the adjacent structure seems to be unsafe unless and until remedial measures like sheet piling, shoring, bracing or similar means be ensured for safety and stability for adjacent structure from collapsing.
- vi) debris / bricks and other materials or articles shall be removed by means of
 - a) chutes
 - b) buckets or hoists
 - c) through openings through floors or
 - d) any other safe means
- vii) no person other than building workers or other persons essential to the operation of demolition work shall be permitted to enter a zone of demolition and the area be provided with substantial barricades.



34.0 Excavation and Tunnelling:

34.1 Excavation

34.1.1 The contractor shall ensure

- i) where any construction building worker engaged in excavation is exposed to hazard of falling or sliding material or article from any bank or side of such excavation which is more than one 1.5 m above his footing, such worker is protected by adequate piling and bracing against such bank or side.
- ii) where banks of an excavation are undercut, adequate shoring is provided to support the material or article overhanging such bank.
- iii) excavated material is not stored at least 0.65 m from the edge of an open excavation or trench and banks of such excavation or trench are stripped of loose rocks and the banks of such excavation or trench are stripped of loose rocks and other materials which may slide, roll or fall upon a construction building worker working below such bank
- iv) metal ladders and staircases or ramps are provided, as the case may be, for safe access to and egress from excavation where, the depth of such excavation exceeds 1.5 m and such ladders, staircases or ramps comply with the IS 3696 Part 1&2 and other relevant national standards.
- v) trench and excavation is protected against falling of a person by suitable measures if the depth of such trench or excavation exceeds 1.5 m and such protection is an improved protection in accordance with the design and drawing of a professional engineer, where such depth exceeds 4m.

34.2 Tunnelling

34.2.1 The contractor shall inform in writing to the Director General within 30 days, prior to the commencement of any tunnelling work.

34.2.2 The contractor shall appoint a responsible person for safe operation for tunnelling work as per Rule 121 & 125 of BOCWR.

34.2.3 The contractor shall ensure

- i) every compressed air system in a tunnel is provided with emergency power supply for maintained continued supply of compressed air as per Rule 155 of BOCWR
- ii) watertight bulkhead doors are installed at the entrance of a tunnel to prevent flooding.
- iii) reliable and effective means of communication such as telephone or walkie-talkie are provided and maintained for arranging better effective communication at an excavation or tunnelling work as per Rule 136 of BOCWR.



- iv) all portable electrical hand tools and inspection lamp used in under ground and confined space at an excavation or tunnelling work is operated at a voltage not exceeding 24V.
- v) only flame proof equipment of appropriate type as per IS:5571:2000 and or other relevant national standard is used inside the tunnel
- vi) petrol or LPG of any other flammable substances are not used, stored inside the tunnel except with prior approval from Employer, and also no oxy-acetylene gas is used in a compressed air environment in excavation or tunnelling
- vii) adequate number of water outlets provided for fire fighting purpose, an audible fire alarm and adequate number and types of fire extinguishers are provided and maintained.
- viii) temperature in any working chamber in an excavation or tunnelling work where workers employed does not exceed 29°C as per Rule 165 of BOCWR.
- ix) all working areas in a free air tunnel are provided with ventilation system as approved by the Director General and the fresh air supplied in such tunnel is not less than 6 m³/ min for each worker employed in tunnel as per Rule 153 of BOCWR.

34.3 Warning signs and notices:

34.3.1 The contractor shall ensure that

- i) suitable warning signs or notices, required for the safety of building workers carrying out the work of an excavation or tunnelling, shall be displayed or erected at conspicuous places in Hindi and in a language understood by majority of such building workers at such building such excavation or tunnelling work
- ii) such warning signs and notices with regard to compressed air working shall include
 - a) the danger involved in such compressed air work
 - b) fire and explosion hazard
 - c) the emergency procedures for rescue from such danger or hazards.

35.0 Work Permit system

35.1 The Contractor shall develop a Work Permit system, which is a formal written system used to control certain types of work that are potentially hazardous. A work permit is a document, which specifies the work to be done, and the precautions to be taken. Work Permits form an essential part of safe systems of work for many construction activities. They allow work to start only after safe procedures have been defined and they provide a clear record that all foreseeable hazards have been considered. Permits to Work are usually required in high-risk areas as identified by the Risk Assessments.

35.2 A permit is needed when construction work can only be carried out if normal safeguards are dropped or when new hazards are introduced by the work. Examples of high-risk activities include but are not limited to:

- i) **Entry into confined spaces**
- ii) **Work in close proximity to overhead power lines and telecommunication cables.**
- iii) **Hot work.**
- iv) **To dig—where underground services may be located.**



- v) **Work with heavy moving machinery.**
- vi) **Working on electrical equipment**
- vii) **Work with radioactive isotopes.**
- viii) Heavy lifting operations and lifting operations closer to live power line

35.3 The permit-to-work system should be fully documented, laying down:

- i) **How the system works;**
- ii) **The jobs it is to be used for;**
- iii) **The responsibilities and training of those involved; and**
- iv) **How to check its operation;**

35.4 A Work Permit authorisation form shall be completed with the maximum duration period not exceeding 12 hours.

35.5 A copy of each Permit To Work shall be displayed, during its validity, in a conspicuous location in close proximity to the actual works location to which it applies.

36.0 Traffic Management

36.1 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.

36.2 All construction workers should be provided with high visibility jackets with reflective tapes as most of viaduct /tunnelling and station works or either above or under right-of-way. The conspicuity of workmen at all times shall be increased so as to protect from speeding vehicular traffic.

36.3 The guiding principles to be adopted for safety in construction zone are to

- i) Warn the road user clearly and sufficiently in advance.
- ii) Provide safe and clearly marked lanes for guiding road users.
- iii) Provide safe and clearly marked buffer and work zones
- iv) Provide adequate measures that control driver behaviour through construction zones.

36.4 Legal permission

36.4.1 In all cases, the contractor shall employ proper precautions. Wherever operations undertaken are likely to interfere with public traffic, specific traffic management plans shall be drawn up and implemented by the contractor in consultation with the approval of local police authorities and/or the concerned metropolitan/civil authorities as the case may be.

36.4.2 Such traffic management plans shall include provision for traffic diversion and selection of alternative routes for transport of equipment. If necessary, the contractor shall carry out road widening before commencement of works to accommodate the extra load



- 36.5 The primary traffic control devices used in work zones shall include signs, delineators, barricades, cones, pylons, pavement markings and flashing lights.
- 36.6 The road construction and maintenance signs which fall into the same three major categories as do other traffic signs, that are Regulatory Signs, Warning Signs and Direction (or guidelines) Signs shall only be used. The IRC: 67 (Code of Practice for Road Signs) provide a list of traffic signs. The size, colours and placement of sign shall confirm to IRC: 67.
- 36.7 Regulatory signs
- 36.7.1 Regulatory signs impose legal restriction on all traffic. It is essential, therefore, that they are used only after consulting the local police and traffic authorities.
- 36.8 Warning signs
- 36.8.1 Warning signs in the traffic control zone shall be utilised to warn the drivers of specific hazards that may be encountered.
- 36.8.2 The contractor shall place detour signage at strategic locations and install appropriate warning signs. In order to minimize disruption of access to residences and business, the contractor shall maintain at least one entrance to a property where multiple entrances exist.
- 36.8.3 A warning sign as given in general instruction *JDA/SHE/GI/012/WS/281105* shall be installed an at all secondary road which merges with the primary road where the construction work is in progress at sufficient distance before it merges with the primary road so as to alert the road users regarding the 'Metro Work in Progress'.
- 36.8.4 Materials hanging over / protruded from the chassis / body of any vehicle especially during material handling shall be indicated by red indicator (red light/flag) to indicate the caution to the road users.
- 36.9 Delineators
- The delineators are the elements of a total system of traffic control and have two distinct purposes:
- i) To delineate and guide the driver to and along a safe path
 - ii) As a taper to move traffic from one lane to another.
- 36.9.1 These channelising devices such as cones, traffic cylinders, tapes and drums shall be placed in or adjacent to the roadway to control the flow of traffic. These should normally be retro-reflectors complying to IRC: 79 - Recommended Practice for Road Delineators.
- 36.9.2 Traffic cones and cylinders
- 36.9.2.1 Traffic cones of 500mm, 750mm and 1000mm high and 300mm to 500mm in diameter or in square shape at base and are often made of plastic or rubber and normally have retro-reflectorised red and white band shall be used wherever required.



36.9.3 Drums

36.9.3.1 Drums about 800mm to 1000mm high and 300mm in diameter can be used either as channelising or warning devices. These are highly visible, give the appearance of being formidable objects and therefore command the respect of drivers.

36.9.4 Barricades

36.9.4.1 Full height fence, barriers, barricades etc. shall be erected around the site in order to prevent the working area from the risk of accidents due to speedy vehicular movement. Same the way barricades protect the road users from the danger due to construction equipment and other temporary structures.

36.9.4.2 The structure dimension of the barricade, material and composition, its colour scheme, JDA logo and other details shall be in accordance with specifications laid down in tender document.

36.9.4.3 All barricades shall be erected as per the design requirements of the Employer, numbered, painted and maintained in good condition and also Barricade in-charge maintains a barricade register in site.

36.9.4.4 **All barricades shall be conspicuously seen in the dark/night time by the road users so that no vehicle hits the barricade. Conspicuity shall be ensured by affixing retro reflective stripes of required size and shape at appropriate angle at the bottom and middle portion of the barricade at a minimum gap of 1000mm. In addition minimum one red light or red light blinker should be placed at the top of each barricade.**

36.9.5 The contractor shall ensure that all his construction vehicles plying on public roads (like dump trucks, trailers, etc.) have proper license to ply on public roads from the State Transport Authority. Drivers holding proper valid license as per the requirements of Motor Vehicles Act shall drive these vehicles

36.9.6 The contractor shall not undertake loading and unloading at carriageways obstructing the free flow of vehicular traffic and encroachment of existing roads by the contractor applying the excuse of work execution.

36.9.7 **Tow away vehicle**

36.9.7.1 **The contractor shall make arrangements keeping tow away van / manpower to tow away any breakdown vehicle in the traffic flow without loosing any time at his cost.**

36.9.8 **Cleaning of roads**

36.9.8.1 **The contractor shall ensure the cleanliness of roads and footpaths by deploying proper manpower for the same. The contractor shall have to ensure proper brooming, cleaning washing of roads and footpaths on all the time throughout the entire stretch till the currency of the contract including disposal of sweepage.**



37.0 Work to adjacent railways

- 37.1 Whenever work is to be conducted in close proximity to the live railways then the following measures shall need to be addressed:
- (a) **The rules provided for in the Railway's manual shall be followed.**
 - (b) No persons are allowed to encroach onto the railway unless specific authority has been given by the owner.
 - (c) Adequate protection in accordance with the railway owner's requirements shall be followed. (Provision of Block Inspectors, Flagmen and Lookouts)
 - (d) All persons shall wear high visibility clothing at all times.
 - (e) Any induction training requirements of the railways shall be strictly observed

38.0 Batching Plant / Casting Yard

- i) The batching plant / casting yard shall be effectively planned for smooth flow of unloading and stacking the aggregates reinforcements and cement, batching plant, transport of concrete, casting the segment, stacking the segment and loading the segments / precast units to the trucks. As far as possible the conflicts should be avoided.
- ii) The batching plant / casting yard shall be barricaded and made as a compulsory PPE zone
- iii) If in case of material unloading area is not maintainable as PPE zone, the same shall be segregated properly and made as a non-PPE zone with appropriate barrications.
- iv) Electrical system shall also be suitably planned so that location of diesel generator, if any, location of DBs, routing of cables and positioning of area lighting poles/masts does not infringe on any other utility and pose danger.
- v) Drainage shall be effectively provided and waste water shall be disposed after proper treatment
- vi) Time office, canteen, drinking water, toilet and rest place shall be suitably located for the easy access to workers. All the facilities shall be properly cleaned and maintained during the entire period of operation.
- vii) Manual handling of cement shall be avoided to a larger extent. Whenever it is absolutely necessary the workmen shall be given full body protection, hand protection and respiratory protection as a basic measure of ensuring better health.
- viii) The PPEs provided to cement handling workmen shall conform to international standards.
- ix) Access roads and internal circulation roads shall be well laid and maintained properly at all time.
- x) Non-adherence to any of the above provision shall be penalised as per relevant penalty clause.

39.0 Personal Protective Equipments (PPEs)

39.1 The contractor 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)**

39.2 **The PPEs and safety appliances provided by the contractor shall be of the standard as prescribed by Bureau of Indian Standards (BIS). If materials conforming to BIS standards are not available, the contractor as approved by the Employer shall procure PPE and safety appliances.**

39.3 **All construction workers should be provided with high visibility jackets with reflective tapes confirming to the requirement specified under BS EN 471: 1994 as most of viaduct /tunnelling and station works are executed either above or under right-of-way. The conspicuity of workmen at all times shall be increased so as to protect them from speeding vehicular traffic.**

39.4 **The contractor shall provide safety helmet, safety shoe and high visibility clothing for all employees 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 Contractor including workmen	Traffic marshals
<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> a) Background in fluorescent orange-red in colour b) Two vertical green strips of 5cm wide on front side, covering the torso at least 500 cm² c) Two diagonal strips of 5 cm wide on back in an 'X' pattern covering at least 570cm² d) Horizontal strips not less than 5cm wide running around the bottom of the vertical strip in front and 'X' pattern at back. e) The bottom strip shall be at a distance of 5cm from the bottom of the vest. f) Strips must be retro reflective and fluorescent 	<ul style="list-style-type: none"> i) Hard hat with reflective tape ii) Safety boots iii) Hi-visibility jacket covering upper body and meeting the following requirements as per BS EN 471:1994 : <ul style="list-style-type: none"> a) Background in fluorescent orange-red in colour b) Jackets with full-length sleeves with two bands of retro reflective material, which shall be placed at the same height on the garment as 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 5cm from the bottom of the sleeve. c) Two vertical green strips of 5cm wide on front side, covering the torso at least 500 cm² d) Two diagonal strips of 5 cm wide on back in an 'X' pattern covering at least 570cm² e) Horizontal strips not less than 5cm wide running around the bottom of the vertical strip in front and 'X' pattern at back. f) The bottom strip shall be at a distance



g) Waistcoat shall have a side adjustable fit and a side and front tear-away feature on vests made of nylon.	of 5cm from the bottom of the vest. g) Strips must be retro reflective and fluorescent.
--	--

39.4.1 **Colour coding for helmets**

Safety Helmet <u>Colour</u> Code (Every Helmet should have the LOGO* affixed /painted)	Person to use
White	JDA staffs
<u>Grey</u>	All Designers, Architect, Consultants, etc.
Violet	Main Contractors (Engineers / Supervisors)
Blue	All Sub-contractors (Engineers / Supervisors)
Red	Electricians (Both Contractor and Sub-contractor)
Green	Safety Professionals (Both Contractor and Sub-contractor)
Orange	Security Guards / Traffic marshals
Yellow	All workmen
White (with "VISITOR" sticker)	Visitors

Deleted: ¶

Note: LOGO*

1. Logo shall have its outer dimension 2"X 2" and shall be conspicuous
2. Logo shall be either painted or affixed
3. No words shall come either on Top / Bottom of Logo

Logo of the corresponding main contracting company for their employees and sub-contracting company for their employees shall only be used.

39.5 In addition to the above any other PPE required for any specific jobs like, welding and cutting, working at height, tunnelling etc shall also be provided to all workmen and also ensure that all workmen use the PPEs properly while on the job.

39.6 **The contractor shall not pay any cash amount in lieu of PPE to the workers/sub-contractors and expect them to buy and use during work.**

39.7 **The contractor shall at all time maintain a minimum of 10% spare PPEs and safety appliances and properly record and show to the Employer during the inspections. Failing to do so shall invite appropriate penalty as per the provisions of the contract.**

39.8 It is always the duty of the contractor to provide required PPEs for all visitors. Towards this required quantity of PPEs shall be kept always at the security post.

40.0 Visitors to site



- 40.1 No visitor is allowed to enter the site without the permission of the Employer. All authorised visitors should report at the site office. Contractor shall provide visitor's helmet (White helmet with visitor sticker) and other PPEs like Safety Shoe, reflective jacket, respiratory protection etc. as per requirement of the site.**
- 40.2 All Visitors shall be accompanied at all times by a responsible member of the site personnel.
- 40.3 The contractor shall be fully responsible for all visitors' safety and health within the site..



PART – III: OCCUPATIONAL HEALTH AND WELFARE

Deleted: ¶

Deleted: ¶

41.0 Physical fitness of workmen

- 41.1 The contractor shall ensure that his employees/workmen subject themselves to such medical examination as required under the law or under the contract provision and keep a record of the same.
- 41.2 The contractor shall not permit any employee/workmen to enter the work area under the influence of alcohol or any drugs.

42.0 Medical Facilities

42.1 Medical Examination

42.1.1 The contractor shall arrange a medical examination of all his employees including his sub-contractor employees employed as drivers, operators of lifting appliances and transport equipment before employing, after illness or injury, if it appears that the illness or injury might have affected his fitness and, thereafter, once in every two years up to the age of 40 and once in a year, thereafter.

- i) **The Contractor** shall maintain the confidential records of medical examination or the physician authorized by the Employer.
- ii) No building or other construction worker is charged for the medical examination and the cost of such examination is borne by contractor employing such building worker.
- iii) The medical examination shall include: -
 - a) Full medical and occupational history.
 - b) Clinical examination with particular reference to
 - i) General Physique;
 - ii) Vision: - Total visual performance using standard orthorator like Titmus Vision Tester should be estimated and suitability for placement ascertained in accordance with the prescribed job standards.
 - iii) Hearing: - Persons with normal must be able to hear a forced whisper at twenty-four feet. Persons using hearing aids must be able to hear a warning shout under noisy working conditions.
 - iv) Breathing: - Peak flow rate using standard peak flow meter and the average peak flow rate determined out of these readings of the test performed. The results recorded at pre-placement medical examination could be used as a standard for the same individual at the same altitude for reference during subsequent examination.
 - v) Upper Limbs: - Adequate arm function and grip
 - vi) Spine: - Adequately flexible for the job concerned.
 - vii) Lower Limbs: - Adequate leg and foot concerned.
 - viii) General: - Mental alertness and stability with good eye, hand and foot coordination.
 - c) **Any other tests which the examining doctor considers necessary**



42.1.2. If the contractor fails to get the medical examination conducted as mentioned above, the employer will have the right to get the same conducted by through an agency with intimation to the contractor and deduct the cost and overhead charges.

42.2 Occupational Health Centre

42.2.1 **The contractor shall ensure at a construction site an occupational health centre, mobile or static is provided and maintained in good order. Services and facilities as per the scale laid down in Schedule X of BOCWR. A construction medical officer appointed in an occupational health centre possess the qualification as laid down in Schedule XI of BOCWR.**

42.3 Ambulance van and room

42.3.1 **The contractor shall ensure at a construction site of a building or other construction work that an ambulance van and room are provided at such construction site or an arrangement is made with a nearby hospital for providing such ambulance van for transportation of serious cases of accident or sickness of workers to hospital promptly and such ambulance van and room are maintained in good repair and is equipped with standard facilities specified in Schedule IV and Schedule V of BOCWR.**

42.4 First-aid boxes

42.4.1 The contractor shall ensure at a construction site one First-aid box for 100 workers provided and maintained for providing First-aid to the building workers. Every First-aid box is distinctly marked "First-aid" and is equipped with the articles specified in Schedule III of BOCWR.

42.5 HIV/ AIDS prevention and control

42.5.1 The contractor shall adopt the Employer's Policy on "HIV / AIDS Prevention and Control for Workmen Engaged by Contractors" and the copy of the policy is given in **Appendix No.: 4.**

42.5.2 The Employer will engage a professional agency for implementing the guidelines laid down in the policy and communicate to the contractor.

42.5.3 The Contractor shall extend necessary support to the appointed agency by deputing the workmen to attend the awareness creation programmes.

42.5.4 The contractor shall also extend necessary organizational support to the appointed agency for the effective implementation of the Employers' workplace policy on HIV/AIDS for workmen of the Contractors.

42.5.5 As laid down in the policy the contractor shall identify peer educators (1 for every 100 workers) and refer them for professional training to the Employers' appointed agency for the purpose.

42.5.6 **The peer educators on completion of the training shall serve as the focal point for any information, education and awareness campaign among the workmen throughout the contract period.**



- 42.5.7 The peer educators will be paid a monthly honorarium as fixed by the Employer for rendering his services in addition to his regular duty.
- 42.5.8 The total number of peer educators (1 for 100 workers) shall always be maintained by the contractor.
- 42.5.9 **In case if these peer educators leave the contractor by creating vacancy, then the contractor at his own expense train the new replacement peer educator from the Employers' appointed agency for the purpose.**
- 42.5.10 It is suggested to the contractor that due care should be taken to select the peer educators from among the group of workmen so that they remain with the contractor throughout the contract period.
- 42.6 Prevention of mosquito breeding
- 42.6.1 Measures shall be taken to prevent breeding at site. The measures to be taken shall include:
- i) Empty cans, oil drums, packing and other receptacles, which may retain water shall be deposited at a central collection point and shall be removed from the site regularly.
 - ii) Still waters shall be treated at least once every week with oil in order to prevent mosquito breeding.
 - iii) Contractor's equipment and other items on the site, which may retain water, shall be stored, covered or treated in such a manner that water could not be retained.
 - iv) Water storage tanks shall be provided.
- 42.6.2 Posters in both Hindi and English, which draw attention to the dangers of permitting mosquito breeding, shall be displayed prominently on the site.
- 42.6.3 **The contractor at periodic interval shall arrange to prevent mosquito breeding by fumigation / spraying of insecticides. Most effective insecticides shall include SOLFAC WP 10 or Baytex, The Ideal Larvicide etc.**
- 42.7 Alcohol and drugs
- 42.7.1 The contractor shall ensure at all times that no employee is working under the influence of alcohol / drugs which are punishable under Govt. regulations.
- 42.7.2 Smoking at public worksites by any employee is also prohibited as per Govt. regulations.
- 43.0 Noise**
- 43.1 The Contractor shall consider noise as an environmental constraint in his design, planning and execution of the Works and provide demonstrable evidence of the same on Employer's request. The Contractor shall, at his own expense, take all appropriate measures to ensure that work carried out by the Contractor and by his sub-Contractors, whether on or off the Site, will not cause any unnecessary or excessive noise which



may disturb the occupants of any nearby dwellings, schools, hospitals, or premises with similar sensitivity to noise.

43.1.1 Without prejudice to the generality of the foregoing, noise level reduction measures shall include the following:

- i) The Contractor shall ensure that all powered mechanical equipment used in the Works shall be effectively sound reduced using the most modern techniques available including but not limited to silencers and mufflers.
- ii) The Contractor shall construct acoustic screens or enclosures around any parts of the Works from which excessive noise may be generated.

43.1.2 The Contractor shall ensure that noise generated by work carried out by the Contractor and his sub-Contractors during daytime and night time shall not exceed the maximum permissible noise limits, whether continuously or intermittently, as given in the project SHE Manual. The same may be varied from time to time by and at the sole discretion of the Employer. In the event of a breach of this requirement, the Contractor shall immediately re-deploy or adjust the relevant equipment or take other appropriate measures to reduce the noise levels and thereafter maintain them at levels which do not exceed the said limits. Such measures may include without limitation the temporary or permanent cessation of use of certain items of equipment.

43.1.3 The noise monitoring requirements including monitoring locations are given in the project SHE Manual.

43.2 Control Requirements

43.2.1 Construction material should be operated and transported in such a manner as not to create unnecessary noise as outlined below:

- i) Perform Work within the procedures outlined herein and comply with applicable codes, regulations, and standards established by the Central and State Government and their agencies.
- ii) Keep noise to the lowest reasonably practicable level. Appropriate measures will be taken to ensure that construction works will not cause any unnecessary or excessive noise, which may disturb the occupants of any nearby dwellings, schools, hospitals, or premises with similar sensitivity to noise. Use equipment with effective noise-suppression devices and employ other noise control measures as to protect the public.
- iii) Schedule and conduct operations in a manner that will minimize, to the greatest extent feasible, the disturbance to the public in areas adjacent to the construction activities and to occupants of buildings in the vicinity of the construction activities.
- iv) The Contractor shall submit to the Employer a Noise Monitoring and Control Plan (NMCP) under contract specific Site Environmental Plan. It shall include full and comprehensive details of all powered mechanical equipment, which he proposes to use during daytime and night time, and of his proposed working methods and noise level reduction measures. The NMCP shall include detailed noise calculations and vibration levels to demonstrate the anticipated noise generation and vibrations by the Contractor.
- v) The NMCP prepared by the Contractor shall guide the implementation of construction activity. The NMCP will be reviewed on a regular basis and updated



as necessary to assure that current construction activities are addressed. It may appear as a regular agenda item in project coordination meetings, if noise is an issue at any location in the contract.

43.3 Occupational Noise

- i) Protection against the effects of occupational noise exposure should be provided when the sound levels exceeds the threshold values as provided in Project SHE Manual.
- ii) When employees are subjected to sound levels exceeding those listed in the Table, feasible administrative or engineering controls should be utilized as given in this document and JDA's Project SHE Manual.
- iii) If such controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.
- iv) When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to different levels for various periods of time shall be computed according to the formula and sample computation as given in project SHE Manual.

43.4 Vibration Level

43.4.1 In locations where the alignment is close to historical / heritage structures, the contractor shall prepare a monitoring scheme prior to construction at such locations. This scheme for monitoring vibration level at such historical / heritage sites shall be submitted to Employer for his approval. This scheme shall include:

- i) Monitoring requirements for vibrations at regular intervals throughout the construction period.
- ii) Pre-construction structural integrity inspections of historic and sensitive structures in project activity.
- iii) Information dissemination about the construction method, probable effects, quality control measures and precautions to be used.
- iv) The vibration level limits at work sites adjacent to the alignment shall conform to the permitted values of peak p velocity as given in article project SHE Manual.

44.0 Ventilation and illumination

44.1 Ventilation

44.1.1 The contractor shall ensure at a construction site of a building or other construction work that all working areas in a free tunnel are provided with ventilation system as approved by the DG/CIIBC and the fresh air supply in such tunnel is not less than $6\text{m}^3/\text{min}$ for each building worker employed underground in such tunnel and the free air flow movement inside such tunnel is not less than $9\text{m}/\text{min}$.

44.1.2 The oxygen level shall not be less than 19.5% in the working environment.



44.2 Illumination

44.2.1 The contractor shall take every effort to illuminate the work site as per the Employer's requirement illustrated in general instruction **JDA/SHE/GI/0011/ILL/281105.**

44.2.2 **The contractor shall conduct a monthly illumination monitoring by lux meter for all the locations and the report shall be sent to the Employer within 7th of the next month and the same shall be reviewed during the monthly SHE committee meeting.**

45.0 Radiation

45.1 The use of radioactive substances and radiating apparatus shall comply with the Govt. regulatory requirements and all subsidiary legislation

45.2 Operations involving ionising radiation shall only be carried out after having been reviewed without objection by the Employer's representative and shall be carried out in accordance with a method statement.

45.3 each area containing irradiated apparatus shall have warning notices and barriers, as required by the Regulations, conspicuously posted at or near the area.

45.4 Radioactive substances will be stored, used or disposed shall be strictly in accordance with the Govt. Enactments.

45.5 The contractor shall ensure that all site personnel and members of the public are not exposed to radiation.

46.0 Welfare measures for workers

46.1 Latrine and Urinal Accommodation

46.1.1 **The contractor shall provide one latrine seat for every 20 workers up to 100 workers and thereafter one for every additional 50 workers. In addition one urinal accommodation shall be provided for every 100 workers.**

46.1.2 **When women are employed, separate latrine and urinals accommodation shall be provided on the same scale as mentioned above.**

46.1.3 **Latrine and urinals shall be provided as per Section 33 of BOCWA and maintained as per Rule 243 of BOCWR and shall also comply with the requirements of public health authorities**

46.1.4 Moving sites

46.1.4.1 In case of works like track laying, the zone of work is constantly moving at elevated level or at underground level. In such cases mobile toilets with proper facility to drain the sullage shall be provided at reasonably accessible distance.



- 46.1.5 **In case if the contractor fail to provide required number of urinals and latrines or fail to maintain it as per the requirements of Public Health laws, the Employer shall have the right to provide/maintain through renowned external agencies like “Sulabh” at the cost of the contractor.**
- 46.2 **Canteen:**
- 46.2.1 **In every workplace wherein not less than 250 workers are ordinarily employed the contractor shall provide an adequate canteen conforming to Section 37 of BOCWA, Rule 244 of BOCWR and as stipulated in Rule 247 of BOCWR the changes for food stuff shall be based on ‘no profit no loss’ basis. The price list of all items shall be conspicuously displayed in such canteen.**
- 46.3 **Serving of tea and snacks at the workplace:**
- 46.3.1 **As per Rule 246 of BOCWR, at a building or other construction work where a workplace is situated at a distance of more than 200 m from the canteen provided under Rule 244(1) of BOCWR, the contractor employing building works shall make suitable arrangement for serving tea and light refreshment to such building works at such place.**
- 46.4 **Drinking water**
- 46.4.1 **As per Section 32 of BOCWA the contractor shall make in every worksite, effective arrangements to provide sufficient supply of wholesome drinking water with minimum quantity of 5 litres per workman per day. Quality of the drinking water shall conform to the requirements of national standards on Public Health.**
- 46.4.2 While locating these drinking water facility due care shall be taken so that these are easily accessible **within a distance of 200m from the place of work** for all workers at all location of work sites.
- 46.4.3 All such points shall be legible marked “Drinking Water” in a language understood by a majority of the workmen employed in such place and such point shall be situated within six metres of any washing places, urinals or latrines.
- 46.5 **Labour Accommodation**
- 46.5.1 **The contractor shall provide free of charges as near as possible, temporary living accommodation to all workers conforming to provisions of Section 34 of BOCWA. These accommodations shall have cooking place, bathing, washing and lavatory facilities**
- 46.6 **Creches**
- 46.6.1 In every workplace where in more than 50 female workers are ordinarily employed, there shall be provided and maintained a suitable room for use of children under age of 6 yrs, conforming to the provisions of Section 35 of BOCWA.



PART - IV: ENVIRONMENTAL MANAGEMENT

- 47.0 Air Quality
- 47.1 The Contractor shall take all necessary precautions to minimise fugitive dust emissions from operations involving excavation, grading, and clearing of land and disposal of waste. He shall not allow emissions of fugitive dust from any transport, handling, construction or storage activity to remain visible in atmosphere beyond the property line of emission source for any prolonged period of time without notification to the Employer.
- 47.2 The Contractor shall use construction equipment designed and equipped to minimise or control air pollution. He shall maintain evidence of such design and equipment and make these available for inspection by Employer.
- 47.3 If after commencement of construction activity, Employer believes that the Contractor's equipment or methods of working are causing unacceptable air pollution impacts then these shall be inspected and remedial proposals shall be drawn up by the Contractor, submitted for review to the Employer and implemented.
- 47.4 In developing these remedial measures, the Contractor shall inspect and review all dust sources that may be contributing to air pollution. Remedial measures include use of additional/ alternative equipment by the Contractor or maintenance/modification of existing equipment of the Contractor.
In the event that approved remedial measures are not being implemented and serious impacts persist, the Employer may direct the Contractor to suspend work until the measures are implemented, as required under the Contract.
- 47.5 Contractor's transport vehicles and other equipment shall conform to emission standards fixed by Statutory Agencies of Government of India or the State Government from time to time. The Contractor shall carry out periodical checks and undertake remedial measures including replacement, if required, so as to operate within permissible norms.
- 47.6 The Contractor shall establish and maintain records of routine maintenance program for internal combustion engine powered vehicles and equipment used on this project. He shall keep records available for inspection by Employer.
- 47.7 The Contractor shall cover loads of dust generating materials like debris and soil being transported from construction sites. All trucks carrying loose material should be covered and loaded with sufficient free-board to avoid spills through the tail board or side boards.
- 47.8 The Contractor shall promptly transport all excavation disposal materials of whatever kind so as not to delay work on the project. Stockpiling of materials will only be allowed at sites designated by the Employer. The Contractor shall place excavation materials in the dumping/disposal areas designated in the plans as given in the specifications.



- 47.9 The temporary dumping areas shall be maintained by the Contractor at all times until the excavate is re-utilised for backfilling or as directed by Employer. Dust control activities shall continue even during any work stoppage.
- 47.10 The Contractor shall place material in a manner that will minimize dust production. Material shall be minimized each day and wetted, to minimize dust production. During dry weather, dust control methods must be used daily especially on windy, dry days to prevent any dust from blowing across the site perimeter.
- 47.11 The Contractor shall water down construction sites as required to suppress dust, during handling of excavation soil or debris or during demolition. The Contractor will make water sprinklers, water supply and water delivering equipment available at any time that it is required for dust control use. Dust screens will be used, as feasible when additional dust control measures are needed specially where the work is near sensitive receptors.
- 47.12 The Contractor shall provide a wash pit or a wheel washing and/or vehicle cleaning facility at the exits from work sites such as construction depots and batching plants. At such facility, high-pressure water jets will be directed at the wheels of vehicles to remove all spoil and dirt.
- 47.13 The Contractor shall design and implement his blasting techniques so as to minimise dust, noise, vibration generation and prevention fly rock.
- 47.14 Blasting technique should be consistent not only with nature and quantity of rock to be blasted but also the location of blasting.
- 47.15 The contractor shall give preference to explosives with better environmental characteristics.
- 47.16 The Contractor shall protect structures, utilities, pavements roads and other facilities from disfiguration and damage as a result of his activities. Where this is not possible, the contractor shall restore the structures, utilities, pavements, roads and other facilities to their original or better, failing which the rectification/restoration work shall be carried out at the risk and cost of the contractor.
- 47.17 The Contractor shall submit to the Employer an Air Monitoring and Control Plan (AMCP) under contract specific Site Environmental Plan to guide construction activity insofar as it relates to monitoring, controlling and mitigating air pollution.

48.0 Water Quality

- 48.1 The Contractor shall comply with the Indian Government legislation and other State regulations in existence in Rajasthan State insofar as they relate to water pollution control and monitoring. A drainage system should be constructed at the commencement of the Works, to drain off all surface water from the work site into suitable drain outlet.
- 48.2 The Contractor shall provide adequate precautions to ensure that no spoil or debris of any kind is pushed, washed, falls or deposited on land adjacent to the site perimeter including public roads or existing stream courses and drains within or adjacent to the site. In the event of any spoil or debris from construction works being deposited or any silt washed down to any area, then all such spoil, debris or material and silt shall be



immediately removed and the affected land and areas restored to their natural state by the Contractor to the satisfaction of the Employer.

- 48.3 Due to lowering of potable water supplies in Rajasthan and subsequent contamination of ground water, the Contractor is not allowed to discharge water from the site without the approval of the Employer. The Contractor must comply with the requirements of the Central Ground Water Board for discharge of water arising from dewatering. Any water obtained from dewatering systems installed in the works must be either re-used for construction purposes and this water may subsequently be discharged to the drainage system or, if not re-used, recharged to the ground water at suitable aquifer levels. The Contractor must submit his proposals for approval of Employer, on his proposed locations of dewatering of excavation and collection of water for either construction re-use or recharge directly to aquifers. The Contractor's recharge proposals must be sufficient for recharging of the quantity of water remaining after deduction of water re-used for construction. During dewatering, the contractor shall monitor ground water levels from wells to ensure that draw down levels do not exceed allowable limits. The Contractor will not be permitted to directly discharge, to the drainage system, unused ground water obtaining from the excavation without obtaining approval of Employer or the Agency controlling the system.
- 48.4 The Contractor shall ensure that earth, bentonite, chemicals and concrete agitator washings etc. are not deposited in the watercourses but are suitably collected and residue disposed off in a manner approved by local authorities.
- 48.5 All water and waste products (surface runoff and wastewater) arising on the site shall be collected and removed from the site via a suitable and properly designed temporary drainage system and disposed off at a location and in a manner that will cause neither pollution nor nuisance.
- 48.6 Any mud slurry from drilling, tunnelling, diaphragm wall construction or grouting etc. shall not be discharged into the drainage system unless treatment is carried out that will remove silt, mud particles, bentonite etc. The Contractor shall provide treatment facilities as necessary to prevent the discharge of contaminated ground water.
- 48.7 The Contractor shall discharge wastewater arising out of site office, canteen or toilet facilities constructed by him into sewers after obtaining prior approval of agency controlling the system. A wastewater drainage system shall be provided to drain wastewater into the sewerage system.
- 48.8 The bentonite mixing, treatment and handling system shall be established by the contractor giving due regard to its environmental impacts. The disposal of redundant bentonite shall be carefully considered whether in bulk or liquid form. The disposal location will be advised and agreed with the relevant authorities.
- 48.9 The Contractor shall take measures to prevent discharge of oil and grease during spillage from reaching drainage system or any water body. Oil removal / interceptors shall be provided to treat oil waste from workshop areas etc.
- 48.10 The Contractor shall apply to the appropriate authority for installing bore wells for water supply at site.

49.0 Archaeological and Historical Preservation



- 49.1 The contractor shall seek to accommodate archaeological and historical preservation concerns that may arise due to the construction of the project especially in close vicinity of such areas where such monuments may be located.
- 49.2 The contractor shall consult the Archaeological Survey of India (ASI) and other parties, on the advise of the Employer, to identify and assess construction effects and seek ways to avoid, minimize or mitigate adverse effects on such monuments.
- 49.3 Adverse effects may include reasonably foreseeable effects caused by the construction that may occur later in time, be farther removed in distance or those that alter, howsoever temporarily, the significance of the structure.

50.0 Landscape and Greenery

- 50.1 As far as is reasonably practicable, the Contractor shall maintain ecological balance by preventing deforestation and defacing of natural landscape. In respect of ecological balance, the Contractor shall observe the following instructions.
- 50.2 The Contractor shall, so conduct his construction operations, as to prevent any avoidable destruction, scarring or defacing of natural surrounding in the vicinity of work.
- 50.3 Where destruction, scarring, damage or defacing may occur as a result of operations relating to Permanent or Temporary works, the same shall be repaired, replanted or otherwise corrected at Contractor's expense. All work areas shall be smoothed and graded in a manner to conform to natural appearance of the landscape as directed by the Employer.
- 50.4 A suggested list of trees/shrubs suitable for planting and landscaping is found in Employer's Project SHE Manual.

51.0 Felling of Trees

- 51.1 The contractor shall identify the number and type of trees that are required to be felled as a result of construction of works and facilities related to JDA Project and inform the Employer.
- 51.2 All trees and shrubbery, which are not specifically required to be cleared or removed for construction purposes, shall be preserved and shall be protected from any damage that may be caused by Contractor's construction operations and equipment. The contractor shall not fell, remove or dispose of any tree or forest produce in any land handed over to him for the construction of works and facilities related to JDA except with the previous permission obtained from the Forest Department.
- 51.3 The Employer shall arrange permission from the forest department for trees to be felled or transplanted. The Employer will permit the removal of trees or shrubs only after prior approval.
- 51.4 Special care shall be exercised where trees or shrubs are exposed to injuries by construction equipment, blasting, excavating, dumping, chemical damage or other



operation and the Contractor shall adequately protect such trees by used of protective barriers or other methods approved by the Employer. Trees shall not be used for anchorage.

52.0 Fly Ash

52.1 The Employer may require the contractor to use fly ash as a percentage substitution of cement, in concrete for certain structures and works.

52.2 In all such uses of Fly Ash, the contractor shall maintain a detailed record of usage of Fly Ash. The contractor shall also collect related details and provide to the Employer.

52.3 The reporting details on consumption of Fly Ash are found in Employer's SHE Manual.

53.0 Waste

53.1 The contractor is required to develop, institute and maintain a Waste Management Programme (WMP) during the construction of the project for his works, which may include: -

- i) Identification of disposal sites.
- ii) Identification of quantities to be excavated and disposed off.
- iii) Identification of split between waste and inert material
- iv) Identification of amounts intended to be stored temporarily on site location of such storage.
- v) Identification of intended transport means and route.
- vi) Obtaining permission, where required, for disposal.

53.2 Such a mechanism is intended to ensure that the designation of areas for the segregation and temporary storage of reusable and recyclable materials are incorporate into the WMP. The WMP should be prepared and submitted to the Engineer for approval.

53.3 The Contractor shall handle waste in a manner that ensures they are held securely without loss or leakage thus minimizing potential for pollution. The Contractor shall maintain and clean waste storage areas regularly.

53.4 The Contractor shall remove waste in a timely manner and disposed off at landfill sites after obtaining approval of Conservancy and Sanitation Engineering Department of Municipal Corporation of Jaipur for its disposal.

53.5 Burning of wastes is prohibited. The Contractor shall not burn debris or vegetation or construction waste on the site but remove it in accordance with 50.1 above.

Deleted: .

53.6 The Contractor shall make arrangement to dispose of metal scrap and other saleable waste to authorized dealer and make available to the Employer on request, records of such sales.

54.0 Hazardous Waste Management



- 54.1 If encountered or generated as a result of Contractor's activity, then waste classified as hazardous under the "Hazardous Wastes (Management & Handling) Rules, 1989, amendments 2000, 2003" shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act.
- 54.2 Chemicals classified as hazardous chemicals under "Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 of Environment (Protection) Act, 1986 shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act.
- 54.3 The contractor shall identify the nature and quantity of hazardous waste generated as a result of his activities and shall file a 'Request for Authorisation' with Jaipur Pollution Control Committee along with a map showing the location of storage area.
- 54.4 Outside the storage area, the contractor shall place a 'display board', which will display quantity and nature of hazardous waste, on date. Hazardous Waste needs to be stored in a secure place
- 54.5 It shall be the responsibility of the contractor to ensure that hazardous wastes are stored, based on the composition, in a manner suitable for handling, storage and transport. The labelling and packaging is required to be easily visible and be able to withstand physical conditions and climatic factors.
- 54.6 The contractor shall approach only Authorised Recyclers of Hazardous Waste for disposal of Hazardous Waste, under intimation to the Employer.
- 54.7 Submittal of all environment related documents and records pertaining to monitoring and trend analysis on key parameters such as but not limited to consumption/efficient use of resources such as energy, water, material such as cement, fly ash, iron and steel, recycle/reuse of waste etc that shall have demonstrated continual improvement in the implementation of Environmental management System. Failure to do so the employer shall impose appropriate penalty as indicated under penalty clause.

55.0 Energy Management

- 55.1 The contractor shall use and maintain equipment so as to conserve energy and shall be able to produce demonstrable evidence of the same upon Employer's request.
- 55.2 Measures to conserve energy include but not limited to the following:
- i) Use of energy efficient motors and pumps
 - ii) Use of energy efficient lighting, which uses energy efficient luminaries
 - iii) Adequate and uniform illumination level at construction sites suitable for the task
 - iv) Proper size and length of cables and wires to match the rating of equipment
 - v) Use of energy efficient air conditioners
- 55.3 The contractor shall design site offices maximum daylight and minimum heat gain. The rooms shall be well insulated to enhance the efficiency of air conditioners and the use of solar films on windows may be used where feasible.



PART - V: PENALTY AND AWARDS

56.0 Charges to be recovered from contractor for unsafe act or condition

56.1 JDA has built an image of safety conscious organisation meticulously over a period of seven years. Any reportable accident (fatality / injury) results in loss of life and/or property damage. These accidents not only result in loss of life but also damage the reputation of JDA. Most of the accidents are avoidable and caused preliminary due to contractors' negligence. Hence JDA shall recover the cost of damages from the contractors for every reportable incident (fatality / injury).

56.2 In addition every JDA work site is exposed to public scrutiny as the work is executed just on the right-of-way. Any unsafe act / unsafe condition observed by public further damages our reputation. Because of the non-voluntary compliance of contractors to the condition of contract on she and project she manual, JDA has been forced to establish safety-enforcing organisation. The cost of established such organisation is to be recovered from contractors for all observed safety violations at sites.

56.3 The following table indicates the Safety, Health and Environment violation (unsafe act / unsafe condition) and charges to be recovered from contractors subject to a maximum limit @ 0.1% of the contract value in addition to all other penalties / compensation./ liquidated damages.

SL. NO.	TOPIC	<u>UNSAFE ACT/UNSAFE CONDITION</u>	<u>DEDUCTIBLE AMOUNT</u>
1.	SHE Policy & Plan	i) SHE policy a) non-compliance of clause 4.1 b) Inadequate coverage, not signed c) Not displayed at prominent locations	Rs.5,000 per single violation, compounded to a maximum of Rs.25,000 at any single instance.
		ii) SHE plan: a) Not as per Employers' content and coverage b) Delay in submission c) Not updated as per employer's instruction as per clause 4.4 d) Copies not provided to all required supervisors / engineers	Rs.1,00,000 per single violation, compounded to a maximum of Rs.2,00,000 at any single instance.
2.	SHE Organisation	i) Not complying to the minimum manpower requirements as mentioned in General Instruction JDA/SHE/001/MPR/281105	i) Rs.50,000 per month for first month and Rs.75,000 for subsequent months
		ii) Not filling up the vacancies created due to SHE personnel leaving the contractor within 14 days.	ii) Rs.25,000 per month for first month and Rs.40,000 for subsequent months



		<ul style="list-style-type: none"> iii) SHE organisation not provided with required Audio-visual and other equipments as per General Instruction DMRS/SHE/012/AVE/281105 iv) Employing through outsourcing agencies and SHE personal are not in the payroll of the main contractor v) Disobedience / Improper conduct of any SHE personnel. vi) Chief SHE Manager not reporting directly to CPM of contractor. 	<p>For items iii), iv), v) and vi) Rs.25,000 for first violation and Rs.35,000 for subsequent violations</p>
3.	SHE committee	<ul style="list-style-type: none"> i) Failed to formulate or conduct SHE Committee meeting for any month ii) Contractor and Sub-contractor representatives not attending SHE Committee meetings iii) Failed to conduct Site inspection before conducting SHE Committee meeting iv) Failed to send SHE Committee Meeting minutes or Agenda to Employer in time v) Non-adherence of clause 7.7.1 vi) Non-adherence of clause 7.9 	<ul style="list-style-type: none"> i) Rs.25,000 for the first violation and Rs.35,000 for the subsequent violations ii) Rs.5,000 to the contractor of the member who had not attended the meeting for first violation and Rs.10,000 for subsequent violations. <p>For item iii), iv), v) and vi) Rs.15,000 for first violation and Rs.25,000 for subsequent violations</p>
4.	ID card	<ul style="list-style-type: none"> i) Non-adherence of clause 8.1, 8.2 and 8.3 	<p>Rs.10,000 for first violation and Rs.15,000 for subsequent violations</p>
5.	SHE Training	<ul style="list-style-type: none"> i) Not complying to the requirements as mentioned in conditions of contract on SHE and project SHE manual with regard to: <ul style="list-style-type: none"> a) Induction training not given b) Supervisor/engineer/manager training not conducted as per clause 9.6 c) Refresher training as per clause 9.7 and 9.11 not conducted d) Tool-box talk not conducted as per clause 9.8 e) Skill development training not conducted as clause 9.9 f) Daily Safety Oath not conducted as per clause 9.10 g) Top management behaviour based SHE training conducted 	<p>For item 1 a) to g) Rs.10,000 for first violation on and Rs.15,000 for subsequent violations</p>
6.	SHE Inspection	<ul style="list-style-type: none"> i) Not complying to the requirements as mentioned in conditions of contract on SHE and project SHE manual as per clause 10.0 	<p>Rs.15,000 for first violation and Rs.25,000 for subsequent violations</p>



		ii) Non compliance of clause 10.3.6	
7.	SHE audit	Internal Audit: MARS i) Not conducted as per SHE Plan ii) Report not sent to Employer iii) Action not taken for any month	For item i) to iii) Rs.20,000 for first violation and Rs.25,000 for subsequent violations.
		External Audit iv) Not conducted as per SHE Plan v) Report not sent to employer vi) Action not taken for any quarter	For item iv) to vi) Rs.1,000 for first violation and Rs.15,000 for subsequent violations.
8.	SHE Communication	i) Important days to be observed for SHE awareness as furnished by employer not observed ii) Posters as furnished by Employer not printed and displayed	i) Rs.10,000 for first violation and Rs.15,000 for subsequent violations ii) 10,000 per contract
9.	SHE Submittals	i) Non compliance of clause 13.1 ii) Non compliance of clause 13.2 iii) Non compliance of clause 13.3	For item i) Rs.10,000 for first violation and Rs.15,000 for subsequent violations
			For item ii) and iii) Rs.15,000 for first violation and Rs.20,000 for subsequent violations
10.	Injury and Incidence reporting	i) Fatal accidents ii) Injury accident iii) Abnormal delay in reporting accidents or will full suppression of information about any accidents / dangerous occurrence as per clause 14.1.4 iv) Delay in informing about any accidents / dangerous incidents. v) Non-compliance of the clause 14.4	i. Rs.1,00,000 for first fatality and Rs.2,00,000 for every subsequent fatality. ii. Rs.25,000 for first grievously injured person and Rs.35,000 for every subsequent grievously injured person (Grievous Injury as defined by Workmen Compensation Act) iii. Rs.75,000 for first violation and Rs.1,00,000 for subsequent violations For items iv) and v) Rs.50,000 for first violation and Rs.1,00,000 for subsequent violations
11.	Emergency preparedness Plan	Non-compliance of the clause 15.1,15.2, 15.3, 15.4, 15.5 and 15.6	Rs.1,00,000 for non- compliance of any of the clauses
12.	Housekeeping	i) Housekeeping maintenance register not properly maintained up to date ii) Surrounding areas of drinking water tanks / taps not hygienically cleaned /	Rs.10,000 per single violation Compounded to a maximum of Rs.1,00,000 at any single instance



		<p>maintained</p> <ul style="list-style-type: none"> iii) Office, stores, toilet / urinals not properly cleaned and maintained. iv) Required dustbins at appropriate places not provided / not cleaned. v) Stairways, gangways, passageways blocked. vi) Lumber with protruding nails left as such vii) Openings unprotected viii) Excavated earth not removed within a reasonable time. ix) Truck carrying excavated earth not covered / tyres not cleaned. x) Vehicles / equipments parked / placed on roads obstructing free flow of traffic xi) Unused surplus cables / steel scraps lying scattered xii) Wooden scraps, empty wooden cable drums lying scattered xiii) Water stagnation leading to mosquito breeding 	
13.	Working at Height / Ladders and Scaffolds	<ul style="list-style-type: none"> i) Not using or anchoring Safety Belt ii) Not using Safety Net iii) Absence of life line or anchorage point to anchor safety belt iv) Non-compliance of clause 18.17 v) Using Bamboo ladders vi) Painting of ladders vii) Improper usage (less than 1m extension above landing point, not maintaining 1:4 ratio) viii) Aluminium ladders without base rubber bush ix) Usage of broken / weak ladders x) Usage of re-bar welded ladders xi) Improper guardrail, toe board, barriers and other means of collective protection xii) Improper working platform xiii) Working at unprotected fragile surface xiv) Working at unprotected edges 	Rs.10,000 per single violation Compounded to a maximum of Rs.15,000 at any single instance
14.	Lifting appliances and gear	<ul style="list-style-type: none"> i) Non availability of fitness certificate as per clause 21.3 ii) Documents not displayed on the machine or not available with the operator as per clause 21.4 iii) Maximum Safe Working Load not 	Rs.10,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance



		<p>written on the machine as per clause 21.5</p> <ul style="list-style-type: none"> iv) Non-compliance of 21.6 v) Non-compliance of 21.7 vi) Automatic safe load indicator not provided or not in working condition as per clause 21.8 vii) Age of the operator less than 21 years or without any license and non-compliance of other item as per clause 21.9 viii) Non-compliance of 21.10 ix) Non-compliance of any of the items mentioned regarding rigging requirements as per clause 21.11 x) Failure to submit method statement in case of all critical lifting xi) Person riding on crane. xii) Creating more noise and smoke xiii) Absence of portable fire extinguisher in driver cabin xiv) Fail to guard hoist platform xv) No fencing of hoist rope movement area xvi) Hoist platform not in the horizontal position 	
15.	Launching operation	Non-adherence of any of the provisions mentioned in clause 22.2	Rs. 50,000 for first violation and Rs.1,00,000 for subsequent violations .
16.	Site Electrical safety	<ul style="list-style-type: none"> i) Non-compliance of clause 26.1.1 ii) Non-compliance of clause 26.2.4, 26.2.5 iii) Non-compliance of clause 26.3.1 iv) Non-compliance of clause 26.7, 26.8 and 26.9.1 v) Non-compliance of clause 26.10 and 26.13 vi) Non-compliance of clause 28.3.2 vii) Exposed electric lines (fermentative damage) and circuits in the workplace. viii) Inserting of bare wires into the socket ix) Improper grounding for the electrical appliances x) Electrical cables running on the ground xi) Non-compliance clause 27.0 	Rs.10,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance
17.	Hand tools and Power tools	<ul style="list-style-type: none"> i) Non-compliance of clause 28.0 	Rs.10,000 per single violation Compounded to a maximum of Rs.1,00,000 at any single instance



18.	Gas Cutting	<ul style="list-style-type: none"> ii) Wrong colour coding of cylinder. iii) Cylinders not stored in upright position. iv) Flash back arrester, non-return valve and regulator not present or not in working condition. v) Fail to put cylinders in a cylinder trolley. vi) Damaged hose. vii) Using domestic LPG cylinders viii) Fail to store cylinder 6.6m away from fire prone materials ix) Fail to use hose clamps x) Fire extinguisher not placed in the vicinity during operation 	<p>Rs.10,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance</p>
19.	Welding	<ul style="list-style-type: none"> i) Voltmeter and Ammeter not working ii) Improper grounding and return path. iii) Damaged welding cable iv) Bare openings in the cable. v) Non-availability of separate switch in the transformer vi) Non-availability of main switch control to switch off power to the welding unit. vii) Usage of reinforcement rod as return conductor viii) Damaged holder ix) Fire extinguisher not placed in the vicinity during operation 	<p>Rs.10,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance</p>
20.	Fire precaution	<ul style="list-style-type: none"> i) Smoking and open flames in fire prone area ii) Using more than 24V portable electrical appliances in the fire prone area iii) Not proper ventilation in cylinder storage area. iv) Absence of fire extinguishers v) Fire extinguishers not refilled once in a year. vi) Fire extinguisher placed in a not easily accessible location 	<p>Rs.5,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance.</p>
21.	Excavation, Tunnelling and confined space	<ul style="list-style-type: none"> i) Non-compliance of clause 34.1.1 ii) Non-compliance of clause 34.2.3 iii) Non-compliance of clause 34.3 	<p>For any item from i) and ii) Rs.10,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance. For item iii) Rs.10,000 per first violation and Rs.50,000 for subsequent</p>



			violations
22.	Work permit system	<ul style="list-style-type: none"> i) Non-compliance of clause 35.2 ii) Non-compliance of clause 21.11.9 	For item I) and ii) Rs.50,000 per first violation and Rs.1,00,000 for subsequent violations
23.	Traffic Management	<ul style="list-style-type: none"> i) Non-compliance of clause 36.4.1 ii) Non-compliance of clause 36.8.3 iii) Non-compliance of clause 36.9.2 iv) Non-compliance of clause 36.9.3 v) Non-compliance of clause 36.9.7 vi) Non-compliance of clause 36.9.8 	Rs.50,000 per first violation and Rs.1,00,000 for subsequent violations
		<p>a) Barricades</p> <ul style="list-style-type: none"> i) Not Cleaned ii) Not in alignment iii) Not numbered iv) Not painted v) Red lights / reflectors not working vi) Damages not repaired vii) Not secured properly viii) Barricade inspector not employed ix) Protruding parts / portions repaired x) Barricades maintaining register not properly maintained up to date 	Rs.25,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance
		<p>b) Contractor Vehicles</p> <ul style="list-style-type: none"> i) Over loading of vehicles ii) Unfit drivers or operators iii) Unlicensed vehicles iv) Absence of traffic marshals v) Absence of reversing alarm vi) Absence of fog light (at winter) vii) Power / hand brakes not in working condition. 	Rs.5000 per single violation Compounded to a maximum of Rs.10,000 at any single instance



		<p>c) Splashing of Bentonite on roads / non-cleaning of tyres of dumpers and transit mixers</p> <p>i) Mishandling of bentonite like splashing of bentonite outside specified width of barricading</p> <p>ii) Non-cleaning of tyres of dumpers and transit mixers before leaving the site and thereby creating a traffic safety hazard to road users.</p>	<p>For item i) and ii)</p> <p>a) Rs.10,000 on first observation.</p> <p>b) Rs. 20,000 on second observation</p> <p>c) Rs. 30,000 on third and subsequent observations</p>
24.	Batching plant / Casting yard	Non-adherence of any of the provisions mentioned in clause 38.0.	Rs. 10,000 for single violation compounded to a maximum of Rs.1,00,000 at any single instant.
25.	PPE	<p>i) Not having</p> <p>ii) Not wearing (or) using and kept it elsewhere</p> <p>iii) Using damaged one</p> <p>iv) Using wrong type</p> <p>v) Using wrong colour helmet or helmet without logo</p> <p>vi) Using for other operation (e.g. Using safety helmet for storing materials or carrying water from one place to other)</p> <p>vii) Not conforming to BIS standard</p> <p>viii) Non-compliance of clause 39.6, 39.7 and 39.8</p>	<p>From item i) to vi).</p> <p>Rs.200 per single violation</p> <p>For item vii)</p> <p>Rs.10,000 for first violation and Rs.50,000 for subsequent violations</p> <p>For item viii)</p> <p>Rs.50,000 for first violation and Rs.1,00,000 for subsequent violations</p>
26.	Occupational Health	<p>i) Fail to conduct Medical examination to workers</p> <p>ii) Absence of ambulance van & room</p> <p>iii) Workers not having ID card</p> <p>iv) Inadequate number of toilets</p> <p>v) Toilets not cleaned properly</p> <p>vi) Absence of water facilities for toilets and washing places</p> <p>vii) Toilet placed more than 500m from the work site</p> <p>viii) Absence of drinking water</p> <p>ix) Absence of first-aid person in work site.</p> <p>x) Absence or inadequacy of first-aid box.</p> <p>xi) Misuse of first-aid box.</p> <p>xii) First-aid box not satisfy the minimum Indian standard.</p> <p>xiii) Smoking inside the construction site</p> <p>xiv) Drink and drive or work</p> <p>xv) Excessive noise and vibration</p>	Rs.10,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance



		<ul style="list-style-type: none"> xvi) Canteen not provided xvii) Food stuff not served on no loss no profit basis xviii) Creche not provided xix) Accommodation not provided as per BOCWA xx) Fumigation / insecticides not sprayed to prevent Mosquito breeding xxi) Non-compliance of clause 44.1 and 44.2 	
27.	Labour Welfare measures	<ul style="list-style-type: none"> i) Non adherence of Labour welfare provisions of BOCWA ii) Fail to register establishment and display the registration certificate at workplace iii) Absence of workers register and records iv) Absence of muster roll and wages register v) Fail to display an abstract of BOCWA and BOCWR 	Rs.10,000 per single violation Compounded to a maximum of Rs.20,000 at any single instance
28.	Environmental Management	<ul style="list-style-type: none"> i) Tyre wash facility not provided ii) Spillage from vehicles not arrest iii) Air monitoring not practiced iv) Noise monitoring not practiced v) The values of air monitoring and noise monitoring not with in acceptable limits vi) Dust control measures at sites not practiced vii) Improper disposal of debris / residues 	Rs.10,000 per single violation Compounded to a maximum of Rs.20,000 at any single instance

56.4 Without limiting to the unsafe acts and or conditions mentioned above in clause 56.3 the Employer shall have the right to deduct charges for any other unsafe act and or condition depending upon the gravity of the situation on a case-to-case basis. The charges shall be in comparison with that of the similar offence indicated in clause 56.3.

57.0 Stoppage of work

57.1 The Employer shall have the right to stop the work at his sole discretion, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and / or property, and / or equipments. In such cases, the contractor shall be informed in writing about the nature of hazards and possible injury / accident.

57.2 The contractor shall not proceed with the work until he has complied with each direction to the satisfaction of Employer



57.3 The Contractor shall not be entitled for any damages / compensation for stoppage of work, due to safety reasons and the period of such stoppage of work shall not be taken as an extension of time for Completion of the Facilities and will not be the ground for waiver of levy of liquidated damages.

58.0 Awards

The following categories will be considered for awards as per the scheme in practice and discretion of Employer

- i) For every safe million man hour working without any reportable incidents
- ii) Zero fatality contracts
- iii) 100% adherence to voluntary reporting of all accidents throughout the currency of contract
- iv) Safest project team of the year.
- v) Best SHE team of the year.
- vi) Safest Contractor of the year.



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

APPENDIX NO.: 1

**Memorandum of Understanding between JAIPUR DEVELOPMENT AUTHORITY (JDA)
and the Contractor for safe execution of contract work**

This Memorandum of Understanding is made and executed by and between JAIPUR DEVELOPMENT AUTHORITY (JDA), or their authorized representative(s), hereinafter referred to as "EMPLOYER" (which expression shall wherever the context so requires or admits be deemed to mean and include its successors in business and assigns) of the one party

AND

M/s _____ having its
registered office at _____

hereinafter referred to as the "CONTRACTOR" (which expression shall wherever the context so requires or admits be deemed to mean and include its successors in business and assigns) of the other party

WITNESSETH THAT

WHEREAS the EMPLOYER gives highest importance to the occupational safety, health and environment during execution of work, seeks cooperation from the CONTRACTOR in this endeavor.

Thus, this Memorandum of Understanding is for promoting the safety, health and environment aspects required to be followed at workplace/site and will be applicable to any site job to be done by the CONTRACTOR

AND

WHEREAS the CONTRACTOR has read all the terms and conditions of the EMPLOYER and whereas the CONTRACTOR has studied the following documents:

- (a) Tender Documents, including Notice Inviting Tender, General Conditions, Special Conditions,
- (b) Conditions of Contract on Safety, Health and Environment and Project Safety, Health and Environment Manual.
- (c) Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996, Central Rules 1998 and subsequent Rajasthan Government Rules 2002, Building and Other Construction Workers Welfare Cess Act 1996 and Rules 1998 and Rajasthan Building and Other Construction Workers' Welfare Board Rules and
- (d) Indian Electricity Act 2003 and Rules 1956.

Construction of Elevated Road from Sodala
tri-Junction to LIC Office near Ambedkar
Circle, Jaipur

**Conditions for Contract for
SHE**





(e) Corresponding International / Bureau of Indian Standard Codes.

The amendments to any of the above rules and any other rules & regulations or procedures, circulars, notices & advices laid down by the EMPLOYER from time to time.

Now it is hereby AGREED AND DECLARED by and between the EMPLOYER and the CONTRACTOR as follows:

- Clause - I The CONTRACTOR shall abide by the terms and conditions stipulated in Condition of Contract on Safety, Health & Environment and Project Safety, Health & Environment Manual.
- Clause - II The CONTRACTOR shall undertake full responsibility for safe execution of job at work place/site and safety of his personnel and adjoining road users during work.
- Clause - III Without giving any prior notice, the EMPLOYER shall from time to time be entitled to add/or amend any or all terms and conditions with a view to improving safety and occupational health of personnel and safety of work, with immediate effect and the same shall be binding on the CONTRACTOR. The contractor agrees to implement all such amendments, which shall be laid down by the EMPLOYER.
- Clause - IV Besides following the guidelines, safety rules and regulations, safety codes given in various safety procedures/documents mentioned above, the CONTRACTOR shall also prepare detailed method statement which includes job safety analysis wherever there are complicated and hazardous/high risk working involved and get it approved from Employer before execution of work.
- Clause - V Any negligence or violation in implementing any of the provision of the conditions of contract on Safety, Health & Environment and JDA project Safety, Health & Environment Manual shall be viewed seriously and the contractor is liable to compensate the employer for the loss of reputation. The cost of damage shall be fixed on case-to-case basis.

In witness thereof the Parties hereto by representatives duly authorised have executed this Memorandum of Understanding on _____ day of _____ 20_____.

Signed on

Signed on

For and on behalf of JDA

For and on behalf of (Contractor)

Signature:

Signature:

Name:

Name:

Title:

Title:



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR.

APPINDIX No. 2.

**Safety, Welfare and Occupational Health requirements as per
BOCW Act 1996 and Rules 1998 and Rajasthan Building and
Other Construction Workers Rules 2009**

(This list has been prepared in chronological order with primary importance to Section of Act and secondary importance to Rules)

S - Refers relevant Sections in BOCWA

R - Refers relevant Rules in BOCWR

C - Refers relevant Chapter No. in BOCWR

Sl. No.	Items	Relevant Sections / Rules in BOCWA and BOCWR and DBOCWR
1.	Registration of establishment	S – 7, R – 23 to 27
2.	Display of registration certification at workplace	R – 26 (5)
3.	Hours of work	S – 28 R – 234 to 237
4.	Register of overtime	S – 28; S – 29 R – 241(1) Form XXII
5.	Weekly rest and payment at rest	R – 235
6.	Night shift	R – 236
7.	Maintenance of workers registers and records	S – 30 R – 238
8.	Notice of commencement and completion	S – 46 R – 239
9.	Register of persons employed as building workers	R – 240
10.	Muster roll and wages register	R – 241(1) (a); Form XVI and XVII
11.	Payment of wages	R – 248
12.	Display of notice of wages regarding	R – 249
13.	Register of damage or loss	R – 241(1)(a); Form XIX, XX, XXI
14.	Issue of wages book	R – 241(2)(a); Form XXIII
15.	Service certificate for each workers	R – 241(2)(b); Form XXIV
16.	Display an abstract of BOCWA and BOCWR	R – 241(5)

Construction of Elevated Road from Sodala
tri-Junction to LIC Office near Ambedkar
Circle, Jaipur

**Conditions for Contract for
SHE**





17.	Annual return	R – 242; Form XXV
18.	Drinking water	S – 32
19.	Latrines and Urinals	S – 33 R - 243
20.	Accommodation	S – 34
21.	Crèches	S – 35
22.	First-aid boxes	S – 36 R – 231 and Schedule III
23.	Canteens	S – 37 R – 244
24.	Food stuff and other items served in the canteens	R – 245
25.	Supply of tea and snacks in work place	R – 246
26.	Food charges on no loss no profit basis	R - 247
27.	Rajasthan BOCW welfare Board Rules	R – 250 to 296
28.	Safety committee	S – 38 R – 208
29.	Safety officer	S – 38 R – 209 and Schedule VII
30.	Reporting of accidents and dangerous occurrences	S – 39 R – 210
31.	Procedure for inquiry in to the causes of accidents	R – 211
32.	Responsibility of employer	S - 44 R – 5
33.	Responsibility of Architects, Project engineer and Designers	R – 6
34.	Responsibility of workmen	R – 8
35.	Responsibility for payment of wages and compensation	S – 45
36.	Penalties and Procedures	S – 47; S – 55
37.	Excessive noise, vibration etc	R – 34
38.	Fire Protection	R – 35
39.	Emergency action plan	R – 36
40.	Fencing of motors	R – 37
41.	Lifting of carrying of excessive weight	R – 38
42.	Health, Safety and Environmental Policy	R – 39
43.	Dangerous and Harmful Environment	R – 40
44.	Overhead protection	R – 41
45.	Slipping, Tripping, Cutting, Drowning and Falling Hazards	R – 42



46.	Dust, Gases, Fumes, etc	R – 43
47.	Corrosive substance	R – 49
48.	Eye Protection	R – 45
49.	Head Protection and other protection apparel	R – 46; R – 54
50.	Electrical Hazards	R – 47
51.	Vehicular traffic	R – 48
52.	Stability of structure	R – 49
53.	Illumination	R – 50; R – 124
54.	Stacking of materials	R – 51
55.	Disposal of debris	R – 52
56.	Numbering and marking of floors	R – 53
57.	Lifting appliances and gears	C – VII; R – 55 to 81
58.	Runways and Ramps	C – VIII; R – 82 to 85
59.	Working on or adjacent to water	C – IX; R – 86 & 87
60.	Transport and earthmoving equipments	C – X; R – 88 to 95
61.	Concrete work	C – XI; R – 96 to 107
62.	Demolition	C – XII; R – 108 to 118
63.	Excavation and Tunnelling works	C – XIII; R – 119 to 168
64.	Ventilation	R – 153
65.	Construction, repair and maintenance of step roof	C – XIV; R – 169 to 171
66.	Ladders and Step ladders	C – XV; R – 172 to 174
67.	Catch platform and hoardings, chutes, safety belts and nets	C – XVI; R – 175 to 180
68.	Structural frame and formworks	C – XVII; R – 181 to 185
69.	Stacking and unstacking	C – XVIII; R – 186 & 187
70.	Scaffold	C – XIX; R – 188 to 205
71.	Cofferdams and Caissons	C – XX; R – 206 to 211
72.	Explosives	C – XXI; R – 212 & 213
73.	Piling	C – XXII; R – 214 to 222
74.	Medical Examination for building and other construction worker, Crane operator and Transport vehicle drivers	R – 81; R – 223(a)(iii) and Schedule XII
75.	Medical examination for occupational health hazards	R – 223(a)(iv)
76.	Charging of workers for Medical Examination	R – 223(b)
77.	Occupational health centres and Medical officers	R – 225 and Schedule X & XI
78.	Ambulance van & room	R – 226 & 227 and Schedule IV & V

79.	Stretchers	R – 228
80.	Occupational health service for building workers	R – 229

Construction of Elevated Road from Sodala
tri-Junction to LIC Office near Ambedkar
Circle, Jaipur

**Conditions for Contract for
SHE**



81.	Medical examination for occupational health hazards	R – 223(a)(iv)
82.	Emergency care services and emergency treatment	R – 232
83.	Panel of experts and agencies	Central Rule 250 Delhi Rule 297
84.	Power of inspectors	Central rule 251 Delhi rule 298



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR.

APPENDIX NO.: 3

SITE SHE PLAN

Contract No	
Contractor Name	
Project Name	

1.	Project Highlights i) Title of the content ii) Contractor Number iii) Brief scope of work iv) Location map/ key plan v) Period of the project
2.	SHE Policy
3.	Site Organisation Chart Chart indicating reporting of SHE personnel
4.	Roles & Responsibility Individual responsibility of the i) Project Manager ii) Construction Manager iii) Construction Supervisors iv) SHE Committee Members v) SHE In charge vi) Site Engineers vii) First Line Supervisors viii) Sub-contractors
5.	SHE Committee i) Details - Chairman, Members, Secretary and Employer's representative, ii) Procedures for effective conduct of meeting
6.	SHE Training
7.	Subcontractor Evaluation, Selection and Control
8.	SHE Inspection
9.	SHE Audit
10.	Accident Investigation And Reporting Procedures
11.	Occupational Health Measures

Construction of Elevated Road from Sodala
tri-Junction to LIC Office near Ambedekar
Circle, Jaipur

**Conditions for Contract for
SHE**





12. Labour Welfare Measures

13.	Risk assessment and mitigation procedures
14.	Safe Work Procedures <ul style="list-style-type: none">i) Work at Heightii) Structural Steel Erectioniii) Launching of segmentsiv) Floor, Wall Openings and Stairwaysv) Welding, Cutting and Bracingvi) Lifting appliancesvii) Work Permit Systemsviii) Electrical Equipmentsix) Mechanical Equipmentsx) Excavationxi) Fire Preventionxii) Hazardous Chemicals and Solventsxiii) Ionising Radiationxiv) Lightingxv) Abrasive Blasting
15.	Work Permit System
16.	List of standard job specific PPEs to be used in the site
17.	Maintenance of Regime for construction Equipment and Machinery
18.	Traffic management
19.	Housekeeping
20.	Environmental Management
21.	Emergency Management
22.	Visitors and Security arrangement



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

APPENDIX NO.: 4

WORKPLACE POLICY ON HIV/AIDS PREVENTION & CONTROL FOR WORKMEN ENGAGED BY CONTRACTORS

“Being mobile in and of itself is not a risk factor for HIV infection. It is the situations encountered and the behaviours possibly engaged in during mobility or migration that increase vulnerability and risk regarding HIV / AIDS.”

UNAIDS, Technical update on ‘Population, Mobility and AIDS’, February 2001, p.5

JAIPUR DEVELOPMENT AUTHORITY (JDA) recognizes HIV / AIDS as a developmental challenge and realizes the need to respond to it by implementing regular HIV / AIDS prevention programmes and creating a non-discriminatory work environment for HIV infected workmen engaged by contractors. For the purpose of making conscientious, sensitive and compassionate decision in addressing the realities of HIV / AIDS, JDA has established these guidelines based on ILO code of practice on HIV / AIDS.

- Creating awareness through professional agency using IEC (Information, Education and Communication) package specially designed for migrant workers.
- Institutional capacity building by training the project implementation team, Safety, Health & Environment (SHE) Managers, establishing linkages for efficient diagnosis and treatment of the affected workers, effective monitoring of implementation and documentation for further learning.
- Establishing peer educators by selecting them in consultation with contractors and training them through professional agencies so that they become focal point for any information, education and awareness campaigns among the workmen throughout the contract period.



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

General Instruction : JDA/SHE/GI/001/MPR/200106

MINIMUM MANPOWER REQUIREMENTS OF SHE ORGANIZATION BASED ON CONTRACT VALUE

	1	2	3	4	5	6
Awarded Contract value (in Cr.)	Chief SHE Manager	Senior SHE Manager	Junior SHE Manager	Safety Steward	Senior SHE (Electrical) Engineer	Junior SHE (Electrical) Engineer
Upto 2	-	-	1	Refer Note 1	-	1
Upto 10	-	1	Refer Note 1		1	Refer Note 2
Upto 25	1	Refer Note 1			1	
Upto 100	1				1	
Upto 250	1				1	
More than 250	1				1	

	7	8	9	10	11	12	13
Awarded Contract value (in Cr.)	*Junior SHE (Fire) Manager / **Senior SHE (Fire) Manager	Occupational Health officer with Necessary Nursing Assistants (Refer Note3)	Environmental Manager	Senior SHE (Traffic) Engineer (Refer Note4)	Barricade Maintenance Squad (Refer Note4)	House Keeping Squad	Labour Welfare Officer
Upto 2	-	-	-	-	Refer Note 5	Refer Note 6	-
Upto 10	-	1 (PT)	1	1			1
Upto 25	1*	1 (PT)	1	1			1
Upto 100	1*	1 (FT)	1	1			1
Upto 250	1**	2(FT)	1	1			1 with support staff
More than 250	2**	2(FT)	1 with support staff	1			1 with support staff

Note 1: Adequate, qualified and trained SHE Professionals with required support staff to be deployed at each worksite at each shift.

Construction of Elevated Road from Sodala
tri-Junction to LIC Office near Ambedekar
Circle, Jaipur

**Conditions for Contract for
SHE**



Note 2: Adequate, qualified and trained Electrical Engineers / supervisors to be deployed at each worksite at each shift.

Note 3: (PT) means Part-Time and (FT) means Full-time.

Note 4: Senior SHE (Traffic) Engineer Post and Barricade Manager (including the staff) Posts are applicable to contracts where the work has to be executed either below or over the right-of-way like Viaduct, Tunnel Contracts wherein erection and maintenance of barricades are paramount important.

Note 5: One Barricade Manager supported by required supervisors and workmen

Note 6: One Housekeeping Manager supported by required supervisors and workmen



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

General Instruction : JDA/SHE/GI/002/QE/281105

MINIMUM QUALIFICATION AND EXPERIENCE FOR (SHE) SAFETY, ELECTRICAL, ENVIRONMENTAL, TRAFFIC ENGG. AND OCCUPATIONAL HEALTH PROFESSIONALS

Sl. No	Designation	Qualification	Experience (in years)
1	Chief SHE Manager	The Chief SHE Manager shall have qualified in any of the following degree/diploma: <ul style="list-style-type: none"> i) Post Graduate Diploma in Industrial Safety & Environmental Management (PGDISEM) from National Institute of Industrial Engineering, Mumbai ii) M.E. in Industrial Safety from NIT, Trichy, Tamil Nadu iii) M.E. in Industrial Safety from Mepco Schlenk Engineering College, Sivakasi, Tamil Nadu iv) B.E. in Fire and Safety Engg. From Cochin University of Science and Engg. Cochin, Kerala v) B.E. with advanced Safety Management Diploma from CLI / RLI Mumbai / Chennai / Kolkata and Kanpur. vi) B.E / B.Arch., with one year <u>Full Time</u> advanced Safety diploma from NICMAR, Hyderabad. vii) B.E / B.Tech with any other equivalent State and Central Govt. recognized full time Degree / Diploma in Safety. viii) International qualifications like CSP (Certified Safety Professional), NEBOSH, MIOSH, MSISO etc. 	2 {for all category except (iv) and 5yrs for category (iv)}
2	Senior SHE Manager	As stated in Sl. No:1 and in addition the following categories: <ul style="list-style-type: none"> i) B.Sc.(Physics/Chemistry/Maths) with one year Full Time advanced Safety diploma from NICMAR, Hyderabad ii) B.Sc. / Diploma in Engg. with advanced Safety Management Diploma from CLI / RLI / Mumbai / Chennai / Kolkata and Kanpur. iii) B.Sc. (Physics/Chemistry/Maths) with One year Full Time diploma in Safety Engineering offered by West Bengal State Technical Education Departments and similar courses by other states. iv) Any Graduate or diploma holder with 7 years of work experience in full fledged SHE department of any Public Sector / Leading Private Sector / MNC / with prior approval of employer on a case to case basis 	2 {for category (i), (ii) and (iii) only}
3	Junior SHE Manager	i) Degree in Science / Diploma in Engineering with Govt. recognized safety diplomas from	2 (for category (i))



		Correspondence course of recognized University, National and State Productivity Councils, Other State Technical Education Boards etc. ii) Any Graduate or diploma holder with 5 years of work experience in full fledged SHE department of any Public Sector / Leading Private Sector / MNC / with prior approval of employer on a case to case basis	only)
4	Safety Steward	Any basic qualification with any SHE related certificate courses.	2
5	Senior SHE (Electrical) Manager	Degree in Electrical Engineering + Govt. recognized Electrical License holder	2
6	Junior SHE (Electrical) Manager	Diploma in Electrical Engineering + Govt. recognized Electrical License holder	1
7	Senior SHE (Fire) Manager	i) B.E. (Fire) from National Fire Service College, Nagpur ii) B.E (Fire & Safety) from Cochin University iii) Graduate with any Govt. recognized diploma in Fire Safety with 5 years of experience	2 (for category (i) and (ii) only)
8	Junior SHE (Fire) Manager	Any Diploma holder with any Govt. recognized diploma in Industrial Fire Safety.	1
9	Occupational Health Officer	MBBS with Govt. recognized degree/diploma in Industrial/ occupational health	1
10	Environment Manager	Govt. recognized PG Degree / PG Diploma / Degree in Environmental Engineering / Science	2
11	Senior SHE (Traffic) Engineer	Govt. recognized PG Degree / Degree / Diploma in Traffic/Transportation Engineering or Planning	1
12.	House Keeping Squad - Manager	Any Diploma in Engineering	1
13	Barricade Manager	Any Diploma in Engineering	1
14	Labour Welfare Officer	Any Degree with Govt. Recognized Degree / Diploma / P G Diploma in Labour Welfare related fields like Law, Personnel / Industrial Relations etc.	2

Note 1: In some extraordinary cases where the candidate had earlier worked in JDA Projects they can be considered for the following posts:

- i) Senior SHE Manager
- ii) Junior SHE Manager
- iii) Safety Steward

depending upon the qualification and no. of years of experience on a case-to-case basis even if they do not possess the prescribed qualification as listed above.

Note 2: In all other cases other than listed under **Note 1** irrespective their earlier experience with JDA projects the candidates shall qualify as specified above.



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

MINIMUM REQUIREMENTS OF SHE MONITORING AND AUDIO-VISUAL EQUIPMENTS

- For the purpose of minimum requirements of Audio-visual and Other equipment the contracts are categorized into the following groups:

Contract Value (Initial awarded value of contract)	Group
Upto 25 Cr	A
Upto 100 Cr	B
Upto 250 Cr	C
More than 250 Cr	D

- Every contractor falling into the above groups shall provide the following minimum required audio visual aids for conducting weekly review, monthly safety committee and other post review meeting of all fatal and major incidences effectively. These audio-visual equipments are a must for conducting periodical in-house safety presentations in the training programmes.
- In addition to the above portable hand held digital sound level meter (SLM) and portable hand held digital lux meter are also to be provided.

Sl. No	SHE monitoring and Audio-Visual Equipment details	SHE monitoring and Audio-Visual equipment required for			
		Group A Contract	Group B Contract	Group C Contract	Group D Contract
1.	Portable hand held Digital Sound Level Meter (SLM)	1	1	1	1
2.	Portable hand held Digital Lux Meter	1	1	1	1
3.	Laptop Computer with standard configuration including multi media Facilities	1	1	1	1
4.	Colour Printer	1	1	1	1
5.	Computer projector with screen	-	1	1	1
6.	Overhead projector	1			
7.	35mm Camera (For taking accident investigation photos in which case the images can not be easily altered)	1	1	1	1



8.	Digital camera with flash of minimum 4 mega pixel and video facility	1	1	1	2
9.	Digital still camera with flash of minimum 4 mega pixel	1	2	4	6
10.	Portable loudspeaker (for tool-box talk and emergency purpose)	1	1	2	6
11.	Communication facility like mobile phone, walky-talky etc	For all supervisors and managers/engineers working in Safety, Health & Environment			
12.	Accident investigation Kit containing the following:	1	1	1	2
a)	Chalk piece for marking				
b)	Measuring tape for measuring <ul style="list-style-type: none"> • Flexible tape – 2m length • Metal Foot long scale and • Metal tape – 30m 				
c)	Equipment tags				
d)	Multipurpose Flash light				
e)	Barrier tape of 20m length				
f)	Accident investigation Forms and checklists				
g)	Enough Paper for witness recording and other noting				
h)	Emergency Phone Numbers list				



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

Topics for First day at work SHE orientation training of Workmen

1. Hazard Identification Procedure

Hazards on site:

- Falls
- Earthing work
- Electricity
- Machinery
- Handling materials
- Transport
- Site housekeeping
- Fire

2. Personal Protective Equipment

- What is available?
- How to obtain it?
- Correct use and care

3. Health

- Site welfare facilities
- Potential health hazards
- First Aid/CPR

4. Duties of the contractor

- Brief outline of the responsibilities of the Contractor by law
- Details of Contractor's accident prevention policy
- JDA's SHE manual
- Building and other Constructions Welfare Law

5. Employee's Duties

- Brief outline of responsibilities of employee under law
- Explanation of how new employees fit into the Contractor's plan for accident prevention. (Induction and orientation).



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

ID Card Format

(85 mm x 55mm)

Front side of ID Card:

JDA's ROB-Sitapura Project	
Company Logo	Name & Address of Main / Sub / Labour contractor
Name: Designation: Blood Group: Valid up to:	Photo
	Authorised Signatory

Backside of ID Card:

Employee Address: _____ _____ _____
1 This card is the property of "XX" (Main / Sub / Labour Contractor) and must be returned on demand and on transfer / cancellation of employment. 2 A charge will be levied for replacement of the card due to loss or theft 3 If found please return it to:
Main contractors' Address



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

SHE Training details for Managers and Supervisors

1. The Law and Safety	2. Policy and Administration
Statutory requirement Appropriate regulations Duties of employer and employee	Effect of incentive on accident prevention Human relations Consultation Safety Officer: duties, aims, objectives
3. Safety and the Supervisor	4. Principles of Accident Prevention
Safety and efficient production go together Accidents affect morale and public relations	Attitudes of management, supervision and operations Methods of achieving safe operations Accident and injury causes
5. Site Inspection	6. Human Behavior
The role of management Hazard Identification Procedure Records results Follow-up procedures Feedback	Motivating agencies Individual behavior Environmental effects Techniques of persuasion
7. Site housekeeping	8. Health
Site organization Relationship of site housekeeping to accident Occurrence Site access Equipment storage Material stacking Materials handling	Medical examination Hazard to health on site Sanitation and welfare Protective clothing First Aid/CPR
9. Personal Protective Equipment	10. Electricity
Eye, face, hands, feet and legs Respiratory protective equipment Protection against ionizing radiation	Appreciation of electrical hazards Power tools Arc welding Low voltage system Lighting and power system on sites ELCB, RRCB, Grounding/Ground fault circuit interrupters (GFCIs)
11. Oxygen and Acetylene Equipment	12. Equipment
Cylinder storage and maintenance Condition and maintenance of valves, regulators, and gauges Condition and maintenance of hoses and fittings Pressures	Accidents related to moving parts of machinery Appreciation of principles of guarding Importance of regular maintenance



13. Transportation	14. Excavations
Transport to and from site Hazard connected with site transport Competent drivers Dumpers Tipping trucks Movement near excavations	Method of shoring Precautions while shoring Precautions at edge of excavations Removal of shoring Sheet steel piling
15. Working platforms, Ladders, and Scaffolding	16. Cranes and other Lifting Machines
Hazards connected with the use of ladders Maintenance and inspection Type of scaffold Overloading Work on roofs Fragile material Openings in walls and floors Use of safety belts and nets	Licensing, certification and training required for operation of cranes Slings methods Signaling Access to crane(s) Maintenance and examination Ground conditions Hazards and accident prevention methods connected with the use of different types of cranes/heavy equipment Crane Lift Plan for all lifts
17. Lifting Tackle	18. Fire Prevention and Control
Slings - single and multi-legged Safe working loads (SWLs) Safety hooks and eyebolts Cause of failure Maintenance and examination	Principle causes determining fire Understanding fire chemistry Fire fighting equipment Fire fighting training
19. Communications	20. Manual Handling
Effective methods of communication (particular interest to non-English speaking workers) Method and preparation of reports Safety committees Safety meeting	Body posture and procedure for lifting, pushing, pulling, dragging, sitting and walking Ergonomics Stretching exercises



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

DAYS TO BE OBSERVED FOR CREATING SHE AWARENESS

1 st Monday to Sunday of January	Road Safety Week (Subjected to confirmation from Ministry of Road Transport, Govt. of India every year.)
16 th February	Kyoto Protocol Day
March	Red Cross Month
4 th March	National Safety Day
7 th April	World Health Day
14 th April	Fire Safety Day
April 18 to 22	Earth Week
20 th April	Earth Day
20 th April	Noise Awareness Day
28 th April	ILO World Day for Safety and Health at Work
May 1 to 7	Emergency Preparedness Week
5 th June	World Environmental Day
12 th June	World Day against Child Labours
9 th July	Occupational Health Day
17 th October	World Trauma Day
1 st December	World AIDS Day



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

Minimum Requirements of SHE Communication Posters / Signages / Video

1. For the purpose of Minimum requirements of SHE Communication Posters / Signages / Video the contracts are categorized into the following groups:

Contract Value (Initial awarded value of contract)	Group
Upto 25 Cr	A
Upto 100 Cr	B
Upto 250 Cr	C
More than 250 Cr	D

2. Every contractor falling into the above groups shall prepare a SHE Communication Plan as a part of site specific SHE Plan and shall include the following minimum requirement of Posters / Signages / Video as applicable. In case readymade posters are available in any of the category from National Safety Council, Loss Prevention Association of India or any other safety related organisations they may procure the same and display it. In case the same is not available then the contractors' shall make necessary arrangements to get the posters designed and printed on their own.

All the above are to be detailed in the Site SHE Plan and get an approval from the Employer before displaying the posters.

Table No.: 1 - Minimum No. of Posters

SI.No	SHE Poster Title	Minimum No. of concepts in each title	No. of Posters / Signage / Video			
			Group A Contract	Group B Contract	Group C Contract	Group D Contract
1.	Safety Culture	5	Each 10	Each 50	Each 75	Each 100
2.	Daily Safety Oath	1 English & 1 Hindi	Each 100	Each 200	Each 500	Each 1000
3.	Mandatory PPE Usage					
a)	Signages to display the messages like PPE ZONE, NO PPE ZONE, HARD HAT AREA etc.	2 types of sizes made up of metal sheet to be mounted at different locations.	Each 25	Each 50	Each 75	Each 200



b)	Helmet	5	Each 25	Each 50	Each 75	Each 200
c)	Shoe	5	Each 25	Each 50	Each 75	Each 200
d)	Goggles & Ear Protection	5	Each 25	Each 50	Each 75	Each 200
e)	Full Body Harness	5	Each 25	Each 50	Each 75	Each 200
f)	Hi-Vi Jacket	5	Each 25	Each 50	Each 75	Each 200
4.	Emergency Management Plan	5	Each 25	Each 50	Each 75	Each 200
5.	Working at Heights	10	Each 25	Each 50	Each 75	Each 200
a)	Ladder, Stairway, Scaffold - Signages to display the messages like SAFE, UNSAFE, FIT FOR USE, AVOID USE etc.	5 types of sizes made up of metal sheet to be mounted at different locations	Each 25	Each 50	Each 75	Each 200
6.	Site Electricity	5	Each 25	Each 50	Each 75	Each 200
7.	Fire and Explosion	5	Each 25	Each 50	Each 75	Each 200
8.	Crane Safety	5	Each 25	Each 50	Each 75	Each 200
9.	Slings	5	Each 25	Each 50	Each 75	Each 200
10.	Rigging Procedures	5	Each 25	Each 50	Each 75	Each 200
11.	Excavation	5	Each 25	Each 50	Each 75	Each 200
12.	Occupational Health (Mosquito Control, HIV/AIDS awareness, Dust Control, Noise Control, No Smoking/Spitting, etc.)	10	Each 25	Each 50	Each 75	Each 200
13.	First – Aid	3	Each 25	Each 50	Each 75	Each 200
14.	Labour Welfare Measures (Payment of Minimum Wages, Avoidance of Child labour, Signing in the Muster Roll, In case of accidents-what to do? etc	5	Each 25	Each 50	Each 75	Each 200
15.	Importance of “Safety Handbook”	1	25	50	75	200
16.	Traffic Safety (Speed limit, safe crossing and working within barricaded area etc.)	5	Each 25	Each 50	Each 75	Each 200
17.	Environmental Monitoring (Spillage of Muck, hazardous material,	5	Each 25	Each 50	Each 75	Each 200



	Improper drainage, water spray for dust containment etc.)					
--	---	--	--	--	--	--

18.	Video in Hindi on PPE usage – 15 minutes duration	1	-	-	-	1
-----	---	---	---	---	---	---

Note 1: Items mentioned under 17 is **video**. Items under 3 (a) and 5 (a) are **metal signage boards** and all other items are **posters**.

Table No.: 2 – Size of Posters / Signages

Sl.No	Item	Size
1.	Posters – Standard	17"x22" –135 GSM 4 Colour Printing
2.	Posters – Special (Wherever required)	17"x22" card laminated FA Poster
3.	Posters - Mega size (Wherever required)	32"x40" Flex FA Poster
4.	First-Aid Booklet	6"x4"
5.	Safety Handbook	6"x4"
6.	Signages	Small : 12"x6" Big : 24"x12"
7.	Road Traffic Sign Boards	Strictly as per Indian Road Congress (IRC) specifications

Table No.: 3 – Safety Signage Colour (as per IS 9457)

Sl.No	Type of signage	Colour
1	Mandatory	Blue
2	Danger	Yellow
3	Prohibit	Red
4	Safe conditions	Green



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR
General Instruction : JDA/SHE/GI/010/AE/281105

Experts / Agencies for SHE Services

Sl. No.	Organisation	Services
1.	Bureau Veritas Industrial Services (India) Pvt. Ltd., B-21 & 22, First Floor, Sector-16, NOIDA-201 301 (U.P.) Phone: 0120 - 2515055 Fax: 0120 - 2515248 E-mail: enp.delhi@in.bureauveritas.com	<ul style="list-style-type: none">External SHE AuditSHE Management / Technical Training
2.	Central Labour Institute Post box no: 17851, N.S.Monkikar Marg Sion , Mumbai- 400 022 Tel.: 022- 4092203 Fax: 022 – 4071986 E-mail: cli@dglasli.nic.in	<ul style="list-style-type: none">SHE Management / Technical Training
3.	Construction Industry Development Council 801, 8 th Floor, Hemkunt Chambers, 89, Nehru Place, New Delhi – 110 019 E-mail: cidc@vsnl.com	<ul style="list-style-type: none">SHE Management / Technical Training
4.	Delhi Productivity Council 1E/10, Swami Ramtirath Nagar New Delhi – 110 055 Tel.: 23522835	<ul style="list-style-type: none">SHE Management / Technical Training
5.	Det Norske Veritas AS, 203, Savitri Sadan 1, 11 Preet Vihar Community Centre, New Delhi-110 092 Phone: 011-22531502/2253/1503, 22427688/22531278 Fax: 011-2253 0247 Website: www.dnv.com	<ul style="list-style-type: none">External SHE AuditSHE Management / Technical Training
6.	Dr. A. V. Baliga Memorial trust Link House, Bagadur Shah Zafar Marg Press Area	<ul style="list-style-type: none">HIV / AIDS awareness



	New Delhi – 110 002 Phone: 011 – 23311119	
7.	Dr. Cris Research Centre For Occupational Health & Safety 306, Guru Arjuna Dev Bhawan, Ranjit Nagar Complex, New Delhi – 110 008 Phone: 9810040406 Fax: 011 – 25702929 E-mail: team@drcris.com Website: www.drcris.com	<ul style="list-style-type: none"> • Ambulance Room & Van • Communication Materials • First-aid box • First-aid Training • HIV / AIDS awareness • ID Card • Medical Facilities • SHE Orientation Training
8.	DuPont Safety Resources, E.I. DuPont India Private Limited, Arihant Nitco Park 6 th Floor, 90, Dr. Radhakrishnan Salai, Mylapore, Chennai-600 004 Phone: 044-2847 2800, 2847 3752 Fax: 044-2847 3800 Mobile: 9381201040 Website: in.dupont.com	<ul style="list-style-type: none"> • SHE Management Training
9.	EQMS INDIA PVT. LTD. 304 & 305, 3rd Floor, Rishabh Towers, Plot No. 16, Community Centre, Karkardooma, Delhi - 110092. Phone: 011 - 22374729 / 22374775 Fax: 011- 22374662 E-mail: eqms@eqmsindia.org Website: www.eqmsindia.com	<ul style="list-style-type: none"> • ISO Certification • SHE Management / Technical Training
10.	Green Cross Consultants 59, 7 th Cross, 1 st Floor, Jai Bharath Nagar, Banglore-560 033 Phone: 080-2549 6782 E-mail: etgrangan@yahoo.com	<ul style="list-style-type: none"> • SHE Management / Technical Training
11.	HSRTC, PENTASAFE, 201, 2 nd Floor, Town Centre, Andheri Kurla Road, Marol, Andheri (East), Mumbai-400 059 Phone: 022-2850 2210/20/50 Fax: 022-2850 2260 E-mail: training@penta-safe.com	<ul style="list-style-type: none"> • SHE Practical Field Training for Height Safety
12.	Institute of Driving Training & Research, Wazirabad Road, Adjoining Loni Road flyover.	<ul style="list-style-type: none"> • SHE Technical Training for Vehicle Drivers.



13.	Institute for Research, Development & Training of Construction Trades & Management, An Educational Institute, Society and Trust, 1 st Floor, UVCE Alumni Association Building, K.R. Circle, Bangalore-560 001 Phone: 080-22294291/22243257 Fax: 080-22243257 E-mail: ubrco@vsnl.com Website: www.instructindia.org	<ul style="list-style-type: none"> • SHE Technical /Field Training
14.	International Engineering Company K – 10, South Extension, Part – 2, New Delhi – 110 049 Phone: 011 – 26254761, 26258130 Mobile: 9312260130 E-mail: ashok@intenco.net	<ul style="list-style-type: none"> • Crane and Lifting appliances and Gears Certification • SHE Practical Field Training for Crane Safety
15.	L & T Eutectic 32, Sivaji Marg, New Delhi – 110 015 Phone: 011 - 51419538, 51419539 Fax: 011 - 51419600 Website: www.Inteutecticwelding.com	<ul style="list-style-type: none"> • SHE Practical Field Training for Welding Safety
16.	Loss Prevention Association of India Ltd. Warden House, Sir P.M. Road, Mumbai – 400 001 Website: www.lpaindia.org	<ul style="list-style-type: none"> • SHE Management / Technical Training
17.	MFA Crucial Moments Healthcare Pvt. Ltd., 42, Okhla Industrial Estate, Phase – II New Delhi – 110 020 Phone: 011 – 55624000 Fax: 011 – 55624010 E-mail: contact@crucialmoments.net	<ul style="list-style-type: none"> • First-aid Training
18.	Modicare Foundation 4 Community Centre, New Friends Colony, New Delhi – 110 065 Phone: 011 – 5167235059 Fax: 011 – 26915469 E-mail: nivedita@modi.com nivedita@gmavil.com Website: www.modicarefoundation.org	<ul style="list-style-type: none"> • HIV / AIDS awareness



19.	National Safety Council HQ and Institute Building 98A, Sector 15, industrial Area C.B.D Belapur, Navi Mumbai – 400614 Phone: 27579924	<ul style="list-style-type: none"> • SHE Management / Technical Training
20.	NICMAR (National Institute of Construction Management and Research) 910,9 th Floor, Hemkunt Chambers, 89, Nehru Place, New Delhi – 110 019 Phone: 011 – 51618415, 51618417, 51618418 Fax: 011 – 51618416	<ul style="list-style-type: none"> • SHE Management / Technical Training
21.	Quality Growth Services Pvt. Ltd. H-13, Kirti Nagar, New Delhi – 110 015 Fax: 011 – 25431737 / 25438598 / 25918332 E-mail: qgs@qgspl.com Website: www.qgspl.com	<ul style="list-style-type: none"> • ISO Certification
22.	Safety Engineers Association / Safety Educational Trust – India 2/257, First Floor, Dr. Ambedkar Nagar, Manapakkam, Chennai – 600 116 Phone: 044 – 22523461 E-mail: safetrustindia@rediffmail.com	<ul style="list-style-type: none"> • SHE Management / Technical Training
23.	SHE Management Consultancy & Support Services, 145 A, Pocket-VI, (DDA Flats), Kondli Gharoli, Mayur Vihar-II, Delhi-110 096 Fax: 011-2262 5015 Mobile: 9811153873 E-mail: r_k_p@vsnl.net	<ul style="list-style-type: none"> • SHE Management / Technical Training
24.	St. Johns' Ambulance Red Cross Road New Delhi – 110 001	<ul style="list-style-type: none"> • First-aid Training
25.	Vexil Business Process Services Pvt. Ltd. 208, A/4, Savitri Nagar, New Delhi – 110 017 Mobile: 9350232714, 98102832201, 9350232716 E-mail: info@vexilbps.com Website: www.vexilbps.com	<ul style="list-style-type: none"> • Emergency Preparedness Mock drill • SHE Management / Technical Training
26.	Welding Research Institute Bharat Heavy Electricals Ltd. (BHEL) Trichirappalli,	<ul style="list-style-type: none"> • SHE Practical Field Training for Welding Safety



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

Minimum Lighting Requirements

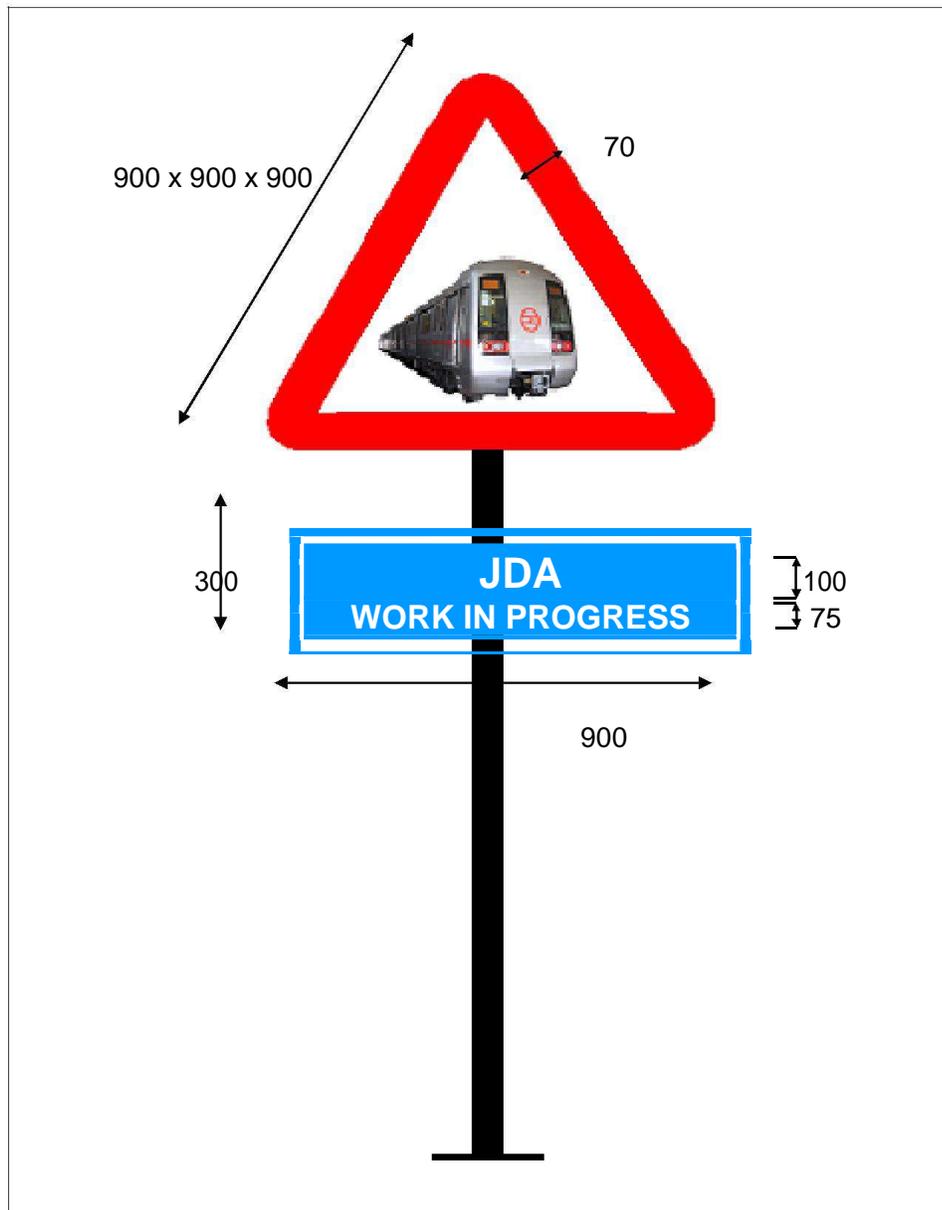
Sl. No.	Facility or Function	Luminance – lx (lm/ft ²)
1.	Administrative areas (offices, drafting and meeting rooms, etc.)	540 (50)
2.	Construction areas - general indoor - general outdoor -tunnel and general underground work areas (minimum 110 lux required at tunnel and shaft heading during drilling, mucking and scaling)	55 (5) 33 (3) 55 (5)
3.	Access ways - exit ways, walkways, ladders, stairs	110 (10)
4.	Maintenance / Operating areas / shops - vehicle maintenance shop - carpentry shop -outdoors field maintenance area - refueling area, outdoors -shops, fine details work -shops, medium detail work - welding shop	325 (30) 110 (10) 55 (5) 55 (5) 540 (50) 325 (30) 325 (30)
5.	Mechanical/electrical equipment rooms	110 (10)
6.	Hoists, Elevators, freight and passenger	215 (20)
7.	Warehouses and storage rooms/area -indoor stockroom, active/bulk storage - indoor rack storage - outdoor storage	110 (10) 270 (25) 33 (3)
8.	Health Centers and First aid stations and infirmaries	325 (30)
9.	Toilets, wash and dressing rooms	110 (10)
10.	Work areas – general (not listed above)	325 (30)
11.	Parking areas	33 (3)
12.	Visitor areas	215 (20)
13.	Laboratories	540 (50)



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

General Instruction : JDA/SHE/GI/012/WTS/281105

Warning Traffic Sign



All dimensions are in "mm"



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

FORM No. : SF/001

FORMATION OF SITE SHE COMMITTEE	
Contract No	
Contractor Name	
Contract Title	

<u>CIRCULAR</u>					
<p><u>Committee</u></p> <p>The following SHE Committee is constituted with immediate effect:</p> <p>Chairman:</p> <p>Members:</p> <ol style="list-style-type: none">1)2)3)4)5) <p>Secretary:</p>					
<p><u>Periodicity</u></p> <p>The committee will meet at least once in a month on the day (specify date)</p>					
<p><u>Agenda</u></p> <p>Secretary will circulate agenda of the meeting at least two days in advance of the schedule date of the meeting.</p>					
<p><u>Circulation</u></p> <p>Gist of the meeting will be minutes in the standard format and circulated to the following under the signature of the secretary.</p> <table><tbody><tr><td>1. Chairman</td><td>3. JDA Representatives</td></tr><tr><td>2. Members</td><td>4. Others concerned</td></tr></tbody></table>		1. Chairman	3. JDA Representatives	2. Members	4. Others concerned
1. Chairman	3. JDA Representatives				
2. Members	4. Others concerned				
Date:	Signed By: ----- CHAIRMAN				

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR



FORM No. : SF/002

MINUTES OF SHE COMMITTEE MEETING			
Contract No.			
Contractor Name			
Contract Title			
Meeting No.		Date of Meeting	
Location of Meeting			

MEMBERS PRESENT	INVITEES	MEMBERS ABSENT

REPORT SENT TO					
No. of Copies	Name / Dept.	No. of Copies	Name / Dept.	No. of Copies	Name / Dept.
Prepared by:		Location:		Date:	

MINUTES OF SHE MEETING				
Item No.	Description of Discussion	Action By	Target	Remarks



-
- 1 Complaints received from Clients and corrective and preventive action

 - 2 Review of MOM of previous meeting

 - 3 NCR's / Observation from third party

 - 4 First - Aid cases / Reportable accident cases

 - 5 Future jobs and specific requirement

 - 6 Status of implementation of Safety plan

 - 7 Sub-contractor performance

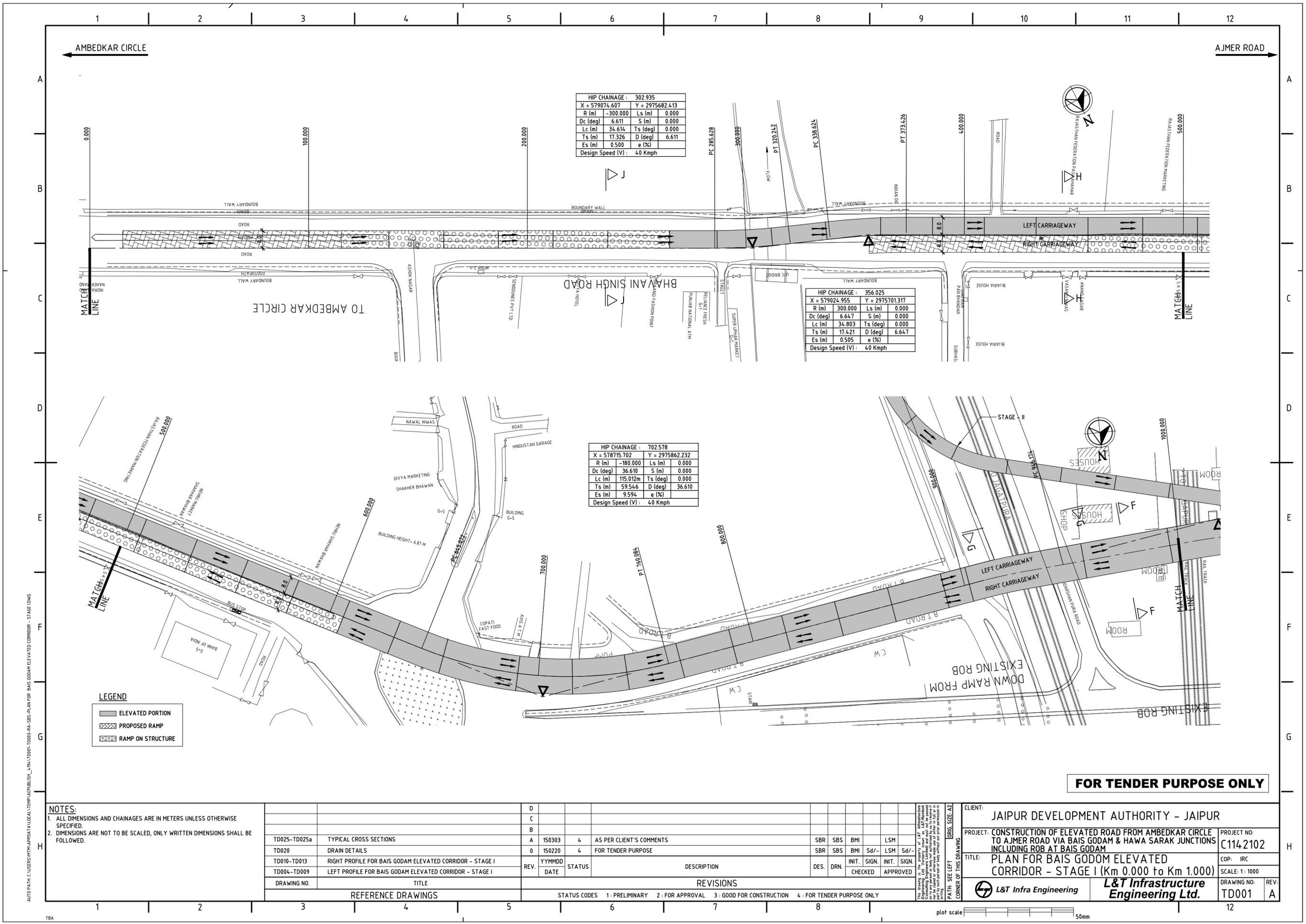
 - 8 Analysis of first-aid cases

 - 9 Need for any specific system / training / PPE's / resources

 - 10 Observation of SHE committee during last walk down

Next SHE Meeting is scheduled on:

Date:	Chief SHE Manager (Signature & Name)
Date:	Project Manager (Signature & Name)



HIP CHAINAGE : 302.935

X = 579074.607	Y = 2975682.413
R (m) -300.000	Ls (m) 0.000
Dc (deg) 6.611	S (m) 0.000
Lc (m) 34.614	Ts (deg) 0.000
Ts (m) 17.326	D (deg) 6.611
Es (m) 0.500	e (%)
Design Speed (V) : 40 Kmph	

HIP CHAINAGE : 356.025

X = 579024.955	Y = 2975701.317
R (m) 300.000	Ls (m) 0.000
Dc (deg) 6.647	S (m) 0.000
Lc (m) 34.803	Ts (deg) 0.000
Ts (m) 17.421	D (deg) 6.647
Es (m) 0.505	e (%)
Design Speed (V) : 40 Kmph	

HIP CHAINAGE : 702.578

X = 578715.702	Y = 2975862.232
R (m) -180.000	Ls (m) 0.000
Dc (deg) 36.610	S (m) 0.000
Lc (m) 115.012m	Ts (deg) 0.000
Ts (m) 59.546	D (deg) 36.610
Es (m) 9.594	e (%)
Design Speed (V) : 40 Kmph	

LEGEND

- ELEVATED PORTION
- PROPOSED RAMP
- RAMP ON STRUCTURE

FOR TENDER PURPOSE ONLY

- NOTES:**
- ALL DIMENSIONS AND CHAINAGES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.

DRAWING NO.	TITLE	REV.	DATE	STATUS	DESCRIPTION	DES.	DRN.	INIT.	SIGN.	INIT.	SIGN.
TD025-TD025a	TYPICAL CROSS SECTIONS	A	150303	4	AS PER CLIENT'S COMMENTS	SBR	SBS	BMI	LSM		
TD020	DRAIN DETAILS	0	150220	4	FOR TENDER PURPOSE	SBR	SBS	BMI	Sd/-	LSM	Sd/-
TD010-TD013	RIGHT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I		YYMMDD								
TD004-TD009	LEFT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I		YYMMDD								

REVISIONS

STATUS CODES	1: PRELIMINARY	2: FOR APPROVAL	3: GOOD FOR CONSTRUCTION	4: FOR TENDER PURPOSE ONLY
--------------	----------------	-----------------	--------------------------	----------------------------

CLIENT: JAIPUR DEVELOPMENT AUTHORITY - JAIPUR

PROJECT: CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM

PROJECT NO: C1142102

COP: IRC

SCALE: 1: 1000

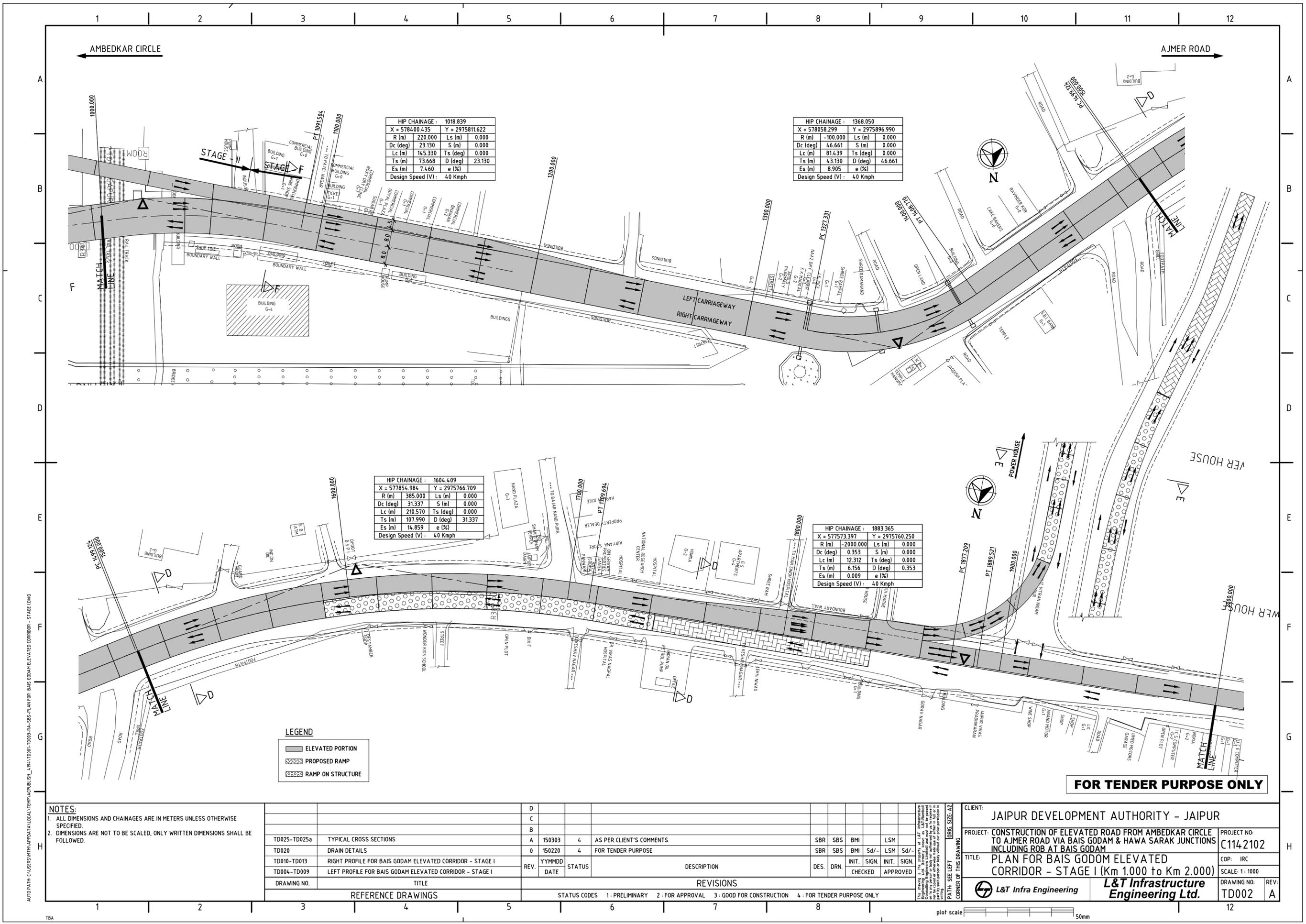
TITLE: PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I (Km 0.000 to Km 1.000)

DRAWING NO: TD001

REV: A

L&T Infra Engineering

L&T Infrastructure Engineering Ltd.



FOR TENDER PURPOSE ONLY

- NOTES:**
- ALL DIMENSIONS AND CHAINAGES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - DIMENSIONS ARE NOT TO BE SCALED. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.

DRAWING NO.	TITLE	DATE	STATUS	DESCRIPTION	DES.	DRN.	INIT.	SIGN.	INIT.	SIGN.
TD025-TD025a	TYPICAL CROSS SECTIONS	150303	4	AS PER CLIENT'S COMMENTS	SBR	SBS	BMI	LSM		
TD020	DRAIN DETAILS	150220	4	FOR TENDER PURPOSE	SBR	SBS	BMI	Sd/-	LSM	Sd/-
TD010-TD013	RIGHT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I	YYMMDD								
TD004-TD009	LEFT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I	YYMMDD								

REFERENCE DRAWINGS		STATUS CODES			
D	C	1: PRELIMINARY	2: FOR APPROVAL	3: GOOD FOR CONSTRUCTION	4: FOR TENDER PURPOSE ONLY

CLIENT: JAIPUR DEVELOPMENT AUTHORITY - JAIPUR

PROJECT: CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM

TITLE: PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I (Km 1.000 to Km 2.000)

PROJECT NO: C1142102

COP: IRC

SCALE: 1: 1000

DRAWING NO: TD002

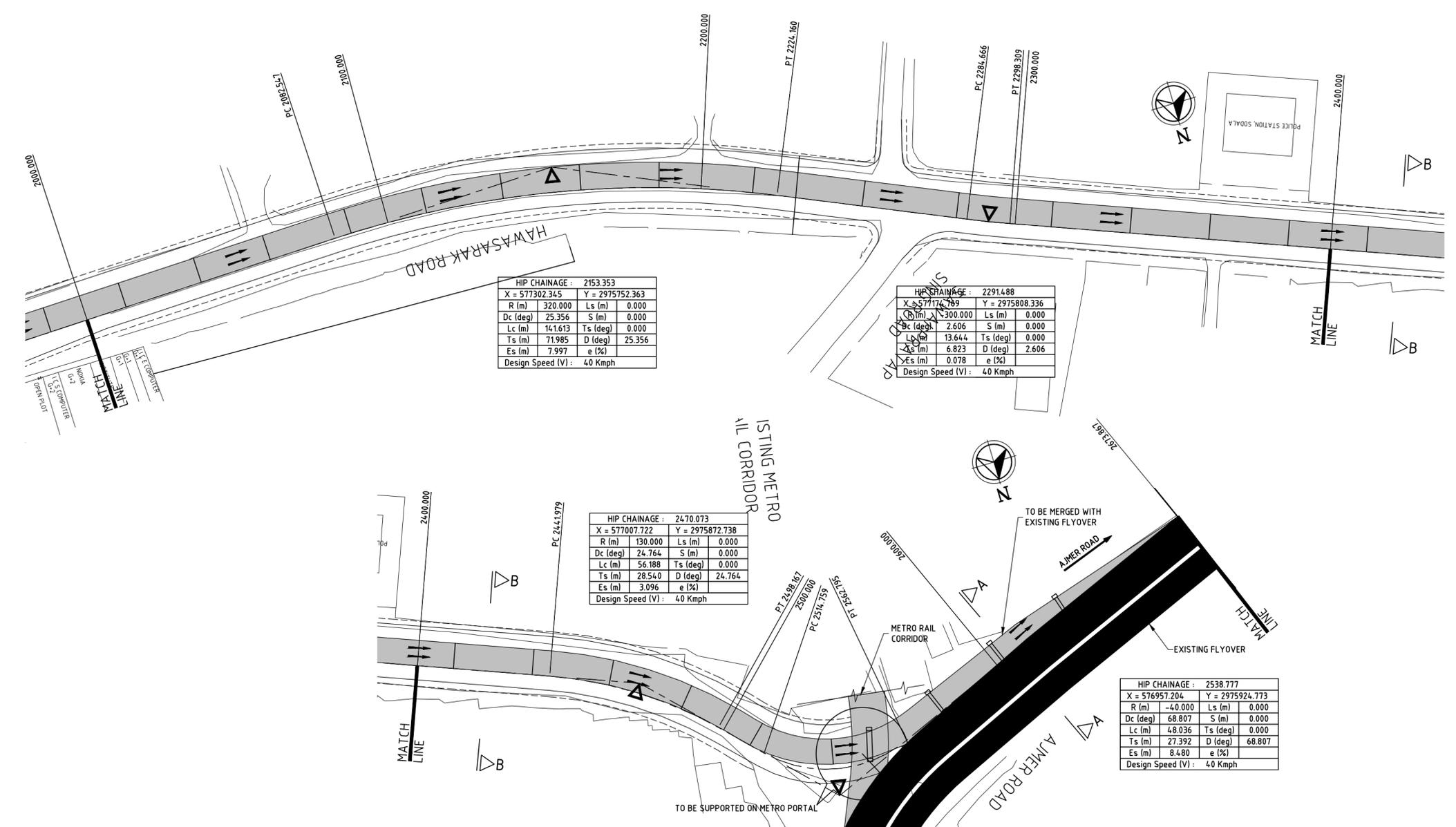
REV: A

L&T Infra Engineering

L&T Infrastructure Engineering Ltd.

1 2 3 4 5 6 7 8 9 10 11 12

A ← AMBEDKAR CIRCLE → AJMER ROAD → A



LEGEND

	ELEVATED PORTION
	PROPOSED RAMP
	RAMP ON STRUCTURE

FOR TENDER PURPOSE ONLY

NOTES:
 1. ALL DIMENSIONS AND CHAINAGES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.

DRAWING NO.	TITLE	REV.	DATE	STATUS	DESCRIPTION	DES.	DRN.	INIT.	SIGN.	INIT.	SIGN.
TD025-TD025a	TYPICAL CROSS SECTIONS	A	150303	4	AS PER CLIENT'S COMMENTS	SBR	SBS	BMI	LSM		
TD020	DRAIN DETAILS	0	150220	4	FOR TENDER PURPOSE	SBR	SBS	BMI	Sd/-	LSM	Sd/-
TD010-TD013	RIGHT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I	REV.	YYMMDD					CHECKED		APPROVED	
TD004-TD009	LEFT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I										

REFERENCE DRAWINGS	STATUS CODES
	1: PRELIMINARY 2: FOR APPROVAL 3: GOOD FOR CONSTRUCTION 4: FOR TENDER PURPOSE ONLY

This drawing is the property of L&T Infrastructure Engineering Ltd. It is to be used only for the project mentioned herein. It is to be returned to the office of origin immediately upon completion of the project. It is not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of L&T Infrastructure Engineering Ltd.

CLIENT:	JAIPUR DEVELOPMENT AUTHORITY - JAIPUR	
PROJECT:	CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM	
PROJECT NO.:	C1142102	
TITLE:	PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I (Km 2.000 to Km 2.674)	
COP:	IRC	
SCALE:	1: 1000	
DRAWING NO.:	TD003	
REV.:	A	



L&T Infrastructure Engineering Ltd.



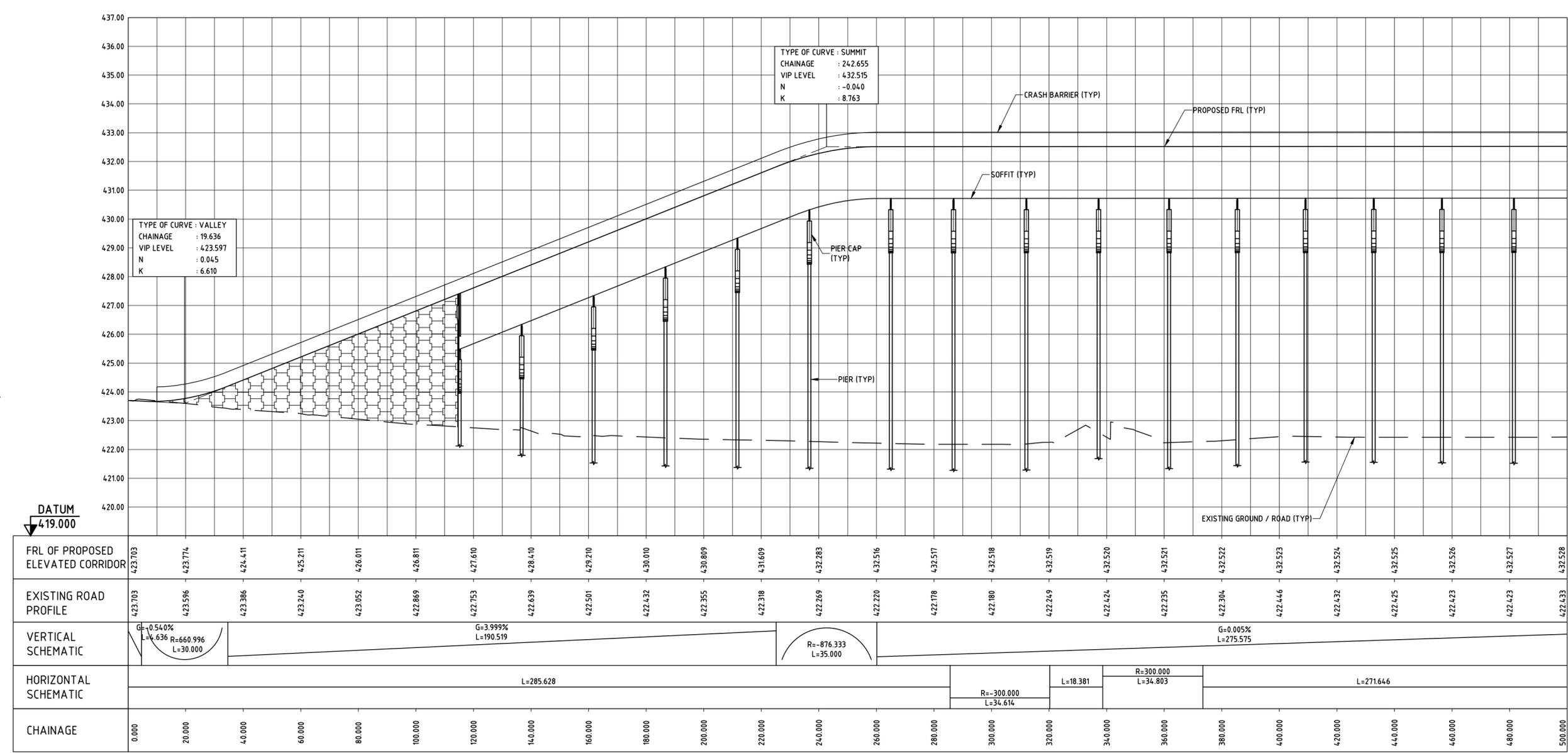
AUTO PATH: C:\USERS\NTR\APPDATA\LOCAL\TEMP\ACADPUBLISH_194\TD001-TD003-RA-SBS-PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I.DWG

TBA

1 2 3 4 5 6 7 8 9 10 11 12

1 2 3 4 5 6 7 8 9 10 11 12

A ← AMBEDKAR CIRCLE → AJMER ROAD → A



LONGITUDINAL PROFILE

FOR TENDER PURPOSE ONLY

NOTES:
 1. ALL DIMENSIONS, LEVELS AND CHAINAGES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. PIER ARRANGEMENTS SHOW ARE INDICATIVE ONLY, FOR DETAILS REFER SEPARATE DRAWING

D																											
C																											
B	160106	4	AS PER CLIENT'S COMMENTS																								
A	150303	4	AS PER CLIENT'S COMMENTS																								
0	150220	4	FOR TENDER PURPOSE																								
REV.	YYMMDD	STATUS	DESCRIPTION																								
DRAWING NO.	TITLE		REVISIONS																								
REFERENCE DRAWINGS			STATUS CODES		1: PRELIMINARY	2: FOR APPROVAL	3: GOOD FOR CONSTRUCTION	4: FOR TENDER PURPOSE ONLY																			

CLIENT: JAIPUR DEVELOPMENT AUTHORITY - JAIPUR

PROJECT: CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM

PROJECT NO: C1142102

COP: IRC

SCALE: HOR - 1:1000
VER - 1:100

TITLE: LEFT C/W PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I (Km 0.000 TO Km 0.500)

DRAWING NO: TD004

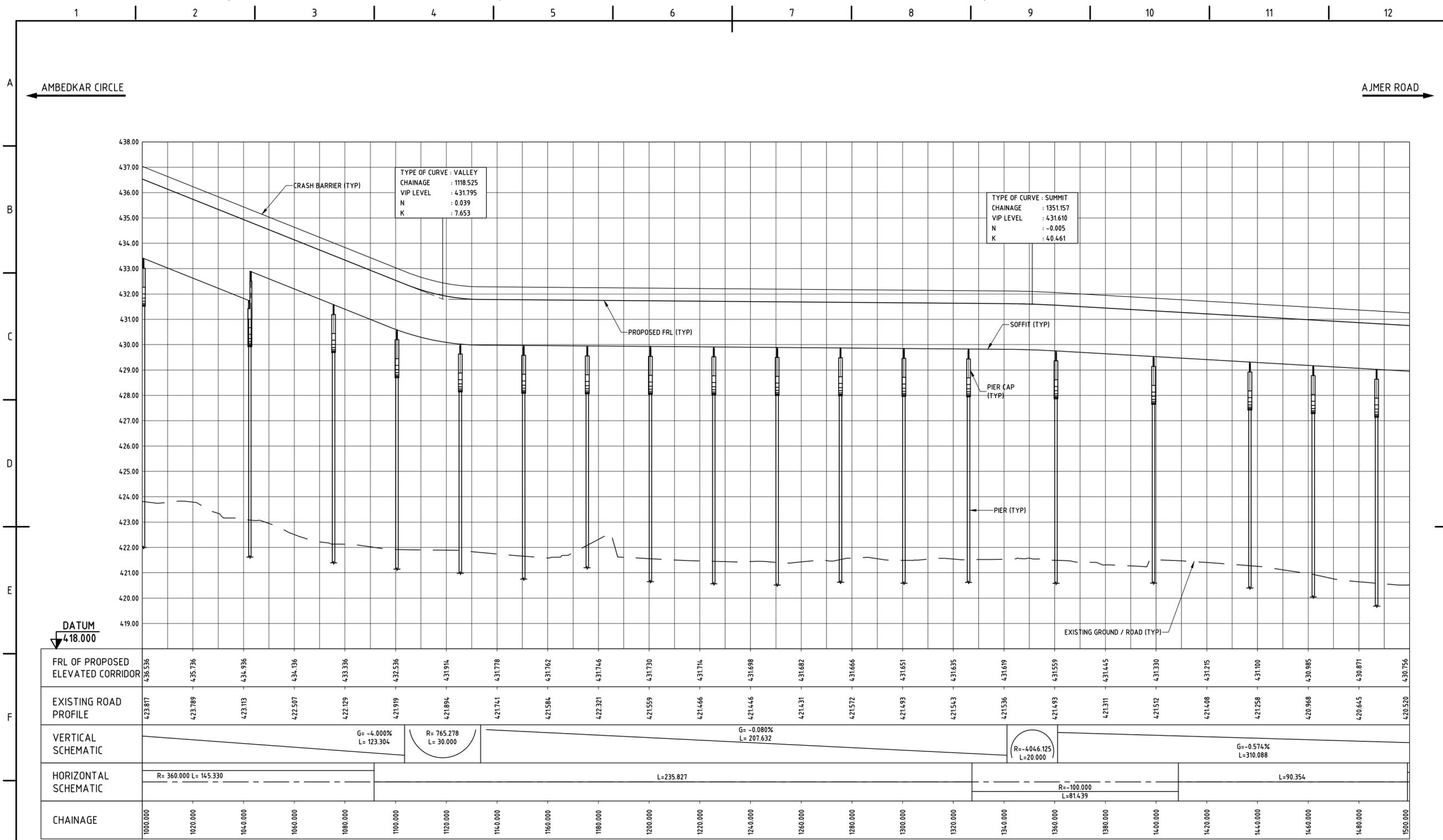
REV: B

L&T Infra Engineering

L&T Infrastructure Engineering Ltd.

plot scale 50mm

AUTO DATE: C:\USERS\NTR\APPDATA\LOCAL\TEMP\ACADPUBLISH_L\92\TD004-TD009-RA-SBS-LEFT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I.DWG



LONGITUDINAL PROFILE

FOR TENDER PURPOSE ONLY

NOTES:
 1. ALL DIMENSIONS, LEVELS AND CHAINAGES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. PIER ARRANGEMENTS SHOW ARE INDICATIVE ONLY, FOR DETAILS REFER SEPARATE DRAWING

D			
C			
B	160106	4	AS PER CLIENT'S COMMENTS
A	150303	4	AS PER CLIENT'S COMMENTS
0	150220	4	FOR TENDER PURPOSE
REV.	YYMMDD	STATUS	DESCRIPTION
DRAWING NO.	TITLE		
REFERENCE DRAWINGS			

DES.	DRN.	INIT.	SIGN.	INIT.	SIGN.	INIT.	SIGN.
		CHECKED	APPROVED				
REVISIONS							
STATUS CODES 1: PRELIMINARY 2: FOR APPROVAL 3: GOOD FOR CONSTRUCTION 4: FOR TENDER PURPOSE ONLY							

This drawing is the property of L&T Infrastructure Engineering Ltd. It is to be used only for the project and site mentioned herein. It is not to be used for any other project or site without the prior permission in writing from the project manager. The user of this drawing is to be held responsible for any error or omission.

CLIENT: JAIPUR DEVELOPMENT AUTHORITY - JAIPUR

PROJECT: CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM

PROJECT NO: C1142102

COP: IRC

SCALE: HOR - 1:1000
VER - 1:100

TITLE: LEFT C/W PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I (Km 1.000 TO Km 1.500)

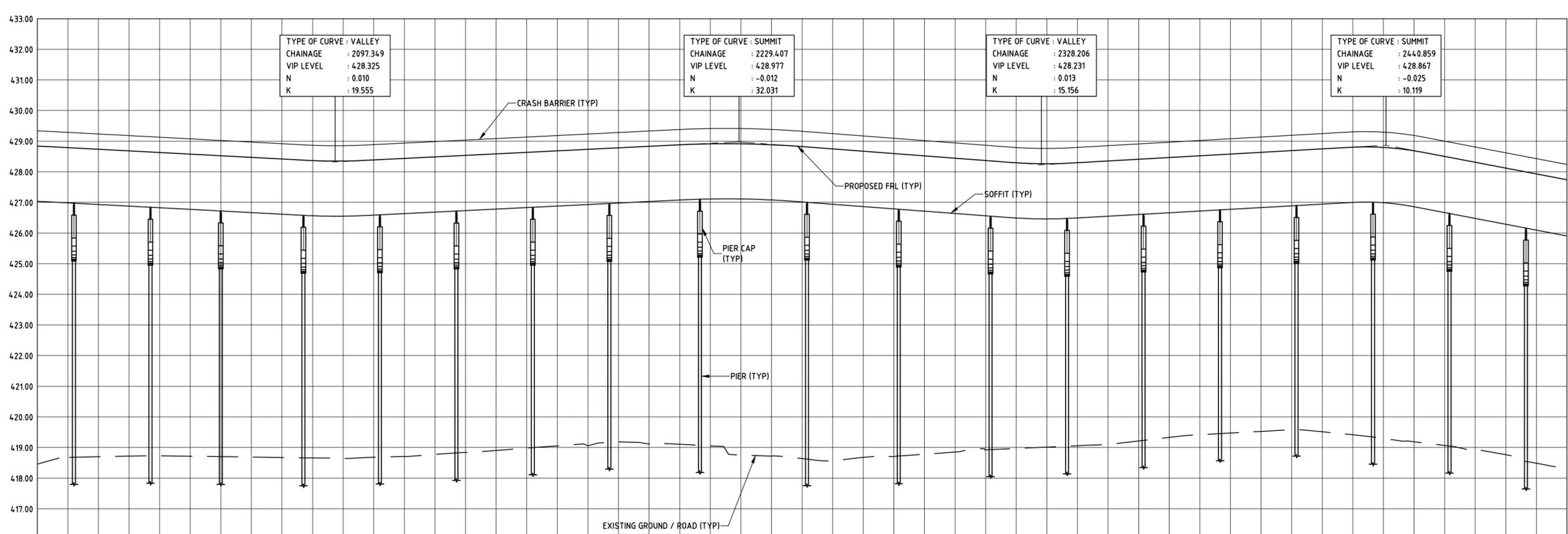
DRAWING NO: TD006

REV: B

L&T Infra Engineering
 L&T Infrastructure Engineering Ltd.

1 2 3 4 5 6 7 8 9 10 11 12

A ← AMBEDKAR CIRCLE → AJMER ROAD → A



FRL OF PROPOSED ELEVATED CORRIDOR	428.039	428.134	428.228	428.323	428.417	428.512	428.607	428.702	428.797	428.892	428.987	429.082	429.177	429.272	429.367	429.462	429.557	429.652	429.747	429.842	429.937	430.032	430.127	430.222	430.317	430.412	430.507	430.602	430.697	430.792	430.887	430.982	431.077	431.172	431.267	431.362	431.457	431.552	431.647	431.742	431.837	431.932	432.027	432.122	432.217	432.312	432.407	432.502	432.597	432.692	432.787	432.882	432.977	433.072
EXISTING ROAD PROFILE	418.458	418.699	418.728	418.702	418.671	418.644	418.707	418.838	418.984	419.057	419.110	419.052	418.721	418.562	418.707	418.852	418.968	419.056	419.215	419.418	419.525	419.512	419.295	419.066	418.765	418.300																												
VERTICAL SCHEMATIC	G=-0.529% L=81.202		R=1955.509 L=20.000		G=0.494% L=102.058		R=3203.098 L=40.000		G=-0.755% L=68.799		R=1515.572 L=20.000		G=0.565% L=90.153		R=1011.936 L=25.000		G=-1.906% L=220.508																																					
HORIZONTAL SCHEMATIC	L=193.026		R=320.000 L=14.1613		L=60.506		R=300.000 L=13.644		L=14.3670		R=130.000 L=56.188		L=16.592																																									
CHAINAGE	2000.000	2020.000	2040.000	2060.000	2080.000	2100.000	2120.000	2140.000	2160.000	2180.000	2200.000	2220.000	2240.000	2260.000	2280.000	2300.000	2320.000	2340.000	2360.000	2380.000	2400.000	2420.000	2440.000	2460.000	2480.000	2500.000																												

LONGITUDINAL PROFILE

FOR TENDER PURPOSE ONLY

- NOTES:
- ALL DIMENSIONS, LEVELS AND CHAINAGES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - PIER ARRANGEMENTS SHOW ARE INDICATIVE ONLY, FOR DETAILS REFER SEPARATE DRAWING

TD025-TD025a	TYPICAL CROSS SECTIONS	D			
TD020	DRAIN DETAILS	C			
TD010-TD013	RIGHT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I	B	160106	4	AS PER CLIENT'S COMMENTS
TD001-TD003	PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I	A	150303	4	AS PER CLIENT'S COMMENTS
		0	150220	4	FOR TENDER PURPOSE
DRAWING NO.	TITLE	REV.	YYMMDD	STATUS	DESCRIPTION

REFERENCE DRAWINGS		STATUS CODES		1: PRELIMINARY 2: FOR APPROVAL 3: GOOD FOR CONSTRUCTION 4: FOR TENDER PURPOSE ONLY	
		REVISIONS			
DES.	DRN.	INIT.	SIGN.	INIT.	SIGN.
		CHECKED	APPROVED		

THIS DRAWING IS THE PROPERTY OF L&T INFRASTRUCTURE ENGINEERING LTD. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY MENTIONED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, EITHER WHOLLY OR IN PART, WITHOUT THE WRITTEN PERMISSION OF L&T INFRASTRUCTURE ENGINEERING LTD.

CLIENT: JAIPUR DEVELOPMENT AUTHORITY - JAIPUR

PROJECT: CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM

PROJECT NO: C1142102

COP: IRC

SCALE: HOR - 1:1000
VER - 1:100

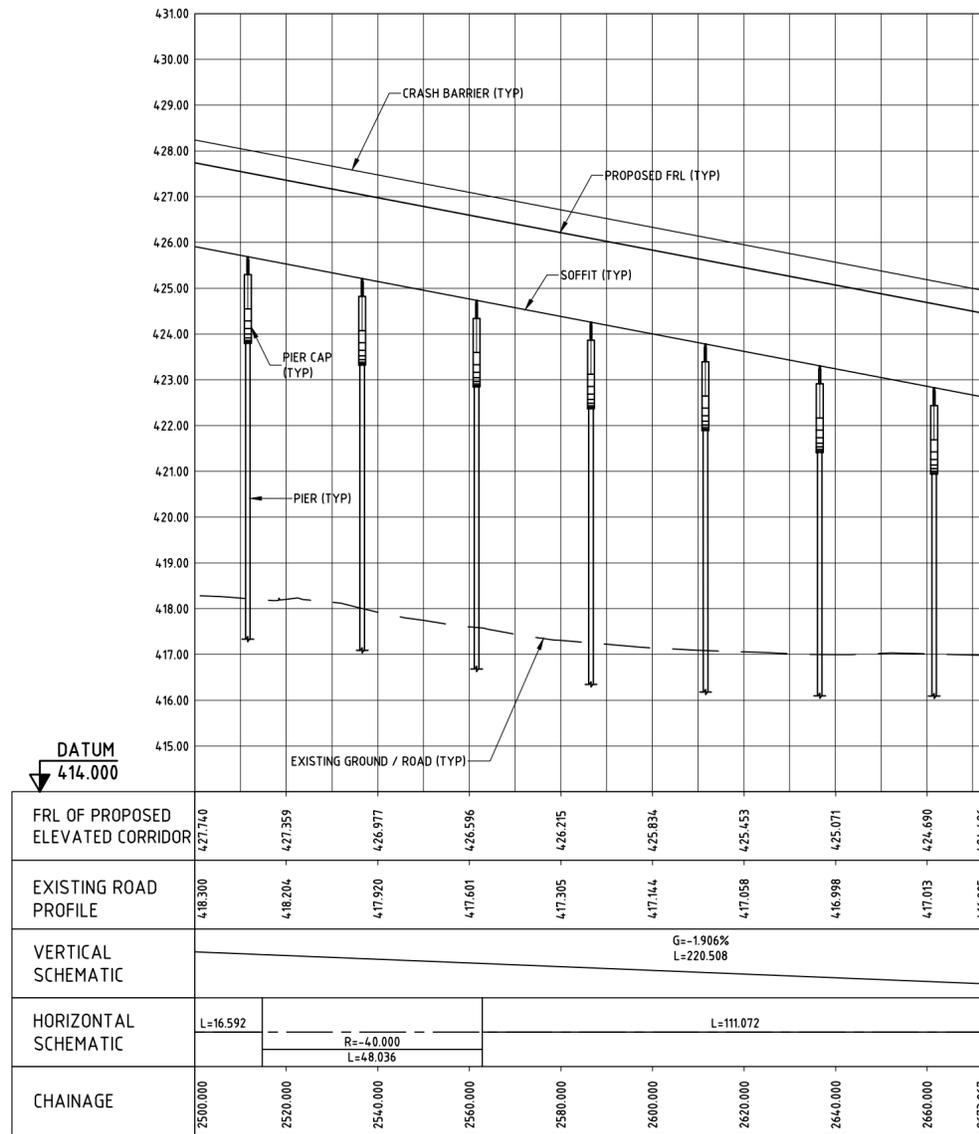
DRAWING NO: TD008

REV: B

L&T Infra Engineering
L&T Infrastructure Engineering Ltd.

A ← AMBEDKAR CIRCLE

→ AJMER ROAD



LONGITUDINAL PROFILE

FOR TENDER PURPOSE ONLY

- NOTES:**
- ALL DIMENSIONS, LEVELS AND CHAINAGES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - PIER ARRANGEMENTS SHOW ARE INDICATIVE ONLY, FOR DETAILS REFER SEPARATE DRAWING

TD025-TD025a	TYPICAL CROSS SECTIONS	A	150303	4	AS PER CLIENT'S COMMENTS	SBR	MTM	BMI	LSM
TD020	DRAIN DETAILS	0	150220	4	FOR TENDER PURPOSE	SBR	SBS	BMI	Sd/-
TD010-TD013	RIGHT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I	REV.	YYMMDD	STATUS	DESCRIPTION	DES.	DRN.	INIT.	SIGN.
TD001-TD003	PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I	REV.	YYMMDD	STATUS	DESCRIPTION	DES.	DRN.	CHECKED	APPROVED
DRAWING NO.	TITLE	REVISIONS							
REFERENCE DRAWINGS		STATUS CODES 1: PRELIMINARY 2: FOR APPROVAL 3: GOOD FOR CONSTRUCTION 4: FOR TENDER PURPOSE ONLY							

THIS DRAWING IS THE PROPERTY OF L&T INFRASTRUCTURE ENGINEERING LTD. (FORMERLY L&T ROAD ENGINEERING LTD.) AND IS LOANED TO YOU FOR YOUR PROJECT ONLY. IT IS NOT TO BE REPRODUCED, COPIED, OR USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF L&T INFRASTRUCTURE ENGINEERING LTD.

CLIENT:	JAIPUR DEVELOPMENT AUTHORITY - JAIPUR	
PROJECT:	CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM	
PROJECT NO:	C1142102	
TITLE:	LEFT C/W PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I (Km 2.500 TO Km 2.674)	
COP:	IRC	
SCALE:	HOR - 1:1000 VER - 1:100	
DRAWING NO:	TD009	REV: B



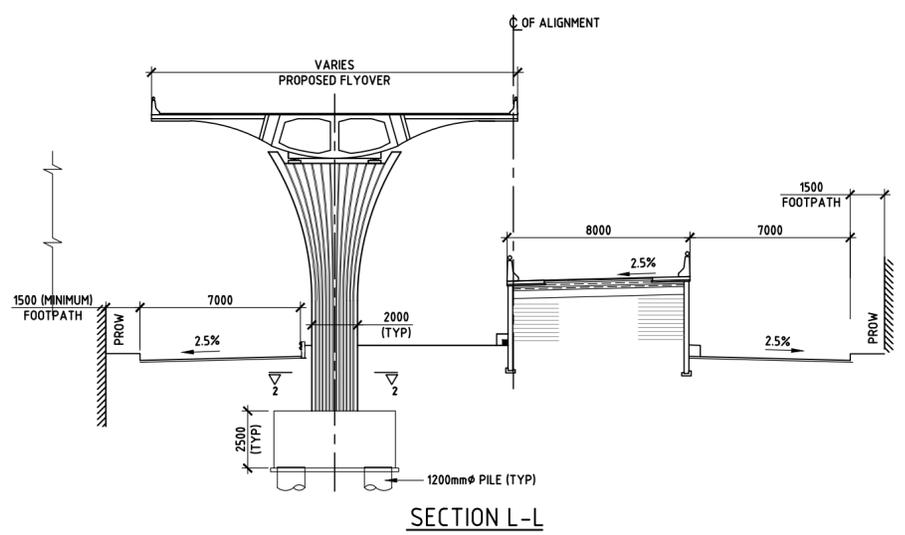
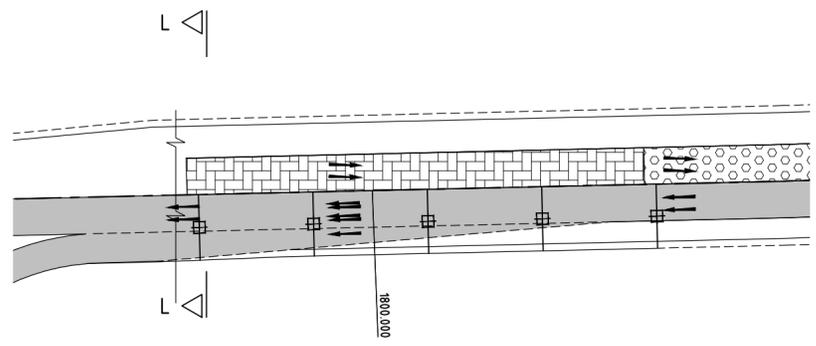
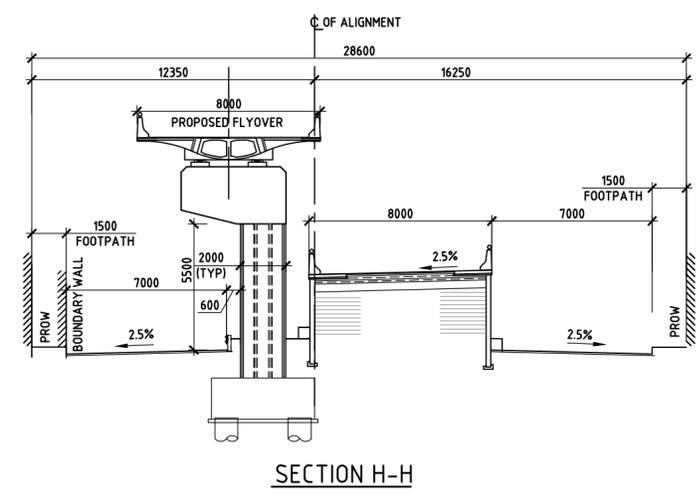
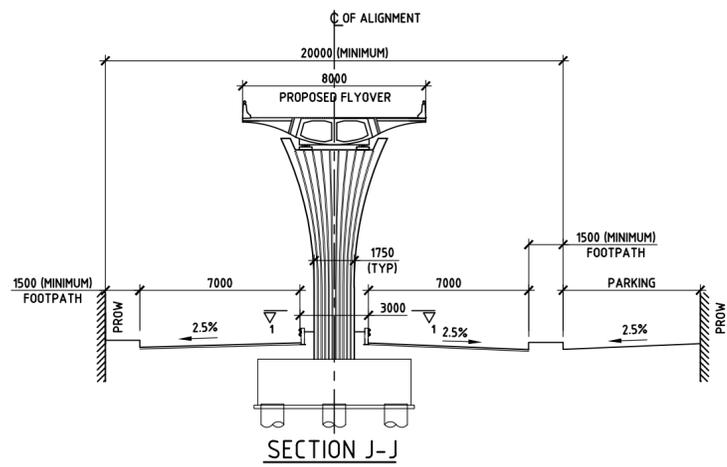
L&T Infrastructure Engineering Ltd.



AUTO PLOT COURTESY: NTPA (CALCULATED) PUBLISHING: L&T TD009-RA-SBS-LEFT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I.DWG

1 2 3 4 5 6 7 8 9 10 11 12

A B C D E F G H



CONNECTION DETAIL AT POWER HOUSE ROAD

SECTION L-L

FOR TENDER PURPOSE ONLY

NOTES:
 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.

DRAWING NO.	TITLE	REV.	DATE	STATUS	DESCRIPTION
TD014-TD015	PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE-II	A	160106	4	AS PER CLIENT'S COMMENTS
TD001-TD003	PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE-I	0	150218	4	FOR TENDER PURPOSE
CP-001	CONCEPTUAL PLAN FOR JUNCTION IMPROVEMENT AT BAIS GODAM & HAWA SARAK JUNCTIONS				

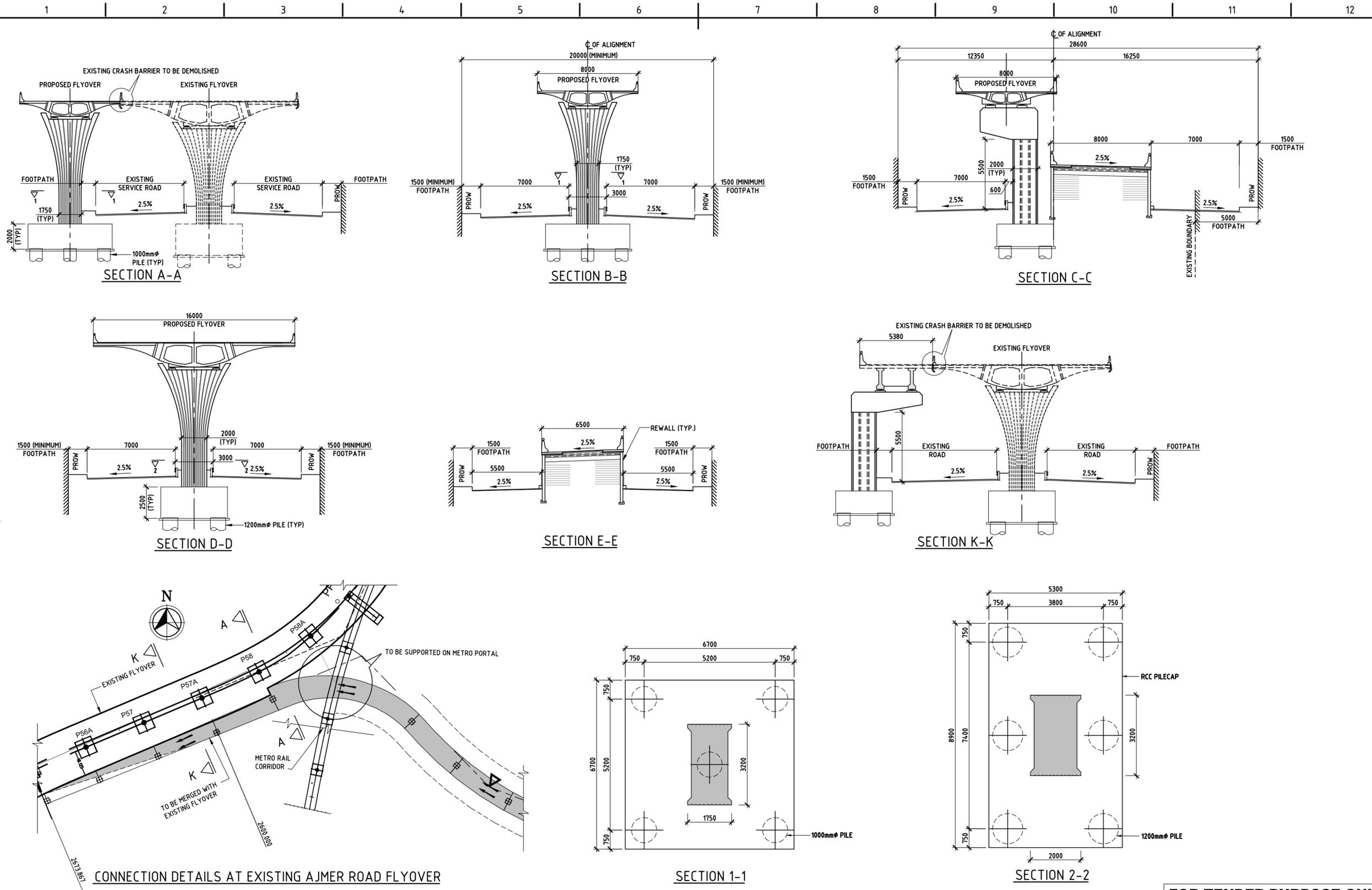
DRAWING NO.		TITLE		REVISIONS	
D					
C					
B					
A	160106	4	AS PER CLIENT'S COMMENTS	GBS	ASM
0	150218	4	FOR TENDER PURPOSE	GSB	BRK
					KGN
					Sd/-
					LSM
					Sd/-
					INIT.
					SIGN.
					INIT.
					SIGN.
					CHECKED
					APPROVED

This drawing is the property of L&T Infrastructure Engineering Ltd. It is to be used only for the project mentioned in the title block. It is not to be used for any other purpose without the prior permission of L&T Infrastructure Engineering Ltd. If any person is found using this drawing for any other purpose, the company shall be held liable for any loss or damage caused to the client.

CLIENT:	JAIPUR DEVELOPMENT AUTHORITY - JAIPUR
PROJECT:	CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM
PROJECT NO:	C1142102
TITLE:	TYPICAL CROSS SECTIONS
COP:	IRC
SCALE:	1:200
DRAWING NO:	TP-025a
REV:	A

AUTO PATH: L:\ROADS\2014\1511\202 - FS BAIS GODAM ELEV CORRIDOR DRAWINGS\DESIGN\TENDER DRAWINGS\AFTER CLIENT DISCUSSION ON JAN-16-15\202

TBA



FOR TENDER PURPOSE ONLY

- NOTES:**
- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - DIMENSIONS ARE NOT TO BE SCALED, ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
 - THE DIMENSION SHOWN ARE TENTATIVE AND MAY BE SUBJECT TO CHANGE DURING DETAILED DESIGN STAGE.

DRAWING NO.	TITLE
TD014-TD015	PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE-II
TD001-TD003	PLAN FOR BAIS GODAM ELEVATED CORRIDOR - STAGE-I
CP-001	CONCEPTUAL PLAN FOR JUNCTION IMPROVEMENT AT BAIS GODAM & HAWA SARAK JUNCTIONS

REV.	DATE	STATUS	DESCRIPTION
A	160106	4	AS PER CLIENT'S COMMENTS
0	150218	4	FOR TENDER PURPOSE

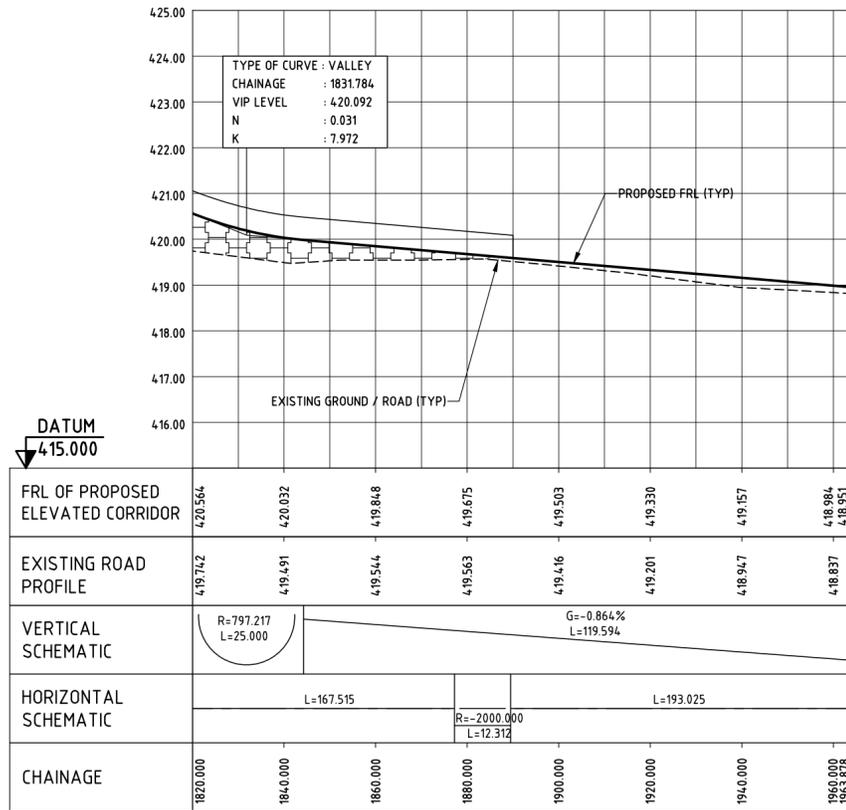
DES.	DRN.	INIT.	SIGN.	INIT.	SIGN.
GBS	ASM	KGN	LSM		
GBS	BRK	KGN	Sd/-	LSM	Sd/-
		CHECKED		APPROVED	

CLIENT:	JAIPUR DEVELOPMENT AUTHORITY - JAIPUR	
PROJECT:	CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM	
PROJECT NO:	C1142102	
TITLE:	TYPICAL CROSS SECTIONS	
COP:	IRC	
SCALE:	1:200	
DRAWING NO:	TD-025	REV: A

1 2 3 4 5 6 7 8 9 10 11 12

A ← AMBEDKAR CIRCLE

AJMER ROAD →



LONGITUDINAL PROFILE

FOR TENDER PURPOSE ONLY

- NOTES:**
- ALL DIMENSIONS, LEVELS AND CHAINAGES ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 - PIER ARRANGEMENTS SHOW ARE INDICATIVE ONLY, FOR DETAILS REFER SEPARATE DRAWING

D																				
C																				
B	160106	4	AS PER CLIENT'S COMMENTS																	
A	150303	4	AS PER CLIENT'S COMMENTS																	
0	150220	4	FOR TENDER PURPOSE																	
REV.	YYMMDD	STATUS	DESCRIPTION	DES.	DRN.	INIT.	SIGN.	INIT.	SIGN.											
	DATE			CHECKED	APPROVED															
DRAWING NO. TITLE				REVISIONS																
REFERENCE DRAWINGS				STATUS CODES 1: PRELIMINARY 2: FOR APPROVAL 3: GOOD FOR CONSTRUCTION 4: FOR TENDER PURPOSE ONLY																

CLIENT: JAIPUR DEVELOPMENT AUTHORITY - JAIPUR		PROJECT NO: C1142102
PROJECT: CONSTRUCTION OF ELEVATED ROAD FROM AMBEDKAR CIRCLE TO AJMER ROAD VIA BAIS GODAM & HAWA SARAK JUNCTIONS INCLUDING ROB AT BAIS GODAM		SCALE: HOR - 1:1000 VER - 1:100
TITLE: RIGHT C/W PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I (Km 1.820 TO Km 1.964)		DRAWING NO: TD013
L&T Infra Engineering		REV: B

plot scale 50mm

AUTO PLOT C:\USERS\NTR\APPDATA\LOCAL\TEMP\ACADPUBLISH_1493\TD013-RA-SBS-RIGHT PROFILE FOR BAIS GODAM ELEVATED CORRIDOR - STAGE I.DWG

TBA

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
1.00	Earth work in excavation in foundation, trenches etc. including dressing of sides and ramming of bottoms, including getting out the excavated material, refilling after laying pipe/ foundation and disposal of surplus excavated material at a lead upto 50m suitable site as per direction of Engineer for following depths, below natural ground / Road top level.					
1.10	In all types soils/ saturated soil such as moorum, sand, sandy silt, clay, black cotton soil, kankar, etc. Depth upto 1.5 m	16520.00	Cum	169.00	Rupees One Hundred & Sixty Nine Only	2791880.00
1.20	Add extra for over all depth of excavation above 1.5 m and upto 3.0 m over item no 4.9.1.1	8500.00	Cum	25.50	Rupees Twenty Five and Paise Fifty Only	216750.00
2.00	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 50 metres, stacking serviceable and unserviceable materials separately as directed by Engineer.					
2.10	Bituminous courses	2460.00	Cum	1020.00	Rupees One Thousand & Twenty Only	2509200.00
2.20	Granular courses	2950.00	Cum	682.00	Rupees Six Hundred & Eighty Two Only	2011900.00
3.00	Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 50 metres as directed by Engineer.					
3.10	Cement Concrete Grade M-15 & M-20 and PCC blocks	500.00	Cum	771.00	Rupees Seven Hundred & Seventy One Only	385500.00
3.20	Prestressed /Reinforced cement concrete with separating, cleaning, straightening and cutting of bars	500.00	Cum	2200.00	Rupees Two Thousand Two Hundred Only	1100000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
4.00	Dismantling kerb stone by manual means and disposal of dismantled material with all lifts and up to a lead of 1000 metre as per MoRT&H specification clause 202.	4000.00	Mtr.	9.50	Rupees Nine and Paise Fifty Only	38000.00
5.00	Removal of telephone / Electric poles including excavation and dismantling of foundation concrete and lines under the supervision of concerned department, disposal with all lifts and up to a lead of 1000 metres and stacking the serviceable and unserviceable material separately as per MoRT&H specification clause 202.	100.00	Each	717.00	Rupees Seven Hundred & Seventeen Only	71700.00
6.00	CARRIAGE OF MATERIALS (By Mechanical Means) Remarks : The rates will be applicable to net quantities after deduction of percentage for voids mentioned in the specification under subhead "Carriage of Materials" Carriage of Materials by mechanical transport including loading, unloading and stacking ::					
6.10	Earth Beyond 10 Km upto 20 Km. per Km.	16520.00	Cum	163.38	Rupees One Hundred & Sixty Three and Paise Thirty Eight Only	2699037.60
6.20	Stone, boulders, gravelly material upto 20 Km.	7000.00	Cum	153.79	Rupees One Hundred & Fifty Three and Paise Seventy Nine Only	1076530.00
7.00	Bored cast-in-situ R.C.C. pile with design mix concrete using batching plant, transit mixer and concrete pump, excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. as per clause 1100, 1600 & 1700 of MoRT&H Specification including all material, labour and machinery.					
7.10	1000 mm dia pile RCC Grade M-35 (Design Mix)	9475.00	Mtr.	7640.00	Rupees Seven Thousand Six Hundred & Forty Only	72389000.00
7.20	1200 mm dia pile RCC Grade M-35 (Design Mix)	5600.00	Mtr.	9850.00	Rupees Nine Thousand Eight Hundred & Fifty Only	55160000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
8.00	Providing structural steel liner upto 10mm thickness for curbs, steining for wells and piles including fabricating and setting out as per detailed drawing as per clause 1200 & 1900 of MoRT&H specification including all material, labour and machinery.	575.10	MT	71600.00	Rupees Seventy One Thousand Six Hundred Only	41177160.00
9.00	Sand filling with compaction in wells complete as per level on drawing and technical specification as per clause 1209 of MoRT&H specification including all material, labour, machinery.	4000.00	Cum	1260.00	Rupees One Thousand Two Hundred & Sixty Only	5040000.00
10.00	Providing, laying and compacting plain/ reinforced cement concrete of specified grade in foundation/ leveling course/ pile cap using concrete mixer and vibrater complete including cost of form work, as per drawing and technical specifications and as per clause 1100, 1500,1700,2100 of MoRT&H specification including all scaffolding material, labour, machinery. PCC Grade M -15	1260.00	Cum	3840.00	Rupees Three Thousand Eight Hundred & Forty Only	4838400.00
11.00	Providing, laying and compacting design mix plain/ reinforced cement concrete of specified grade in foundation/ leveling course/ pile cap using batching plant, transit mixer and concrete pump and vibrater including cost of form work, complete as per drawing and technical specifications as per clause 1100, 1500,1700,2100 of MoRT&H specification including all material, labour, machinery, and maintenance of diversion. RCC Grade M -40	11130.00	Cum	5150.00	Rupees Five Thousand One Hundred & Fifty Only	57319500.00
12.00	Providing and laying TMT bar reinforcement at any level in foundation/ pile/ pile cap complete as per drawing and clause 1600 of MoRT&H Specification including all material, labour and machinery.	3396.16	MT	64600.00	Rupees Sixty Four Thousand Six Hundred Only	219391677.60
13.00	Plie load testing on single vertical piles in accordance with IS 2911 (Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per direction of Engineer and as per clause 1100 of MoRT&H specification including all labour, material, machinery.					

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
13.10	Initial and routine vertical load test	9000.00	MT	303.00	Rupees Three Hundred & Three Only	2727000.00
13.20	Lateral load test	300.00	MT	6050.00	Rupees Six Thousand & Fifty Only	1815000.00
14.00	Non destructive Integrated testing of cast-in-situ pile using piledriving analyzer or equivalent as detailed in specification and as approved by Engineer.	603.00	Each	1650.00	Rupees One Thousand Six Hundred & Fifty Only	994950.00
15.00	Providing and laying structural plain/reinforced cement concrete (design mix) of specified grade in substructure at all levels using batching plant, transit mixer, concrete pump and vibrator including cost of form work complete as per drawing and clause 1500, 1700 and 2200 of MoRT&H specification including all scaffolding, material, labour, machinery etc. RCC Grade M -45	10090.00	Cum	5870.00	Rupees Five Thousand Eight Hundred & Seventy Only	59228300.00
16.00	Supplying, fitting and placing TMT bar reinforcement in sub structure/superstructure at all level complete as per drawing and clause 1600 & 2200 of MoRT&H Specification including all material, labour, machinery etc.	9275.00	MT	65700.00	Rupees Sixty Five Thousand Seven Hundred Only	609367500.00
17.00	Supplying, fitting and fixing in position true to line and level POT-PTFE bearing consisting of a metal piston supported by a disc or unreinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel/fabricated structural steel, metal and elastomer elements to be as per IRC: 83 part-I & II respectively and other parts conforming to BS: 5400, section 9.1 & 9.2 and clause 2006 of MoRT&H Specifications complete as per drawing and approved technical specifications and as per clause 2000 & 2200 of MoRT&H Specification including all scaffolding, material, labour, machinery etc.	166000.00	Per Tonne Load	308.00	Rupees Three Hundred & Eight Only	51128000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
18.00	Providing and laying structural reinforced/prestressed cement concrete (design mix) of specified grade using batching plant, transit mixer, concrete pump and vibrater in superstructure at all levels including cost of steel form work complete as per clause 1500, 1600 and 1700 of MoRT&H specification including all scaffolding, material, labour, machinery etc. RCC/PSC Grade M -50 For T-beam & slab	790.00	Cum	6750.00	Rupees Six Thousand Seven Hundred & Fifty Only	5332500.00
19.00	Providing, precasting, transportation and placing in position at all level precast pre/post-tensioned specified grade girders as per drawing and clause 1800 & 2300 of MoRT&H specifications (excluding cost of reinforcement, HTS strands and pre-stressing) including all material, labour, machinery (suitable crane). RCC M-45	240.00	Cum	9450.00	Rupees Nine Thousand Four Hundred & Fifty Only	2268000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)		%	
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
20.00	"Fabrication, Welding, Riveting, bolting by HSFG bolts wherever required, supply, transportation to site, Assembling, Launching, Erecting of steel girder spans as per drawings and specifications approved by Railway and department for composite construction i.e. (Steel +RCC) of superstructure of the Road Over Bridge with contractor's own mild steel confirming to IS: 2062 Grade 250(B) with all welds, rivets, nuts bolts rivet materials, weld materials, HSFG bolts, service bolts, with other ancillary steel structures fixed to the girder where necessary in proper level and alignment and as per technical specifications etc. with contractor's own materials, fabrication, machinery, templates, fixtures, equipments tools and plants, transportation to site, skilled/ unskilled labour, excise duty., Octroi, sales tax and other taxes, all leads and lifts, descent, loading, unloading, crossing one or more Railway track if required etc. complete and as per technical specifications. The rate shall also be inclusive of cold straightening of deformed and bent girder parts before their assembly. The structural steel to be used should be manufactured by SAIL/ RINL/ TISCO/ ESSAR/ JINDAL only. For Painting prior approval for superior brand/ make of the paint should be taken from engineer in charge."					

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:				Excess (+)		%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
20.10	<p>"The rate shall be inclusive of supply, erection and dismantling of staging and scaffolding and other temporary arrangements required for the purpose of assembly, erection and launching of girders. The rate shall also be inclusive of cold straightening of deformed and bent girder parts before/after their assembly."</p> <p>"Metalising girder/ girder component such as cross girder, top chord channels, bracing etc of BG new steel girder as directed by engineer with epoxy paint spray not less than two layers after preparing surface by sand/grit blasting as per provision laid in Appendix VI of IRS B-1179 code (latest alteration) including one coat wash primer one coat epoxy zinc crome primer and two coat of epoxy paint with approved paint conforming to IS specification for fabrication & erection of steel girder bridge (RS B 1-79) as corrected up to date with contractor's own materials, tools, plants, labour, handling, re-handling if any including all lead, lifts descents, crossing of track/ obstruction etc. complete in all respectand as per direction of the engineer.</p> <p>Note:1. The fabrication of girders must be got done from RDSO approved firms only. 2. For Payment purpose, nominal weight of the girder as per drawing will only be considered.</p>	1129950.00	kg	136.00	Rupees One Hundred & Thirty Six Only	153673200.00
21.00	Providing and laying High tensile steel wires/ strands at any level including all accessories for stressing, stressing operations and grouting complete as per drawing, technical specification and as per clause 1800 of MoRT&H Specification.	1230.00	MT	147900.00	Rupees One Lakh Forty Seven Thousand Nine Hundred Only	181917000.00
22.00	Providing and laying structural Reinforced cement concrete (design mix) of specified grade using batching plant, transit mixer, concrete pump and vibrater in approach slab, friction slab, edge beam, footpath and kerb as per approved drawing and specification as directed by the Engineer as per clause 1500 &1700 of MoRT&H specification including all scaffolding, material, labour, machinery etc RCC M-35	850.00	Cum	6340.00	Rupees Six Thousand Three Hundred & Forty Only	5389000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
23.00	Providing and constructing of Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with specified grade concrete using batching plant, transit mixer, concrete pump and vibrator with 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design and dimensions in the approved drawing and at locations directed by the Engineer, all as specified as per clause 809 of MoRT&H specification including all material, labour scaffolding etc. RCC M-40	2530.00	Cum	6170.00	Rupees Six Thousand One Hundred & Seventy Only	15610100.00
24.00	Providing, laying and fixing of strip seal expansion joint catering to maximum horizontal movement upto 70 mm complete as per approved drawings and as per clause 2600 of MoRT&H specifications to be installed by manufacturer's authorized representative ensuring to compliance to manufacturer's instruction for installation including preparing the edges of bridge, welding to exposed reinforcement, concreting with design mix of grade of bridge or M-35 whichever is richer including all material, labour, machinery etc complete.	1120.00	Mtr.	9060.00	Rupees Nine Thousand & Sixty Only	10147200.00
25.00	Providing and erecting Drainage Spouts with 0.15m long GI pipe 150mm dia and GI bolt 10mm dia with Galvanised MS flat clamp complete as per drawing and Technical specification as per clause 2705 of MoRT&H specifications including all material, labour, machinery etc.	414.00	Each	862.00	Rupees Eight Hundred & Sixty Two Only	356868.00
26.00	P&F rigid PVC Pipe (IS:4985 mark) class II/ (4 Kg. /Cm2.) approved quality /make including joining the pipe with solvent cement rubber ring and lubricant. 160 mm dia	9610.00	Mtr.	250.00	Rupees Two Hundred & Fifty Only	2402500.00
27.00	P&F rigid PVC pipe fittings (IS: 4985 mark) of approved quality /make including joining the pipe with solvent cement rubber ring and lubricant:					

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:				Excess (+)		%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
27.10	Pipe Clip 160 mm dia	138.00	Each	34.00	Rupees Thirty Four Only	4692.00
27.20	Coupler (socket) 160 mm dia	138.00	Each	77.00	Rupees Seventy Seven Only	10626.00
27.30	Door Tee 160 mm dia	138.00	Each	148.00	Rupees One Hundred & Forty Eight Only	20424.00
27.40	Double Door 'Y' 160 mm dia	138.00	Each	264.00	Rupees Two Hundred & Sixty Four Only	36432.00
27.50	Bend 45 160 mm dia	138.00	Each	93.00	Rupees Ninety Three Only	12834.00
27.60	Door Bend (Top Side) 160 mm dia	138.00	Each	111.00	Rupees One Hundred & Eleven Only	15318.00
27.70	Vent Cowel 160 mm dia	138.00	Each	49.00	Rupees Forty Nine Only	6762.00
27.80	Socket plug 160mm dia	138.00	Each	66.00	Rupees Sixty Six Only	9108.00
28.00	Designing, providing and erection of Precast RCC fascia panels of thickness 180mm made with M-35 Grade concrete batching plant, transit mixer, concrete pump and vibrator for retaining earth with all elements and accessories including reinforcing element, complete as per approved drawing and clause 3100 of MoRT&H specifications including all material, labour, machinery etc. (Scope of work includes designing, getting approval, casting in yard including reinforcement, curing, storing, transporting, lifting, placing in position, erection with all necessary fasteners etc complete)	3400.00	Sqm	4620.00	Rupees Four Thousand Six Hundred & Twenty Only	15708000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:				Excess (+)		%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
29.00	Providing, placing and compacting to desired density approved backfill material in layers as per approved methodology including testing for reinforced fill portion and random fill portion in the approaches between the Reinforced Soil (RS) Wall panels as per approved drawings as per clause 3103 of MoRT&H specification The soil should be predominately coarse grained not more than 10% of particle should pass 75 micron sieve The item shall be measured and paid for the finished volume of backfill and sub-grade placed in position excluding the volume of filter media at base and behind the RS walls.	10800.00	Cum	383.00	Rupees Three Hundred & Eighty Three Only	4136400.00
30.00	Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRT&H specifications with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and technical specification including all material, labour, machinery as per clause 710.1.4 of IRC:78 and clause 2200 of MoRT&H specification.	440.00	Cum	1150.00	Rupees One Thousand One Hundred & Fifty Only	506000.00
31.00	Providing, laying, spreading and compacting of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per MoRT&H specification clause - 401 including all material, labour, machinery, lighting, guarding and maintenance of diversion. Grading - I Material	750.00	Cum	1080.00	Rupees One Thousand & Eighty Only	810000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
32.00	Providing, laying, spreading (with paver finisher only) and compacting wet mix macadam (WMM) base course comprising of graded stone aggregate and granular material conforming to MORT&H specifications (Table 400-II) in layers of equal compacted thickness each consolidated, including pre-mixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tippers to site, laying in uniform layers in base course on a well prepared sub-base/ base course and compacting with power vibratory-roller to achieve the desired density complete as per MoRT&H specification clause - 406 including all material, labour, machinery, lighting, guarding and maintenance of diversion.	975.00	Cum	1300.00	Rupees One Thousand Three Hundred Only	1267500.00
33.00	Prime Coat Low porosity Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per MoRD Specification Clause 502	3900.00	Sqm	35.00	Rupees Thirty Five Only	136500.00
34.00	Tack Coat Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared dry and hungry bituminous surface cleaned with Hydraulic broom as per MoRD Specification Clause 503.	3900.00	Sqm	12.00	Rupees Twelve Only	46800.00
34.10	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.20 to 0.25 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per MoRD Specification Clause 503.	38655.00	Sqm	10.00	Rupees Ten Only	386550.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
35.00	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tones per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H Specifications Clause 507 complete in all respects. for Grading II (19 mm nominal size)	1035.00	MT	3025.00	Rupees Three Thousand & Twenty Five Only	3130875.00
36.00	Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT & H Specifications Clause 509 complete in all respects for Grading-II (13 mm nominal size) Bitumen PMB-40	3300.00	MT	3900.00	Rupees Three Thousand Nine Hundred Only	12870000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:				Excess (+)		%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
37.00	Providing and laying 25 mm thick bitumen mastic asphalt wearing course with paving grade bitumen meeting the requirements given in table 500-29 (including cost of anti-stripping compound wherever required) @ 14-17% (by weight) as per job mix formula, coarse aggregate as per Table 500-32, fine aggregate as per Table 500-31 and lime stone powder as filler, prepared by using mastic cooker and laid to required level and grade after cleaning the surface, including providing antiskid surface with bitumen precoated fine-grained hard stone chipping of 13.2 mm nominal size @ 0.005cum per 10 sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces not less than 100 degree Centigrade, protruding 1 mm to 4 mm over mastic surface, all complete including all material, labour, machinery, lighting, guarding and maintenance of diversion complete as per clause 515 of MoRT&H specification.	31000.00	Sqm	544.00	Rupees Five Hundred & Forty Four Only	16864000.00
38.00	Providing and laying marking of center line and stop line etc with hot thermoplastic compound 2.5 mm thick on road/ plain surface, including reflectorising glass beads @ 250 gms per sqm area with special applicator machine, as per IRC:35 including cleaning the surface of all dirt, dust and other foreign matter, demarcation at site and traffic control involved. The finished surface to be level, uniform and free from streaks and holes as per clause 803 of MoRT&H Specification including all material, labour, machinery, lighting, guarding and maintenance of diversion.	2000.00	Sqm	803.00	Rupees Eight Hundred & Three Only	1606000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
39.00	<p>Providing, fixing, maintaining, shifting & refixing, barricading of minimum 2.0 mtr height at stipulated active site of the same project site, made with angle iron frame of 50x50x5mm and GI sheet of 0.63mm thick including primer painted initially, painting, lettering & border with reflective paint at the time of every shifting, traffic diversion arrangement, safety guard, suitable lightning arrangement during night, complete in all respect till completion of the project as per technical specification and direction of Engineer-In-charge and same shall be possessed by the contractor after completion of the Project. Payment under this item will be released</p> <p>(1) 50% At the time of Providing new barricading at the time of start of project at location and plan as approved by the Engineer & certification</p> <p>(2) 50% After completion of project including shifting re-erecting and maintaining the barricading in position, during entire construction tenure with requisite manpower /flagman etc. complete for guiding traffic and safety etc and dismantling after completion of project.</p>	5000.00	Sqm	2650.00	Rupees Two Thousand Six Hundred & Fifty Only	13250000.00
40.00	<p>Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade</p> <p>New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including base coat of water proofing cement paint applied @ 2.20 kg/ 10 sqm).</p>	65000.00	Sqm	90.50	Rupees Ninety and Paise Fifty Only	5882500.00
41.00	<p>Providing and laying Precast Reinforced cement concrete slab for footpath and median with approved finish, constructed with specified grade concrete as per dimensions in the approved drawing and at locations directed by the Engineer including form work and excluding reinforcement and complete as per clause 1500 & 1700 of MoRT&H specification including all material, labour, machinery.</p> <p>RCC M- 30</p>	110.00	Cum	5220.00	Rupees Five Thousand Two Hundred & Twenty Only	574200.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
42.00	Providing and fixing G.I. Pipes railing of 80 mm dia. (Class B) over brackets of 16 mm thick MS plate with 200 mm at bottom & 120 mm at top with 200 mm height welded to 16 mm thick MS Plates of size 200 X 175 anchored with 400 mm long 4-12 mm dia. steel bars at the top of RCC crash barrier @1.0m c/c including fixing arrangement as per the drawing, clause 800 of MoRTH specification and as per the direction of the Engineer.	6200.00	Mtr.	1170.00	Rupees One Thousand One Hundred & Seventy Only	7254000.00
43.00	Painting two coats on specified surface with synthetic enamel paint of approved brand and shade, after thorough cleaning and necessary filling to give even shade as per clause 803 of MoRT&H Specification including all material, labour. On new plastered concrete surface	5200.00	Sqm	83.00	Rupees Eighty Three Only	431600.00
44.00	Supplying, fitting and fixing in position true to line and level Elastomeric Bearing conforming to IRC:83 (Part-II) section IX and clause 2005 of MoRT&H specification complete including all accessories as per drawing and technical specification and as per clause 2000 & 2200 of MoRT&H Specification including all scaffolding, material, labour, machinery etc.	307200.00	Cum	0.75	Rupees and Paise Seventy Five Only	230400.00
45.00	Casting curing and providing PSC precast segments for superstructure in M-50 grade design mix concrete with OPC 53 grade cement(minimum cement content 465Kg/Cum) produced in computerised batch mix plant , transportation with transit mixer & placement with concrete pump of all standard/special spans straight or curved, spans including match casting in fully equipped casting yard as per drawing and technical specification including provision of shear connectors ,bolt holes for fixation of hand railing blisters or temporary prestressing ,provision for future external prestressing, providing cut outs where specified , curing arrangements required , all handling etc. complete including approved arrangement for lifting the segments from the mould and shifting the same to the stacking yard as per MORT&H specification clause 1500 & 1700	25726.00	Cum	8802.00	Rupees Eight Thousand Eight Hundred & Two Only	226440252.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
46.00	Erection of segmental spans by Launching Girder (Design of launching girder duly proof checked from MORT&H empanalled consultants/ IIT/ MNIT as per approval of EIC to be submitted by agency and to be followed by mock test as per MORT&H specification) including transportation of the segments from the casting / stacking yard, lifting of the segments, dry & wet matching, . The rate includes the cost of operation of Launching Girder and it's appurtances, secondary cranes required, cost of designated grade Epoxy for gluing, cost towards temporary Prestressing and TPS Beams etc complete for precast segmental construction.	25726.00	Cum	6010.00	Rupees Six Thousand & Ten Only	154613260.00
47.00	Electric Work					
47.10	Supplying and drawing FR PVC insulated & unsheathed flexible copper conductor ISI marked (IS:694) of 1.1 kV grade and approved make in existing surface or recessed conduit/casing capping including making connections etc. as required. 2 x 2.5 sq.mm	2040.00	Mtr.	41.00	Rupees Forty One Only	83640.00
48.00	P & F in position frame made out of M.S. angle (riveted or welded) finished with two coats of red oxide and enamel paint including cutting, welding, holes etc.of following sizes as required. Chapter 50mm x 50mm x 6mm	45.00	Mtr.	313.00	Rupees Three Hundred & Thirteen Only	14085.00
49.00	P & F paper phenolic resin bonded laminates confirming to IS : 2036 - 1995 for boxes/ frames including making holes for switches etc, with brass screws, washers/ zinc plated nut and bolts as required. Chapter 6.4 mm thick	3.00	Sqm	891.00	Rupees Eight Hundred & Ninety One Only	2673.00
50.00	P&F 240/415 V AC MCB with positive isolation of breaking capacity not less than 10 KA (B/ C/ D tripping characteristic) ISI marked IS 8828(1996)]/ conforming to IEC 60898 in existing board/sheets including making connections, testing etc. as required. Chepter Single pole MCB 6 A to 32 A rating	200.00	Each	151.00	Rupees One Hundred & Fifty One Only	30200.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:				Excess (+)		%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
51.00	SITC of wall/ free standing floor mounted dust and vermin proof compartmentalised cubical panel made out of CRCA sheet , required hardware ,duly treated for derusting in 7 tank process with dephosphating and with powder coating on both side of panel in desired shade The panel having PU/ Neoprene rubber gasket of not less than 3mm thickness , separate detachable gland plate M.S. base channel ,hinged door with locking arrangement for equipment/switchgear . Thickness of sheet shall not be less than 1.6 mm up to 600 mm length / width of any compartment and be of 2.0 mm above 600 mm. Load bearing structure shall be of 2.0 mm thick sheet supported by base M.S. channel if required . Side walls and cable alley compartments having bolted type doors with / without detachable extension type structure. (only outer area on all sides shall be measured & panel to be fabricated from CPRI approved fabricator)	42.00	Sqm	2752.00	Rupees Two Thousand Seven Hundred & Fifty Two Only	115584.00
52.00	Supplying and fixing of Aluminium / Copper bus bar by means of SMC / DMC type insulator, high tensile nuts and bolts spring washers in existing panel including bending , cutting in required shape and size and colour coding with heat shrinkable PVC sleeves. Electrolytic grade Aluminium bus bar	24.00	kg	420.00	Rupees Four Hundred & Twenty Only	10080.00
53.00	SF of 110/220 V, LED (22.5 mm dia) Indicating lamp with integral circuit, terminal block, including connection etc. as required. Red/yellow/Green colour	6.00	Each	150.00	Rupees One Hundred & Fifty Only	900.00
54.00	P & F of ac operated heavy duty 230 /440 Volt power contactor conforming to IS:13947-4-1/IEC:947-4-1 having provision of mechanical interlocking, auuxiliary contacts, Din rail mounting type including making connections, testing etc. as required. Chapter 4 pole Power contactors with following AC 1 Rating 100 Amp	6.00	Each	5744.00	Rupees Five Thousand Seven Hundred & Forty Four Only	34464.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
55.00	P&F of mechanical / digital time switch having following day / week programme and minimum 100 hours reserve and AC1 rating of 16-20 amperes including making connection, programming etc. as required Chapter One day & week reserve (digital type)	6.00	Each	5746.00	Rupees Five Thousand Seven Hundred & Forty Six Only	34476.00
56.00	SITC of quick make and quick break 4 POLE current limiting MCCB having following current rating, short circuit breaking capacity at 440/415 V, 50 Hz; O/L & S/C settings and conforming to IS 60947-2 / IEC 60947-2 with front face and centralised adjustable, line load interchangeability, having positive isolation capability, provision for UVR , shunt trip ,earth fault trip, push (test) to trip , including making connections with lugs & spreaders, etc. as required. With Thermal Magnetic release up to 100 Amp , 25 kA, adjustable O/L & fixed S/C setting, Ics = 100 % Icu	6.00	Each	6341.00	Rupees Six Thousand Three Hundred & Forty One Only	38046.00
57.00	P/Laying P.V.C. / XLPE insulated & P.V.C. sheathed cable of 1.1 KV grade with aluminium conductor of IS:1554 P-I / IS :7098 P - I of Group 1 of approved make in ground as per IS:1255 including excavation of 30cmx75cm size trench, 25 cm thick under layer of sand, Ind class bricks covering, refilling earth, compaction of earth, making necessary connection, testing etc. as required of size.					
57.10	16.0 Sq.mm 2 core	24000.00	Mtr.	152.00	Rupees One Hundred & Fifty Two Only	3648000.00
57.20	25.0 Sq.mm 3.5 core	500.00	Mtr.	208.00	Rupees Two Hundred & Eight Only	104000.00
57.30	50.0 Sq.mm 3.5 core	500.00	Mtr.	299.00	Rupees Two Hundred & Ninety Nine Only	149500.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:				Excess (+)		%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
58.00	Supplying and making one end termination with heavy duty single compression brass gland SIBG type, heavy duty aluminium lugs duly crimped with crimping tool, PVC tape etc for following size of Armoured PVC insulated & PVC sheathed/ XLPE aluminium conductor cable of 1100 volt grade as required of size.					
58.10	3.5 x 25.0 sq.mm	6.00	Per Set	114.00	Rupees One Hundred & Fourteen Only	684.00
58.20	3.5 x 50.0 sq.mm	6.00	Per Set	132.00	Rupees One Hundred & Thirty Two Only	792.00
58.30	2 x 16.0 sq.mm	18.00	Per Set	60.00	Rupees Sixty Only	1080.00
59.00	Plate Earthing as per IS:3043 with G.I. Earth plate of size 600mm x 600mm x 6.0mm by embodying 3 to 4 mtr. below the ground level with 25 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer ,nipple, wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size300mm x 300mm complete with alternate layers of salt and coke/charcoal, testing of earth resistance as required.	6.00	Per Set	4250.00	Rupees Four Thousand Two Hundred & Fifty Only	25500.00
60.00	S & Laying following size earth wire/strip in horizontal or vertical run in ground/surface/recess including riveting, soldering, saddles, making connection etc. as required. 8 SWG G.I. (Hot Dipped) Wire	6000.00	Mtr.	9.00	Rupees Nine Only	54000.00
61.00	S & Laying following size ' B ' class G.I. Pipe confirming to IS : 1239 P - 1 (1990) with accessories for laying earth conductor/strip / cable in ground/ surface/ recess as required 100 mm dia.	50.00	Mtr.	667.00	Rupees Six Hundred & Sixty Seven Only	33350.00
62.00	Octagonal MS Poles made of S-355JO grade steel sheet , folded lengthwise to obtained Octagonal shape, having single longitudinal seam weld and hot dipped galvanised internally & externally in accordance with IS 2629. (See Table E - 10 for specs.) 8 Mtr.	200.00	Each	12300.00	Rupees Twelve Thousand Three Hundred Only	2460000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
63.00	Supply, Erection and Fixing of hot dipped galvanised Overhang (48.3 X 3.25 mm) with cap (400 x 88.9 / 114.3 x 3.25 mm) over the existing poles					
63.10	Single arm overhang	196.00	Mtr.	890.00	Rupees Eight Hundred & Ninety Only	174440.00
63.20	Double arm overhang	4.00	Mtr.	1560.00	Rupees One Thousand Five Hundred & Sixty Only	6240.00
64.00	P&F 240/415 V AC MCB with positive isolation of breaking capacity not less than 10 KA (B/ C/ D tripping characteristic) ISI marked IS 8828(1996)]/ conforming to IEC 60898 in existing board/sheets including making connections with lugs, testing etc. as required. Single pole & neutral MCB 40 A 63 A rating	18.00	Each	660.00	Rupees Six Hundred & Sixty Only	11880.00
65.00	Providing and fixing of 120W LED street light with pressure die cast aluminium housing & toughened glass with IP-66 degree of protection. Individual LED's must have lenses for better throw across & along the road with luminaire efficacy of greater than 100Lumen/watt, colour rendering (CRI) of = 70 and co-related colour temperature (CCT) of 5700K (±500K). The luminaire should bear 5KV surge protection, PF =0.9 (HPF) and total harmonic distortion of THD =10%, voltage range of 140-280V. Luminaire should have maintainable driver compartment for easy access during maintenance. The driver used must be a constant voltage/current driver with efficiency of =85% and compliance to IEC standards 60598. System life 50000 burning hours. The manufactures LOGO must be embossed into the housing of the luminaire. Manufactures to provide certificate of compliance LM80 from source manufacturer and should have adequate testing facilities at works (Approved by ministry of science Govt. of India/NABL) to perform tests LM80 and LM79. LED Make:- Philips, Bajaj, Keselec.	204.00	Each	29000.00	Rupees Twenty Nine Thousand Only	5916000.00

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of elevated road from Sodal tri junction to LIC office near Ambedkar Circle, Jaipur						
Contract No: NIB NO. EE (Project-1)/2015_16/NIB_9						
Bidder Name:			Excess (+)			%
SCHEDULE OF WORKS						
Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
66.00	P / L of Double wall corrugated HDPE pipe confirming to IS : 14930 P - 1 & 2 with HDPE Coupler at 1 mtr. Depth below the ground for laying cable including making the trench and back filling , compaction of earth as required of Gemini or IS:14930 marked make. Outer Dia. / Inner dia. 110 / 95 mm	7000.00	Mtr.	200.00	Rupees Two Hundred Only	1400000.00
Total Estimated Cost in Figures						2051184000.20
Quoted Amount					2051184000.20	2051184000.00
Quoted Rate in Words		Rupees Two Hundred Five Crore Eleven Lakh Eighty Four Thousand Only				