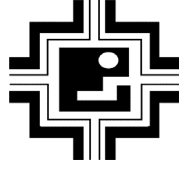


JAIPUR DEVELOPMENT AUTHORITY



Bid Document

For

P/L/J of DI, HDPE pipe line for reuse of treated sewage water from 1 MLD CETP, Sahkar marg to Green belt along with Sahkar Marg, Jaipur.

Cost : Rs. 5.80

NIB No. 03/2020-21

Due on: 28.09.2020

**Executive Engineer (PHE-I)
Jaipur Development Authority
Jaipur**

जयपुर विकास प्राधिकरण, जयपुर

इन्दिरा सर्किल, जवाहर लाल नेहरू मार्ग, जयपुर-302004

क्रमांक जविप्रा/अधि.अभि. (पीएचई- I)/2020-21/D-326

दिनांक : 16.09.2020

निविदा सूचना

निविदा सूचना सं0 अधि. अभि. (पीएचई- I)/03/2020-21

जयपुर विकास प्राधिकरण द्वारा **“P/L/J of DI HDPE pipe line for reuse of treated sewage water from 1 MLD CETP, Sahkar marg to Green belt along with Sahkar Marg, Jaipur.”** जिसकी अनुमानित लागत रु 5.80 लाख के लिए ऑनलाईन बिड्स दिनांक 28.09.2020 को सायं 6:00 बजे तक आमन्त्रित की जाती है। निविदा बोली का ऑनलाईन आवेदन व भुगतान जविप्रा पोर्टल पर करने की अन्तिम तिथी 28.09.2020 को सायं 6:00 बजे तक है। निविदा बोली के दस्तावेजों का विस्तृत विवरण www.sppp.rajasthan.gov.in, www.eproc.rajasthan.gov.in and www.jda.urban.rajasthan.gov.in पर देखा जा सकता है।

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

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

-SD-

अधिशायी अभियंता (पीएचई- I)
जविप्रा, जयपुर।

JAIPUR DEVELOPMENT AUTHORITY

Room No. 135, Main Building, Ram Kishore Vyas Bhavan, Indira Circle, JawaharLal Nehru Marg, Jaipur – 302 004
Telephone: +91-141-2569696 E.mail: zepheljda@yahoo.in

No: - JDA/EE/PHE-I/2020-21/D-326

Dated: 16.09.2020

NOTICE INVITING BID

NIB No. : JDA/EE (PHE-I)/03/2020-21

Online Bids are invited up-to 6.00 PM of 28.09.2020 for **“P/L/J of DI HDPE pipe line for reuse of treated sewage water from 1 MLD CETP, Sahkar marg to Green belt along with Sahkar Marg, Jaipur.”** Estimated cost of Rs. 5.80 lacs. The last date for Applying Bid and making online payment on JDA portal is up-to 6.00 PM of 28.09.2020. Details may be seen in the Bidding Document at our office or the State Public Procurement Portal website www.sppp.rajasthan.gov.in, www.eproc.rajasthan.gov.in and www.jda.urban.rajasthan.gov.in.

To participate in the bid, bidder has to be:

1. Registered on JDA website www.jda.urban.rajasthan.gov.in, For participating in the Bid, the Bidder has to apply for the Bid and pay the Bidding 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.

-SD-

(M. L. Jangid)
Executive Engineer (PHE-I)
JDA, Jaipur

JAIPUR DEVELOPMENT AUTHORITY

Room No. 135, Main Building, Ram Kishore Vyas Bhavan, Indira Circle, JawaharLal Nehru Marg, Jaipur – 302 004
Telephone: +91-141-2569696 E.mail: zepheljda@yahoo.in

Bid No: - JDA/EE/PHE-I/2020-21/D-326

Dated: 16.09.2020

NOTICE INVITING BID

NIB No. : JDA/EE(PHE-I)/03/2020-21

Name & Address of the Procuring Entity	➤ Name: Executive Engineer (PHE-I), Jaipur Development Authority Address: Room No. 135, Main Building, Ram Kishore Vyas Bhavan, Indira Circle, JawaharLal Nehru Marg, Jaipur – 302 004 Telephone: +91-141-2569696 E.mail: zepheljda@yahoo.in
Subject Matter of Procurement	➤ P/L/J of DI HDPE pipe line for reuse of treated sewage water from 1 MLD CETP, Sahkar marg to Green belt along with Sahkar Marg, Jaipur. ➤ Job No. : 080/2020-2021
Bid Procedure	➤ Single Stage Tender (eg. Single-stage Two part (envelope) open competitive) eBid procedure at http://eproc.rajasthan.gov.in
Bid Evaluation Criteria (Selection Method)	➤ L1 (eg. Least Cost Based Selection (LCBS)-L1)
Websites for downloading Bidding Document, Corrigendum's, Addendums, etc.	➤ Websites: www.sppp.rajasthan.gov.in , www.eproc.rajasthan.gov.in , www.jda.urban.rajasthan.gov.in
Website for online Bid application participation and payment *	➤ Website: www.jda.urban.rajasthan.gov.in ➤ For participating in the Bid, the Bidder has to apply for this Bid and pay the Bidding Document Fee, RISL Processing Fee and Bid Security Deposit, online only. ○ Bidding document fee: Rs. 100/- (Rupees One Hundred Only) ○ RISL Processing Fee: Rs. 500/- (Rupees Five Hundred only) Requisite Bid Security Deposit
Estimated Procurement Cost	➤ INR 5,80,000.00/- (Rupees Five Lacs Eighty Thousand Only)
Bid Security Deposit	➤ Amount (INR) : 2% (Rs. 11,600/-) for A & AA class contractor registered in other department and 0.5% (2,900.00/-) for D & Above contractor registered in JDA. ➤
Date/Time/Place of Pre-Bid	➤ NA
Applying Bid and making Online Payment on JDA portal (www.jda.urban.rajasthan.gov.in)	➤ Start Date: 21.09.2020 at 9.30 AM ➤ End Date: 28.09.2020 at 06.00 PM ➤ In case EMD in from BG Original Bank Guarantee is to be submitted in Room No MB-SF-225A (Room No. of DD (E&B) of Main Building, Jaipur Development Authority by 29.09.2020 10.00AM to 01.10.2020 upto 5.00 PM
Bid Submission on e-Procurement Portal of GOR	➤ Start Date: 21.09.2020 at 9.30 AM ➤ End Date: 28.09.2020 at 06.00 PM
Date/Time/Place of Technical Bid Opening	➤ 05.10.2020 at 03.00 PM
Date/ Time/ Place of Financial Bid Opening	➤ Will be intimated later to the Technically qualified bidders in case of Two Bid
Bid Validity	➤ 120 days from the bid submission deadline
Completion period of work	➤ 06 Months
* Jaipur Development Authority has decided to receive Earnest Money Deposit (EMD) (Bid Security), Tender Fee and RISL processing fee online through JDA Portal. The bid security options available in tender for participants are as mentioned below:	

A. Payment Options:**Option-1: Bank Guarantee (BG) against EMD / Bid Security**

Bidder may opt Bank Guarantee (BG) against EMD (Bid Security), for which bidder requires to prepare BG before applying in the tender. The details of BG requires to be fed on JDA portal before paying balance amount (Tender Fee + RISL Processing Fee). This amount will be paid through Payment Gateway only, option to make balance payment through EFT (RTGS/NEFT) will not be available.

If bidder does not opt for BG against EMD, options of making complete payment through Payment Gateway or through EFT (NEFT / RTGS) will be available.

Option-2: Electronic Fund Transfer (EFT: NEFT/RTGS)

If the bidder selects payment mode as EFT (NEFT/RTGS), "Paying Slip for EFT (NEFT/RTGS)" will be generated by the system for the complete amount. The payment can be made from any Bank any Branch using this Paying Slip through NEFT/RTGS (Claim against payment made through EFT in any other JDA bank account will not be acceptable and bidder stands disqualified from participation in the bid applied for). After successful transaction through NEFT/RTGS, as per the standard procedures it may take 4 to 24 hours in process of confirmation of EFT through Auto-Process depending on the time of EFT done. Therefore, option to make payment through EFT (NEFT/RTGS) will be available till 48 hours prior to closing date of bid participation.

Option-3: Payment Gateway (Aggregator)

The facility to make payment through Debit Card, Credit Card, Net banking etc., will be available. User can use this facility from anywhere any time till the closing date & time of bid participation.

B. Bid Participation Receipt

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

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

Note:

1. Bidder (authorised signatory) shall submit their offer on-line in Electronic formats both for technical and financial proposal.
2. In case, any of the bidders fails to pay the Tender Fee, BSD, and RISL Processing Fee, online (subject to confirmation), its Bid shall not be accepted.
3. To participate in online bidding process, Bidders must procure a Digital Signature Certificate (Type III) as per Information Technology Act-2000 using which they can digitally sign their electronic bids. Bidders can procure the same from any CCA approved certifying agency, i.e. TCS, Safecrypt, 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 requested to upload the complete bid well advance in time so as to avoid 11th hour issues like slow speed; choking of web site due to heavy load or any other unforeseen problems.
5. Bidders are also advised to refer "Bidders Manual Kit" available at eProc website for further details about the e-Tendering process.
6. Training for the bidders on the usage of e-Tendering System (eProcurement) is also being arranged by DoIT&C, GoR on a regular basis. Bidders interested for training may contact e-Procurement Cell, DoIT&C for booking the training slot.
Contact No: 0141-4022688 (Help desk 10 am to 6 pm on all working days) e-mail: eproc@rajasthan.gov.in Address : e-Procurement Cell, JDA, Yojana Bhawan, Tilak Marg, C-Scheme, Jaipur
7. The procuring entity reserves the complete right to cancel the bid process and reject any or all of the Bids.
8. No contractual obligation whatsoever shall arise from the bidding document/ bidding process unless and until a formal contract is signed and executed between the procuring entity and the successful bidder.
9. Procurement entity disclaims any factual/ or other errors in the bidding document (the onus is purely on the individual bidders to verify such information) and the information provided therein are intended only to help the bidders to prepare a logical bid-proposal.
10. The provisions of RTPPA Act 2012 and Rules 2013 thereto shall be applicable for this procurement. Furthermore, in case of any inconsistency in any of the provisions of this bidding document with the RTPP Act 2012 and Rules thereto, the later shall prevail.

-SD-

(M. L. Jangid)

Executive Engineer (PHE-I)
JDA, Jaipur

Annexure: 3
As 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 on line 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 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 detail is available on JDA website www.jaipurjda.org under [eServices](#)>>JDA Tender

Section A-1

Instructions to Bidders

JAIPUR DEVELOPMENT AUTHORITY JAIPUR

SCHEDULE AND SPECIFICATIONS

Name of work:- P/L/J of DI HDPE pipe line for reuse of treated sewage water from 1 MLD CETP, Sahkar marg to Green belt along with Sahkar Marg, Jaipur.

- | | |
|-------------------------------------|---|
| 1. NIB No. | : - E.E.(PHE-I)/03/2020-21 |
| 2. Bid cost | : - Rs. 05.80 Lac |
| 3. Cost of the tender documents | : - Rs 500/- |
| 4. Earnest Money | : - Rs. @ ½% Rs. 2,900/-
(For Contractors Enlisted in JDA in class D/C/B/A/AA, Jaipur)
: - Rs. @ 2 % Rs. 11,600/-
(For Contractors Enlisted in other Govt. Deptts. In Class-A/AA category) |
| 5. Download of tender documents | : - 21.09.2020 to 28.09.2020 (upto 6.00 PM) |
| 6. Date & Time of upload of tenders | : - 28.09.2020 (upto 6.00 P.M.) |
| 7. Date & Time of Opening tenders | : - 05.10.2020 at 3.00 P.M. |
| 8. Completion period of work | : - 6 Months. |

SCHEDULE 'A' : INFORMATION USEFUL FOR THE CONTRACTORS :

The tenderer should see the site and fully understand the condition of the site before tendering and include all lead, lifts etc. **Percentage above/Below or equal to be quoted on the rates as given in the 'G' Schedule.** The work shall be carried out in accordance with the Rajasthan PWD, PHED and JDA detailed specification and to the entire satisfaction of the Engineer-In charge of the work.

SCHEDULE 'B' : LIST OF THE DRAWING TO BE SUPPLIED BY THE DEPARTMENT:

The drawings may also be seen in the office of undersigned.

SCHEDULE 'C' : LIST OF THE DRAWING TO BE SUPPLIED BY THE CONTRACTOR:

List of the drawing to be supplied by the contractor NIL. But the contractor shall have to arrange at his own cost drawings required for the work after depositing necessary cost within JDA.

SCHEDULE 'D' : TEST OF THE MATERIALS :

The test of the material 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 standards and or the standards laid down in the detailed specification of the Public Works Deptt., Proper quality control is required to be maintained by the contractor. Qualified personnel as required under the contractor enlistments rules duly approved by the Deptt. shall have to be engaged at site by the contractor. The deptt. reserves the right to engage such staff and recover the expenses from the contractor on such account in case of his failure to do so.

SCHEDULE 'E' : SAMPLES OF THE MATERIALS :

The samples of the material to be used by the contractor shall be deposited 15 days in advance with the Engineer In charge and be got approved by him before use.

SCHEDULE 'F' : TIME OF COMPLETION :

The work should start within Ten days of issue of work order and complete **within 6 months.**

SCHEDULE 'G' : ATTACHED SEPARATELY BASED ON JDA PHE BSR & JDA PWD BSR 2016.

SCHEDULE 'H' : SPECIAL CONDITION.

SCHEDULE 'I' : SPECIAL TERMS & CONDITION FOR DRINKING WATER PIPE LINE WORKS : ATTACHED SEPARATELY.

Annexure A : Compliance with the code of Integrity and No Conflict of Interest

Annexure B : Declaration by the Bidder regarding Qualifications

Annexure C : Grievance Redressal during Procurement Process

Annexure D : Additional Conditions of Contract

Annexure E : DLP period for various type of works. Office order D-29 date 11.03.2016

SIGNATURE OF CONTRACTOR

with full address & Mobile No. :

**EXECUTIVE ENGINEER (PHE-I)
Jaipur Development Authority,
Jaipur**

Section A-2

General Conditions of Contract

(Appendix XI of PWF & AR. Govt. of Rajasthan
effective up to date shall be applicable)

Section A-3

Scope of work & Special Conditions of Contract

SCHEDULE 'I'

Name of work:- P/L/J of DI HDPE pipe line for reuse of treated sewage water from 1 MLD CETP, Sahkar marg to Green belt along with Sahkar Marg, Jaipur.

Scope of work:-

1. P/L/J of HDPE/DI pipe line for reuse of treated sewage water to green belt along with Sahkar Marg from 1 MLD CETP, Sahkar Marg. as per site requirement.

SPECIAL CONDITIONS OF THE CONTRACT (Part-A)

2. Contractor shall get the D.I. pipe inspected from the third party (CEIL, SGS, RITES) before bringing the material at site. The inspection charges shall be born by the contractor. No payment of these items shall be made before the third party inspection.
3. In case of pipe line testing shall be done as per the relevant Code and the leakage level shall not be more than as per IS 8329. Only 80% of the payment shall be released after providing, laying and jointing of pipes and special in trenches, 20% of the payment shall be released after testing as above.
4. The quantity of work can be increased or decreased. However, no guarantee is given about the actual quantity of work.
5. No extra payment shall be made to the contractor on account of excavation in collapsible strata or in hard or rocky strata. The tenderers shall have to make their own arrangement for completing the work and no claim in this respect will entertained.
6. On collection of complete material for each section the same shall be got checked by Engineer-in-Charge or his authorized representative. Such approval shall in no way release the contractor of his responsibility regarding completion of work, as per required specification until the contract is complete.
7. The electric connection, if required, for construction and testing purpose shall be arranged by the contractor at his own cost.
8. The contractor shall make his own arrangement regarding water required for the execution and testing of the work and shall also arrange for the supply of drinking water to his own employees. He shall defray all charges in this connection and should include in his rates a sufficient amount to cover such charges. All such facilities as are required now to be provided for the labour, made under labour welfare rules enforce, shall also be provided by the contractor at his own cost.
9. The contractor will be required to see that the usual hours of work are adhered too. No work shall be done after the sun set without the permission of the engineer-in-charge.
10. The contractor/firm or company while executing the work will adopt all safety measures at his cost to safeguard from any loss of life and damage of public and private property. If any loss and damage is occurred, they will pay the full compensation from their own pocket to the concern. All the consequence (legal and or financial) will be born by the contractor only and JDA will not be responsible in any way.
11. Water for construction / testing purpose shall have to arranged by contractor at his own cost. If water is supplied by the department, the same shall be recovered from the contractor from each running bill at the rate of 1% of total value of pipe line laying work, In case of metered connection the charges shall be recovered on the actual consumption basis on the commercial rates.
12. The contractor shall be fully responsible for structural safety and water tightness of pipeline when tested.
13. No secured advance against material procured at site will be allowed.
14. Pipeline laying should be done in the presence an Engineer not below the rank of Junior Engineer of the JDA, and trench shall be refilled after checking of Assistant engineer. After taking layout, the contractor shall submit day to day schedule of work to the Engineer-in-charge in advance.
15. The contractor/firm or company will take utmost care to safeguard the water mains, Electric and Telephone cable existing surface drains water connections etc., while executing the work. Any damages/rectification shall be born by the contractor only
16. The contractor shall, at his own cost, arrange to provide, erect and maintain necessary display boards/ flags/banners etc. at selection points of project site giving such information as considered necessary for public awareness/ information/ safety as directed by the Engineer-in-charge.
17. Contractor shall provide sufficient number of boards at site of work indicating "JDA AT WORK" at his own cost as required by Engineer-in-charge.
18. The surplus earth and damaged materials will be immediately removed from the site of work and dumped as per instruction of Engineer-in-charge.
19. The material collected at site and paid provisionally shall remain under the watch and ward of the contractor till it is consumed fully on the work.
20. Any material not conforming to the specifications collected at site shall have to be removed by the contractor within a period of 3 days of the instructions, issued by the Engineer-in-charge, failing which, such material shall be removed by the Engineer-in-charge at risk and the contractor after expiry of 3 days period.
21. The contractor/firm/company is bound to get the workmen insured against accident from the Insurance Company at his own cost.
22. Contractor shall be the sole custodian of the men and material at work and will be fully responsible for any loss of life or otherwise occurred during the execution of the works.

23. The Engineer – in – Charge or his authorized representative will carry out as and when considered necessary for the quantity and quality of work done and for the materials used in the work. The contractor, unless otherwise specified shall provide all facilities and arrangements to undertake these tests and all testing charges shall be borne by the contractor.
24. The contractor shall supply required quantity of samples desired by executive engineer, the samples so obtained shall be sent to authorized laboratory for testing, if the material is not found according to the specifications the entire lot of supply will also be rejected. The entire cost of samples and testing shall be borne by the contractor.
25. **Defects Liability period**
The defect liability period shall be as per JDA office order no. JDA/Ex.En. (TA to Dir. Eng.-1)/2016/D-29 dated 11.03.16 (Annexure 'E').
26. **As Built Drawings.**
The submission of the As-built drawings of the water line work is the precondition for the final payment. The final drawings shall be submitted in one reproducible set and 3 copies on linen bound in an album of an approved size. The contractor shall submit all the completion drawings. The scale of drawing and the size of drawing shall be as per the direction of the Engineer in Charge.
27. The contractor shall be solely responsible for all kind of liaison before starting the work with PHED/Other JDA zone/JVVNL & BSNL etc. which is required to avoid any damage of already laid pipe lines, Electric, BSNL cables. The contractor shall also liaison for the inter connection work with existing PHED system.
28. Before start of work contractor has to inform concerned JDA zone officers to avoid/minimize road damage
29. If there is any typographical error or otherwise in the 'G' Schedule. The nomenclature and the rates as given in the relevant BSR and JDA approved items/rates on which schedule 'G' is based, shall prevail.
30. There shall be Agra-Jaipur NH-21 crossing by trenchless technology method. For which necessary permission for national highway authority shall be taken by contractor. Department shall assist in obtaining such permission. Necessary fee's shall be deposited by contractor to NHAI authority and shall be reimbursed by JDA on actual basis.
31. Crossing of pipe line through Agra-Jaipur national highway shall be taken in supervision of NHAI and JDA presence in strict compliance of specification & NHAI JDA guide lines and their direction.
32. All pipe laid shall be painted by enamel paint in red or any other color approved by EIC with embossing SEWER LINE at interval of every one meter.
33. MS casing pipes is used for laying of pipe line by trenchless technology method shall be got approved by EIC.
34. If any underground utility or structure is damaged during laying of MS casing pipe same shall be repair immediately by contractor for which no any payment shall be made.
35. All prerequisite permission/survey/investigation shall be carried out by contractor for which no charge shall be paid.

SPECIAL CONDITIONS OF THE CONTRACT (Part-B)

1 PROVISION FOR NOMINAL REINFORCEMENT IN PRE-CAST RINGS

The Contractor shall provide steel reinforcement as per design requirement in each Pre-Cast M-40 Grade Circular Rings, along with nominal **reinforcement @ 0.12%** of gross cross sectional area in both the direction i.e. vertical bar & circular rings) subject to a minimum of nominal reinforcement as per Code of "*Practice of Plain and Reinforced Concrete*" IS:456 2000. **No extra payment shall be made to him/firm on this part. The Contractor should therefore take provisions accordingly.**

SETTING OUT

2. The contractor(s) shall set out the whole of the work in conjunction with an officer to be deputed by the Engineer-in-charge and during the progress of the work to amend on the requisition of the Engineer-in-charge any errors which may arise therein and provide all the necessary Labour materials and equipments for so doing. The contractor has to provide all tools, plant, machinery, Labour and materials which may be necessary and required for the work. All materials and workmanship shall conform to the relevant specifications mentioned in the tender documents.
3. The contractor shall carryout the detailed topographic survey (level survey) with in the site and prepare the pre-commencement maps for approval of the Engineer-in-charge. Based on the approved pre-commencement maps showing spot levels of road crossing, the contractor will prepare the necessary working drawings and L-sections for the purpose of execution of work.

Public Awareness / Information Display

4. The contractor shall, at his own cost, arrange to provide, erect and maintain necessary display boards/ flags/banners etc. at selection points of project site giving such information as considered necessary for public awareness/ information/ safety as directed by the Engineer-in-charge.
5. Contractor shall provide sufficient number of boards at site of work indicating "**JDA AT WORK**" at his own cost as required by Engineer-in-charge.

Site office for Engineer-in-charge and other supervisory staff

6. The contractor shall arrange to provide office at his own cost with two tables, five chairs, two steel almirah, display board, etc., fully furnished office accommodation within 15 days from the

date of commencement of work as per requirements/ directions of the Engineer-in-charge including maintenance of the same.

Transport of material is contractor's responsibility.

7. It shall be mandatory on the part of the contractor to arrange Crane of suitable size for the transportation, loading, unloading, and fixing in position of the Pre-cast manhole elements. No manual labour for such purpose shall be engaged.
8. The tested material will be transported to site by the contractor safely. If any material or pipe/pre-cast elements got damaged during transportation, loading, unloading, stacking and lowering in the trench the same will be rejected and no payment shall be made.
9. The surplus earth and damaged materials will be immediately removed from the site of work and dumped as per instruction of Engineer-in-charge.
10. The material collected at site and paid provisionally shall remain under the watch and ward of the contractor till it is consumed fully on the work.
11. Any material not conforming to the specifications collected at site shall have to be removed by the contractor within a period of 3 days of the instructions, issued by the Engineer-In-charge in writing. failing which, such material shall be removed by the Engineer-In-charge at risk and the contractor after expiry of 3 days period.

Materials

12. Cement and steel shall not be supplied by the department.
13. Steel, when arranged by the contractor shall produce a test certificate for the whole lot as per the IS Code provisions from an authorized laboratory approved by the Engineer-in-charge.
14. Water for construction and testing purpose shall have to be arranged by the contractor at his own cost. In case it is supplied by the JDA, charges @ 1% of total value of item of construction work shall be taken and recovered from each running bill.

As Built Drawings.

15. The submission of the as-built drawings of the sewer work is the precondition for the final payment. The final drawings shall be submitted in one reproducible set and 3 copies on linen bound in an album of an approved size. The contractor shall submit all the completion drawings **including L-Section and point file** and approved design calculations on CD ROM / DVD in two copies with proper directory structure. The scale of drawing and the size of drawing shall be as per the direction of the Engineer in Charge.

Safety aspects associated with the work.

16. **Safety And Accident Prevention Officer:** Due precautions shall be taken by the Contractor, at his own cost, to ensure the safety and protection against accidents of all staff and Labour engaged on the works, local residents in the vicinity of the works, and the public traveling through the works. The contractor shall deploy at least one officer from his staff, qualified to promote and maintain safe working practices. This/these officer(s) shall has/have authority to issue instructions and shall take protective measures to prevent accidents, including but not limited to the establishment of safe working practices and the training of staff and labor in their implementation. The contractor shall furnish to the department the name(s) of such officer(s) before the start of the work.
17. The contractor/firm or company while executing the work will adopt all safety measures at his cost to safeguard from any loss of life and damage of public and private property. If any loss and damage is occurred, they will pay the full compensation from their own pocket to the concern. All the consequence (legal and or financial) will be borne by the contractor only and JDA will not be responsible in any way.
18. The contractor shall not work before sunrise and after the sunset.
19. The contractor/firm or company will take utmost care to safeguard the water mains, Electric and Telephone cable existing surface drains water connections etc., while executing the work. Any damages/rectification shall be borne by the contractor only .

20. The contractor/firm/company is bound to get the workmen insured against accident from the Insurance Company at his own cost.
21. The contractor will pay compensation to the house owner or to the owner of any adjoining property or any other works for the damaged sustained on account of this work while in progress or complete from his own pocket.
22. Electric and water connections, if needed, shall be arranged by the contractor himself at his own cost.
23. Contractor shall be the sole custodian of the men and material at work and will be fully responsible for any loss of life or otherwise occurred during the execution of the works

OMMISSIONS AND CORRECTIONS

If there is any typographical error or otherwise in the 'G' Schedule. The nomenclature and the rates as given in the relevant PWD BSR 2014-15 for water supply & sewer work and BSR 2016 for building works JDA approved items/rates on which schedule 'G' is based, shall prevail.

Special Conditions:-

1. The contractor shall for the purpose of this conditions keep such books of accounts and other documents are necessary to show the amount of any increase climbed or reduction available and shall allow inspection of the same by a duly authorized representative of JDA and further shall at the request of the Engineer-in-charge furnish, verified in such a manner as the Engineer-in-charge may required any documents so kept and such other information as the Engineer-in-charge may require Contractor shall get the material inspected from the third party (CEIL, SGS, RITES) before bringing the material at site. The inspection charges shall be born by the contractor. No payment of these items shall be made before the third party inspection.
2. In case of pipe line testing shall be done as per the relevant Codal and the leakage level shall not be more than as per IS 8329. Only 80% of the payment shall be released after providing, laying and jointing of pipes and special in trenches, 20% of the payment shall be released after testing as above.
3. The JDA shall be free to carry out the work from any participating agency on the rate of lowest bidder during the concurrency of rate contract.
4. The contractor shall submit the proof of ownership of suitable machinery for laying of pipeline in all type of strata.
5. The quantity of work can be increased or decreased. However, no guarantee is given about the actual quantity of work.
6. No extra payment shall be made to the contractor on account of excavation in collapsible strata or in hard or rocky strata. The tenderers shall have to make their own arrangement for completing the work and no claim in this respect will entertained.
7. On collection of complete material for each section the same shall be got checked by Engineer-in-Charge or his authorized representative. Such approval shall in no way release the contractor of his responsibility regarding completion of work, as per required specification until the contract is complete.
8. The electric connection, if required, for construction and testing purpose shall be arranged by the contractor at his own cost.
9. The contractor shall make his own arrangement regarding water required for the execution and testing of the work and shall also arrange for the supply of drinking water to his own employees. He shall defray all charges in this connection and should include in his rates a sufficient amount to cover such charges. All such facilities as are required now to be provided for the labour, made under labour welfare rules inforce, shall also be provided by the contractor at his own cost.
10. The contractor will be required to see that the usual hours of work are adhered too. No work shall be done after the sun set without the permission of the engineer-in-charge.
11. The contractor/firm or company while executing the work will adopt all safety measures at his cost to safeguard from any loss of life and damage of public and private property. If any loss and damage is occurred, they will pay the full compensation from their own pocket to the concern. All the consequence (legal and or financial) will be born by the contractor only and JDA will not be responsible in any way.
12. Water for construction / testing purpose shall have to arranged by contractor at his own cost. If water is supplied by the department, the same shall be recovered from the contractor from each running bill at the rate of 1% of total value of pipe line laying work, In case of metered connection the charges shall be recovered on the actual consumption basis on the commercial rates.
13. The contractor shall be fully responsible for structural safety and water tightness of pipeline when tested.
14. No secured advance against material procured at site will be allowed.
15. Pipeline laying should be done in the presence an Engineer not below the rank of Junior Engineer of the JDA, and trench shall be refilled after checking of sector engineer. After taking layout, the contractor shall submit day to day schedule of work to the Engineer-in- charge in advance.

16. The contractor/firm or company will take utmost care to safeguard the water mains, Electric and Telephone cable existing surface drains water connections etc., while executing the work. Any damages/rectification shall be born by the contractor only.
17. The contractor shall, at his own cost, arrange to provide, erect and maintain necessary display boards/ flags/banners etc. at selection points of project site giving such information as considered necessary for public awareness/ information/ safety as directed by the Engineer-in-charge.
18. Contractor shall provide sufficient number of boards at site of work indicating "JDA AT WORK" at his own cost as required by Engineer-in-charge.
19. The surplus earth and damaged materials will be immediately removed from the site of work and dumped as per instruction of Engineer-in-charge.
20. The material collected at site and paid provisionally shall remain under the watch and ward of the contractor till it is consumed fully on the work.
21. Any material not conforming to the specifications collected at site shall have to be removed by the contractor within a period of 3 days of the instructions, issued by the Engineer-in-charge, failing which, such material shall be removed by the Engineer-in-charge at risk and the contractor after expiry of 3 days period.
22. The contractor/firm/company is bound to get the workmen insured against accident from the Insurance Company at his own cost.
23. Contractor shall be the sole custodian of the men and material at work and will be fully responsible for any loss of life or otherwise occurred during the execution of the works.
24. The submission of the as-built drawings of the water line work is the precondition for the final payment. The final drawings shall be submitted in one reproducible set and 3 copies on linen bound in an album of an approved size. The contractor shall submit all the completion drawings and approved design calculations on CD ROM / DVD in two copies with proper directory structure. The scale of drawing and the size of drawing shall be as per the direction of the Engineer in Charge.
25. If there is any typographical error or otherwise in the 'G' Schedule. The nomenclature and the rates as given in the relevant PWD BSR 2014-15 for water supply & sewer work and BSR 2016 for building works and JDA approved items/rates on which schedule 'G' is based, shall prevail.

The above conditions may be read very carefully and adhered strictly.

I/we confirm above

Signature of contractor

**Executive Engineer (PHE-I)
JDA, Jaipur**

Section A-4

Specifications of Work

SUPPLY OF DI /UPVC PIPES, SPECIALS, VALVES AND LAYING OF PIPES FOR WATER SUPPLY**General****Standards**

Except as otherwise specified in this technical specification, the Indian/International Standards and Codes of Practice in their latest version shall be adhered to for the design, manufacturing, inspection, factory testing, packing, handling and transportation of product. Should any product be offered conforming to other standards, the equipment or products shall be equal to or superior to those specified and the documentary confirmation shall be submitted for the prior approval of the Engineer in Charge.

This specification requires a reference to the following standard specifications

IS: 4985	Unplasticized PVC pipes for potable water supplies
IS: 10151	PVC and its copolymers for its safe use in contact with foodstuffs, pharmaceuticals, and drinking water
IS: 10500	Drinking water specification
IS: 12235	Methods of test for unplasticized PVC pipes for potable water supplies
IS: 4669	Methods of test for PVC resin
IS: 12818	Unplasticized PVC screen and casing pipes for bore/tube well
IS: 3400	Methods of test for vulcanized rubber (part-1 to 22)
IS: 1387	General requirements for the supply of metallurgical material
IS: 210	Grey iron casting
IS: 1536	Centrifugally cast (spun) iron pressure pipe for water, gas and sewage
IS: 1537	Vertically cast iron pressure pipe for water, gas and sewage
IS: 1538	Cast iron fittings for pressure pipes for water, gas and sewage
IS: 5531	CI specials for Asbestos cement pressure pipes for water gas & sewage
IS: 1363	Hexagon head bolts, screws and nuts of product grade A and B (part:1-5)
IS: 1367	Technical supply conditions for threaded steel fasteners
IS: 780	Sluice valve for water works purposes
IS: 2906	Specifications for sluice valves for water works purposes
IS: 318	Leaded tin bronze ingots and casting
IS: 8543	Methods of testing plastics: Determination of density of solid plastics
IS: 7181	Horizontally cast iron double flanged pipes for water, gas and sewage.
IS: 8794	CI detachable joints for use with Asbestos cement pressure pipes
IS: 5382	Rubber sealing rings for gas mains, water mains and sewers
IS: 5531	Cast iron specials for asbestos cement pressure pipes for water, gas and sewage
IS: 779	Water meters
IS: 3624	Pressure and vacuum gauges
IS: 341	Black japan, types A, B and C
IS: 9862	Ready mixed paint, brushing, bituminous, black, lead free, acid, alkali, water and chlorine resisting
IS: 1239	Mild steel tubes, tubular and other wrought steel fittings
IS: 7328	High density polyethylene materials for moulding and extrusion
IS: 4984	Specification for high density polyethylene pipes for potable water supplies; sewage and industrial effluents
IS: 554	Dimensions for pipe threads where pressure tight joints are required on the threads
IS: 1592	Asbestos cement pressure pipes - Specifications
IS: 778	Specifications for copper alloy gate, globe and check valves for water works purposes
IS: 12820	Dimensional requirements for rubber gaskets for mechanical joints and push on joint for use with cast iron pipes and fittings for carrying water, gas and sewage.
IS: 9523	Specification for DI fittings for pressure pipes for water, gas, and sewage.
ISO: 2045	Single socket for uPVC and uPVC pressure pipes with elastic sealing ring type joints - Minimum depth of engagement
ISO: 2507	PVC pipes and fittings- Vicat softening temperature - Test method and specification
ISO: 3603	Fittings for PVC pipe with elastic sealing ring joints pressure test for leak profanes
ISO: 1167	Thermoplastics pipes for the transport of fluids - Resistance to internal pressure - Test method and basic specification
ISO 3451-5	Determination of Ash: Part-5 - Poly vinyl chloride
ASTM: D 2152	Standard test method for degree of fusion of extruded PVC pipe and moulded fittings by Acetone immersion
MTNL	Mahanagar Telephone Nigam Limited; Technical specifications for cable ducts.
BS: 4772	Specification for DI fittings
IS: 7634- Parts 1-3	Code of practice for plastic pipe works for potable water supplies
IS: 8329	Centrifugally cast (spun) ductile iron pressure pipes for water, gas and sewage.
IS: 12288	

Ductile Iron Pipe:-

The pipes will be centrifugally cast (spun) Ductile Iron pipes for Water and Sewage confirming to the IS 8329: 2000. The pipes used will be either with push on joints (Rubber Gasket Joints) or Flanged joints. The class of pipe to be used shall be of the class K-7.

The pipes shall be coated with bitumen as per appendix C and have factory provided cement mortar lining in the inside as per the provisions of Appendix B of the IS 8329: 2000.

The pipes will be supplied in standard length of 5.50 and 6.00 meters length with suitably rounded or chamfered ends. Each pipe of the push on joint variety will also be supplied with a rubber EPDM gasket. Any change in the stipulated lengths will be approved by the Engineer – in charge. The gaskets will confirm to the IS 5382:1985.

The gaskets should also be supplied by the manufacturer of the pipes. They should preferably be manufactured by the manufacturer of the pipes. In case they are not, it will be the responsibility of the manufacturer of the pipes to have them manufactured from a suitable manufacturer under its own supervision and have it tested at his/sub contractors premises as per the contract. The pipe manufacturer will however be responsible for the compatibility and quality of the products.

The flanged joints will confirm to the Clause 6.2 of IS 8329. The pipe supply will also include one rubber gaskets for each flange.

Inspection and Testing:

The pipes will be subjected to following tests for acceptance:

Visual and dimensional check as per Clause 13 and 15 of IS 8329

Mechanical Test as per Clause 10 of IS 8329

Hydrostatic Test as per Clause 11 of IS 8329

The test reports for the rubber gaskets shall be as per acceptance tests of the IS 5382 and will be in accordance to Clause 3.8

The sampling shall be as per the provisions of the IS 8329

Marking

All pipes will be marked as per Clause 18 of IS 8329 and show as below:

Manufacturer name/ stamp

Nominal diameter

Class reference

A white ring line showing length of insertion at spigot end

Packing and Transport:

The pipes should be preferably transported by road from the factory and stored as per the manufacturer specifications to protect damage.

Specials for Ductile Iron Pipes

General

This section covers the general requirements for Ductile Iron (DI) fittings suitable for Tyton joints to be used with Ductile Iron pipes with flanged and Tyton jointing system.

Types of specials

The following types of DI fittings shall be manufactured and tested in accordance with IS: 9523 or BS: 4772.

flanged socket

flanged spigot

Double socket bends (900, 450, 22 1/2 0, 11 1/4 0)

Double socket branch flanged tee

All socket tee.

Double socket taper.

All Flanged Tee.

All Flanged taper.

Supply

All the DI fittings shall be supplied with one rubber ring for each socket. The rubber ring shall conform to IS: 12820 and IS: 5382 as described in the preceding chapter. Flanged fittings shall be supplied with one rubber gasket per flange and the required number of nuts and bolts.

General

This section covers the requirements for lubricant for the assembly of Ductile Iron pipes and specials suitable for Tyton push-in rubber ring joints

Specification

The lubricant has to have the following characteristics:

must have a paste like consistency and be ready for use

has to adhere to wet and dry surfaces of DI pipes and rubber rings

to be applied in hot and cold weather; ambient temperature 0 - 50 °C, temperature of exposed pipes up to 70 °C

must be non toxic

must be water-soluble

must not affect the properties of the drinking water carried in the pipes

must not have an objectionable odour

has to inhibit bacterial growth

must not be harmful to the skin

must have a shelf life not less than 2 years

Acceptance tests

They shall be conducted in line with the provisions of the IS 9523

Packing

All the DI fittings shall be properly packed with jute cloth. Rubber rings shall be packed in polyethylene bags. Rubber rings in PE bags and nuts, bolts etc. shall be supplied in separate jute bags.

The fittings should also be supplied by the manufacturer of the pipes. They should preferably be manufactured by the manufacturer of the pipes. In case they are not, it will be the responsibility of the manufacturer of the pipes to have them manufactured from a suitable manufacturer under its own supervision and have it tested at his/sub contractors premises as per the contract. The pipe manufacturer will however be responsible for the compatibility and quality of the products.

Laying and jointing of DI pipes

Pipes should be lowered into the trench with tackle suitable for the weight of pipes. For smaller sizes, up to 200 mm nominal bore, the pipe may be lowered by the use of ropes but for heavier pipes suitable mechanical equipment have to be used.

All construction debris should be cleared from the inside of the pipe either before or just after a joint is made. This is done by passing a pull-through in the pipe, or by hand, depending on the size of the pipe. All persons should vacate any section of trench into which the pipe is being lowered

On gradients of 1:15 or steeper, precautions should be taken to ensure that the spigot of the pipe being laid does not move into or out of the socket of the laid pipe during the jointing operations. As soon as the joint assembly has been completed, the pipe should be held firmly in position while the trench is back filled over the barrel of the pipe.

The designed anchorage shall be provided to resist the thrusts developed by internal pressure at bends, tees, etc.

Where a pipeline crosses a watercourse, the design and method of construction should take into account the characteristics of the watercourse to ascertain the nature of bed, scour levels, maximum velocities, high flood levels, seasonal variation, etc. which affect the design and laying of pipeline.

The assembly of the pipes shall be made as recommended by the pipe manufacturer and using the suitable tools.

The socket and spigot ends of the pipes shall be brushed and cleaned. The chamfered surface and the end of the spigot end have to be coated with a suitable lubricant recommended by the manufacturer of the pipes. Oil, petroleum bound oils, grease or other material which may damage the rubber gasket shall not be used as lubricant. The rubber gasket shall be inserted into the cleaned groove of the socket. It has to be checked for correct positioning.

The two pipes shall be aligned properly in the pipe trench and the spigot end shall be pushed axially into the socket either manually or with a suitable tool specially designed for the assembly of pipes and as recommended by the manufacturer. The spigot has to be inserted up to the insertion mark on the pipe spigot. After insertion, the correct position of the socket has to be tested with a feeler blade

Deflection of the pipes -if any- shall be made only after they have fully been assembled. The deflection shall not exceed 75 % of the values indicated by the pipe manufacturer.

Anchoring of the pipeline

Thrust blocks shall be provided at each bend, tee, taper, end piece to prevent undue movements of the pipeline under pressure. They shall be constructed as per design of ENGINEER- IN- CHARGE according to the highest pressure during operation or testing of the pipes, the safe bearing pressure of the surrounding soil and the friction coefficient of the soil.

Leakage Test

After laying and jointing the pipeline shall be tested for tightness of barrels and joints, and stability of thrust blocks in sections approved by the Engineer in Charge. The length of the sections depends on the topographical conditions. Preferably the pipeline stretches to be tested shall be between two chambers (air valve, scour valve, bifurcation, other chamber). At the beginning, the Contractor shall test stretches not exceeding 2 km. After successful organization and execution of tests the length may be extended to more than 2 km after approval of the Engineer in Charge.

The water required for testing shall be arranged by the contractor himself. The Contractor shall fill the pipe and compensate the leakage during testing. The Contractor shall provide and maintain all requisite facilities, instruments, etc. for the field testing of the pipelines. The testing of the pipelines generally consists in three phases: preparation, pre-test/saturation and test immediately following the pre-test. Generally, the following steps are required which shall be monitored and recorded in a test protocol if required

The testing conditions for the pipelines are summarized as follows:

Maximum hydrostatic test pressure for DI K-7 pipes shall be 2.0 times of maximum design pressure in the pipeline.

Pre test and saturation period with addition of make-up water

Pressure:	Test pressure
Duration:	3 hrs for DI pipes without cement mortar lining / 24 hrs for DI pipes with cement mortar lining

Pressure test with addition of make-up water

Pressure:	Test pressure
Duration:	3 hrs

Test criteria for DI pipes: $Q = 1$ liter per km per 10mm of pipe per 30 m test pressure per 24 hrs.

All pressure testing at site should be carried out hydrostatically. The pipes shall be accepted to have passed the pressure test satisfactorily, if the quantity of water required to restore the test pressure as per the latest codal provisions does not exceed the amount 'Q', calculated by the above formula.

If it is required to test a section of a pipeline with a free end, it is necessary to provide temporary support against the considerable end thrust developed by the application of the test pressure. The end support can be provided by inserting a wooden beam or similar strong material in a short trench excavated at right angle to the main trench and inserting suitable packing between the support and pipe end.

The pipeline stretch will pass the test if the water added during the test period is not exceeding the admissible limits. No section of the pipe work shall be accepted by the Engineer in charge until all requirements of the test have been obtained.

On completion of a satisfactory test any temporary anchor blocks shall be broken out and stop ends removed. Backfilling of the pipeline shall be completed.

Failure to pass the test

All pipes or joints which are proved to be in any way defective shall be replaced or remade and re-tested as often as may be necessary until a satisfactory test shall have been obtained. Any work, which fails or is proved by test to be unsatisfactory in any way, shall be redone by the Contractor.

Flushing and disinfecting of pipelines

After testing and commissioning the contractor shall flush the pipes with a velocity not less than 1 m/s or as approved by the Engineer in Charge. Disinfection of drinking water pipelines shall be made by engineer- in charge.

Supply of Ductile Iron Pipes:-

The Contractor will have to supply DI pipes manufactured by manufacturer who has been in business of supply of DI pipes rubber ring jointed and have proven record of successful supply and testing of pipeline for minimum one year.

Valves

General

The sluice valve will conform to IS: 780/ IS: 2906.

The material to be supplied under this sub-section shall include but not be limited to the following:

All necessary fittings including bolts, nuts, gaskets, backing rings, counter flanges, jointing material, strainers etc. as required.

Sluice Valves

Scope

This section covers the requirements for non rising stem type sluice valve from 50 mm to 600 mm size. The valves will be used for water supply on line installations in upright positions, up to 450 C working temperature, with double flange and cap or hand wheel, for manual operation.

Nominal pressure and dimensions

The working pressure of the valves shall be 10 kg/cm² (1 MPa)

The dimension and mass of the sluice valves shall be in accordance with IS: 780 for sizes from 50 to 300 mm and IS: 2906 for sizes 350 to 600 mm.

The flanges and their dimensions of drilling shall be in accordance with IS: 1538 (part-I to XXII).

Material

The material for different component parts of sluice valve shall conform to requirements given below:

S No.	Component	Material	Ref. to IS	Grade / designation
1	Body, bonnet, wedge, stuffing box, gland, thrust plate, hand wheel cap. etc.	Grey cast iron	210	FG 200
2	Stem	Stainless steel	6603	AISI 431, AISI 410
3	Wedge nut	Leaded tin bronze	318	LTB 2
4	Body seat ring, wedge facing ring	Leaded tin bronze	318	LTB 2
5	Bolt	Carbon steel	1363	Class 4.6
6	Nut	Carbon steel	1363	Class 4
7	Bonnet gasket	Compressed fiber board	2712	C
8	Gland packing	Asbestos	4687	Nil

Coating

All sluice valves shall be coated by dipping in a bath of tar base composition as given in Clause 7 of IS: 780 for sizes from 50 mm to 300 mm and Clause 8 of IS: 2906 for sizes from 350 mm to 600.

All components susceptible to corrosion attack shall be coated internally and externally. Protective coating shall always be applied to the individual components before they are assembled, following shot blasting to give good adhesion.

Marking, testing and inspection

The standard marking and packing of the valves shall be done as per Clause 10 and 11 of IS: 780. The direction of rotation for OPEN, CLOSE position shall be marked on the hand wheel and on the bonnet of the valve.

Testing of sluice valve shall be done for close end in accordance with IS: 780 for sizes from 50 mm to 300 mm and IS: 2906 for sizes from 350 mm to 600.

All the valves shall be inspected for flaw detection test in accordance with IS: 780. for sizes from 50 mm to 300 mm and IS: 2906 for sizes from 350 mm to 600.

The design, construction material, manufacture, inspection, performance and testing shall comply with all applicable Indian Standards and Codes. Nothing in the specification will be construed to relieve the supplier of this responsibility.

Air valves

Scope and general design feature

This section covers the requirements of automatic double ball air valves to be used for evacuation of accumulation of air in water mains under pressure, for the exhaust of air when such mains are being charged with water and for inlet of air when they are emptied of water.

The Air Valves shall conform to IS14845. The design shall be such that higher the rate of flow the greater the resultant down thrust keeping the ball 'glued' to its seat until the last drop of air is expelled from the pipe system.

The valves shall have an integrated sluice valve. If required, they shall be installed on a flange welded on the MS pipe / special. The possible air velocity (inflow and outflow) must be at least 10 m/s. The working pressure of the air valves shall be 10 kg / cm² (1Mpa).

Construction feature

The flow of air should be as unobstructed as possible. The low-pressure orifice shall be in the same axis as the main discharge/incoming airflow and must have a diameter sufficiently large.

The cone angle in the low-pressure (large orifice) chamber should be carefully calculated and there should be adequate height to allow for free movement of the vulcanite ball in the low chamber. The annulus around the low-pressure vulcanite covered ball is to be generously proportioned for discharge of air under various differential pressures.

The orifice shall be carefully profiled to allow the requisite flow of air under varying differential pressure. It shall be in moulded synthetic rubber such that even after extended contact the vulcanite covered ball does not stick to it when the line pressure becomes zero.

In the high-pressure chamber the orifice shall be in profiled in such a manner that the rubber-covered ball is not damaged even after extended contact. There should be machined guide in the chamber, which ensures that the ball travels vertically and makes contact with the nipple and seals off the orifice without fail.

Material

The material for different component parts of the air valve shall conform to requirements given below:

S No.	Component	Specifications
1	Body	Cast Iron conforming to IS: 210 GR FG 200
2	High Pressure Cover	Cast Iron confirming to IS 210 GR FG 200
3	Low Pressure Cover	Cast Iron confirming to IS 210 GR FG 200
4	Cowl	Cast iron confirming to IS 210 GR FG
5	High Pressure Orifice Plug	Stain less steel conforming to AISI 410
6	Low pressure ball	Vulcanite covered seasoned timber
7	High pressure ball	Rubber covered seasoned timber
8	Lower pressure seat ring	Dexine (Nitrile rubber)
9	Isolating sluice valve	Conforming to IS: 780 – 1984
10	Spindle for sluice valve	Stainless steel conforming to AISI 410
11	Bolts and nuts	Mild steel

The body and seat of the valve shall withstand a working pressure of 10 kg/cm² for at least 15 minutes.

Inspection

Third Party Inspection:

The following items of supply will be got inspected from approved inspecting agency (CEIL, SGS. RITES) at manufacturers premises before dispatch at his own cost.

1. Ductile Iron Pipes

Specifications for Laying and Jointing of Pipe Line System for Water Supply

Preparatory work

The contractor will inspect the route along which the pipe line is proposed to be laid. He should observe/ find out the existing underground utilities/ construction and propose an alignment along which the pipeline is to be laid. He should make all efforts to keep the pipe as straight as possible with the help of ranging rods. Wherever there is need for deviation, it should be done with the use of necessary specials or by deflection in pipe joints (limited to 75% of permissible deflection as per manufacturer). The alignment as proposed should be marked on ground with a line of white chalk and got approved from Engineer In-Charge. The Contractor will then prepare an L-Section along this alignment showing the location of proposed pipeline. The L-section should be got approved from the site Engineer. The position of fittings, valves, should be shown on the plan.

Alignment and the L-Sections

The alignments, L-section (depth of laying) and location of specials, valves and chambers may be changed at site in co-operation with and after approval of the Engineer in Charge. The minimum cover to the top of the pipe shall be 1 m.

Standards

Except as otherwise specified in this technical specification, the Indian Standards and Codes of Practice in their latest version, National Building code, PWD specification of the state of Rajasthan and Manual of water supply of GOI shall be adhered to for the supply, handling, laying, installation, and site testing of all material and works.

Tools and equipment

The contractor has to provide all the tools and equipment required for the timely, efficient and professional implementation of the work as specified in the various sections of the contract and as specified by the instructions of manufacturers of the pipes and other material to be handled under this contract. On demand he shall provide to the Engineer in Charge a detailed list of tools and equipment available. If in the opinion of the Engineer in Charge the progress or the quality of the work cannot be guaranteed by the available quantity and type of tools and equipment the contractor has to provide additional ones to the satisfaction of the Engineer in Charge. The Contractor will always have a leveling instrument on site.

Handling and laying of pipes

Transportation of pipes and specials & Storage:-

The Contractor has to transport the pipes and other materials from manufacturer to the site of laying as indicated by the Engineer in Charge. Pipes should be handled with care to avoid damage to the surface and the socket and spigot ends, deformation or bending. Pipes shall not be dragged along the ground or the loading bed of a vehicle. Pipes shall be transported on flat bed vehicles/trailers. The bed shall be smooth and free from any sharp objects. The pipes shall rest uniformly on the vehicle bed in their entire length during transportation. Pipes shall be loaded and un-loaded manually or by suitable mechanical means without causing any damage to the stacked pipes.

The transportation and handling of pipes shall be made as per IS 12288. Handling instructions of the manufacturers of the pipes shall be followed. All precautions set out shall be taken to prevent damage to the protective coating, damage of the jointing surfaces or the ends of the pipes.

Whatever method and means of transportation is used, it is essential that the pipes are carefully placed and firmly secured against uncontrolled movement during transportation to the satisfaction of engineer in charge.

Cranes or chain pulley block or other suitable handling and lifting equipment shall be used for loading and un-loading of heavy pipes. However, for pipes up to 400 mm nominal bore, skid timbers and ropes may be used. Where using crane hooks at sockets and spigot ends hooks shall be broad and protected by rubber or similar material, in order to avoid damage to pipe ends and lining. Damage to lining must be repaired before pipe laying according to the instructions of the pipe manufacturer. Pipes shall not be thrown directly on the ground or inside the trench.

When using mechanical handling equipment, it is necessary to employ sufficient personnel to carry out the operation efficiently with safety. The pipes should be lifted smoothly without any jerking motion and pipe movement should be controlled by the use of guide ropes in order to prevent damage caused by pipes bumping together or against surrounding objects.

Rolling or dragging pipes along the ground or over other pipes already stacked shall be avoided.

The pipe should be given adequate support at all times. Pipe should be stored on a reasonably flat surface free from stones and sharp projections so that the pipe is supported through out its length. In storage, pipe racks should provide continuous support and sharp corners of metal racks should be avoided. Socket and Spigot pipes should be stacked in layer with sockets placed in alternate ends of the stack to avoid lop sided stacks.

Pipes should not be stored inside another pipe. On no account the pipes should be stored in stressed or bent condition or near the sources of heat. Pipes should not be stacked more than 1.5 m high and pipes of different sizes and classes should be stacked separately. The ends of the pipes should be protected from abrasion. The pipes should be protected from U.V. rays and excessive heat at all times. Their storage facility should be well ventilated.

The Contractor shall provide proper and adequate storage facilities to protect all the materials and equipment's against damage from any cause whatsoever and in case of any such damage/theft, the Contractor shall be held responsible.

The contractor will lay the pipelines along the alignments as per the layout given by the Engineer in Charge. The layout shall be given keeping in view the information available regarding existing services like water lines, sewers, telephone and electric lines/ cables. In the event some services fall in the alignment of lines to be laid, the contractor shall have to shift such services for which a provision has been made in the BOQ. The contractor shall take all due care to avoid damage to any such services and, in case of any damage occurring to them in progressing the work, the Contractor shall make good the same at his own cost. No additional time shall, however, be allowed on this account.

Stringing of pipes along the alignment

The pipes shall be laid out properly along the proposed alignment in a manner that they do not create any significant hindrance to the public and that they are not damaged.

Stringing of the pipe end to end along the working width should be done in such a manner that the least interference is caused in the land crossed. Gaps should be left at intervals to permit the passing of equipment across the working area. Pipes shall be laid out that they remain safe where placed and that no damage can occur to the pipes and the coating until incorporated in the pipeline. If necessary, pipes shall be wedged to prevent accidental movement. Precautions shall be made to prevent excessive soil, mud etc. entering the pipe.

Generally, the pipes shall be laid within two weeks from the date of their dispatch from the manufacturer /store .

Pipe trench

Trench excavation

The trench excavation of pipeline shall be in accordance with IS 12288. Pipe trenches shall be excavated to the lines and levels shown on the drawings or as directed by the Engineer in Charge. The depth of the excavated trench shall be as given in the drawings or as directed by the Engineer in Charge. The width of the trench at bottom between the faces of sheeting shall be such as to provide 200 mm clearance on either side of the Diameter. No pipe shall be laid in a trench until the section of trench in which the pipe is to be laid has been approved by the Engineer in Charge.

The depth should be sufficient to provide a cover not less than 1000 mm. It may be necessary to increase the depth of pipeline to avoid land drains or in the vicinity of roads, railways or other crossings. Care should be taken to avoid the spoil bank causing an accumulation of rainwater.

The bottom of the trench shall be trimmed and leveled to permit even bedding of the pipes. It should be free from all extraneous matter, which may damage the pipe or the pipe coating. Additional excavation shall be made at the joints of the pipes, so that the pipe is supported along its entire length.

All excavated material shall be stacked in such a distance from the trench edge that it will not endanger the work or workmen and it will avoid obstructing footpaths, roads and driveways. Hydrants under pressure, surface boxes, fire or other utility controls shall be left unobstructed and accessible during the construction work. Gutters shall be kept clear or other satisfactory provisions made for street drainage, and natural watercourses shall not be obstructed.

To protect persons from injury and to avoid damage to property, adequate barricades, construction signs, torches, red lanterns and guards, as required, shall be placed and maintained during the progress of the work and until it is safe for traffic to use the roadways. All materials, piles equipment and pipes which may serve as obstruction to traffic shall be enclosed by fences or barricades and shall be protected by illuminating proper lights when the visibility is poor.

As far as possible, the pipe line shall be laid below existing services, like water and gas pipes, cables, cable ducts and drains but not below sewers, which are usually laid at greater depth. Where it is unavoidable, pipeline should be suitably protected. A minimum clearance of 150 mm shall be provided between the pipeline and such other services.

Trees, shrubbery fences, poles, and all other property and surface structures shall be protected. Tree roots shall be cut within a distance of 50 cm from pipe joints in order to prevent roots from entering them. Temporary support, adequate protection and maintenance of all under ground and surface structures, drains, sewers and other obstructions encountered in the progress of the work shall be provided. The structures, which will be disturbed, shall be restored after completion of the work.

Where water forms or accumulates in any trench the Contractor shall maintain the trench free of water during pipe laying.

Wherever necessary to prevent caving, trench excavations in soils such as sand, gravel and sandy soil shall be adequately sheeted and braced. Where sheeting and bracing are used, the net trench width after sheeting shall not be less than that specified above. The sides of the excavation shall be adequately supported at all times and, except where described as permitted under the Contract, shall be not battered.

The Engineer in Charge in co-operation with the Contractor shall decide about the sheeting/ bracing of the trench according to the soil conditions in a particular stretch and taking into account the safety requirements of the Contractor's and Engineer-In- Charge's staff. Generally, safety measures against caving have to be provided for trenches with vertical walls if they are deeper than 2.0 m.

Trench excavation to commensurate with the laying progress

The work of trench excavation should be commensurate with laying and jointing of the pipeline. It should not be dug in advance for a length greater than 500 m ahead of work of laying and jointing of pipeline unless otherwise permitted by the Engineer in Charge. The Contractor has to ensure the following:

- safety protections as mentioned above have to be incorporated in the work process
- hindrances to the public have to be minimized
- the trench must not be eroded before the pipes are laid
- the trench must not be filled with water when the pipes are laid
- the trench must not be refilled before laying of the pipes

The bed for the laying of the pipes has to be prepared according to the L-Section immediately before laying of the pipes.

Bedding of the pipes

The trench bottom shall be even compact and smooth so as to provide a proper support for the pipe over its entire length, and shall be free from stones, lumps, roots and other hard objects that may injure the pipe or coating. Holes shall be dug in the trench bottom to accommodate sockets so as to ensure continuous contact between the trench and the entire pipe barrel between socket holes.

Laying and jointing of pipes

General

The pipes will be cleaned in the whole length with special care of the spigot and sockets on the inside/ outside to ensure that they are free from dirt and unwarranted projections. The whole of the pipes shall be placed in position singly and shall be laid true to profile and direction of slope indicated on longitudinal sections. The pipes shall be laid without deflection in a straight alignment between bends and between high and low points. Vertical and horizontal deflections between individual pipes need the approval of the Engineer in Charge. In no case the deflection shall be more than 75 % of those recommended by the manufacturer.

Before pipes are jointed they shall be thoroughly cleaned of all earth lumps, stones, or any other objects that may have entered the interior of the pipes, particularly the spigot end and the socket including the groove for the rubber ring.

Pipes and the related specials shall be laid according to the instructions of the manufacturers and using the tools recommended by them.

Cutting of pipes shall be reduced to a minimum required to conform to the drawings. Cutting has to be made with suitable tools and according to the recommendations of the manufacturer. The spigot end has to be chamfered again at the same angle as the original chamfered end. Cutting shall be perpendicular to the Centre line of the pipe. In case of ductile iron pipes the cut and chamfered end shall be painted with two coats of epoxy paint. If there is no mark for the insertion depth on the spigot end of the (cut) pipe it shall be marked again according to the instructions of the manufacturer.

Before pipes are jointed they shall be thoroughly cleaned of all earth lumps, stones, or any other objects that may have entered the interior of the pipes, particularly the spigot end and the socket including the groove for the rubber ring. End caps are removed only just before laying and jointing

All specials like bends, tees etc. and appurtenances like sluice or butterfly valves etc. shall be laid in synchronization with the pipes. The Contractor has to ensure that the specials and accessories are ready in time to be installed together with the pipes.

At the end of each working day and whenever work is interrupted for any period of time, the free ends of laid pipes shall be protected against the entry of dirt or other foreign matter by means of approved plugs or end caps.

When pipe laying is not in progress, the open ends of installed pipe shall be closed by approved means to prevent entrance of trench water and dirt into the line.

No pipe shall be laid in wet trench conditions that preclude proper bedding, or when, in the opinion of the Engineer in Charge, the trench conditions or the weather are unsuitable for proper installation.

The pipeline laid should be absolutely straight unless planned otherwise. The accuracy of alignment should be tested before starting refilling with the help of stretching a string between two ends of the straight stretch of pipes to rectify possible small kinks in laying.

Special Cast Iron fittings and Accessories

Normally when pipeline is laid, a certain number of cast iron fittings such as tees, bends, reducers, etc, and special fittings such as air or sluice valves are required.

Laying of Fittings – All cast iron fittings shall be plain ended to suit the outside diameter of Asbestos cement pressure pipes and to the class and diameter of pipe manufactured. When using such cast iron fittings, they are jointed by cast iron detachable joints only. For cast iron specials having flanges, they are jointed in the pipeline with cast iron flange adaptors having one end flanged and the other plain ended.

Anchorage - It should particularly be noted that the cast iron joints do not hold pipe ends within it firmly. During working or test pressure, there will be tendency for the pipe ends or special ends to slip out of the joint, more so with the case of blank end cap used for closure of pipeline and all degree bends and tees. In order to keep them firmly in the pipeline, anchoring of these specials are necessary against the direction of thrust.

The anchorage shall consist of either concrete cast-in-situ or masonry built in cement mortar. The anchors shall be extended to the firm soil of the trench side. The shape of the anchors will depend on the kind of specials used. They shall be spread full width of trench and carried vertically by the side and over the special to about 15 cm. The bearing area on sides of the trench will be proportional to the thrust and to bearing capacity of the sides of the trench.

Back filling and tamping

The soil under the pipe and coupling shall be tamped in order to provide a firm and continuous support or the pipeline. Tamping shall be done either by tamping bars or by using water to consolidate the back fill material.

The initial back fill material used shall be free of large stones and dry lumps. In stony areas the material for initial back fill can be shave from the sides of the trenches. In bogs and marshes, the excavated material is usually little more than vegetable matter and this should not be used for bedding purposes. In such cases, gravel or crushed stone shall be hauled in.

The initial back fill shall be placed evenly in a layer of about 100 mm thick. This shall be properly Consolidated and this shall be continued till there is a cushion of at least 300 mm of cover over the pipe. If it is desired to observe the joint or coupling during the testing of mains they shall be left exposed.

Sufficient back fill shall be placed on the pipe to resist the movement due to pressure while testing.

Balance of the back fill need not be so carefully selected as the initial material. However, care shall be taken to avoid back filling with large stones, which might damage the pipe when spaded into the trench.

Pipes in trenches on a slope shall have extra attention to make certain that the newly placed back fill will not become a blind drain in effect because until back fill becomes completely consolidated, there is a tendency for ground or surface water to move along this looser soil resulting in a loss of support to the pipe. In such cases, the back fill should be tamped with extra care and the tamping continued in 100 mm layers right up to the ground level.

Anchoring of the pipeline

Thrust blocks shall be provided at each bend, tee, taper, end piece to prevent undue movements of the pipeline under pressure. They shall be constructed as per actual design and approval of Engineer in Charge according to the highest pressure during operation or testing of the pipes, the safe bearing pressure of the surrounding soil and the friction coefficient of the soil.

Sectional tests:- After laying and jointing the pipeline shall be tested for tightness of barrels and joints, and stability of thrust blocks in sections approved by the Engineer in Charge as per IS Code.

Providing HDPE Pipes & Specials

HDPE PIPES

HDPE Pipes

The HDPE (High density polyethylene) pipes (for water supply) confirming to IS 4984-1995 and duly marked with certification of BIS shall only be supplied. The pipe shall confirm to the test requirements prescribed in IS 4984-1995. The minimum factory test pressure for hydraulic test shall be 2 times the rated pressure of pipe for 60 seconds. No defect/ leakage/ cracks should be visible after hydraulic test.

Colour

The colour of pipe shall be black. Each pipe shall contain minimum three equispaced longitudinal stripes of width 3mm in blue colour. These strips shall be co-extruded during pipe manufacturing and shall not be more than 0.2mm depth. The material of the stripes shall be same type of resin, as used in the base compound for the pipe.

Material

The raw material used for the manufacture of pipes should not constitute toxic hazard, should not support microbial growth and should not give rise to unpleasant taste or odor, clouding or discoloration of water.

The pipes shall be manufactured from 100% virgin PE-80 High density polyethylene (HDPE) food grade raw material with minimum required strength of 8MPa (PE-80). The raw material should be of food grade quality. The nominal pressure of pipes required shall be as specified in the scope of work. The pipe material shall be suitable for conveyance of drinking water for which the certificate of recognized institute shall be provided.

High density polyethylene (HDPE) used for the manufacture of pipes shall confirm the designation PEEWA-45-T-003 or PEEWA-45-T-006 or PEEWA-50-T-003 or PEEWA-50-T-006 or PEEWA-57-T-003 or PEEWA-57-T-006 of IS: 7238/1992. In addition the material shall also confirm to 5.6.2 of IS 7328-1992.

The specific base density shall be between 940.0 Kg/Cum and 958.4 Kg/Cum (both inclusive) when determined at 27 °C according to procedure prescribed in Annexure "A" of IS: 7328/1992. The value of the density shall not differ from the nominal value by more than 3 kg/cum as per 5.2.1.1 of IS 7328-1992.

The MFR (Melt Flow Rate) of the material shall be between 0.20g/10min and 1.10g/10min (both inclusive) when tested at 190 degree C with nominal load of 5 Kgf when determined by the method prescribed in 7 of IS: 2530-1963. The MFR of the material shall be within +/- 20% of the value declared by the manufacturer.

The resin shall be compounded with Carbon black. The Carbon Black content in the material shall be within 2.5 + 0.5% and dispersion of Carbon black shall be satisfactory when tested according to the procedure prescribed in IS: 2530-1963.

With the advancement in technology natural (unpigmented) resin designation PEEWA-45-T-003 or PEEWA-45-T-006 or PEEWA-50-T-003 or PEEWA-50-T-006 or PEEWA-57-T-003 or PEEWA-57-T-006 of IS: 7238/1992 duly stabilized with anti-oxidants may be compounded with suitable black master batch or processed directly after physical mixing with suitable black master batch in the pipe extruder for production of pipes, which shall confirm to the performance requirements of the pipe as specified in IS 4984. The material of pipe thus produced shall confirm to the requirements of 5.2 of IS 4984-1995.

The percentage of anti-oxidant used shall not be more than 0.3 percent by mass of finished resin. The anti-oxidant used shall be physiologically harmless and shall be selected from the list given IS: 10141-1982.

No reworked or recycled material shall be used.

Dimensions

The outside diameter of pipes, tolerance on the same and ovality of pipes, and minimum and maximum wall thickness shall be confirming to IS 4984-1995. The length of straight pipe shall be 5 to 20m. However wherever specifically required under the conditions of contract, the pipes shall be supplied in coils.

Visual appearance

The internal and external surfaces of pipes shall be smooth, clean and free from grooving and other defects. The ends of the pipes shall be cleanly cut square with the axis to within the tolerances given in IS 4984 and free from deformity. Slight shallow longitudinal grooves or irregularities in the wall thickness shall be permissible provided that the wall thickness remains within the permissible limits.

Inspection and Testing of HDPE Pipes

The HDPE pipes supplied by the contractor shall be subjected to following tests as per IS 4984 for acceptance:

- Visual and dimensional check as per IS 4984
- Hydraulic characteristics/ Internal pressure creep rupture test as per IS 4984

- Longitudinal reversion test as per IS 4984
- Overall Migration test
- Density test
- Melt flow rate test
- Carbon black content and Dispersion test
- Any other test required as per provisions to which supplied pipes confirms i.e. (IS 8329)
- Hydraulic test at manufacturer premises before dispatch.

In addition the following are required for review by inspection authority:

- The test reports of raw material.
- The type test report of pipe. This shall not be more than two years old from the date of inspection of pipes.
- Notch Impact test as per ASTM-1474. HDPE pipes when tested as per ASTM-1474 (Notch Impact Test) should pass the Hydraulic test as per IS:4984:1995 for a minimum 165 Hrs. This test can be carried out at factory or at some private laboratory. Such report should not be more than 2 Month old from date of inspection.

The sampling method for testing shall be as per the provisions of the standards to which they are manufactured.

The pipes shall also be got tested from CIPET and amount for testing shall be borne by contractor. Department shall demand for manufacturers' test report for pipes along with pre dispatch inspection by EIC or his authorized representative.

Marking

All pipes shall be marked as per the provisions of IS 4984 and subjected to following minimum requirements:

Manufacturer name/ Trade mark,

Designation of pipe,

Lot number/ Batch number,

Manufacturing standard to which the pipe confirms (IS 4984) and BIS certification mark,

Mark of pre-dispatch Inspecting authority.

TRANSPORTATION / STORAGE OF PIPES AND SPECIALS:

The Contractor has to transport the pipes and other materials from manufacturer to the site stores and from the site stores to the site of laying as per the instructions given by the Engineer in Charge. Pipes should be handled with care to avoid damage to the surface and the socket and spigot ends, deformation or bending. Pipes shall not be dragged along the ground or the loading bed of a vehicle. Pipes shall be transported on flat bed vehicles/trailers. The bed shall be smooth and free from any sharp objects. The pipes shall rests uniformly on the vehicle bed in their entire length during transportation. Pipes shall be loaded and un-loaded manually or by suitable mechanical means without causing any damage to the stacked pipes.

The transportation and handling of DI pipes shall be made as per IS 12288. All precautions set out shall be taken to prevent damage to the protective coating, damage of the jointing surfaces or the ends of the pipes.

Whatever method and means of transportation is used, it is essential that the pipes are carefully placed and firmly secured against uncontrolled movement during transportation to the satisfaction of engineer in charge.

Damage to lining must be repaired, as per relevant IS code, before pipe laying according to the instructions of the pipe manufacturer after taking approval of EiC. Pipes shall not be thrown directly on the ground or inside the trench.

When using mechanical handling equipment, it is necessary to employ sufficient personnel to carry out the operation efficiently with safety. The pipes should be lifted smoothly without any jerking motion and pipe movement should be controlled by the use of guide ropes in order to prevent damage caused by pipes bumping together or against surrounding objects.

Rolling or dragging pipes along the ground or over other pipes already stacked shall be avoided.

The pipe should be given adequate support at all times. Pipe should be stored on a reasonably flat surface free from stones and sharp projections so that the pipe is supported through out its length. In storage, pipe racks should provide continuous support and sharp corners of metal racks should be avoided. Pipes should not be stacked in large piles for all pipes. Socket and Spigoted pipes should be stacked in layer with sockets placed in alternate ends of the stack to avoid lop sided stacks.

Pipes should not be stored inside another pipe. On no account the pipes should be stored in stressed or bent condition or near the sources of heat. Pipes should not be stacked more than 1.5 m high and pipes of different sizes and classes should be stacked separately. The ends of the pipes should be protected from abrasion. The pipes should be protected from U.V. rays and excessive heat at all times. Their storage facility should be well ventilated.

The Contractor shall provide proper and adequate storage facilities to protect all the materials and equipments against damage from any cause whatsoever and in case of any such damage/theft, the Contractor shall be held responsible.

The contractor will lay the pipelines along the alignments as per the approved L section. layout shall be given by the Engineer in Charge of his authorized representative.

The layout shall be given keeping in view the information available regarding existing services like water lines, sewers, telephone and electric lines/ cables. In the event some services fall in the alignment of lines to be laid, the contractor shall have to shift the alignment or such services. The contractor shall take all due care to avoid damage to any such services and,

in case of any damage occurring to them in progressing the work, the Contractor shall make good the same at his own cost. No additional time and payment shall be allowed on this account. Rubber rings shall be handled and stored in their original packing, protected against sunlight and contacts with petroleum product, solvents and paints. The Contractor shall provide suitable lifting equipment for loading, unloading and laying of the pipes.

Specials for HDPE Pipes

Unless otherwise specified, the specials and the jointing material for HDPE pipes shall be Fusion fittings confirming to GBE/PL2:PART 4. Fusion fittings with integral heating element shall be used in general. All fittings shall be of Class B. Fittings shall be produced from material class PE 80 or PE 100. The fittings shall be free from cracks, voids, blisters, holes, distortion, dents, injurious incisions, inclusions or any other likely to impair their performance. For each fitting the fusion time shall be the same.

Laying and Jointing of Pipeline

Trench Excavation

The trench excavation of pipeline shall be in accordance with IS 7634 for HDPE pipes. Pipe trenches shall be excavated to the lines and levels shown on the drawings or as directed by the Engineer in charge. The depth of the excavated trench shall be as specified in drawing or as directed by the Engineer in charge. The pipe shall not be laid in a trench, until the section of trench, in which the pipe is to be laid, has been approved by the Engineer in charge. The average cover should not be less than 900mm above pipe and in no case be less than 600mm when laid underground.

The bottom of the trench shall be trimmed and leveled to permit even bedding of the pipes. It should be free from all extraneous matter, which may damage the pipe coating. Additional excavation shall be made at the joints of the pipes, so that the pipe is supported along its entire length.

All excavated material shall be stacked in such a distance from the trench edge, so that it will not endanger the work or workmen and it will avoid obstructing footpaths, roads and driveway. Hydrant, surface boxes, fire or other utility controls shall be kept unobstructed and accessible during the construction work and be kept clear or other satisfactory provisions made for street drainage, Natural water-courses shall not be obstructed.

To protect persons from injury and damage to property, adequate barricades, construction signs torches, red lanterns and guards, as required, shall be placed and maintained during the progress of the work and until it is safe for traffic to use the roadways.

All materials, pipes equipment and pipes which may serve as obstruction to traffic, shall be enclosed by fences or barricades and shall be protected by illuminating proper lights when the visibility is poor.

As far as possible, the pipeline shall be laid below existing services, like water and gas pipes, cable ducts and drains but not below sewer, which are usually laid at greater depth. Where it is unavoidable, pipeline should be suitably protected. A minimum clearance of 150mm shall be provided between the pipeline and such other services.

Tree, shrubbery, fences, poles and all other property and surface structures shall be protected. Tree roots shall be cut within a distance of 50 cm from pipe joints in order to prevent roots from entering them. Temporary support, adequate protection and maintenance of all underground and surface structures, drains, sewers and other obstructions encountered in the progress of the work shall be provided. The structures, which will be disturbed, shall be restored after completion of the work. Where water accumulates in any trench the contractor shall maintain the trench free of water during pipe laying.

Wherever necessary to prevent caving, trench excavation in soils such as sand, gravel and sandy soil shall be adequately sheeted and braced. Where sheeting and bracing are used, the net trench width after sheeting shall not be less than that specified above. The sides of the excavation under shall be adequately supported at all time and except where described as permitted under the contract, shall be not battered.

The Engineer in charge in co-operation with the contractor shall decide about the sheeting/ bracing of the trench according to the soil conditions in a particular stretch and taking into account the safety requirements of contractor's and PHED staff.

Excavation for Laying Pipe Line along the road

While laying the pipeline below ground along the roadside, the contractor shall observe the following:

The contractor shall not be allowed to take earth from the burrow pits if excavation required to take additional earth.

If invert of pipe is kept above the existing burrow pit level or part of pipe is above it, the minimum side slopes of 1:1 shall be provided on the side towards the burrow pit area so as to provide required cover. The side slopes shall be properly compacted.

If earth is taken for providing required cover to pipe from the burrow pits, the burrow pits shall be so graded that no impounding of water is possible in burrow pit area.

If the pipeline is laid just near the road section, as far as practical, minimum cover of 1.00 meter shall be used. Whenever this requirement of cover cannot be ensured, pipeline shall be covered with properly designed pre-cast concrete slab.

Dewatering

Though the site for laying of pipe line does not requires any dewatering (except within City campus where the starting Pumping Station exist.) but if any dewatering is required to complete the work than it will be the responsibility of the contractor.

Fencing, Watching and Lighting

The posts of the fencing shall be of timber, securely fixed in the ground not more than 2.5 m. apart. They shall not be less than 10 cm in dia. or not less than 1.25 m above the surface of ground. There shall be two rails, one near the top of the posts and the other about 0.5 m above the ground and each shall be of 5 cm to 10 cm in dia. and sufficiently long to run from post to post which they shall be bound with strong ropes. The method, of projecting rails beyond the posts and tying together where they meet will not be allowed on any account. All along the edges of the excavated trenches, a bund of earth about

one meter high shall be formed where so required by the Engineer-in-Charge for further protection. Proper provision shall be made for lighting at night and watchman shall be kept to see that this is properly done and maintained. In addition to the normal lighting arrangements, the contractors shall provide wherever such work is in progress, battery operated blinking light (6 volts) in the beginning and end of a trench with a view to provide suitable indication to the vehicular traffic. The contractor shall provide and display special boards printed with fluorescent paints indicating the progress of the work along the road. The contractor shall be held responsible for payment of all claims for compensation as a result of accident or injury to any person or property due to improper fencing, inadequate lighting or non-provision of red flags. The contractors shall at their own cost provide all notice boards before opening of roads as directed by the Engineer-in-Charge. The contractor shall make arrangements to direct traffic whenever work in through fare is in progress.

Trench Excavation to Commensurate with the laying progress

The work of trench excavation should not be dug in advance for a length greater than 500m ahead of work of laying and jointing of pipeline unless otherwise defined by the Engineer in charge. The contractor has to ensure the following:

- Safety protections as mentioned above have to be incorporated in the work process.
- Hindrances to the public have to be minimized.
- The trench must not be eroded before the pipes are laid.
- The trench must not be filled with water when the pipes are laid.
- The trench must not be refilled before laying of the pipes.

The bed for laying of the pipes has to be prepared according to the L-section immediately before laying of the pipe.

Bedding of The pipes

The trench bottom should be even and smooth so as to provide a proper support for the pipe over its entire length, and shall be free from stones, lumps, roots and other hard objects that may injure the pipe or coating. Holes shall be dug in the trench bottom to accommodate sockets couplings so as to ensure continuous contact between the trench and entire pipe barrel between socket holes.

Storage of HDPE pipes

Black polythene pipes may be stored either under cover or in the open. Coils may be stored on edge or stacked flat one on top of the other but in either case they should not be allowed to come into contact with hot water or steam pipes and should be kept away from hot surface. Straight lengths should be stored on horizontal racks giving continuous support to prevent the pipe taking on a permanent set. Storage of pipes in heating areas exceeding 270C should be avoided. If due to unsatisfactory storage or handling, a pipe is damaged or kinked, the damaged portion should be cut out completely.

Transportation and Handling of Pipes and Specials

The contractor has to transport the pipes and jointing material from the site of unloading to the site of laying as indicated by the Engineer in charge. Pipes should be handled with care to avoid damage to the surface and the socket and spigot ends, deformation or bending. Pipes should not be dragged along ground or the loading bed of vehicle. Pipes shall be transported on flat bed vehicle/ trailers. The bed shall be smooth and free from any sharp object. The pipes shall be loaded in such a way that they are secured and no movement should take place on the vehicle during transit. Pipes shall be loaded and unloaded manually or by suitable mechanical means/ cranes from the site of unloading without causing any damage to the stacked pipes. The pipes shall be lifted smoothly without jerking motion and pipe movement should be controlled by use of guide ropes. Handling shall be careful to avoid any damage to pipe or inner mortar lining of DI pipes. The lifting hooks if used shall be broad enough and pipe ends should be protected by rubber or similar material in order to avoid damage to the pipe ends. Rolling or dragging pipes along the ground or over other pipes shall also be avoided.

The pipes shall be laid out properly along the proposed alignment in a manner that they do not create any significant hindrance to the public or traffic and that they are not damaged on this account.

Stringing of the pipes end to end along the working width should be done in such a manner that the least interference is caused in the land crossed. Gaps should be left at intervals to permit the passing of equipment across the working area. Pipes shall be laid out such that they remain safe where placed and that no damage can occur to the pipes. If necessary, pipes shall be wedged to prevent accidental movement. Precautions shall be made to prevent excessive soil, mud etc. entering the pipe.

The joint gasket shall be kept in wooden boxes or their original packing and stored in cool conditions and not exposed to direct sunlight. Gaskets must not be deformed. They shall be taken out only shortly before they are needed.

Laying and Jointing of Pipes

HDPE pipes as per IS 7634; however the specific references given herein shall prevail on the provisions of the standards. Pipes should be lowered in the trench with tackle suitable for the weight of pipes. For smaller sizes up to 200mm nominal bore, the pipe may be lowered by the use of ropes.

The pipes and specials shall be inspected and defects noticed if any such as hair cracks, broken ends or damages etc. shall have to be removed/ rectified by contractor. Ends of pipes and specials shall have to be made good as and when required before laying and jointing. The pipes shall be cleaned in whole length with special care of the spigot and sockets/ other ends on the inside/outside to ensure that they are free from dirt and unwanted projections. The whole pipe shall be placed in

position singly and shall be true to profile and direction of slope indicated. The pipes shall be laid without deflection in a straight line between bends and between high and low points. Vertical and horizontal deflections between individual pipes shall be not more than the permissible limits.

The pipes shall rest continuously on bottom of the trench and not on lumps of earth or on the joints. Before pipes are jointed they shall be thoroughly cleaned of all earth lumps, stones, or any other objects that may have entered the interior of pipes, particularly the spigot end and the socket including the groove for the rubber gasket. End caps are removed just before laying and jointing. The pipes and specials shall be laid accordingly to the instructions of manufacturer and using the tools recommended by them.

Where gradient of the bed slopes is more than 15 degrees, it may be necessary to anchor pipes against their sliding downwards, by providing suitable gradient blocks and straps.

All specials like bends, tees etc. and appurtenances like sluice or reflux valves etc. shall be laid in synchronization with the pipes. The contractor has to ensure that the specials and accessories are ready in time to be installed together with the pipes.

At the end of each working day and whenever work is interrupted for any period of time, the free ends of laid pipes shall be protected against the entry of dirt or other foreign matter by means of approved plugs or end caps.

No pipe shall be laid in wet trench conditions that preclude proper bedding, or when, in the opinion of the Engineer in charge, the trench conditions or the weather are unsuitable for proper installation.

Cutting of pipes shall be reduced to minimum required. The cutting of DI pipe for inserting valves, fittings etc. shall be done in a neat and workman like manner without damage to the pipe or lining so as to leave a smooth end at right angles to the axis of the pipe. Cutting shall be done by Hacksaw or Wheel cutter or pipe cutting machine according to the recommendations of manufacturer.

Suitably designed anchorage shall be provided at changes in direction and at dead ends to resist the static thrusts developed by internal pressure.

No pipe shall be laid in the wet trench conditions that preclude proper bedding, or when in the opinion of Engineer In-charge, the trench conditions or weather are unsuitable for proper installation.

laying underground

All construction debris should be cleaned from the inside of the pipe either before or just after a joint is made. This is done by passing a pull through in the pipe or by hand depending upon the size of pipe.

On gradient of 1:15 or steeper, precautions shall be taken to ensure that the spigot of pipe being laid does not move into or out of the socket of the laid pipe during the jointing operations. As soon as the joint assembly has been completed, the pipe should be held firmly in position while the trench is backfilled over the barrel of the pipe. The backfill should be well compacted.

The socket and spigot ends/ other ends of the pipes shall be brushed and cleaned. The chamfered surface and the end of the spigot end have to be coated with a suitable lubricant recommended by the manufacturer of the pipes. Oil, petroleum bound oils, grease or other material which may damage the rubber gasket shall not be used as lubricant. The rubber gasket shall be inserted into the cleaned groove of the socket. It has to be checked for correct positioning.

The two pipes shall be aligned properly in the pipe trench and the spigot end shall be pushed axially into the socket either manually or with a suitable tool specially designed for the assembly of pipes and as recommended by the manufacturer. The spigot has to be inserted up to the insertion mark on the pipe spigot. After insertion the correct position of the socket has to be tested with a feeler blade.

The HDPE pipes shall be laid shall be laid with butt fusion welding as per IS 7634-1975. The pipe shall be cut square and the face of the pipe shall be slightly scrapped prior to welding to remove oxidized layer. At the time of welding, leveling of the pipes is essential particularly in case of larger diameter pipes. Welding temperature should be 2000C and surfaces of heating mirror (Metallic plate heated up by electrical coil or by blow torch) should be 2100+/- 50C. The welding of pipe should be held in either side of the heating mirror with only contact pressure of about 20KPa. When the rim of molten material is found, the pipes are removed from the heating mirror and immediately the joint shall be made by application of moderate pressure of approximately 100 to 200KPa for 2-3 seconds. The initial heating time for achieving molten rim, varies from 1 to 5 minutes depending upon the pipe wall thickness and size. It is essential to see that the rim formed is not excessive and the mirror should be kept exactly around 2100C.

Laying above Ground

The ground should be dressed to match the curvature of the pipe shell for an arc length subtending an angle of 120 degree at the center of pipes. Alternatively the pipeline shall be laid either on saddle, roller or rocker supports. The pipeline may be allowed to rest on ground if soil is non-aggressive. The above ground installations of spigot and socket pipes are provided with one support per pipe, the support being positioned behind the socket of each pipe.

Backfilling of the pipe trench

All excavation shall be backfilled to the level of the original ground surfaces unless otherwise shown on the drawing or ordered by the Engineer in charge and in accordance with the requirements of the specification. The material used for

backfill, the amount thereof, and the manner of depositing and compacting shall be subject to the approval of the Engineer in charge, but the contractor will be held responsible for any displacement of pipe or other structures, any damage to their surfaces, or any instability of pipes and structures caused by improper depositing of backfill materials. The backfill material shall be free from cinders, ashes, slag, refuse, rubbish, vegetable or organic material, lumpy and frozen material, boulders, rocks or stone or other material, which in the opinion of Engineer in-charge, is unsuitable or deleterious. Backfilling shall be done in layers not exceeding 15 cm in thickness after compacting, watering and compacted to a density not less than 90 percent of the maximum dry density at optimum content of the surrounding material.

Trenches crossing a road shall be backfill with selected material. Any deficiency in the quantity of material for backfilling the trenches shall be supplied by the contractor.

The contractor shall at his own expense make good any settlement of the trench back fill occurring after backfilling and until the expiry of the defect liability period.

On completion of pressure and leakage tests exposed joints shall be covered with approved selected backfill placed above the top of the pipe and joints in accordance with the requirements of the above specifications. The contractor shall not use backfilling for disposal of refuse or unsuitable soil.

Testing of Pipeline

Sectional Tests

Hydraulic testing is the ultimate check about the overall workmanship of the pipeline and therefore the pipeline system shall be hydraulically tested to the satisfaction of Engineer in charge. After laying and jointing, the pipeline shall be tested for tightness of barrel and joints, and stability of thrust blocks in sections approved by the Engineer in charge. The length of sections depends on topographical conditions. Preferably the pipeline stretches to be tested shall be between two valve chambers (air valve, sluice valve, scour valve etc.).

The water required for testing shall be arranged by the contractor himself. The contractor shall fill the pipe and compensate the leakage testing. The contractor shall provide and maintain all requisite facilities, instruments, etc. for the field-testing of the pipelines. The testing of the pipelines generally consists in three phases, preparation, pre-test/ saturation and test immediately following the pre- test. Generally the following steps are required which shall be monitored and recorded in test protocol if required.

- Complete setting of the thrust blocks.
- Partial backfilling and compaction to hold the pipes in position while leaving the joints exposed for leakage control.
- Opening of all intermediate valves (if any)
- Fixing the end pieces for tests and after temporarily anchoring them against the soil (not against the preceding pipe stretch).
 - At the lower end with a precision pressure gauge and the connection to the pump for establishing the test pressure.
 - At the higher end with a valve for air outlet.
 - If the pressure gauge cannot be installed at the lowest point of the pipeline, an allowance in the test pressure to be read at the position of Gauge has to be made accordingly.
- The pipeline to be tested shall be filled with water manually or by a low-pressure pump from lowest point(s).
- The water for this purpose shall be reasonably clear and free of solids and suspended matter.
- Complete removal of air through air valves along the line.
- Closing all air valves and scour valves.
- Slowly raising the pressure to the test pressure @ nearly 1 Kg. per Cm² per minute while inspecting the thrust blocks and the temporary anchoring.
- Keeping the pipeline under pressure for the duration of the pre-test/ saturation of the lining by adding make-up water to maintain the pressure at the desired test level. Make-up water to be arranged by contractor himself at his/ own cost.
- Start the test by maintaining the test pressure at the desired level by adding more make up water, record the water added and the pressure in intervals of 15 minute at the beginning and 30 minutes at the end of the test period.
- If a drop in pressure occurs, the quantity of water added in order to re-establish the test pressure should be carefully measured. This should not exceed 0.1 liter per mm of pipe dia per km of pipeline per day for each 30 m head of pressure applied.
- The field-testing pressures of HDPE pipelines and duration of test shall be as follows:

Field Test pressure	Test duration
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1.5 times rated pressure of pipe	6 Hours
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- The acceptance criteria for HDPE pipes shall be that the pressure test pressure should be maintained for test duration.
- No section of the pipe work shall be accepted by the Engineer in Charge until all requirements of the test have been obtained.
- On completion of a satisfactory test any temporary anchor blocks shall be broken out and stop ends removed. Backfilling of pipe trench shall be completed.
- Failure to pass the test
- All pipes or joints, which are proved to be in any way defective shall be replaced or remade and re-tested as often as may be necessary until a satisfactory test shall have been obtained. Any work, which fails or is proved by test to be unsatisfactory in any way, shall be redone by the contractor.

SPECIFICATIONS FOR P/L/J AND SECTIONAL TESTING OF PIPELINES

General

The contractor will inspect the route along which the pipe line is proposed to be laid. Efforts shall be made by the contractor to make minor deviations from the marked alignment so as to keep the pipe alignment as straight as possible and to avoid damage of public and private properties along the alignment. The alignment of pipe line and location of specials & chambers may be changed at site in co-ordination and with prior approval of the Engineer In Charge. The final alignment on which the pipeline shall be laid shall be marked in field and got approved from the Engineer in Charge or his representative. Where ever there is need for deviation, it should be done with the use of necessary specials or by deflection in pipe joints (limited to 75% of permissible deflection as per relevant standards). The alignment as proposed should be marked on ground with a line of white chalk and got approved from Engineer In-Charge. The position of fittings, valves, shall be as per directions of engineer-in-charge.

The quality of pipes, inner mortar lining and the quality of laying shall ensure that the considered co-efficient of friction of value ($Cr=1$) is obtained during the designed period, so that the design is validated and the designed quantities of flow can be delivered. Thus the contractor shall ensure that the conditions of pipes its lining and the laying are perfect in all respect.

Standards

Except otherwise specified in this technical specification, the Indian Standards and Codes of Practice in their latest version, National Building code, PWD specification of the state of Rajasthan and Manual of water supply of GOI shall be adhered to for the supply, handling, laying, installation, and site testing of all material and works. The laying of pipeline shall be done in confirmations to the following standards:

.Alignment and the L-Sections

The slopes provided shall be such that in existing ground level conditions, the maximum cover over the laid pipe is neither more than 1.5 m nor less than 0.9 m, if the pipe is to be laid above ground. The average cover generally should not be less than 0.9 meters. In case of HDPE pipes, the pipes shall have a minimum cover of 900 mm when laid under roads with light traffic or under cultivated soils and 1.25 m when laid under roads with heavy traffic. When the soil has poor bearing capacity and is subject to heavy traffic, the pipes shall be laid on a concrete cradle.

PROVIDING, LAYING, JOINTING, TESTING & COMMISSIONING OF PIPE LINES AND RELATED CIVIL WORKS.

Providing, Laying, Jointing, testing & commissioning of pipe lines as mentioned in scope of work Supply and testing at works, transportation, packing all type of specials, valves and other materials to be used. Stacking and/or storage of material, re-handling as per specifications, and carry out sectional testing, pre-commissioning checks, full completion test and trial runs.

Laying and Jointing of above mentioned pipe lines as per specifications mentioned in relevant IS code and water supply manual published by CPHEEO. The pipeline alignment in general shall be as per enclosed copy of drawing, however exact alignment shall be as per the directions of Engineer in charge. The alignment approved by the Engineer-In-Charge shall be final and binding to the contractor.

Providing, testing and installing all materials such as bends, tees, reducers, dismantling joints, insulating joints, transition joints, rubber rings, flanges, nuts & bolts, rubber sheets etc. of required specifications for the installations. All specials shall be of DI/ CI / Mild steel as per the requirements of site conditions desired at the point of installation as per hydraulic considerations & as per the directions of Engineer in charge.

All material required for complete project shall be arranged by contractor himself. No material shall be provided by the department. However department may choose to provide DI pipe for rising mains and distribution system. If so no payment shall be made to contractor on account of providing pipe lines.

Sizes and numbers of valves are tentative and may vary as per the directions of Engineer in charge during execution. The Air valve shall be provided at all convexities of L-Section but an average distance not exceeding 750m. The pressure rating of valves shall be as per the design pressure at the point of installation. The locations of sectionalizing valves shall be as per site conditions and shall be got approved from Engineer-In-Charge.

Providing thrust blocks at horizontal bends wherever required or at locations given by Engineer in Charge for the combination of loads as per site conditions. The permissible deflection in each pipe length shall be as per the provisions of relevant standards.

Providing a dismantling pipe with flexible joints or dismantling joint with each valve for easy maintenance.

Any damage caused while laying, testing, and commissioning or during execution to the private properties or any other structure etc. shall be got repaired by the contractor at no additional cost to the department.

Completion and Commissioning of the pipelines.

Removal of defects during defect liability period after successful completion of work.

Executive Engineer (PHE-I)
JDA, Jaipur

Section A-5

Annexure

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 the misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;
- (c) Not indulge in any collusion, Bid rigging or anti-competitive behavior to impair the transparency, fairness and progress of the procurement process;
- (d) Not misuse any information shared between the procuring Entity and the Bidders with an intent to gain 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 a 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 is 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 to for procurement of in response to their Notice inviting Bids No.Dated

I/We hereby declare under Section 7 of Rajasthan Transparency in Public Procurement Act, 2012, that :

1. I/We possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entity;
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 proceeding 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 :
Place :

Signature of bidder

Name :
Designation :
Address :

Annexure C:**Grievance Redressed during Procurement Process**

The designation and address of the **First Appellate Authority is Commissioner, JDA, Jaipur.**

The designation and address of the **Second Appellate Authority is Executive Committee (E.C.), JDA, Jaipur.**

(1) Filing an appeal

- a. If any Bidder or prospective bidder is aggrieved that any decision, action or omission of the Procuring Entity is in contravention to the provisions of the Act or the Rules or the Guidelines issued there under, he may file an appeal to First Appellate Authority, as specified in the Bidding Document within a period of ten days from the date of such decision or action, omission, as the case may be, clearly giving the specific ground or grounds on which he feels aggrieved:
- b. Provided that after the declaration of a Bidder as successful the appeal may be filed only by a Bidder who has participated in procurement proceedings:
- c. Provided further that in case a Procuring Entity evaluates the Technical Bids before the opening of the Financial Bids, an appeal related to the matter of Financial Bids may be filed only by a Bidder whose Technical Bid is found to be acceptable.

(2) The officer to whom an appeal is filed under para (1) shall deal with the appeal as expeditiously as possible and shall 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) Appeal 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 Appeal

- (f) 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.
- (g) 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.
- (h) Every appeal may be presented to First Appellate Authority or Second Appellate Authority, as the case may be, in person or through registered post or authorized representative.

(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.

FORM No. 1
[See Rule 83]
Memorandum of Appeal under the Rajasthan
Transparency in Public Procurement Act, 2012

Appeal No. of Before 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 officer/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 proposes to be represented by a representative, the name and postal address of the representative:

5. Number of affidavits and documents enclosed with the appeal :

6. Grounds of appeal :

(Supported by an affidavit)

7. Prayer :

Place

Date

Appellant's Signature

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.

**Signature of Contractor
with full address & Mobile No.**

**Executive Engineer (PHE-I)
JDA, Jaipur**

AnnexureE:

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

No. JDA/Ex.En. (TA to Dir. Engg.-I)/2016/D-29

Dated: 11/3/2016

Office Order

Subject: - DLP period for various type of works.

As per the decision taken in the 201st meeting of Executive Committee held on 23.02.2016 w.r.t. agenda no. 201:22, DLP period of various natures of works amounting more than Rs. 25 lakhs has been revised as per following time periods based on nature of works.

This order will supersede the earlier orders issued in this regard i.e. order No. JDA/TA to D(E)/2010-11/D-317 dated 28.04.2011 including Special Condition No. 2.2.2 & 2.2.3 of Annexure-I related to SD refund & forfeiture (other Special Condition of annexure-I of this order will remain valid) and order No. JDA/Ex.En.(Pr.-5 & TA)/2013/D-43 dated 27.02.2013 and also all pertaining orders, in contract agreements or in PWF&AR having DLP period different than what is being enforced through this present order for concerned type of work.

Table-I

S.No.	Type of Work	Existing DLP Period	As per approved in E.C. held on 23.02.2016
1.	Bridge Work	3 years	5 Years
2.	CD Work	3 years	5 Years
3.	CC Road, PQC Work	3 years	5 Years
4.	CC tiles/Kerbs/medians	3 years	5 years
5.	Drains	6 months	3 years
6.	Roads		
	(i) Two layer WBM/CSB	3 years	6 Months or one full rainy season which ever is later
	(ii) For Renewal/Strengthening		
	(a) BT upto 30 mm thickness	3 years	1 year
	(b) BT above 30 mm to upto 40 mm	3 years	2 years
	(c) BT above 40 mm to upto 90 mm	3 years	3 years
	(d) ET Above 90 mm	3 years	5 years
	(iii) New Roads		
	(a) BT upto 90 mm	3 years	3 years
	(b) BT more than 90 mm	3 years	5 years
7.	Compound wall	6 months	3 years
8.	Buildings work		
	(i) Work pertaining to Sanitary works electrical works, Joinery works and painting works.	6 months	2 years
	(ii) Work pertaining to Building structure and other civil works.	6 months	5 years
9.	Electric work except maintenance	6 months	3 years
10.	Sewer/Water supply all including STP and water supply related work except maintenance works.	6 months	3 years <i>ly</i>

The release of SD amount shall be as per following table:-

Table-II

S. No.	Released SD DLP period	1 st year	2 nd year	3 rd year	5 th year
1.	Upto 1 year	100%	40%	20% ✓	10%
2.	Upto 2 year		60%	20% ✓	10%
3.	Upto 3 year			60% ✓	10%
4.	Upto 4 year				20%
5.	Upto 5 year				50%

Various conditions for managing DLP are as under:-

- (i) At the time of completion of work, final component shall be worked out for each individual item like BT/CC/tiles/drains etc (as per different categories in Table I), DLP shall be operative based upon type of individual item ex:- CC-5 years, BT- 1/2/3/5 years, Drain- 3 years etc.
- (ii) Similarly for all new works, these components should be calculated at the time of TS itself, which should be made part of BID document.
- (iii) If any work, amount is less than Rs. 25 lakhs but later on due to extra/excess work, if amount of final work crosses more than Rs. 25 lakhs, DLP shall be operative as per rule for each individual item.
- (iv) Similarly if any work is more than Rs. 25 lakhs but after finalization amount of work is less than Rs. 25 lakhs, DLP should be operative for six months or rainy season whichever is late.
- (v) During DLP period if contractor fails to repair any work even after issue of 7 days written notice, same work shall be got executed by respective Executive Engineer at the contractor's risk and cost. This process shall be applicable throughout the DLP period. After completion of DLP period in such works contractor should be debarred and blacklisted from JDA for three years as per RTPP Rule 2012 and 2013 where he defaults twice in a single agreement or in two different works.
- (vi) Quarterly Inspection as per rules shall be carried out and DLP registers shall be maintained by respective Executive Engineers to monitor the DLP repairs.
- (vii) Special and regular inspection shall also be carried out as per order no. JDA/Ex.En & TA to DE-I/2014-15/D-223 dated 12.03.2015 and order no. SE (PMGSY) CIRCULAR 2006/D-115 dated 04.05.2006 Point no. 3.
- (viii) In case JDA feels to take up work on any existing DLP road due to any reason, following procedure should be adopted:
 - (a) At the time of withdrawal total liability of repairs as per DLP conditions to be carried out and contractor shall be asked to complete the same. After completion of assessed repairs DLP period shall be released after deduction amt. as per table III.

Table-III

% Recovery on Withdrawal of DLP, of work order DLP period	1 year	2 year	3 year	4 year	5 year
1 year	1.12	-	-	-	-
2 year	2.55	1.43	-	-	-
3 year	4.38	3.26	1.83	-	-
5 year	9	7.88	6.45	4.62	2.47

Note:- Calculation is to be done on quarterly basis.

(b) In case Contractor fails to carry out these repairs, same shall be carried out at his risk and cost. If the total amt. of such repairs works out to be more than total retained amt. of SD, same shall be recovered from other works and as per PDR rules. The amount as per Table III is also to be deducted in addition to this amount.

(ix) Based upon type of work, DLP conditions for works to be carried out during DLP period with their frequency of respective type of work shall be prepared by respective SE's after approval of these periods.

This order shall come in force with immediate effect and will be applicable on all new works whose NIB is to be called.

Sd/-
Director (Engineering-I)
JDA, Jaipur

Copy to following for information and necessary action:-

1. PS to IDC, JDA, Jaipur.
2. PS to Secretary, JDA, Jaipur.
3. Director Engineer I/II, JDA, Jaipur.
4. Director (Fin.), JDA, Jaipur.
5. C.F, JDA, Jaipur.
6. All Add. Chief Engineers, JDA, Jaipur.
7. All Superintendent Engineers, JDA, Jaipur.
8. OSD (RM), JDA, Jaipur.
9. Additional Director (REV.&DP.)
10. CAO (P&A) JDA, Jaipur.
11. Sr. Horticulturist, JDA, Jaipur
12. All Executive Engineer, JDA, Jaipur.
13. DD (E&B) JDA, Jaipur.
14. All AOs, JDA, Jaipur.
15. All AAOs, JDA, Jaipur.
16. System Analyst
17. All Contractors' Association, JDA, Jaipur.
18. Guard file

Sd/-
S.E. & TA to Dir. (Engg-I)
JDA, Jaipur

SCHEDULE 'H'**SPECIAL CONDITIONS**

1. 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.
2. The contractor shall follow the contractor labour regulation and abolition Act 1970 & Rule 1971.
3. The JDA shall have right to cause on audit and technical examination of the work and the final bills of the contractor including all supporting vouchers, abstract etc. to be made within two years after payment of the final bills and if as a result such audit any amount is found to have been over paid/excess in respect of any work done by the contractor under the contract or any work claimed by him to have been done under this contract and found not to have been executed the contractor shall be liable to refund such amount and it shall be lawful for the JDA to recover such sum from him in the manner prescribed in special condition no. 8 or any other manner legally permissible and if it is found that the contractor was paid less than that was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be paid by the JDA to the contractor.
4. The contractor shall not work after the sunset and before sunrise without specific permission of the authority Engineer.
5. Tax exemption/ Tax liabilities if any shall be applicable as per prevailing government rule and bidder has to consider this while quoting the rates. As per latest provision of Government rule.
6. Whenever any claim against the contractor for the payment of a sum of money arises out or under the contracts, the JDA shall be entered to recover the sum by appropriating in part or whole of the security deposit of the contractor. In the event of the security being insufficient or if no security has been taken from the contractor then the balance of the total sum recoverable as the case may shall be deducted from any sum then due or which at any time there contract with the JDA should this sum be sufficient to recover the full amount recoverable, the contractor shall pay to JDA on demand the balance remaining due. The JDA shall further have the right to effect such recoveries under P.D.R. Act.
7. The rate quoted by the contractor shall remain valid for a period of 120 days from the date of opening of the tenders.
8. By submission of this tender the contractor agree to abide with all printed conditions provided in the PWD manual from 64 (Chapter 3-para 36) and subsequent modification.
9. No conditions are to be added by the contractor and conditional tender is liable to be rejected.
10. If any Bid 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 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 and fails to furnish performance guarantee 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 Bid does not execute the agreement or start the work or does not complete the work and the work has to be put to re-bidding, he shall stand debarred from participating in bidding in JDA for Six Months in addition to forfeiture of Earnest Money / Security Deposit /Performance Guarantee and other action under agreement
11. Rules regarding enlistment of contractors provide that work upto five times limit for which they are qualified for tendering can be allotted to them. Therefore, before tender the contractors will keep this in mind, and submit the details of work. 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 contractor within a period of 3 days of the instructions, issued by the Engineer-Incharge in writing. Failing which, such material shall be removed by the Engineer-Incharge at risk and the contractor after expiry of 3 days period.
13. The material collected at site and paid provisionally shall remain under the watch and ward of the contractor till it is consumed, fully on the work.
14. The rates provided in Bid documents are inclusive of all Taxes, royalty.
15. No extra lead of earth/material shall be paid over and above as specified in 'G' schedule. Source/borrow pit area for earth shall have to be arranged by the Contractor at his own cost.
16. Undersigned has full right to reject any or all Bids without given any reasons.
17. Mortar of Masonry work and lean concrete will be permitted mixer with hopper.
18. 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."
19. The Bidder are required to submit copy of their enlistment as contractor.
20. Conditions of RPWA-100 will be mandatory & acceptable to the contractor.
21. 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.
22. All the provisions of THE RAJASTHAN TRANSPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and Rules, 2013 will be applicable. If there is any contradictions in existing special conditions and provisions of THE RAJASTHAN TRANSPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and RULES, 2013 shall be applicable.

Signature of Contractor
with full address & Mobile No.

Executive Engineer (PHE-I)
JDA, Jaipur

ANNEXURE- I**[Reference Clause 3(i)]**

Signed
Photograph of
Applicant

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

AFFIDAVIT

**I/We..... Proprietor/ Partner/ Authorized signatory
of M/s under take the oath that the information furnished
by me/us of the assessment Bid for
..... is correct to the best of
my/our knowledge and nothing has been concealed by me. I acknowledge that if in
future any information furnished by me is found incorrect I will be solely responsible
and shall be punished as per the law and also any benefits in any form obtained by me
shall be recoverable.**

.....
Proprietor/ Partner/ Authorized signatory

M/s

.....

Note:-

The applicant has to enclose a self attested photo identity card with the above affidavit.

ANNEXURE- II**Bank Guarantee Performa for Bid security deposite**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 Security Deposit for the work of **“P/L/J of DI, HDPE pipe line for reuse of treated sewage water from 1 MLD CETP, Sahkar marg to Green belt along with Sahkar Marg, Jaipur”**

WHEREAS, _____ [name of Bidder with address] (**hereinafter called “the Bidder”**) has submitted his Bid dated for the work of **“P/L/J of DI, HDPE pipe line for reuse of treated sewage water from 1 MLD CETP, Sahkar marg to Green belt along with Sahkar Marg, Jaipur” (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 ICICI 006754. Bank Account No. 675401700518** on the date of expiry or its validity, unless the agencies get it re-validated well before its expiry date or produce NOC from JDA in written for its release.

Date _____ Signature of the Bank _____

Witness _____ Seal _____

[Signature, Name and Address]

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

PAYMENT MECHANISM FOR PARTICIPATING IN TENDER

Jaipur Development Authority has decided to receive Earnest Money Deposit (EMD) (Bid Security) Tender fee online through JDA portal. The bid security options available in tender for participants are as mentioned below :

A. Payment Options:

Option-1: Bank Guarantee (BG) against EMD / Bid Security

Bidder may opt Bank Guarantee (BG) against EMD (Bid Security) for which bidder requires to prepare BG before applying in the tender. The details of BG requires to be fed on JDA portal before paying balance amount (Tender Fee). This amount will be paid through **Payment Gateway only**, option to make balance payment through EFT (RTGS/NEFT) will not be available

If bidder does not opt for BG against EMD, options of making complete payment through Payment Gateway or through EFT (NEFT/RTGS) will be available

Option-2: Electronic Fund Transfer (EFT: NEFT/RTGS)

If the bidder selects payment mode as EFT (NEFT/RTGS) **"Paying Slip for EFT (NEFT/RTGS)"** will be generated by the system for the complete amount. The payment can be made from **any Bank any Branch** using this Paying Slip through NEFT/RTGS (Claim against payment made through EFT in any other JDA bank account will not be acceptable and bidder stands disqualified from participation in the bid applied for). After successful transaction through NEFT/RTGS, as per the standard procedures it may take 4 to 24 hours in process of confirmation of EFT through Auto-Process depending on the time of EFT done. Therefore, option to make payment through EFT (NEFT/RTGS) will be available till 2 days prior to closing date of bid participation.

Option-3: Payment Gateway (Aggregator)

The facility to make payment through Debit Card, Credit Card, Net banking etc., will be available. User can use this facility from **anywhere any time** till the closing date & time of bid participation

B. Bid Participation Receipt

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

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

-SD-
Executive Engineer (PHE-I)
JDA, Jaipur

Section A6

Drawings

I/We Quote as % Above/ Below the schedule " G "

(In Words.....)'

**Signature of Contractor
With full Address & Mobile No.**