

PADRA NAGARPALIKA PADRA

STANDARD BIDDING DOCUMENT PROCUREMENT OF CIVIL WORKS.



NAME OF WORK: - BID DOCUMENTS FOR REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME (SECOND ATTEMPT) .

**THE CHIEF OFFICER
PADRA NAGARPALIKA
PADRA**

PADRA NAGARPALIKA PADRA

NAME OF WORK: - BID DOCUMENT FOR REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME (SECOND ATTEMPT) .

VOLUME -I – TECHNICAL BID

MILESTONE DATES		
Bid Documents Downloading Start Date	:	Date: 25/06/2026 from 10.00 Hrs.
Last Date for Submission of Online Tender	:	On Date : 09/07/2026 up to 18:00 Hrs.
Dates of Submitting the Tender Fee / E.M.D and relevant Documents of the Tender By RPAD Only.	:	Up to Date:14/07/2026 18:00 Hours at the Padra Nagarpalika, Padra Dist. Vadodara, Gujarat-India.
Openings Dates for online Tender Technical Bid Price Bid	:	Technical Bid on Date 15/07/2026 at 12:00 Hrs. Price Bid date to be intimated later. (If Possible)
Estimated Cost	:	Rs. 84,78,800.00
EMD (Demand Draft)	:	Rs. 84,800.00
Tender Fee (Demand Draft)	:	Rs. 2,832.00
Class Of Contract	:	"D "Class and Above
Duration Of Work	:	06 (Six) Month

-: OFFICER INVITING BIDS: -

**THE CHIEF OFFICER
PADRA NAGARPALIKA
PADRA**

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INVITATION FOR BID (IFB)

PADRA NAGARPALIKA PADRA
INVITATION FOR BID
NATIONAL COMPETITIVE BIDDING

1. The **Chief Officer Padra Nagarpalika Padra** invites bids for the construction of works detailed in the table. The bidders may submit bids for any or all of the following works.

Package No.	-----
Name of work	REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME. (SECOND ATTEMPT) .
Approximate Value of Works	Rs. 84,78,800.00
Bid Security (EMD)	Rs. 84,800.00
Cost of document (Tender Fee)	Rs. 2,832.00
Period of Completion	06 (Six) Month
Class of Registration / Category of Contractor if required	"D" Class and Above

2. Prospective / Interested bidder may download the Bid Documents from website <https://www.tender.nprocure.com> free of cost till the Time and Date as mentioned on online NIT at website <https://www.nprocure.com>.
3. However, Bidder who is submitting the Bid Online will have to pay the Bid Document Fee/ Tender Fee through Demand Draft only of any Schedule Bank payable at Padra_ and in favor of **CHIEF OFFICER PADRA NAGARPALIKA PADRA**. Once the Bid is received online, Bid Document / Tender Fee will not be refundable. as per GoG R&B Department's Circular No. PARACH/102/000/IB/221/(59)/C, Dtd. 24/01/2007.

The Demand Draft for Tender fee and Demand Draft/FDR for Tender EMD shall be submitted in electronic format through online (by scanning) while uploading the bid, this submission shall mean that bid document / tender fee and Bid Security / EMD has been received. Accordingly, the offer of only those shall be opened whose Bid Document / Tender Fee and Bid Security / EMD have been received electronically. However, for the purpose of realization of prequalification Tender Fee original (Demand Draft) and Tender EMD original (Demand Draft in original/FDR in original) bidder shall be received by the Employer at the address specified above not later than **14/07/2026** up to 18.00 Hrs. through registered post/ speed post only.

Penaltative action for not submitting Demand Draft / FDR / ~~Bank Guarantee~~ in original to Chief Officer / Tender Inviting Authority by bidder shall be initiated. (**WRD GR No. PRC-102014-1-MICell-K.1, Dtd. 29/10/2014**)

4. Bids received online, will be opened on the time, date and place as specified in the online NIT at website <https://www.nprocure.com> in the presence of the bidders or their authorized representatives, who wish to remain present. If the office happens to be closed on the day of opening of the bids as specified, the bids will be opened on the next working day at the same time and venue.
5. ~~A pre bid meeting will be held onathrs. at the office of to clarify the issues and to answer questions on any Matter thatmay be raised at that stage as stated in clause 9.2 of 'instructions to Bidders' of the bidding documents.~~
6. Bid Security (EMD) is equal to 1% of Estimated Amount put to bid / tender and should be rounded off to the next thousand rupees.
7. Other Information is as under:
- a. Agencies can prepare and edit their offers a number of times before the end of the tender submission date and time. After the tender submission date and time, the bidder cannot modify / edit / withdraw their submitted offer in any case. No written or online request in this regard shall be granted.
 - b. Offers in physical form will not be accepted in any case.**
 - c. Demand Draft purchased by the other then bidder and issued after the last date of submission of Bids, will not be considered or accepted.
 - d. The cost incurred by the contractor for this offer for clarification or attending discussion, conferences or site visits will not be reimbursed by the Employer or Engineer-in-Charge.
 - e. Conditional tender shall not be accepted.
 - f. Any changes, addition, alternation made in the prescribed form attached with tender are liable to be rejected.
 - g. Any change in format or conditional Bank Guarantee will not be accepted and the bidder will be considered non-responsive.
 - h. All the bidders are instructed to fill in information strictly in accordance with the format given in the checklist /qualification document / tender document.
 - i. It is mandatory for the bidders to supply each and every information as asked strictly in electronic format at appropriate places only.
 - j. Blank / insufficient information shall be treated as nil information and shall result in disqualification.
 - k. Even if the bidder has been qualified in a similar or larger size of project in the past, it shall not be deemed to be a ground / reason for not giving required information for this work / bid.
 - l. Information supplied for earlier projects shall not be considered while evaluation of this bid. The Government will not ask for any other information, unless it is found absolutely necessary by the competent authority.
 - m. If found necessary, the contractor will be intimated for negotiation,

BID EVALUATION / PRE-QUALIFICATION CRITERIA / ELIGIBILITY CRITERIA

The applicants will be qualified and short listed based on their merits and bid evaluation criteria mentioned herein as per Road and Building Government of Gujarat Resolution No. RGN-6089-8-Part-1-C-14, Sardar Bhavan, Sachivalay, Gandhinagar Dated 06-08-2011. The price bid of only those contractors will be opened who satisfies the following criteria. For **REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME.**

1. Tender fee in form of Demand Draft
2. Tender EMD in Form of Demand Draft/ F.D.R
3. The contractor should be registered in category **"D" Class and Above** with the Govt. of Gujarat, /GWSSB/Central Govt, **in online submission only.**
4. Experience of having successfully completed similar work of **(Water Supply Works)** during last 7 years ending last day of the month previous to the one in which application are invited should be either of the following.
 - a. **One similar completed work costing not less than the amount equal to 80% of the estimated cost. Rs. 84.78 Lac. i.e. Rs. 67.82 X 1**
 - Or**
 - b. **Two similar completed works costing not less than the amount equal to 50 % of the estimated cost. Rs. 84.78 Lac. i.e. Rs. 42.39 X 2**
 - Or**
 - c. **Three similar completed works costing not less than the amount equal to 40 % of the estimated Cost Rs. 84.78 Lac. i.e. Rs. 33.91 X 3**
- (Completion certificate in the Form 3A Certificate should be submitted online in proof thereof.)
5. Average Annual Financial turnover during the last three 3 years, ending 31st march of the previous financial year, should be at least 30 % of the Estimated Cost. (The audited balance sheet/C.A. Certificate for turnover should be submitted online in support of the same.) in online submission only.
6. The bidder shall have working capital tie-up (Bank Solvency current calendar Year) of not less than 20% of Amount put to tender (Estimated Cost). The contractor shall produce bank certificate from the Nationalized / Scheduled Bank for fund based and non-fund-based credit facilities. (Bank solvency Certificate should be submitted online in support of the same.) **in online submission only**
7. The Bidder must Submit G.S.T No. And Related Documents **in online submission only.**
8. Attach Scan Copy of PAN Card **in online submission only**
9. Employee's Provident Fund Registration and Supporting Documents Should be Compulsory attached here with **in online submission only.** On Non-Submission Bidder's Bid Will are Disqualified and his price bid will not be opened.
10. Attach self-Attested - Site visit Certificate must be attached with tender Document with in online submission only (Format as per SBD-Section-1 Clause 7.2) **in online submission only.**
11. The Defect Liability Period will be of **12 Months** after Issue of Final Bill (i.e. Contractor will be responsible for **One years** of maintenance After Issue of Final Bill).

Note. 1. Consulting Engineer Service Charges as Approved with NAGARPALIKA (2.50 % + G.S.T) will have to be considered while quoting rate, same will have to be bare by the Bidder.

2. Third Party Inspection Service Charges as Approved with Nagarpalika (1.25 % + G.S.T) will have to be considered while quoting rate, same will have to be bare by the Bidder.

The applicant shall submit documentary evidences in support **in online submission only** of all above Qualification criteria, failing in which the price bid shall not be opened.

Supporting Document received in physical submission except D.D of Tender Fee and D.D/FDR of E.M.D shall not be considered in any circumstances.

The Bidder shall submit documentary evidences in support of all above Qualification criteria, failing in which the price bid shall not be opened. Chief Officer Padra Nagarpalika, Padra also reserves the right to waive off the Qualifying criteria/ except or Reject any or all Tender without assigning any reason thereof.

GENERAL IMPORTANT INSTRUCTION TO THE BIDDER

1. Bidders have to carried out and submit following types of total station survey work. (1) Proposed/ existing road alignment survey & alignment demarcation on site. (2) Existing ground data survey work. (3) Earth Work / Embankment Qty (pre & post) survey with Reference to original ground data survey for earth work. Qty verification work. 4) Total Station works for land acquisition process if required by Padra Nagarpalika, Padra 5) Necessary Permission for Building Use, GPCB Board, Fire Safety Related Permission etc. will have to be Obtained by the Successful Bidder from Competent Authority as per the Estimate Given in Schedule-B at his Own Risk and Expanse, No Extra Expanse/Payment for the same will be Made by Padra Nagarpalika, Padra regarding the same.
2. Bidders have to carry out various types of Pre and Post total station survey work in connection with stipulated quantities in Schedule-B for smooth running of project and site layout management.
3. Bidder/Contractor will have to Obtained Soil Bearing Capacity Report (From Government Approved Laboratory) at various locations for Deciding the Depth of Foundation and other criteria and also verified the Soil Strata etc. considering the same the Structure Design Should be Prepared and verified from competent Authority (Such as competent Authority (Register Structure Engineer)/Government Engineering Collage etc. For Approval of Such type of Design and Drawings) having as possible as Economical and Safe Provision as per provision considering Latest IS Code's and Standard etc. at his Own Expanses Padra Nagarpalika will not pay any Extra Amount/Payment Regarding the same and also the Quantity, Item should be as far as possible in Limit and Connection to Uploaded Schedule-B/BOQ.
4. Foundation and Foundation Footing for Above Work are to be designed after obtaining Soil Bearing Capacity Report and considering the S.B.C Value Depth of Foundation Footing and Other Foundation depth should be Determined and taken with at most care and as far as possible economical and with respect to stipulated Quantity Given in Schedule B also Excess/Extra Quantity Should be avoided.
5. Construction Work should only be started after Approval of Structure Design from competent Authority and submission of the same to Padra Nagarpalika, Padra having Quantity Should be in limit and in connection with Quantity given in Schedule B with reference to Obtained Soil Bearing Capacity.
6. All Material Used for Construction will have to be tested before execution as Per Schedule of Testing of

Road and Building Department Attached Herewith.

7. For Leveling and fixing Datum Level for as far as Flat Ground and Contour Level for the reference should also be Obtained and the Quantity of Cutting and Filling should be workout in such a manner that the Quantity for the Filling should be as far as possible minimized and also should be assured that water lodging doesn't (Avoided) take place in the Premises.
8. R.C.C. and T.M.T Steel are as Per the Government Norms (company make mentioned in tender) should use by the Successful Bidder and Structure Design for the same should be approved by competent Authority.
9. Construction Material Testing and Concrete Work Testing according to Concrete Strength Should be Conducted from Government Approved Laboratory and GERI (ગેરી) as per norms Mentioned in R&B Resolution Letter SMR-1092-129-10-G Dated 24/10/1994,
10. Site Photographs Stage Wise, at Regular Interval and on Completion will have to be submitted by the Successful Bidder to Padra Nagarpalika Padra at regular interval to notified the progress of work and Final Completion of the Work (The Photographs should contain Following Details Name of Work, Ward Name, Amount of Expanse etc.
11. Work should be commenced only after obtaining required Building Construction Permission from Local Spatial Authority (Local Urban Authority) for Building Construction Drawing.
12. After Completion of the Building required Building Use Permission (B.U. Permission) will have to be Obtained from Local Spatial Authority (Local Urban Authority) or Competent Government Department.
13. Any Additional Instruction from Regional Commissioner Municipality, Vadodara, Gujarat Municipal Finance Board, Government of Gujarat etc. will have to followed/ Obey.
14. Successful Bidder/Contractor will have to compulsory Place Holding/Big Permanent Granite Plate/Name Plate Mentioning necessary details such as Name of Work, Date of Starting of Work, Date of Completion, Name of Grant, Other Details required by Nagarpalika / Logo of Swarnim Gujarat/Amrut Mohotsav etc., Other Details Mentioned by Government of Gujarat etc. at his own expanse.
15. Bidders shall have to carry out Concrete MIX DESIGN for all Control Cement Concrete Works Items before

Execution of works if required.

16. Bidders have to carry out all kinds of Tests For works as per various IS Code and Specification Listed in Material Section and Schedule of Material Testing.
17. Goods and Service Tax (GST) Amount as per Government Rules and Regulation will be Deducted from Contractors / Bidder Running Bill / Final Bill by Nagarpalika Stage / Bill Wise.
18. No objection Certificate and required permission after construction work of building for electrification work and fire safety work from component authority will have to obtain by bidder.
19. Overlap have to be done as per design specification no extra payment for the overlap will be done to the bidder. (as per resolution PDW/10-2017-01-C DATED 15-02-2017)
20. The bidder have to follow all instruction of Saheri vikas and Saheri Gruh-Nirman resolution No.SGY/102011/4144/Dated 23/08/2011.
21. All cost towards the testing shall be borne by the contractor.
22. The contractor should submit online documentary evidences proving his credentials, Experience, Technical Personnel, Financial, Manpower and Material, Machinery resources related to similar work as mentioned Above should also give list of sites where the works done by him can be inspected for assessment of quality of workmanship. The bidder shall submit Chartered Accountant's certificate in support of the financial criteria. Supporting Document received in physical submission except D.D of Tender Fee and E.M.D shall not be considered in any circumstances.
23. G.S.T, T.D.S (Tax deducted at Source) on applicable Goods and Service Tax (GST) Amount as per Government Rules and Regulation (Resolution No. GST/1017/1097 GST Sale, DATE-15- 09-2018) will be deducted from Contractors/ Bidder Running Bill/ Final Bill by the Nagarpalika. Stage/Bill wise.
24. Goods and Service Tax (G.S.T) as applicable will have to be considered by the Bidder and the Rate Quoted will be inclusive of Goods and Service Tax (G.S.T), Goods and Service Tax (G.S.T) Related Amount will not be paid separately to the Bidder by Padra Nagarpalika.
25. The Bidder will have to carry out Soil Investigation and Obtain Soil Investigation Report for Soil Bearing Capacity etc. and also Prepared and Submit Structure Design on the basis of Soil Bearing Capacity and get it approved from Competent Government Authority at it his own Cost including wetting Charges etc. No charges for the same will be bared by Padra Nagarpalika. (If required).

SECTION - 1
INSTRUCTIONS TO BIDDERS
(ITB)

Section 1: Instructions to Bidders

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A. GENERAL

1. Scope of Bid

The Chief Officer Padra Nagarpalika invites bids for the Construction Work of **REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME**. Construction of works (as defined in these documents and referred to as 'the works') detailed in the table given in IFB. The bidders may submit bids for any or all of the works detailed in the table given in IFB.

- 1.1 The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.
- 1.2 Throughout these bidding documents, the terms 'bid' and 'tender' and their derivatives (bidder/ tenderer, bid / tender, bidding/ tendering, etc.) are synonymous.

2. Source of Funds

- 2.1 The expenditure on this project will be met from the budget of Govt. of Gujarat / Govt. of India for centrally sponsored projects.

3. Eligible Bidders

- 3.1 This Invitation for Bids is open to all eligible bidders.
- 3.2 All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a statement that the Bidder is neither associated, nor has been associated, directly or indirectly, with the consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.

4. Qualification of the Bidder

- 4.1 All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary. The proposed methodology should include a program of construction backed with equipment planning and deployment duly supported with broad calculations and quality assurance procedures proposed to be adopted justifying their capability of execution and completion of work as per technical specifications, within stipulated period of completion.
- 4.2 Deleted
- 4.3 Deleted
- 4.4 Deleted

#4.5 QUALIFICATION CRITERIA:

(Applicable for the works which require Post Qualification)

4.5.1 Qualification will be based on Applicant's meeting all the following minimum pass/fail criteria regarding the Applicant's general and particular experience, personnel and equipment capabilities and financial positions, as demonstrated by the applicant's responses in the forms attached to the letter of application (~~specified requirement for joint ventures are given under para 4.6 below~~) Subcontractors experience and resources shall not be taken in to account in determining the applicants compliance with the qualifying criteria To qualify for more than one contract, the applicant must demonstrate having experience and resources sufficient to meet the aggregate of the qualification criteria for each contract given in paragraphs 4.5.4, 4.5.5 and 4.5.9 below

4.5.2 Base year and Escalation

The base year shall be taken as Current financial year

Following enhancement factors will be used for the costs of works executed and the financial figure to a common base value for works completed in India.

Year	Financial Year	Enhancement Factor
Base (year of inviting tender)	2025-2026	1.00
-1	2024-2025	1.10
-2	2023-2024	1.21
-3	2022-2023	1.33
-4	2021-2022	1.46
-5	2020-2021	1.61
-6	2019-2020	1.77
-7	2018-2019	1.94

Applicant should indicate actual figures of costs and amount for the works executed by them without accounting for the above-mentioned factors.

In case the financial figures and value of completed works are in foreign currency the above enhanced multiplying factors will not be applied. Instead, the current market exchange rate (State Bank of India BC Selling rate as on the last date of submission of the bid) will be applied for the purpose of conversion of the amount in foreign currency into India rupees.

4.5.3. General Experience.

The Applicant shall meet with the following minimum criteria:

- (a) Achieved a minimum annual financial turnover (defined as billing for works in progress and completed in all classes of civil engineering construction works only) in any one year, over the last five years of the annual value of contract / contracts applied for.
- (b) Experience in successfully completing work As per Bid Evaluation Criteria on page no.7 or substantially completing at least one contract of (**Water Supply Works**) of at least 80 percent/ two contract of (**Water Supply Works**) of at least 50 percent/ Three contract of (**Water Supply Works**) of at least 40 percent of the value of proposed contract within the Seven years.

The works may have been executed by the applicant as prime contractor or as a member of a joint venture or as a nominated sub-contractor. As subcontractor, he should have acquired the experience of execution of all major items of works under the proposed contract. In case a project has been executed by a joint venture, weight towards experience of the project would be given to each joint

venture in proportion to their financial participation in the joint venture.

Substantially completed works means those works which are at least 90 % completed as on the date of submission (i.e. gross value of work done up to the last date of submission is 90 % or more of the original contract price) and continuing satisfactorily.

For these, a certificate from the employers shall be submitted along with the application incorporating clearly the name of the work, contract value, billing amount, date of commencement of works, satisfactory performance of the contractor and any other relevant information.

(The experience certificate should be signed by the officer not below the rank of EE)

4.5.4. Personnel Capabilities.

The Bidder must have suitably qualified personnel to fill the following positions. The Bidder will supply information on a prime candidate and an alternate for each position, both of whom should meet the qualification and Experience requirements specified below:

Sr No.	Position	Qualification	No. of Personnel's required	Total experience (Years)	In similar works (Years)	In similar work in similar capacity (Years)

4.5.5. Equipment Capabilities

Based on the studies carried out by the Engineer, the minimum suggested major equipment to attain the completion of works in accordance with the prescribed construction schedule are shown in the Appendix.

The bidders should, however, undertake their own studies and furnish with their bid, a detailed construction planning and methodology supported with layout and necessary drawings and calculations to allow the employer to review their proposals. The numbers, types and capacities of each plant/equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.

List of Plant & Equipment to be deployed on contract work.			
SL No.	Type of Equipment	Maximum Age on	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

4.5.6. Financial Position

The Applicant should give undertaking that he has access to, or has available, liquid assets (aggregate of working capital, cash in hand and uncommitted bank guarantees) and / or credit facilities up to 25 percent of the value of the contract / contracts applied.

- 4.5.7.** The audited balance sheets for the last five years should be submitted, which must demonstrate the soundness of the applicant's financial position, showing long – term profitability including an estimated financial projection for the next two years. If necessary, the employer will make inquiries with the applicant's bankers.

4.5.8. Litigation History

The Applicant should provide accurate information on any litigation or arbitration resulting from contracts completed or under execution by him over the last five years. A consistent history of awards against the Applicant or any partner of a joint venture may result in failure of the applicant.

4.5.9. Disqualification

Even though the applicants meet the above criteria, they are subject to be disqualified if they have:

Made misleading or false representation in the forms, statements submitted, and / or Record of poor performance such as abandoning the work, rescinding of contract for which the reasons are attributable to the non – performance of the contractor; consistent history of litigation awarded against the applicant or financial failure due to bankruptcy. The rescinding of contract of a joint venture on account of reasons other than non – performance, such as Most Experienced partner of joint venture pulling out, court directions leading to breaking up of a joint venture before the start of work, which are not attributable to the poor performance of the contractor will, however, not affect the qualification of the individual partners.

~~#4.6 — JOINT VENTURE: (Maximum 3 Members i.e. 1 Lead & 2 others)- (Applicable only for estimated project cost of 50 Crore and above)~~

~~4.6.1. — Joint ventures must comply with the following requirement:~~

~~(a) — Following are the minimum qualification requirements:~~

~~(i) The lead partner shall meet not less than 50 percent of all criteria given in para 4.5.3 & 4.5.6 above. The joint venture must collectively satisfy the criteria of para 4.5.3 & 4.5.6 above. The experience of the other joint venture partners shall be considered if it is not less than 30 percent of the qualifying criteria in para 4.5.3 & 4.5.6 Above.~~

~~(ii) — Individually each member must satisfy the requirements of para 4.5.7 & 4.5.8 above.~~

~~(b) — Bid shall be signed so as to legally bind all partners, jointly and severally, and shall be submitted with a copy of the joint venture agreement providing the joint and several liabilities with respect to the contract.~~

~~4.6.2. — Qualification of a joint venture does not necessarily qualify any of its partners individually or as a partner in any other joint venture. In case dissolution of a joint venture, each one of the constituent firms may qualify if they meet all the qualification requirements, subject to the written approval of the Employer.~~

4.7. Bid Capacity.

Applicants who meet the minimum qualification criteria will be qualified only if their available bid capacity at the expected time of bidding is more than the total estimated cost of the works. The available bid capacity will be calculated as under:

Assessed Available Bid Capacity = (A*N*2-B), where

A = Maximum value of work executed in any one year during the last five years (updated to the price level of the year indicated in appendix) taking into account the completed as well as works in Progress.

B = Value at current price level of the existing commitments and ongoing works to be completed during the next__ (period of completion of work for which bids are invited); and

N = Number of years prescribed for completion of the works for which the bids are invited.

Note: ~~In Case of joint venture, the available bid capacity will be applied for each partner to the extent of his proposed participation in the execution of the work.~~

4.8 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

Made misleading or false representation in the form, statements submitted; and /or Records of poor performance such as abandoning the work, rescinding of contract for which the reasons are attributable to the non-performance of the contractor; consistent history of litigation awarded against the Bidder or financial failure due to bankruptcy. The rescinding of contract of a joint venture on account of reasons other than non-performance, such as most Experienced partner of joint venture pulling out, court directions leading to breaking up of a joint venture before the start of work, which are not attributable to the poor performance of the contractor will, however, not affect the qualification of the individual partners.

5. One bid per bidder

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

6. Cost of Bidding

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

7. Site Visit

- 7.1. The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of work and its surrounding and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works.

The costs of visiting the site shall be at the Bidder's own expense.

- 7.2 Letter of Confirmation of Site Visit.

(ON COMPANY'S LETTER HEAD)

To
The Chief Officer
Padra Nagarpalika
Padra.

Dear Sir,

SUB: BID DOCUMENT FOR REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME. (SECOND ATTEMPT) .

1. With reference to the tender invited by you for the above mentioned work/s, I/We do hereby confirm that I/We have carried out site visit and understood the project requirements in detail.
2. I / We have satisfied ourselves as to the current site conditions as on date _____, and agree to execute the project in accordance with the tender requirements.
3. We agree that at your sole discretion and without assigning any reason whatsoever, you reserve the right to accept and/or reject any or all tenders. The Chief Officer , **Padra Nagarpalika** does not bind itself to accept the lowest tender.

Yours faithfully,

Date:

(Signature of the tenderer with the seal of the firm)

Witness:

B. BIDDING DOCUMENTS

8. Content of Bidding Documents

- 8.1 The set of bidding documents comprises the documents listed below and addenda issued in accordance with Clause 10:

Section	Particulars	Volume No.
-	Invitation for Bids	I
1	Instructions to Bidders	
2	Qualification Information, and other forms	
3	Conditions of Contract	
4	Contract Data	
5	Technical Specifications	II
6	Form of Bid	III
7	Bill of Quantities	
8	Securities and other forms	
9	Drawings	IV
10	Documents to be furnished by bidder	V

- 8.2 Volumes I, II, III and IV are available online and documents to be furnished by the bidder in compliance to section 2 will be prepared by him and furnished as Volume- V in two parts (refer clause 12).
- 8.3 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, and technical specifications, bill of quantities, forms, Annexes and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. **Pursuant to clause 26 hereof** bids which are not substantially responsive to the requirements of the Bid Documents shall be rejected.

9. Clarification Bidding Documents

- 9.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or through E-mail at the Employer's address indicated in the invitation to bid. The Employer will respond to any request for clarification which he received earlier than 15 days prior to the deadline for submission of bids. Employer's response will be published on website including a description of the enquiry but without identifying its source.

Intending bidders are advised to submit their queries in regards of the bidding documents through email np_padra@yahoo.co.in and replies of which will be given through return mail.

~~9.2. Pre-bid meeting~~

~~9.2.1. The bidder or his official representative is invited to attend a pre-bid meeting which will take place at the address, venue, time and date as indicated in the appendix.~~

~~9.2.2. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.~~

~~9.2.3. The bidder shall be required to submit any questions in writing or e-mail to reach the Employer not later than 03 days before the meeting.~~

~~9.2.4. Minutes of the meeting, including the question raised (Without identifying the source of enquiry) and the responses given will be published without delay on the tender website i.e. www.nprocure.com. Any modification of the bidding documents listed in sub-Clause 8.1 which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.~~

~~9.2.5. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.~~

10. Amendment of Bidding Documents

10.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.

10.2 Any addendum thus issued shall be part of the bidding documents. The Employer will assume no responsibility for the same.

10.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at his discretion, extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.

C. PREPARATION OF BIDS

11. Language of the Bid

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

12. Documents Comprising the Bid

12.1. The bid be submitted by the bidder as Volume V of the bid document (refer Clause 8.1) shall be in two separate parts:

Part I shall be named “Technical Bid” and shall comprise

- (i) Bid Security in the form specified in Section 8
- (ii) Qualification Information and supporting documents as specified in Section 2
- (iii) Certificates, undertakings, affidavits as specified in Section 2
- (iv) Any other information pursuant to Clause 4.5 of these instructions
- (v) Undertaking that the bid shall remain valid for the period specified in Clause 15.1

Part II shall be named “Financial Bid” and shall comprise

- (i) Form of Bid as specified in Section 6
 - (ii) Priced Bill of Quantities for items specified in Section 7
- 12.2. The Bidder shall submit the details / information pertaining to each part i.e. technical as well as financial and must be submitted online only.
- 12.3. Following documents will be deemed to be part of the bid.

Section	Particulars	Volume No.
Invitation for Bids (IFB)		
1	Instruction to Bidders	Volume I
3	Conditions of Contract	
4	Contract Data	
5	Specifications	Volume II
9	Drawings	Volume IV

13. Bid Prices

- 13.1 The Contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.
- 13.2 The bidder shall fill in rates and prices and line-item total (both in figures and words) for all items of the Works described in the Bill of Quantities along with total bid price

(Both in figures and words). Items for which no rate or price is entered by the bidder will not be paid for by the Bill of Quantities.

18. The rates to be quoted by the contractor are inclusive of sales GST & all other taxes. No extra payment on this account will be made to the contractor.

13.3 Deleted

13.4 The rates and prices quoted by the bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 47 of the Condition of Contract **(Irrespective of the time limit and Bid Amount)**

14. Currencies of Bid and Payment

14.1 The unit rates and the prices quoted by the bidder shall be entirely in Indian Rupees. All payments shall be made in Indian Rupees.

15. Bid Validity

15.1 Bids shall remain valid for a period of not less than 120 days after the deadline date for bid submission specified in Clause 20.

15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified period. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his security for a period of the extension, and in compliance with Clause 16 in all respects.

#16. Bid Security

16.1. The Bidder shall furnish, as part of his Bid, a Bid security in the amount as shown in column 4 of the table of IFB for this particular work. This Bid security shall be in favor of **The Chief Officer Padra Nagarpalika** payable at PADRA as named in Appendix and may be in one of the following forms;

- a. Bank Guarantee from any scheduled Indian bank, in the format given in Volume III. **(Bank Guarantee is applicable only for Bid Estimated Amount of 01 Crore and above)** and Bank Guarantee of Schedule and Private Banks shall be considered as per GoG Finance Department's Circular No. FD/MSM/e- file/4/2023/0057/D.M.O. Date 21/04/2023 or as per their latest amendment.
- b. Fixed Deposit Receipt issued by any Scheduled Indian Bank or a foreign Bank approved by the Reserve Bank of India.

OR

~~# A Valid Bid Security / EMD Exemption Certificate issued by (1) Road & Building Department or (2) Narmada Water Resources, Water Supply and Kalpsar Department of Govt of Gujarat. Exemption Certificate is applicable only when Registration Certificate of Appropriate Class and Category of Approved Contractors is required as eligible criteria of bidder.~~

- 16.2. Bank guarantees (and other instruments having fixed validity) issued as surety for the bid shall be valid for 45 days beyond the validity of the bid i.e. total validity of $120+45 = 165$ Days.
- 16.3. Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 and 16.2 above shall be rejected by the Employer as non-responsive.
- 16.4. The Bid Security of unsuccessful bidders will be returned within 28 days of the end of the bid validity period specified in Sub-Clause 15.1
- 16.5 The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.
- 16.6. The bid Security may be forfeited
- (a) If the Bidder withdraws the bid after Bid opening during the period of Bid validity.
 - (b) If the Bidder does not accept the correction of the Bid Price, if any or
 - (c) In the case of a successful Bidders, if the Bidder fails the specified time limit to
 - (i) Sign the Agreement; or
 - (ii) Furnish the requirement Performance Security.
 - (d) #If found necessary, the bidder will be intimated for negotiation, He will be intimated maximum three times within the validity period for negotiation, If contractor does not respond in time, his Bid Security (EMD) will be forfeited and his tender will be rejected. Punitive action will be taken on such contractors. (As per GoG R&B Dept's Gr. No. S/22/2017/6369/D, Dt.08/06/2018)

17. Alternative Proposals by Bidders.

- 17.1. Bidders shall submit offers that fully comply with the requirements of the bidding documents, including the conditions of contract (including mobilization advance or time for completion), basic technical design as indicated in the drawing and specifications. Conditional offers or alternative offers will not be considered further in the process of tender evaluation.

18. Format and Signing of Bid

- 18.1. The Bidder shall prepare documents comprising the bid as described in Clause 12 of these Instructions to bidder as the "Technical Bid "and "Financial Bid" in separate parts to be uploaded.

D. SUBMISSION OF BIDS

19. Deleted

20. Deadline for Submission of the Bids

20.1. Complete Bids must be received online by the Employer at the tender website specified above not later than the date indicated in appendix.

20.2. The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all right and obligation of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

21.1. Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the bidder.

22. Modification and Withdrawal of Bids

22.1. Bidders may modify or withdraw their bids online before the deadline prescribed in Clause 20 or pursuant to Clause 23.

22.2. Deleted

22.3. No bid shall be modified or withdrawn after the deadline for submission of Bid.

22.4. Withdrawal or modification of a bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.

E. BID OPENING AND EVALUATION

23. Bid Opening

- 23.1 The Employer will open all the Bids received including modifications made pursuant to Clause 22, in the presence of the Bidders or their representatives who choose to attend at time, date and the place specified in Appendix in the manner specified in Clauses 20 and 23.3, In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day.
- 23.2. Deleted.
- 23.3. The “Technical Bid” shall be opened. The amount, form and validity of the bid security furnished with each bid will be announced. If the bid security furnished does not conform to the amount and validity period as specified in the invitation for bid (ref. Column 4 and paragraph 3), and has not been furnished in the form specified in Clause 16, the technical bid will not be opened.
- 23.4. (i) Subject to confirmation of the bid security by the issuing Bank, the bids accompanied with valid bid security will be taken up for evaluation with respect to the Qualification information and other information furnished in part I of the bid pursuant to Clause 12.1.
- (ii) If required, the bidder will be asked in writing to clarify his Qualification Documents with respect to any required clarification.
- (iii) The bidders will respond in not more than 7 days of issue of the clarification letter.
- (iv) Immediately (usually within 3 or 4 days), on receipt of these clarification the Evaluation Committee will finalize the list of responsive bidders whose financial bids are eligible for consideration.
- 23.5. Deleted
- 23.6 At the time of opening of “Financial Bid”, the names of the bidders were found responsive in accordance with Clause 23.4(iv) will be announced. The bids of only these bidders will be opened. The responsive Bidders’ names, the Bid prices, the total amount of each bid, any discount and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening.
- 23.7 the time of opening of “Financial Bid”, the names of the bidders were found responsive in accordance with Clause 23.4(iv) will be announced. The bids of only these bidders will be opened. The responsive Bidders’ names, the Bid prices, the total amount of each bid, any discount, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening.
- 23.8 In case bids are invited for more than one package, the order for opening of the “Financial Bid” shall be in order of estimated amount of Bids from highest to lowest.
- 23.9 The Employer shall prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.6.

24 Process to be Confidential

- 241 Information relating to the examination, clarification, evaluation, and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

25. Clarification of Financial Bids

- 25.1. To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by e-mail, but no change in the price or substances of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids.
- 25.2 Subject to sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to his Bid opening to the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.
- 25.3. Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decision may result in the rejection of the Bidders' bid.

26. Examinations of Bids and Determination of Responsiveness

- 261 During the detail evaluation of "Technical Bid", the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3 and 4; (b) has been properly signed; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding document. During the detailed evaluation of the "Financial Bid", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specifications, and drawings.
- 262 A substantially responsive "Financial Bid" is one which confirms all the terms, conditions and specifications of bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.
- 263 If a "Financial Bid" is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27. Correction of Errors

27.1. "Financial Bids" determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

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

27.2. The amount stated in the "Financial Bid" will be corrected by the Employer in accordance with the above procedure and the bid amount adjusted with the concurrence of the Bidder in the following manner:

- (a) If the Bid price increases as a result of these corrections, the amount as stated in the bid will be the 'bid price' and the increase will be treated as rebate;
- (b) If the bid price decreases as a result of the corrections, the decreased amount will be treated as the 'bid price'

Such adjusted bid price shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 16.6 (b).

28. Deleted

29. Evaluation and Comparison of Financial Bids

- 29.1. The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Sub-Clause 26.2.
- 29.2. Deleted.
- 29.3. The Employer reserves the right to accept or reject any variation or deviation. Variation and deviations and other factors, which are in excess of the requirements of the Bidding documents or otherwise result in unsolicited benefits for the Employer, shall not be taken in to account in Bid evaluation.
- 29.4. The estimated effect of the price adjustment conditions under Clause 47 of the Conditions of Contract, during the period of implementation of the Contract, will not be taken in to account in Bid evaluation.
- 29.5. If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract the Employer may require the Bidder to produce detailed consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 34 be increased at the expense of the successful /bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.
- 29.6. A bid which contains several items in the bill of Quantities which are unrealistically priced low and which cannot be substantiated satisfactorily by the bidder may be rejected as non-responsive.

30. Deleted

F. AWARD OF CONTRACT

31. Award Criteria

- 31.1. Subject to Clause 32, the Employer will award the contract to the Bidder whose Bid has been determined.
- (i) to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price; and
 - (ii) to be within the available bid capacity adjusted to account for his bid price which is the lowest evaluation in any of the packages opened earlier than the one consideration.
- In no case, the contract shall be awarded to any bidder whose available bid capacity is less than the evaluated bid price, even if the said bid is the lowest evaluated bid. The contract will in such cases be awarded to the next lowest bidder at his evaluation bid price.

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

- 32.1. Notwithstanding Clause 31, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of contract, without thereby incurring any liability to the affected bidder or Bidder or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

33. Notification of Award and Signing of Agreement

- 33.1. The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the condition of contract called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").
- 33.2 The notification of award will constitute the formation of the contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause.
- 33.3. The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and to the successful Bidder, within 28 days following the notification of award along with the Letter of Acceptance. Within 21 days of receipt, the successful Bidder will sign the Agreement and deliver it to the Employer.
- 33.4. Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

34. Performance Security

- 34.1. (A) Within 10 (Ten) days of receipt of Letter of Acceptance, the successful Bidder shall furnish to the Employer an irrevocable and unconditional guarantee from a Bank in the form set forth in Section 8 (the "Performance Security") for an amount equal to 5% (five percent) of its Contract Price. In case of bids mentioned below, the successful Bidder, along with the Performance Security,

shall also furnish to the Authority an irrevocable and unconditional guarantee from a Bank in the same form given at Section 8 towards an Additional Performance Security (The "Additional Performance Security") for an amount calculated as under:

- (a) If the Contract Price offered by the Selected Bidder is lower than 10% but upto 20% of the Estimated Project Cost, then the Additional Performance Security shall be calculated @ 20% of the difference in the (i) Estimated Project Cost (as mentioned in Bid Document) - Minus 10% of the Estimated Project Cost and (ii) Contract Price offered by the selected Bidder.
 - (b) If the Contract Price offered by the Selected Bidder is lower than 20% of the Estimated Project Cost, then the Additional Performance Security shall be calculated @ 30% of the difference in the (i) Estimated Project Cost (as mentioned in Bid Document) - Minus 10% of the Estimated Project Cost and (ii) Contract Price offered by the selected Bidder.
 - (c) This Additional Performance Security shall be treated as part of the Performance Security.
- (B) The Performance Security shall be valid beyond 60(sixty) days of the Defects Liability Period and the Additional Performance Security shall be valid beyond 28 (twenty-eight) days of Project Completion Date.

- 34.2. If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued either (a) at the Bidder's option, by a Nationalized/Scheduled Indian bank or (b) by a foreign bank located in India and acceptable to the Employer. As per GoG Finance Department's Circular No. FD/MSM/e-file/4/2023/0057/D.M.O. Date 21/04/2023 or as per their latest amendment.
- 34.3. Failure of the successful Bidder to comply with the requirement of Sub-Clause 34.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

~~35 — Advance Payment and Security~~

- ~~35.1 — The Employer will provide an Advance payment on the Contract Price as stipulated in the Conditions of Contract, subject to maximum amount, as stated in the Contract Data.~~

36. Dispute Review Expert

The Employer proposes that [name of proposed Dispute Review Expert as indicated in Appendix] be appointed as Dispute Review Expert under the Contract, at a daily fee as indicated in Appendix plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in the Bid. If in the Letter of Acceptance, the Employer has not agreed on the appointment of the Dispute Review Expert, the Dispute Review Expert shall be appointed by the Council of Indian Roads Congress at the request of either party.

37. Corrupt or Fraudulent Practices

- 37.1 The Employer will reject a proposal if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in completing for the contract in question and will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract with National Highways Authority of India/ State PWD and any other agencies, if it at any time determines that the firm has engaged in corrupt or fraudulent practices in completing for the contractor, or in execution.
- 37.2 Furthermore, Bidders shall be aware of the provision stated in Sub- Clause 59.2 of the Conditions of Contract.

APPENDIX TO ITB

Clause Reference

With respect to

Section -I

1.	The Name of the Employer is The Chief Officer Padra Nagar Palika Padra .	[Cl.1.1]
2.	The last five financial years.	
	2024 - 25	
	2023 - 24	
	2022 - 23	
	2021 - 22	
	2020 - 21	
3.	This Annual Financial Turnover Amount is Rs.....	[Cl.4.5.3(a)]
4.	Value of Work is Rs.	
5.	Deleted	
6.	The cost of electric work is Rs.....	
7.	The cost of water supply / sanitary works is Rs.	0
8.	Liquid assets and / or availability of credit facilities is Rs.....	[Cl. 4.5.6]
9.	Price level of the financial year 2024-25	[Cl. 4.5.2]
10.	The pre-bid meeting will take place at The Chief Officer Padra Nagarpalika Padra.	[Cl. 9.2.1]
11.	The technical Bid will be opened through website https://tender.nprocure.com on dt 15/07/2026 at 12.00 AM/PM	
12.	Address of the Employer: The Chief Officer Padra Nagarpalika Padra Padra -391440 Phone (o) (02662)222655,222516	
13.	Deleted	
14.	The bid should be submitted latest by 09/07/2026 at 18.00 hrs. As stated on online NIT.	[Cl. 20.1 & 20.2]
15.	The bid will be opened at https://www.tender.nprocure.com on 15/07/2026 at 12.00 Hrs (time and date) As stated on online NIT	[Cl. 23.1]
16.	The Bank Draft in favor of The Chief Officer Padra Nagarpalika and Payable at Padra .	
17.	Deleted	
18.	Escalation factors (for the cost of works executed and financial figure to a common base value) for works completed.	[Cl.4.5.2]

<u>Year</u>	<u>Financial Year</u>	<u>Multiplying factor</u>
Base year of inviting tender	2025-26	1.00
-1	2024-25	1.10
-2	2023-24	1.21
-3	2022-23	1.33
-4	2021-22	1.46
-5	2020-21	1.61

#LIST OF KEY PLANT & EQUIPMENT TO BE DEPLOYED ON CONTRACT WORK

[Reference CL. 4.5.5]

The contractors shall also give a list of machineries in his possession and which they propose to use on the work.

Sr. No.	Plant or Machinery	Location	Age of Machinery (maximum m 15years)	Make	Capacity	Approximate Value	Remark
1	2(a)	2(b)	3	4	5	6	7

List of Key Personnel to be deployed on Contract Work

(Reference Cl. 4.5.4)

Employment of a qualified site Engineer by the Contractor.

The Contractor shall employ full-time technically qualified staff during the execution of this work as under: -

1. Two graduate Civil Engineers and three diploma Civil Engineers when cost of the work to be executed is more than Rs.50 lakhs.
2. **One graduate & two Diploma, Civil Engineers when the cost of the work to be executed is more than Rs.15 lakhs but less than Rs.50 lakhs.**
3. Minimum one Diploma Civil Engineer when the cost of work is less than Rs.15 lakhs but more than Rs.5 lakhs.
4. Minimum two Diploma Civil Engineers for the work when the cost of work to be executed is less than Rs. 5 lakhs. The Engineer so employed for the Government work must have sufficient experience to handle the work independently. Such an Engineer shall have to stay at the site of work and he shall not be entrusted with other duty except this work.

In case the contractor or partner of the contractor firm is a Civil Graduate Engineer, Employment of a separate Engineer will not be necessary provided that the Engineer partner himself attends the execution of the work on the site.

Within 15 days of issue of work-order the Contractor will have to furnish to the Chief Officer -in-charge of the work the Name, Qualifications, copy of marksheet, Colour Photograph and the appointment order issued such engineers engaged for this contract work. If 15 days after issue of work order such designated Site Engineers do not resume or do not remain present on site of work, the recovery at the rate of Rs.15,000-00 per month per Engineer will be made from the bills/deposit/dues of the contractor. Such recovery shall be non-refundable.

SECTION - 2

QUALIFICATION INFORMATION

QUALIFICATION INFORMATION

The information to be filled in by the Bidder in the following pages will be used for the purpose of post qualification as provided for in Clause 4 of the Instruction to Bidders. This information will not be incorporated in the Contract.

1. For Individual Bidders

1.1 Constitution or legal status of Bidder

(Attach Copy)

Place of registration _____

Principal place of business _____

Power of attorney of signatory of Bid

(Attach)

1.2 Total value of Civil engineering constructions Work performed in the last five years (in Rs. Lakhs)

2024-25

2023-24

2022-23

2021-22

2020-21

1.3.1 Work performed as prime contractor, work performed in the past as a nominated sub-contractor will also be considered the sub-contract involved execution of all main items of work described in the bid documents, provided further that all other qualification criteria are satisfied (in the same name) on works of a similar nature over the last five years and in current year before the submission of the bid.**

Project Name	Name of the Employer	Description of work	Contract No.	Value of contract (Rs. Crore)	Date of issue of work order	Stipulated period of completion	Actual date of completion*	Remark explaining reasons for delay & work Completed

* Attach certificate(s) from the Engineer(s)in-charge

** Immediately preceding the financial year in which bids are received.

#1.3.2 Quantities of work executed as prime contractor, work performed, in the past as a nominated sub-contractor, will also be considered provided the sub-contract involved execution of all main items of work described in the bid document, provided, further that all other qualification criteria are called (in the same name and style) in the last five years** and in current year before the submission of the bid.

Year	Name of the work	Name of the Employer	Quantity of work performed (Cum/MT)				Remarks* (indicate contract Ref)
			Cement Concrete (Including RCC & PCC)	Masonry	Earth Works	Bituminous Work	
2025-26							
2024-25							
2023-24							
2022-23							
2021-22							

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

(A) Existing commitments and on-going works:

Description of works	Place & State	Contract No.	Name & Address of Employer	Value Contract (Rs. Cr)	Stipulated Period of Completion	Value of Works* remaining to be completed (Rs. Cr)	Anticipated of completion
1	2	3	4	5	6	7	8

*Attach certificate (s) from the Engineer(s) in-charge

** Immediately preceding the financial year in which bids are received.

- 1.5 Availability of key items of Contractors Equipment for carrying out the works (Ref. Clause 4.5.5). The Bidder should list all the information requested below.

Item of Equipment	Requirement		Availability Proposals			Remarks (from whom to be purchased)
	NO	Capacity	Owned/ Leased to be procured	Nos/. Capacity	Age/ Conditions	

- 1.6 Qualifications and experience of key personnel required for administration and execution of the contract. Attach biographical data. Refer also to Sub Clause 9.1 of the Conditions of Contract.

Position	Name	Qualification	Year of Experience (General)	Year of experience in the proposed position

- 1.7 Proposed sub-contract and firms involved

Sections of the works	Value of Sub-Contractor	Sub-Contractor (Name & Address)	Experience in similar work

- 1.8 Attach copies of certificates on possession of valid license for executing water supply/ sanitary work/ building electrification works.
- 1.9 Financial reports for the last five years: balance sheets, profit and loss statements, Auditors' reports (in case of companies/corporations), etc. List them below and attach copies.
- 1.10 Evidence of access to financial resources to meet the qualification requirements: Cash in hand, lines of credit, etc. List them below and attach copied documents.
- 1.11 Name, address, and telephone, telex, and fax numbers of the Bidders bankers who may provide references if contacted by the Employer.

1.12 Information on Litigation history in which the Bidder is involved.

Other Party (ies)	Employer		Cause of Dispute	Amount Involved	Remarks showing Present Status

1.12. Statement of compliance under the requirements of Sub Clause 3.2 of the instruction to Bidders. (Name of Consultant engaged for project preparations is *.....)

1.13 Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. (Refer ITB Clause 4.1)

1.14 Programme

2. Deleted

3. Additional Requirements

3.1 Bidders should provide any additional information required to fulfill the requirements of Clause 4 of the Instructions to the Bidders, if applicable.

- (i) Affidavit
- (ii) Undertaking

* Fill the name of consultant

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR
AVAILABILITY OF CREDIT FACILITIES**

(CLAUSE 4.5.6 OF ITB)

BANK CERTIFICATE

This is to certify that M/s. _____ is a reputed company with a good financial standing.

If the contract for the work, namely _____ is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. _____ to meet their working capital requirements for executing the above during the contract period.

(Signature)

Name of Bank

Senior Bank Manager

Address of the Bank

AFFIDAVIT

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither our firm M/s. _____
_____ have not abandoned any work of Government of Gujarat/Government of India/any Board or Corporation under Government of Gujarat/Government of India nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
3. The undersigned hereby authorize(s) and request (s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding any (our) competence and general reputation.
4. The Undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Department/ Project implementing agency.

(Signed by an Authorized Officer of the Firm)

Title of Officer

Name of Firm

Date

UNDERTAKING

I, the undersigned do hereby undertake that our firm
M/s.....would invest a minimum cash
up to 25% of the value of the work during implementation of the contract.

(Signed by an Authorized officer of the firm)

Title of officer

Name of firm

DATE

ANTI-BLACKLISTING INFORMATION
(On Stamp Paper Rs. 300) Notarized.

M/s _____ hereby certify and confirm that I or any of our Partner/ Promoter/s/director/s are not barred by Government of Gujarat (GOG)/any other entity of GOG or blacklisted by any State Government or Central Government/Department/Agency in India or from abroad from participating in Work/s, as individually/Partnership Firm as on Dt. _____ We further confirm that we are aware that our bid for the captioned tender would be liable for rejection in case any material misrepresentation is made or discovered about the requirements of this tender at any stage of the bidding process or thereafter during the agreement period. Dated this _____ day of, 2026.

Name of the Bidder:

Signature of the Authorized person:

Name of the Authorized Person:

SECTION - 3
CONDITIONS OF CONTRACT

Conditions of Contract

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CONDITIONS OF CONTRACT

A. GENERAL.

1. Definitions

- 1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meaning.

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

Compensation Events are those defined in Clause 44 hereunder

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 55.1

The Contract is the contract between the Employer and Contractor to execute, complete and maintain the Works **till the completion of Defects Liability Period**. It consists of the documents listed in Clause 2.3 below.

The **Contract data** defines the documents and other information which comprise the Contract.

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

The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer and includes Technical and Financial Bids.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days: **months** are calendar months.

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

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

The Engineer is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer) who is responsible for supervising the Contractor, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time, and valuing the Compensations Events.

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

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

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

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

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

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

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

Specifications means the Specifications of the works included in the Contract and any modification or addition made or approved by the Engineer.

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

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

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

A **Variation** is an instruction given by the Engineer, which varies the Works. The

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

2. Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter and the other way around. Heading have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about Conditions of Contract.

2.2 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion date, and Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole works)

2.3 The documents forming the Contract shall be interpreted in the following order of priority

- (1) Agreement
- (2) Letter of Acceptance, notice to proceed with works
- (3) Contractor's Bid

- (4) Contract Data
- (5) Conditions of Contract including Conditions of Contract
- (6) Specifications
- (7) Drawings
- (8) Bills of quantities and
- (9) Any other document listed in the Contract Data as forming part of the Contract.

3. Language and Law

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

4. Engineers Decisions

- 4.1 Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

- 5.1 The Engineer may delegate any of his duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Communications

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

7. Sub-Contracting

- 7.1 The Contractor may subcontract any portion of work, up to a limit specified in contract data, with the approval of the engineer but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations. **Sub-contracting of supply or specific items of work is not allowed.**
- 7.2 The sub-contractor must be registered in appropriate class and category for the part of work to be subcontracted.

8. Other Contractors

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

9. Personnel

- 91 The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.
- 92 If the engineer asks the Contractor to remove a person who is a member of the Contractor Staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. Employer's and Contractors Risks

- 10.1 The Employer carries the risk which these Contract states are Employer's risks, and the Contractor carries the risks which these Contracts states are Contractors risk.

11. Employer's Risks

- 11.1 The employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive.

12. Contractor's Risks

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

13. Insurance

- 13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract data for the following events which are due to the Contractor's risks:
- (a) Loss of or damage to the works, Plant and materials,
 - (b) Loss of or damage to Equipment
 - (c) Loss of or damages of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
 - (d) Personal injury or death.
- 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

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

134 Alterations to the terms of an insurance shall not be made without the approval of the Engineer.

135 Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Report

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

15. Queries about the Contract data

15.1 The engineer will clarify queries on the Contract Data

16. Contractor to Construct the Works

16.1 The Contractor shall construct and install the works in accordance with the specification and Drawings.

17. The Works to be completed by the Intended Completion Date

17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the programme submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion date

18. Approval by the Engineer

18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary works to the Engineer, who is to approve them if they comply with the Specifications and drawings.

18.2 The Contractor shall be responsible for design of temporary works.

18.3 The Engineer's approval shall not alter the contractor responsibility for design of the Temporary works.

18.4 The Contractor shall obtain approval of third parties to the design of the Temporary works where required.

18.5 All Drawings prepared by the Contractors for the execution of the temporary or permanent work are subject to prior approval by the Engineer before their use.

19. Safety

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

20. Discoveries

- 20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the site is the property of the Employer. The contractor is to notify the engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

21. Possession of the Site

- 21.1 The Employer shall give possession of all parts of the site to the Contractor. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be a Compensation Event.
- 21.2 If within 25% of the time limit of the project, 80% of possession of the site is not handed over to the Contractor, then contractor/ Employer may fore-close the contract. Contractor/Employer has to foreclose the work within 30 days after lapse of 25%-time limit and after 30 days foreclosure option will be closed.

22. Access to the Site

- 22.1 The Contractor shall allow the Engineer and any person authorized by the Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plants are being manufactured/ fabricated/ assembled for the works.

23. Instructions

- 23.1 The Contractor shall carry out all instructions of the Engineer pertaining to works which comply with the applicable laws where the site is located.
- 23.2 The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Employer, if so required by the Employer.

24. Disputes

- 24.1 If the Contractor is of the view that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contract or that the decision was wrongly taken, the decision shall be referred to **#Superintending Engineer** (Higher Authority) within 14 days of the notification of the Engineer's decision. If the issue is not resolved, any party can refer the matter for conciliation within 15 days from the decision given by the **#Superintending Engineer**.
- 24.2
- (a) For the work up to Rs.100 Cr., if any of the parties is not satisfied with the decision of the **#Superintending Engineer**, both the parties have to refer to the Chief Engineer concern for the conciliation process.
 - (b) For the work more than Rs.100 Cr., if any of the parties is not satisfied with the decision of the **#Superintending Engineer**, both the parties have to refer to the **#Secretary, Roads & Building Department, Government of Gujarat** for the conciliation process.

If the dispute is not resolved through the conciliation process, he may refer the dispute to Gujarat Public Works Contract Dispute Arbitration Tribunal. If the Contractor fails to refer a claim / dispute to the Higher Authority within 14 days of the notification of the Engineer's decision, the Contractor shall not be entitled to any additional payment/claim if he doesn't follow the above sequence in stipulated time and he should not stop the work.

25. Procedure for Disputers

25.1 The arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of Contract.

26. Deleted

B. TIME CONTROL

27. Programme

- 27.1 Within the time stated in the Contract Data the Contractor shall submit to the Engineer for approval a Programme showing the general methods, arrangements orders, and timing for all the activities in the works along with monthly cash flow forecast.
- 27.2 An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 27.3 The Contractor shall submit to the Engineer, for approval an updated programme at intervals no longer than the period stated in the Contract data. If the Contractor does not submit an updated programme within this period, the Engineer may withhold the amount stated in the Contract data from the next payment after the date on which the overdue programme has been submitted.
- 27.4 The Engineer's approval of the programme shall not alter the Contractor's obligations. The Contractor may revise the programme and submit it to the Engineer again at any time. A revised programme is to show the effect of Variations and Compensations events.

28. Extension of the Intended Completion Date

- 28.1 The Engineer shall extend the Intended Completion Date if a compensation Event occurs or a Variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.
- 28.2 The Engineer shall decide whether and by how much to extend the Intended Completion Date within 35 days of the Contractor asking the Engineer for a decision upon the effect of a compensation event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
- 28.3 The Engineer shall within 14 days of receiving full justification from the contractor for extension of Intended Completion Date refer to the Employer his decision. The employer shall in not more than 21 days communicate to the engineer the acceptance or otherwise of the Engineer's decision. If the employer fails to give his acceptance, the Engineer shall not grant the extension and the contractor may refer the matter under Clause 24.1

29. Deleted

30. Delays Ordered by the Engineer

- 30.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the works.

31. Management Meetings

- 31.1 Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 31.2 The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

32. Early Warning

- 32.1 The Contractor is to warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract price or delay the execution of works. The Engineer may require the contractor to provide an estimate of the expected effect of the future event or circumstance on the contract price and completion date. The estimate is to be provided by the Contractor as soon as reasonably possible.
- 32.2 The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer.

C.QUALITY CONTROL

33. Identifying Defects/ Defect liability period

33.1 : Defect liability period: The contractor shall be responsible to make good and remedy at his own expense any defect which may develop or may be noticed before the period mentioned hereunder from the certified date of completion. The Engineer in charge shall give the contractor a notice in writing about the defects and the contractor shall make good the same within 15 days of receipt of the notice. In the case of failure on the part of the contractor, the Engineer-in-charge may rectify or remove or re-execute the work at the risk & cost of the contractor. The Engineer-in-charge shall be entitled to appropriate the whole or any part of the amount of security deposit towards the expenses, if any, Incurred by him in rectification, removal or re-execution. The Defects Liability period shall be as under....

- (a) For all works costing up to Rs. 50,000 (amount put to tender), the period shall be 3 Months from the certified date of completion.
 - (b) For all works costing more than Rs. 50,000 and up to Rs. 1 crore (amount put tender), the period shall be 12 (Twelve) months from the certified date of completion or one monsoon, whichever is later.
 - (c) For major projects costing more than Rs. 1 crore, the period shall be 36 Months from the certified date of completion which should include three monsoons.
 - (d) For original building works the defect liability period will be 4 years or elapse of 4 monsoon period following date of possession of building taken over by user agency following the certified date of completion, whichever is later.
- For the purpose of deciding the monsoon period, the 30th September shall be treated as the last date.

Modified vide R & B D Circular No. PAC-11-102008-2076-N dated 31/8/2009, PRCH/102013(2976) 2759-N, Dated 27/05/2013 and Circular No.TNC/10/2016/Clause 17A (Correction/(1)C Dated 12/05/2016]

33.2 Free maintenance guarantee period for works of Road/Bridge construction

- (a) For resurfacing work of road free maintenance guarantee period one year from the date of completion.
- (b) In case of widening of the road/strengthening of the road/bridge, the contractor shall have to give four years free maintenance guarantee from the certified date of completion. During this period the contractor shall visit the site every six months along with the concerned Section Officer / Chief officer and will examine the work already carried out in this contract like road work, jungle cutting, side shoulders, side gutter, road furniture, patta etc. and will prepare Km. wise inspection report duly signed by all concerned and any defect observed shall be done within 15 days by the contractor at his risk and cost as per the direction of Engineer in charge. The contractor needs to do videography of these visits and require to submit at the time of release of FMG. If B.T. the surface during the maintenance period of 4 years is worn out then agency shall have to provide renewal coating as per tender item as directed by the Engineer-in- charge. The amount equivalent to 5% of each running bill shall be withheld and will be released after the free maintenance guarantee period (i.e. 4 years) is over.

However, this amount shall be released against fixed deposit or bank guarantee pledged in the name of Chief Officer after completion certificate of work is issued.

(1) The flakiness and elongation index (combined) for coarse aggregates under no circumstances shall exceed the allowable limit set forth in the relevant clause for the material in question.

(2) 2% of the amount eligible for the payment of bituminous items shall be withheld till the miscellaneous items like earthwork in embankment / cutting for side shoulders, side gutters, kilometer / indicator / guard stones, sign boards etc. are completed in all respect by the contractor. After completion of the miscellaneous items, the above said 2% withheld amount shall be released.

(Govt. of Gujarat's G.R. No.: TNC-10-2013-3(Part-3)/C, Dtd. 13/12/2013).

(3) Videography for the surface under Maintenance Guarantee is to be done as per Govt. letter No.: SSR/10/2015-16/26/C, Dtd. 26/11/15 for the work costing more than Rs. 5.00 Crore.

(4) Setting up of adequate laboratory & deployment of quality engineers.

The contractor shall have to set up the laboratory with adequate equipment. Till the setting up of adequate laboratory is completed & reported of this to the engineer (subject to due verification by engineer's representative) by contractor in writing, Rs.2,00,000/- shall be withheld. The qualified quality Engineer shall be deployed exclusively for this contract by the contractors. If quality Engineer is not deployed by contractor within one month after the date of work order, the amount equivalent to Rs.20,000 per month shall be recovered till the actual deployment of quality engineer. The amount so recovered towards the deployment of quality engineers shall not be refunded.

(5) Asphalt work will have to be cross checked as per G.R. No.: RGN/60/2006/35/C, dtd.31/05/07 before final bill is paid.

(6) Maintenance during Construction Period

During the Construction Period, the Contractor shall maintain, at his own risk and cost, the existing lane(s) of the road so that the traffic worthiness and safety thereof are at no time materially inferior as compared to their condition 10 (ten) days prior to the date of the Agreement, and shall undertake the necessary repair and maintenance works for this purpose; provided that the Contractor may, at his cost, interrupt and divert the flow of traffic if such interruption and diversion is necessary for the efficient progress of works and conforms to Good Industry Practice; provided

Further that such interruption and diversion shall be undertaken by the Contractor only with the prior written approval of the Chief Officer which approval shall not be unreasonably withheld. For the avoidance of doubt, it is agreed that the Contractor shall at all times be responsible for ensuring safe operation of the road.

- 33.3 The Engineer shall check the Contractor's work and notify the Contractor of any defects that are found. Such checking shall not affect the Contractor's responsibilities the Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.

34. Tests

- 34.1 If the engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no defect the test shall be a Compensation Event.

- 34.2 #1% of the amount of **work done** should be deducted from R.A. Bill of the contractor for testing the quality of material workmanship, irrespective of actual charges.

- 34.3 Agency has to establish testing laboratory on site for the various test to be carried out in the work for this purpose agency shall construct a pukka laboratory building with all facility on site at location specified by the engineer in charge.

35. Correction of defects

- 35.1 The engineer shall give notice to the Contractor of any defects before the end of the defects Liability Period, which begins at Completion and is defined in the contract data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

- 35.2 Every time notice of a Defect is given, the Contractor shall correct the notified defect within the length of time specified by the Engineer's notice.

36. Uncorrected Defects

- 36.1 If the Contractor has not corrected a defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

C. COST CONTROL

37. Bill of Quantities

- 37.1 The bill of Quantities shall contain items for the constructions, installation, testing and commissioning work to be done by the Contractor.
- 37.2 The bill of Quantities is used to calculate the Contract price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

38. Change in the Quantities

- 38.1 The Engineer shall have power to make any alterations in or addition to the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work and the contractor shall be bound to carry out the work in accordance with any instruction in this connection which may be given to him in writing signed by the Engineer and such alteration shall not invalidate the contract and any additional work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work and at the same rate as are specified in the tender for the main work.

Except that when the quantity of any item exceeds the quantity as in the tender by more than 130%, the contractor will be paid for the quantity in excess of 130%, at the rate entered in the SOR of the year during which the excess in quantity is first executed.

39. Variations

- 39.1 All Variations shall be included in updated programmes produced by the Contractor.

40. Payments for Variations

- 40.1 If the additional or altered work includes any class of work for which no rate is specified in this contract, then such class of work shall be carried out as under.
- (i) At the rate derived from the item within the contract which is comparable to the one involving additional or altered class of work; where there are more than one comparable items, the item of the contract which is nearest in comparison with regard to class or classes of the work involved shall be selected and the decision of the Superintending Engineer as to the nearest comparable item shall be final and binding on the contractor.
 - (ii) If the rate cannot be derived in accordance with (i) above, such class of works shall be carried out at the rate entered in the Schedule of Rates of the division

for the year in which the tender was received, increased or decreased by the percentage by which the tender amount is more or less as compared to the amount arrived at the rates in the “Schedule of Rates” of the Division in the year in which the tender was received. If the Schedule of rates of the Division does not contain all the items, the percentage increase or decrease of the tender shall be calculated considering such items which were included in the “Scheduled Rates” of the division for the year and for materials consumed on such item the rate to be charged would be the basic rate taken into account for fixing the rate in S.O.R. referred to above.

- (iii) If it is not possible to arrive at the rate from (i) and (ii) above, such class of work shall be carried out at the rate decided by the competent authorities on the basis of detailed rate analysis after hearing the contractor before a Committee of two Superintending Engineers stationed at the same place or the nearest place.

- 402 If the additional or altered work, for which no rate is entered in the “Schedule of Rates” of the Division is ordered to be carried out before the rate is agreed upon, then the contractor shall within seven days of the date of receipt by him of the order to carry out the work, inform the Engineer-in-charge of the rate, which it is his intention to charge for such class of work and if the Engineer in charge does not agree to this rates, he shall by notice in writing be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner as he may consider it advisable, provided always that if the contractor shall commence work or incur any expenditure in regard thereof before the rates shall have been determined as lastly herein before mentioned, then in such cases he shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of the determination of the rate as aforesaid according to such rate or rates as shall be fixed by the Engineer-in-charge. In the event of the dispute, the decision of the Superintending Engineer of the Circle shall be final.

Where, however, the work is to be executed according to the designs, drawings and specifications recommended by the contractor and accepted by the competent authority, the alternation above referred to shall be within the scope of such designs, drawings and specifications appended to the tenders.

The time limit for the completion of the work shall be extended in the proportion that the increase in the cost occasioned by alterations bears to the cost of the original work and the certificate of the Engineer-in-charge as to such proportion shall be final and conclusive.

41. Cash Flow Forecasts

- 41.1 When the programme is updated, the contractor is to provide the engineer with an updated cash flow forecast.

42. Payment certificates.

- 421 The Contractor shall submit to the Engineer monthly statements of the estimated value of the work completed less the cumulative amount certified previously.
- 422 The Engineer shall check the Contractor's monthly statement within 14 days and certify the amount to be paid to the Contractor after taking in to account any credit or debit for the month in question in respect of materials for the works in the relevant amounts and under conditions set forth in sub-clause 32.3 of the Contract Data (secured Advance).
- 423 The value of work executed shall be determined by the Engineer.
- 424 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 425 The value of work executed shall include the valuation of variations and compensation events.
- 426 The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information

43. Payments

- 431 Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of the contract and taxes at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 28 days of the date of each certificate.
- 432 Payment of GST (prevailing rates) on the amount payable under the contract to the Contractor will be made by the Employer. Hence, it is the responsibility of the contractor to pay the GST to the concerned Authority.
- 433 Items of the works for which no rate or price has been entered in will not be paid by the Employer and shall be deemed covered by other rates and prices in the Contract.

44. Compensation events

- 441 The following are compensation Events unless they are caused by the Contractor:
- (a) The Employer does not give access to a part of the Site by the site Possession date stated in Contract data to the Contractor
- 442 In case of compensation event occurs and it prevents the work being completed beyond the Intended Completion Date then Authority will approve EOT with eligible contractual price escalation.

45. Tax

- 45.1 The rates quoted by the Contractor must be inclusive of all taxes prevailing on due date of bid submission including GST. However, any subsequent changes in the tax structure by Government after due date of bid submission will be compensated (+/-) on availability or submission of actual documentation. Contractor will have to intimate Engineer regarding changes occurred in the tax structure after bid submission. If the contractor fails to provide such information and if any financial obligation may arise due to change in tax structure, same will be recovered from the contractor.
- 45.2 GST will not be paid separately on the bills. Hence, it is the responsibility of the contractor to pay the GST to the concerned Authority.

46. Currencies.

- 46.1 All payment shall be made in Indian Rupees.

47. Price Adjustment

- 47.1 Contract price shall be adjusted for increase or decrease in rates and price of labor, materials, fuels and lubricants in accordance with the following principles and procedures and as per formula given in the contract data:
- (a) The price adjustment shall apply for the work done from the start date given in the contract data up to end of the initial intended completion date or extensions granted by the Engineer and shall not apply to the work carried out beyond the stipulated time for reasons attributable to the contractor.
 - (b) The price adjustment shall be determined during each month from the formula given in the contract data.
 - (c) Following expressions and meanings during to the work done during each month
R = Total value of work done during the month. It would include the amount of secured advance granted, if any, during the month less the amount of secured advance recovered, if any during the month. It will exclude value for works executed under variations for which price adjustment will be worked separately based on the terms mutually agreed.
- 47.2 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clause in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

48. Retention

- 48.1 The Employer shall retain from each payment due to Contractor the proportion stated in the Contract Data until Completion of the whole of the Works.

- 482 On Completion of the whole of the Works half the total amount retained is repaid to the Contractor and half when the Defects Liability Period has passed and the Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.
- 483 On completion of the whole works, the contractor may substitute retention money with an “on demand” Bank guarantee.

In case, Contractor requests for refund of the Retention Money deducted by the Employer under the provision of this clause, Employer shall consider the said request of the Contractor provided that the refund hereunder shall be made in tranches of not less than 1% (One Percent) of the Contract Price and Contractor furnishes an irrevocable and unconditional Bank guarantee for an equal amount substantially in the format of Bank Guarantee for Performance Guarantee enclosed with SBD and valid up to 60 day beyond the scheduled / extended Defects Liability Period. On completion of the whole works, the contractor has however an option to submit a fresh irrevocable and unconditional Bank Guarantee for an amount equal to 5% of the total value of work executed substantially in the format of Bank Guarantee for Performance Guarantee enclosed with SBD and valid up to 60 days beyond the Defect Liability Period and yet refund the Retention Money Bank Guarantee submitted for refund of Retention Money.

49. Liquidated Damages

- 491 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payment due to the Contractor. Payment of liquidated damages does not affect the Contractor’s liabilities.
- 492 If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall not be entitled for any interest on the over payment calculated from the date of payment to the date of repayment.
- 493 If the contractor fails to comply with the time for completion as stipulated in the tender, then the contractor shall pay to the employer the relevant sum stated in the Contract Data as Liquidated damages for such default and not as penalty for everyday or part of day which shall elapse between relevant time for completion and the date stated in the taking over certificate of the whole of the works on the relevant section, subject to the limit stated in the contract data.

The employer may, without prejudice to any other method of recovery deduct the amount of such damages from any monies due or to become due to the contractor. The payment or deduction of such damages shall not relieve

the contractor from his obligation to complete the works on from any other of his obligations and liabilities under the contract.

- 49.4 If, before the Time for Completion of the whole of the Works or, if applicable any Section, a Taking Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking-Over-Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub-clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.

50 Bonus

- 50.1 If the contractor achieves completion of the whole of the works prior to the intended Completion Date prescribed in Contract Data the Employer shall pay to the contractor a sum stated in Contract Data as bonus for every completed month **but subjected to maximum amount as stated in Contract Data**; which shall elapse between the date of completion of all items of works as stipulated in the contract, including variations ordered by the Engineer and the time prescribed in Clause 17.
- 50.2 Bonus shall be paid only to works amounting to above INR 5 crore with time limit of the works is equal or more than 6 months. The bonus would be paid as under

% of Time Saved	% of Initial Contract Price entitled for Bonus
50 %	5%
40 %	4%
30 %	3%
20 %	2%
10 %	1%
Less than 10%	0%

~~51. Advance Payment.~~

- ~~51.1 The Employer shall make advance payment (not to be paid less than two installments except in special circumstances for which the reason to be Recorded in writing) to the Contractor of the amounts stated in the Contract Date by the date stated in the Contract Date, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to be at least 110% of the advance payment. The guarantee shall remain effective until the~~

~~Advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. The Mobilization advance would be deemed as interest bearing advance at an interest rate of 10 % to be compounded, quarterly.~~

~~512 The Contractor is to use the advance payment only to pay for Equipment, plant and Mobilization expenses required specifically for execution of the Works. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the engineer.~~

~~513 The advance payment shall be repaid by deduction proportionate amount from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, variations, price adjustments, Compensation Events, or Liquidated damages.~~

514 Deleted

52. Securities

521 The performance Security (including additional security for unbalanced bids) shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The performance Security shall be valid until a date 60 days from the date of expiry of Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion.

53. Deleted

54. Cost of Repairs.

541 Loss or damage to the Works or Materials to be incorporated in the Works between the Start date and the end of Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damages arises from the Contractor's acts or omissions.

D. FINISHING THE CONTRACT

55. Completion

- 55.1 The Contractor shall request the Engineer to issue a Certificate of Completion of the works and the Engineer will do so upon deciding that the work is completed.

56. Taking Over

- 56.1 The Employer shall take over the Site and the Works within seven days of the Engineer issuing a certificate of Completion.

57. Final Account

- 57.1 The Contractor shall supply to the Engineer a detailed final account of the total amount that the Contractor considers payable as full and final settlement of all claims under the Contract for items before the end of the Defects Liability Period. The Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.
- 57.2 If reversal in characteristic of tender (L1 becoming L2) on account of excesses and savings in final account is observed, the Engineer/Employer shall be at liberty to restrict the final payment of BOQ items to the lowest amount evaluated of the bids considering the final quantities and the rates quoted including the rebates if any. Payment of variation items shall however be made at the rates approved by the Employer, within 90 days from the physical completion of work.

58. Operating and Maintenance Manuals

- 58.1 If "as built" drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract data.
- 58.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract data, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

59. Termination

- 59.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

592 Fundamental breaches of Contract include, but shall not be limited to the following:

1. The contractor stops work for 28 days when no stoppage of work is shown on the current programme and the stoppage has not been authorized by the Engineer
2. The Engineer instructs the Contractor to delay the progress of the Works and the instructions is not withdrawn within 28 days;
3. The Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstructions or amalgamation
4. A payment certified by the Engineer is not paid by the Employer to the Contractor within 56 days of the date of the Engineer's certificate
5. The Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
6. The Contractor does not maintain a security which is required;
7. The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
8. If the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.

593 When either party to the Contract gives notice of a breach of contract to the Engineer for a cause other than those listed under Sub Clause 59.2 above, the Engineer shall decide whether the breach is fundamental or not.

594 Notwithstanding the above, the employer may terminate the Contract for convenience.

60. Payment upon Termination

601 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a Certificate for the value of the work done less advance payments received up to the date of the issue of the

Certificate, less other recoveries due in terms of the contract, less taxes due to deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.

- 602 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer shall issue a certificate for the value of the work done, the cost of balance material brought by the contractor and available at site, the reasonable cost of removal of equipment, repatriation of the Contractor's personnel employed solely on the works, and the Contractor's cost of protecting and securing the Works and less advance payment received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to deducted at source as per applicable law.

61. Property

- 61.1 All materials on the Site, Plant Equipment's, Temporary Works and Works are deemed to be property of the Employer, if the Contract is terminated because of a Contractor's default.

62. Release from Performance

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

E. SPECIAL CONDITIONS OF CONTRACT

63. LABOUR

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

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labor from time to time employed by the Contractor on the site and such other information as the Engineer may require.

64. COMPLIANCE WITH LABOUR REGULATIONS

During continuance of the contract, the Contractor and his sub-contractor shall abide at all times by all existing labor enactments and rules made thereunder, regulations, notification and bye laws of the State or central Government or local authority and any other labor law (including rules), regulations, bye laws that may be passed or notifications that may be issued under any labor law in future either by the State or the Central Government or the local authority. Salient features of some of the major labor laws that are applicable to the construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made thereunder, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have the right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

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

SALIENT FEATURES OF SOME MAJOR LABOUR AND OTHER LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTIONS WORK

- A) **Workmen Compensation Act 1923:** - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- B) **Payment of Gratuity Act. 1972:** - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more on death, the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- C) **Employees P.F. and Miscellaneous Provision Act 1952:** - The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33% The benefits payable under the Act are:
1. Pension or family pension on retirement or death, as the case maybe.
 2. Deposit linked insurance on the death in harness of the worker.
 3. Payment of P.F. accumulation on retirement/death etc.
- D) **Maternity Benefit Act 1951:** - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- E) **Contract Labour (Regulation & Abolition) Act 1970:** The Act provides for certain welfare measures to be provided by the Contractor to contract labor and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer, if they employ 20 or more contract labor.
- F) **Minimum Wages Act 1948:** - The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act, if the employment is a scheduled employment. Construction of Building, Roads, Runways are scheduled employment.
- G) **Payments of wages Act 1936:** - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- H) **Equal remunerations Act 1979:** - The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against female employees in the matter of transfer, training and promotions etc.
- I) **Payments of Bonus Act 1965:** - The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20 % of wages to employees drawing Rs. 3500/- per month or less. The bonus to be paid to employees getting Rs. 2500/- per month or above Rs. 3500/- per month shall be worked out by taking wages as Rs. 2500/- per month only. The Act does not

Apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.

- J) **Industrial Disputes Act 1947:-** The Act lays down the machinery and procedure for resolutions of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- K) **Industrial employment (standing Orders) Act 1946:-** It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the State and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- L) **Trade Unions Act 1926:-** The Act lays the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have given certain immunities from civil and criminal liabilities.
- M) **Child Labour (Prohibition & Regulation Act 1986:-** The Act prohibits employment of children below 14 years of age in certain occupations and process and provides for regulation of employment of children in all other occupations and processes. Employment of Child labour is prohibited in Building and Construction Industry.
- N) **Inter – State Migrant workmen’s (Regulation of Employment & Conditions of service) Act 1979:-** The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state).The inter-state migrant workmen, is an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home upto the establishment and back, etc.
- O) **The Building and Other Construction workers (Regulation of employment and Conditions of Service) Act 1996 and the Cess Act of 1996:-** All the establishments who carry on any building or other constructions work and employ 10 or more workers are covered under this Act.
All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as canteens, First Aid facilities, Ambulance, Housing accommodations for workers near the workplace etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officers appointed by the Government.

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

Q) **Royalty charges-**The contractor shall pay the royalty to the competent authority as per rule. The **royalty** charges paid shall be borne by the contractor and shall not be reimbursed by the Employer.

R) **Following Pollution control Acts and amendments made thereof from time to time shall be applicable.**

1. Water (Preservation and control of Pollution) Act, 1974
2. Air (Prevention and Control of Pollution Act 1981
3. Environmental (Protection) Act 1986

The contractor must commit to adopting Environmental management plan for best energy use, waste management, the reduction of pollution as in EMS (Environmental Management system)ISO-14001- 2015

65. ARBITRATION (GCC Clause 24)

The procedure for arbitration will be as follows: -

24.1 If the Contractor is of the view that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contract or that the decision was wrongly taken, the decision shall be referred to **#Superintending Engineer** (Higher Authority) within 14 days of the notification of the Engineer's decision. If the issue is not resolved, any party can refer the matter for conciliation within 15 days from the decision given by the **#Superintending Engineer**.

24.2

- (a) For the work up to Rs.100 Cr., if any of the parties is not satisfied with the decision of the **#Superintending Engineer**, both the parties have to refer to the **#Chief Engineer** concerned for the conciliation process.
- (b) For the work more than Rs.100 Cr., if any of the parties is not satisfied with the decision of the **Superintending Engineer**, both parties have to refer to the **#Secretary, Roads & Building Department, Government of Gujarat** for the conciliation process.

If the dispute is not resolved through the conciliation process, contractor may refer the dispute to Gujarat Public Works Contract Dispute Arbitration Tribunal. If the Contractor fails to refer a claim / dispute to the Higher Authority within 14 days of the notification of the Engineer's decision, the Contractor shall not be entitled to any additional payment/claim if he doesn't follow the above sequence in stipulated time. However, during such period, he would not stop the work in any case.

66. MODEL RULES FOR LABOUR WELFARE

66.1 Definitions

- a) Work place means a place at which, on an average, twenty or more workers and employed.
- b) Large work place means a site at which, on an average, 250 or more workers are employed

66.2 First Aid

At every work place, there shall be maintained in a readily accessible place first aid appliances including an adequate supply of sterilized dressings and sterilized cotton wool as prescribed in the factory rules of the state in which the work is carried on the appliances shall be kept in good order and, in large work places, they shall be placed under the charge of a responsible person who shall be readily available during working hours.

At large workplaces where hospital facilities are not available within easy distances of the workers, first Aid posts shall be established and be run by a trained compounder.

Where large workplaces are remotely situated and away from regular hospitals, an indoor ward shall be provided with one bed for every 250 employees.

Where large work place are situated in cities or in their suburbs and no beds are considered necessary owing proximity of city or town hospitals, suitable transport shall be provided to facilitate removal of urgent cases to these hospitals. At other workplaces, some conveyance facilities shall be kept readily available to take injured person or persons suddenly taken seriously ill, to the nearest hospital.

At large workplace there shall be provided and maintained an ambulance room containing the prescribed equipment and in the charge of such medical and nursing staff as may be prescribed. For this purpose, the relevant provisions of the factory rules of the state government of the area, where the works carried on, may be taken as the prescribed standard.

66.3 Accommodation for Labour

The contractor shall during progress of the work provide, erect and maintain necessary temporary living accommodation and ancillary for labour at his own expenses to the standards and scales as approved by the CONSULTANT .

66.4 Drinking Water

In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.

Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where drinking water shall be stored.

Every water supply storage shall be at a distance not less than 15 meters from any latrine, drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, well shall be properly chlorinated before water drawn from it for drinking. All such wells

shall be entirely closed in and be provided with a trap door which shall be dust proof and water proof.

A reliable pump shall be fitted to each covered well. The trap door shall be kept and opened only for cleaning or inspection, which shall be done at least once a month.

66.5 Washing and Bathing Places

Adequate washing and bathing places shall be provided separately for men and women, such places shall be kept in clean and drained condition.

66.6 Scale of Accommodation in Latrines and urinals

There shall be provided within the precincts of every workplace, latrines and urinals in an accessible place and the accommodation, separately for each of these shall not be less than at the following scale.

	No of seats	
a) Where number of persons does not exceed 50	2	
b) Where number of persons exceed but does not exceed 100	3	
c) For additional person per 100 or part thereof	3	

In particular cases, the CONSULTANT shall have the power to increase the requirement, whenever necessary.

66.7 Latrines and Urinals

Except in work places provided with water/flushed latrines connected with a water borne sewage system, all latrines shall be provided with receptacles on dry-earth system which shall be cleaned at least four time daily and at least twice during working hours and kept in a strictly sanitary condition. Receptacles shall be tarred inside and outside at least once a year.

If women are employed, separate latrine and urinals, screened from those for men and marked in the vernacular in conspicuous letters "For women only" shall be provided on the scale laid down in rule (vi) those for men shall be similarly marked "For Men only". A poster showing the figure of a man and women shall also be exhibited at the entrance to latrines for each sex. There shall be adequate supply of water, close to latrines and urinals.

66.8 Construction of Latrines

Inside walls shall be constructed of masonry or other non- absorbent materials and shall be cement washed inside and outside at least once a year. The dates of cement washing shall be noted in a register maintained for the purpose and kept available for inspection. Latrines shall have at least thatched roof.

66.9 Disposal of Excreta

Unless otherwise arranged for by the local sanitary authority, arrangement for proper disposal of excreta by incineration at the workplace shall be made means of suitable incinerator approved by the local medical, health and, municipal or cantonment authorities. Alternatively, excreta may be disposed off by putting a layer or night soils at the bottom of a pucca tank prepared for the purposed and covering it with a 15 cm layer of waster or refuse and then covering it with a layer of earth for a fort night (when it will turn in to manure).

The contractor shall, at his own expense carry out all instructions issued to him y the CONSULTANT to effect proper disposal of soil and other conservancy work in respect of contractor's work purpose or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by municipal or cantonment authority for execution of such work in his behalf.

66.10 Provision of shelters during rest

At every workplace, there shall be provided, free of cost, four suitable sheds, two for meals and two others for rest, separately for use of men and women labour. Height of each shelter shall not be less than 3 meters from floor level to lowest part of roof sheds shall be kept clean and the space provided shall be on the basis of at least 0.5 sq.m. per head.

66.11 Crèches

At a place at which 20 or more women are ordinarily employed, there shall be provided at least one hut for use of children under the age of 6 years belonging to such women. Huts shall not be constructed to a standard lower than that of thatched roof. Mud floor and wall with wooden planks spread over mud floor and covered with matting.

Huts shall be provided with suitable an sufficient openings, for light and ventilation. There shall be adequate provision of sweepers to keep the places clean. There shall be two maid servants in attendance. Sanitary utensils shall be provided to the satisfaction of local medical, health an municipal or cantonment authorities. Use of huts shall be restricted to children, there attendants and mothers of children.

Where the number of women workers is more than 25 but less than 50 the contractor shall provide at least one hut and one maid servant to look after children or women workers.

Size of crèche(s) shall very according to the number of women workers employed.

Crèche (s) shall be properly maintained and necessary equipment like toys, etc. Provide.

66.12 Canteen

A cooked fool canteen on a moderate scale shall be provided for the benefit of workers wherever it is considered necessary.

66.13 Planning, setting and erecting of the above mentioned structures shall be, approved by the CONSULTANT or his representative and the whole of such temporary accommodation shall at all times during the progress of the work be kept tidy and in a clean and sanitary condition to the satisfaction of the CONSULTANT or his representative and at the contractor's expense. The contractor shall conform generally to sanitary requirement of local medial health and municipal or cantonment authorities and at all times adopt such precautions as may be prevent soil pollution of the site.

On completion of the works, the whole of such temporary structures shall be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in an effectively sealed of and the whole of site left clean and tidy at the contractor's expense, to the entire satisfaction of the CONSULTANT .

66.14 Enforcement

Inspecting office mentioned in the contractor's labor regulations or any other officer nominated on his behalf by the CONSULTANT shall report to the CONSULTANT shall report to the CONSULTANT all cases of failure on the part of the contract and/of his sub-contractor to comply with the part of the contract and his sub-contractor to comply with the provisions of these rules either wholly or in part and the CONSULTANT shall impose such fines and other penalties as are prescribed in conditions of contract.

66.15 Interpretations etc

On any question as to the application, interpretation or effect of these rules, the decision of the chief labor commissioner or deputy chief labor commissioner (central) shall be final and binding.

- 66.16 The OWNER may, from time to time, add to or amend these rules and issue directions a it may be considered necessary for the proper implementation of these rules or for the purpose of removing and difficulty which arise in the administration thereof.

67.00 PROVISIONS OF SECTION 297/299 OF COMPANIES ACT

The Certificate submitted by the CONTRACTOR as per the prescribed format in terms of section 297 / 299 of Companies Act 1956 (with latest amendment) forms part of the CONTRACT.

67.1 The CONTRACTOR shall give all notices and pay / bear all duties, taxes, charges, fees and expenses, except where otherwise expressly provided in the CONTRACT, required to be given or paid by any National or State statute, ordinance or other law or any regulation or bye law of any International, local or other duly constituted authority in relation to the performance of the WORKS or of any TEMPORARY WORKS and by the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the WORKS or any TEMPORARY WORKS. The CONTRACTOR shall acquire all permits, approvals and or licenses from all local, State or Central Government authorities or Public Sector Undertakings in the country, where the SITE is located, which, such authorities require the CONTRACTOR to obtain in his name and which are necessary for the performance of the CONTRACT including interest limitations, import license for materials and VISAS for the CONTRACTOR's and SUB CONTRACTOR's personnel and entry permits for all imported CONSTRUCTIONAL PLANT AND EQUIPMENT and shall acquire all other permits, approvals and / or licenses, which are not the responsibility of the OWNER and which are necessary for the performance of the CONTRACT.

67.2 The CONTRACTOR shall comply with and conform in all respects and shall ensure that all his SUB CONTRACTORS also comply with and conform in all respects with the provisions of any statute, ordinance or law as aforesaid and the regulations or bye laws of any international, local or other duly constituted authority, which may be applicable to the WORKS or to any TEMPORARY WORKS and with such rules and regulations of public bodies and companies as aforesaid and shall be responsible for all costs arising from compliance and / or violation of the same and shall keep the OWNER indemnified against all penalties and liabilities of every kind for breach of any statute, ordinance or

law, regulations or bye laws.

67.3 The CONTRACTOR shall indemnify and hold the OWNER harmless from and against all penalties, liabilities, damages, claims, fines and expenses of whatever nature, arising out of or resulting from the violation of such laws or rules or regulation having the force of law within the scope of clause No.22.6, 22.8 & 22.9 by the CONTRACTOR or his SUB CONTRACTORS including their personnel.

68. CONTRACTOR TO INDEMNIFY OWNER

68.1 The CONTRACTOR shall indemnify the OWNER and every member, officer and employee of the OWNER , also the ENGINEER-IN-CHARGE and his staff against all actions, proceedings, claims, demands, costs and expenses whatsoever arising out of or in connection with the matters referred to in Labor Laws or clause mentioned in the CONTRACT / elsewhere and all actions, proceedings, claims, demands, costs and expenses which may be made against the OWNER for or in respect of or arising out of any failure by the CONTRACTOR in the performance of his obligations under the CONTRACT. The OWNER shall not be liable for or in respect of any demand or compensation payable by law in respect or in consequence of any accident or injury to any workman or other person in the employment of the CONTRACTOR or his SUB CONTRACTOR and CONTRACTOR shall indemnify and keep indemnified the OWNER against all damages and compensation and against all claims, damages, proceedings, costs, charges and expenses, whatsoever, in respect thereof or in relation thereto.

68.2 Should the OWNER have to pay any money in respect of such claims or demands as aforesaid and the costs incurred by the OWNER shall be charged will be paid by the CONTRACTOR and the CONTRACTOR shall not be at liberty to dispute or question for the same.

68.3 WAIVER OF RECOURSE Except for claims of breach of the CONTRACT or for claims specifically assumed or authorized therein, the CONTRACTOR and the OWNER waive recourse each against the other claims which may arise with respect to the WORKS.

69.00 IMPLEMENTATION OF APPRENTICES ACT 1961

The contractor shall comply with the provision of the apprenticeship Act 1961 and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Engineer in charge may at his discretion cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the Act.

70.00 SAFETY PROVISIONS

The contractor shall comply with all precautions as required for the safety of the workmen by the I.L.O. convention No. 62 as far as they are applicable to the contract. The contractor shall provide all necessary safety appliances, gears like goggles, helmets, masks etc. to the workmen and the staff.

- i) Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground. Or from solid construction except for such short period work as solid construction except for such short period work as can be done safely from ladders. When a ladder is used, an extra labor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable foot holds and hand holds shall be provided on the ladder, which shall be given an inclination not steeper than 1/4 to 1(1/4) horizontal in 1 vertical)
- ii) Scaffolding or staging more than 3.25 meters above the ground or floor, swing, or suspended from an overhead support or erected with stationary support, shall have guard rail properly attached, bolted, braced and otherwise secured at least 1 meters high above the floor or platform of such scaffolding or staging and extending along the entire length may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the support for structure.
- iii) Working platform gangways, and stairways shall be so constructed that they do not sag unduly or unequally and if a height of a platform or gangway or stairway is more 3.25 meters above ground level or floor level, it shall have closely spaced boards, have adequate width and be suitably provided with guard rails as directed in (ii).
- iv) Every opening in floor of a structure or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of one meter.
- v) Safe means of access shall be provided to all working platforms and other working places every ladder shall be securely fixed. No portable single ladder shall be over 9 meters shall in no case be less than 30 cm for ladders up to and including 3 meters in length. For longer ladders the width shall be increased at least 6 mm for each additional 30 cm of length. Spacing of steps shall be uniform and shall, not exceed 30 cm. Adequate precautions shall be taken to prevent danger form electrical equipment. No materials on any of the sites shall be so stacked or place as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect public form accidents and shall be bound to bear expenses of defending every suit, action or other proceeding at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceeding to any such person or which may with the consent of the contractor be paid to compromise any claim by any such person.
- vi) Excavation and Trenching

All trenches, 1.5 meters or more in depth, shall at any times by supplied with at least one ladder each 20 meters in length or fraction there of ladder shall be extended from bottom of trench to at least 1 meters above surface of the ground sides of a trench which is 1.5 meters or more in depth shall be stepped back to

give suitable slope or securely held by timber bracing so as to avoid the danger of collapsing of sides. Excavated material shall not be placed within 1.5 meters of edge of trench or half the depth of trench whichever is more. Cutting shall be done from top to bottom. Under to circumstances, undermining or undercutting shall be done.

vii) Demolition

Before any demolition work is commenced and also during the process of the work

- a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- b) No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by operator shall remain electrically charged.
- c) All practical steps shall be taken to prevent danger to persons employed by the OWNER, from risk of fire or explosion or flooding. No floor roof, or other part of a building shall be so overloaded with debris or materials as to render it unsafe.

viii) All necessary personal safety equipment as considered adequate by the CONSULTANT / EIC shall be available for use of persons employed on the site and maintained in a condition suitable for immediate use and the contractor shall take adequate steps to ensure proper use of equipment by those concerned.

- a) Workers employed on mixing asphaltic materials, cement, lime mortars/ concrete shall be provided with protective footwear and protective goggles.
- b) Those engaged in handling any material which is injurious to eyes shall be provided with protective goggles.
- c) Those engaged in welding works shall be provided with welder's protective eye-shield.
- d) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- e) When workers are employed in sewers and manholes, which is in use, the contractor shall insure that manholes covers are open and manholes are ventilated at least for an hour before workers are allowed to get in to them. Manholes so open shall be cordoned off with suitable railing and provided warning signals or boards to prevent accident to public.

The contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Whenever men above the age of 18 years are employed on the work of lead painting, the following precautions shall be taken.

No paint containing lead or lead products shall be used except in the form or readymade paint.

Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint dry rubber and scrapped.

Overalls shall be supplied by the contractor to workmen and adequate facilities shall be provided to enable workers to wash during and on close of day's work.

- ix) When work is done near any place where there is risk of drowning all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
- x) Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following.
 - a - (i) These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good working order and properly maintained.
 - (ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, & free from defects.
 - b Every crane driver or hoisting appliance operators shall be properly qualified and no person under the age of 21 shall be in charge of any hoisting machine including scaffold or of signals to operator.
 - c In case of every hoisting machine and of every chain hook, shackle swivel and pulley block used in hoisting, lowering or as a means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with safe working load. In case of a hoisting machine or a variable safe working load, each safe working load and condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in the paragraph shall be loaded beyond safe working load except for the purpose of testing.
 - d In case of the OWNER's machine, safe working load shall be notified by the CONSULTANT or his representative. As regards contractor's machine the contractor shall notify safe working load of each machine to the CONSULTANT or his representative whenever he brings it to site of work and get it verified by him.
- xi) Motors, gearing, transmission, electric wiring and other dangerous part of hoisting appliance shall be provided with efficient safeguards. Hoisting appliance shall be provided with such means as will reduce the risk of accident during descent of load to the minimum. Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, working apparel such as gloves, sleeves, and boots as may be necessary, shall be provided, workers shall not wear any rings, watches and carry keys or other material which are good conductors of electricity.

- xii) All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places work.
- xiii) There safety provisions shall be brought tot he notice of all concerned by display on notice board at a prominent place at the work spot persons responsible for ensuring compliance with the safety code shall be named there in by the contractor.
- xiv) To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the contractor shall be open to inspections by the CONSULTANT or his representative and the inspecting officer as defined in the contractors labour regulation mentioned in thereafter these documents as annexure "A" of section IV.
- xv) Notwithstanding anything contained in conditions (i) to (xiv) above, the contractor shall remain liable to comply with the provisions of all acts, rules, regulations and bylaws for the time being in force in India and applicable in this matter.

FOOTWEAR

The contractor shall at his own expenses provide footwear for all labour engaged on concrete mixing work and all other types of work involving the use of tar, cement etc. to the satisfaction of the CONSULTANT or his representative, and on his failure to do so, the OWNER shall be entitled to provide the same and recover the cost from the contractor.

LOCAL LABOUR

The contractor is encouraged for as possible to employ, in the execution of the contract qualified India citizens as workmen. Employment of expatriate personal is subject to the Indian laws and regulations in case the contractor wished to employ expatriate personnel in any particular trade or skill required to execute the contract, the OWNER will assist the contractor in obtaining permission for which the contractor shall submit requisite date.

71. SAFETY CODE

1.00 GENERAL RULES

Smoking within the battery area, tank farm or dock limits is strictly prohibited. Violators of the no smoking rules shall be discharged immediately.

1.1 Contractor's Barricades

- a) Contractor shall erect and maintain barricades required in connection with his operations to guard or protect.
 - i) Excavation
 - ii) Hoisting area
 - iii) Areas adjudged hazardous by consultant or OWNER's inspectors
 - iv) OWNER's existing property subject to damage by contractor's operations
 - v) Rail / road unloading spots
- b) Contractor's employees and those of his sub-contractors shall get themselves acquainted with OWNER's protective barricading and shall respect the provisions thereof.
- c) Barricades and hazardous areas adjacent to but not located in normal routes or travel shall be marked by red flashers/ lanterns at nights.

1.2 Care In Handling Inflammable Gas

The contractor has to ensure all precautionary measures and exercise utmost care in handling the inflammable gas cylinder/inflammable liquids / paints etc. as required under the law and /or as advised by the fire authorities of the OWNER.

1.3 Temporary Combustible Structures

Temporary combustible structures will not be built near or around work site.

1.4 Precautions against Fire

The contractor will have to provide fire extinguishers / fire buckets and drums at work site as recommended by engineer in charge. They will have to ensure all precautionary measures and cylinders / inflammable liquid / paints etc. as advised by engineer in charge. Temporary combustible structures will not be built near or around the work site.

1.5 EXPLOSIVES

Explosives shall not be stored or used on the work or on the site by the contractor without the permission of the engineer in charge in writing and then only in the manner and to the extent to which such permission is given. When explosive are required for the works they will be stored in a special magazine to be provided at the cost of the contractor in accordance with the license for the storage and the use of explosives and all operations in which or for which explosives are employed shall be at sole risk and responsibility of the contractor and the contractor shall indemnify the OWNER against any loss or damage resulting directly or indirectly there from.

2.00 MINES ACT

2.1 SAFETY CODE

The contractor shall at his own expense arrange for the safety provisions as required by the engineer in charge in respect of all labor directly employed for performance of the works and shall provide all facilities in connection therewith. In case the contractor fails to make arrangements and provide necessary facilities as aforesaid, the engineer in charge shall be entitled to do so and recover the costs thereof from the contractor.

- 2.2 Failure to comply with safety code or the provisions relating to, report on accidents and to grant of maternity benefits to female workers shall make contractor liable to pay company Liquidated Damages an amount not exceeding Rs. 50 /- for each default or materially incorrect statement. The decision of the engineer in charge shall be final and binding and deductions for recovery of such liquidated damages may be from any amount payable to the contractor from all the provisions of the Mines Act-1952 or any statutory modifications or re-enactment thereof for the time being in force and any rules and regulations made there under in respect of all the persons employed by him under this contract and shall indemnify the OWNER from and against any claim under the mines act or the rules and regulation framed there under by or on behalf of any persons employed by him or otherwise.

3.00 PRESERVATION OF PEACE

The contractor shall take requisite precautions and use his best endeavor to prevent any riotous or unlawful behavior by or amongst his workmen and others employed on the works and for the preservation of peace and protection of the inhabitants and security of property in the neighborhood of the work. In the event of the OWNER requiring the maintenance of the work. In the event of the OWNER requiring the maintenance of the special police force in the vicinity of the site during the tenure of the works, the expenses thereof shall be borne by the contractor and if paid by the OWNER, shall be recoverable from the contractor.

4.00 OUTBREAK OF INFECTIOUS DISEASES

The contractor shall remove from his camp such labour and their families as refuse protective inoculation and vaccination when called upon to do so by the engineer in charge representatives. should cholera, plague or other infectious diseases break out, the contractor shall burn the huts, bedding, clothes and other belongings used by the infected parties and promptly erect new huts on healthy sites as required by the engineer in charge failing which within the time specified in the engineer requisition, the work may be done by the OWNER and the cost thereof recovered from the contractor.

5.00 USE OF INTOXICANTS

The unauthorized sale of spirits or other intoxicating beverages upon the work, in any of the buildings, encampments or tenements owned, occupied by or within the control of the contractor shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.

6.00 SAFETY REGULATIONS

6.1 In respect of all labour, directly or indirectly employed in the WORK, the CONTRACTOR shall at his own expense arrange for all the safety provisions as per safety codes of CPWD, Indian Standard Institution, the Electricity Act, the Mines Act. Regulations, Rules and Orders and such other Acts as applicable.

6.2 Contractor shall maintain first aid facilities for his employees and those of his Sub-contractors.

7.00 WATCHING AND LIGHTING

The Contractor shall, in connections with the Works, provide and maintain at his own cost all lights, guards, fencing, markers and watching when and where necessary for the safety and convenience of the public and others.

8.00 In addition to the above, the Contractor shall abide by the safety code provision as per CPWD safety code and Indian Standard safety code framed from time to time.

SECTION - 4
CONTRACT DATA

CONTRACT DATA Clause Reference with respect to section 3		
Item marked "N/A" do not apply to this Contract.		
1.	The Employers is Name: The Chief Officer Padra Nagarpalika Padra Address: Mahatma Gandhi Road Near Head Post Office Govindnagar-389151 Phone (o) 02673220458	[CL.1.1]
2.	The Engineer is	
	Name of Authorized Representative: Deputy Executive Engineer/City Engineer/ PWD Engineer of Padra Nagarpalika Padra.	
3.	The Defects Liability Period is 12 months from the date of completion.	[CL.1.1 & 33]
4.	The Start Date shall be 1st days for the date of issue of the Notice to proceed with the work.	[CL.1.1]
5.	The Intended Completion Date for the whole of the works is 06 Months after start of work with the following milestones:	[CL. 1.1, 17 & 2]
	Milestone dates: <u>Physical works to be completed Period from the start date</u> Milestone 1 i.e. 16 % 80 days. Milestone 2 i.e. 50 % 165 days. Milestone 3 i.e. 75 % 247 days. Milestone 4 i.e. 100 % 330 days.	[CL. 2.2 & 49.1]
6.	The Site is located at Padra City, Ta. Padra , Dist. VADODARA.	[CL.1.1]
7.	The name and identification number of the Contract is:	[CL.1.1]
8.	The works consist of (Water Supply Works) with items as per B.O.Q. The works shall, inter alia, include the following, as Specified or as directed:	[CL.1.1]
	<p>(A) Building Works Site clearance; setting –out and layout, carried out survey work, Construction, furniture work, electrical work and five years of Operation & Maintenance, all aspects of quality assurance; clearing the site and handing over the works on completion; rectification of the defects during the Defects Liability Period and submission of “As-built” drawings and other related documents and other items of work as may be required to be carried out for completing the works in accordance with the drawings and the provisions of the contract and to Insure safety.</p> <p>(B) Road Works Site clearance; setting – out and layout; widening of existing carriageway and strengthening including camber corrections; construction of new road/ Parallel service road; bituminous pavements remodeling/construction of Junctions, intersections, bus bays, lay-bays; supplying and placing of drainage Channels, flumes, guard posts and guard other related items; construction/extension of cross drainage works, bridge, approaches and other related stones; protective works for roads/bridge; all aspects of quality assurance of various components of the works; rectification of The defects in the completed works during the Defects Liability Period; submission of “As- built” drawings and any other related documents; and other item of work as may be required to be carried out for completing the work in accordance with the drawings and the provisions of the contract and to ensure safety.</p> <p>(C) Bridge Works provision of foundations, piers abutments and bearing; prestressed/reinforced cement concrete superstructure; wearing coat, hand railings, expansion joints, approach slabs, drainages spouts/ down take pipes, arrangements for fixing light posts, water mains, utilities etc.; provision of suitably designed protective works; providing wing/return walls; provision of road markings, road signs etc.; all aspects of quality assurance; clearing the site and handing over the works on completion; rectification of the defects during the Defects Liability Period and submission of “As-built” drawings and other related documents; and other items of work as may be required to be carried out for completing the works in accordance with the drawings and the provisions of the contract and to Insure safety</p> <p>(D) Other Items Any Other Items as required to fulfill all contractual obligations as per the Bid documents.</p>	

- | | | |
|----------------|---|-------------|
| 10. | The following documents also form part of the Contract:
_____As per clause 2-3_____ | [CL.2.3(9)] |
| 11. | The law which applies to the Contract is the law of Union of India | [CL.3.1] |
| 12. | The language of the Contract documents is English | [CL.3.1] |
| 13. | Limit of subcontracting ——— 25% of the Initial Contract Price | [CL.7.1] |
| 14. | The Schedule of Other Contractors | [CL.8] |
| 15. | The Schedule of Key Personnel As per Annex – II to Section I | [CL.9] |
| 16. | The minimum insurance cover for physical property, injury and death is Rs. 5 lakhs per occurrence with the number of occurrences limited to four. After each occurrence, the contractor will pay an additional premium necessary to make insurance valid for four occurrences always. | [CL.13] |
| 17. | Site Investigation report | [CL.14] |
| 18. | The Site Possession dates shall be | [CL.21] |
| 19. | The period for submission of programme for approval of the engineer shall be 21 days from the issue of Letter of Acceptance. | [CL. 27.1] |
| 20. | The period between program updates will be..... days. | [CL.27.3] |
| 21. | The amount to be withheld for late submission of an updated programme shall be Rs lakhs | [CL. 27.3] |
| 22. | The following events shall also be Compensation Events
Substantially adverse ground conditions encountered during the course of execution of work not provided for in the bidding document. | [CL. 44] |
| | (i) Removal of underground utilities detected subsequently | |
| | (ii) Significant changes in classification of soil requiring additional mobilization by the contractor, e.g. ordinary soil to rock excavation, | |
| | (iii) Removal of unsuitable material like marsh, debris dumps, etc. not caused by the contractor. | |

- (iv) Artesian conditions
- (v) Seepage, erosion landslide
- (vi) River training requiring protection of permanent work
- (vii) Presence of historical, archeological or religious structures, monuments interfering with the works
- (viii) Restriction of access to ground imposed by civil, judicial, or military authority

23. The currency of the Contract is Indian Rupees

[CL. 46]

24. **The formula (e) for adjustment of prices are as under:**

[CL.47]

- ~~If any of the commodities like Cement, Steel or Bitumen are not found applicable in a work, the weight component of that commodities (i.e. 'Cement' (Pc), 'Steel' (Ps) or 'Bitumen' (Pb) as indicated in SBD for the purpose of Price Adjustment) shall be clubbed with the weight component of 'Other Material' (Pm), such that the gross % weight of the components shall remain as 100%.~~

~~R = value of work as defined in Clause 47.1 of Conditions of Contract~~

Adjustment for labour component

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

$$V_L = \frac{0.85 \times (P_L/100) \times R \times (L_i - L_0)}{L_0}$$

~~V_L = Increase or decrease in the cost of work during the month under consideration due to changes in rates for local labour~~

~~L₀ = The consumer price index for industrial workers for the State on 28 days preceding the scheduled date of opening of technical Bids as published by Labour Bureau, Ministry of Labour, Government of India~~

~~L_i = The consumer price index for industrial workers for the State for the month under consideration as published by the Labour Bureau, Ministry of Labour, Government of India.~~

~~P_L = Percentage of labor component of the work.~~

Adjustment for cement component.

- (ii) ~~Prices adjustment for increase or decrease in the cost of cement procured by the contractor~~

$$V_c = \frac{0.85 \times (P_c/100) \times R \times (C_i - C_0)}{C_0}$$

~~V_c = Increase or decrease in the cost of work during the month under consideration due to changes in rates for cement.~~

~~C₀ = The all India wholesale price index for Ordinary Portland Cement on 28 days preceding the scheduled date of opening of technical bid as published by the Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.~~

C_i = ~~The all India average wholesale price index for Ordinary Portland Cement for the month under consideration as published by Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.~~

P_c = Percentage of cement component of the work

Adjustment for steel component

- (iii) — Price adjustment for increase or decrease in the cost of steel procured by the contractor shall be paid in accordance with the following formula

$$V_s = 0.85 \times (P_s/100) \times R \times (S_i - S_0)/S_0$$

V_s = ~~Increase or decrease in the cost of work during the month under consideration due to changes in the rates for steel~~

S_0 = ~~The all India wholesale price index for steel (Mild Steel - Long Products Rebars) on 28 days preceding the date of opening of Bids as published by the Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.~~

S_i = ~~The all India average wholesale price index for steel (Mild Steel - Long Products Rebars) for the month under consideration as published by Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.~~

P_s = Percentage of steel component of the work

Note : For the application of this clause, the index of **Mild Steel - Long products Rebars** has been chosen to represent the steel group.

Adjustments of bitumen component

- (iv) — Price adjustment for increase in the cost of bitumen shall be paid in accordance with the following formula

$$V_b = 0.85 \times (P_b/100) \times R \times (B_i - B_0)/B_0$$

V_b = ~~Increase or decrease in the cost of work during the month under consideration due to changes in rates for bitumen.~~

B_0 = ~~The official retail price of bitumen at the IOC depot at the nearest centre on the day 28 days prior to the scheduled date of opening of technical bid.~~

B_i = ~~The official retail price of bitumen of IOC depot at the nearest centre for the 15th day of the month under consideration.~~

P_b = Percentage of bitumen component of the work

Adjustment of POL (fuel and lubricant) component

- ~~(v) — Price adjustment for increase or decrease in cost of POL (fuel and lubricant) shall be paid in accordance with the following formula~~

$$V_f = 0.85 \times (P_f/100) \times R \times (F_i - F_0)/F_0$$

~~V_f = Increase or decrease in the cost of work during the month under consideration due to changes in rates for fuel and lubricants.~~

~~F₀ = The official retail price of High Speed Diesel (HSD) at the existing consumer pumps of IOC at the nearest centre on the day 28 prior to the date of opening of Bids.~~

~~F_i = The official retail price of HSD at the existing consumer pumps of IOC at the nearest centre for the 15th day of the month of the under consideration.~~

~~P_f = Percentage of fuel and lubricants component of the work~~

~~Note: For the application of this clause, the price of High-Speed diesel Oil has been chosen to represent the fuel and lubricants group.~~

Adjustment for Construction Machinery

- ~~(vi) — Price adjustment for increase or decrease in the cost of plant and Machinery spare procured by the Contractor shall be paid in accordance with the following formula~~

$$V_p = 0.85 \times (P_p/100) \times R \times (P_i - P_0)/P_0$$

~~V_p = Increase or decrease in the cost of work during the month under consideration due to changes in rates for plant and machinery spares~~

~~P₀ = The all India wholesale price index for **manufacturer of machinery for mining, quarrying and Construction** for the month under consideration as published **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**~~

~~P_i = The all India average wholesale price index for **manufacturer of machinery for mining, quarrying and Construction** for the month under consideration as published **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**~~

~~P_p = Percentage of plant and machinery spares component of the work.~~

~~Note: For the application of this clause, index of Heavy Machinery and parts has been chosen to represent the Plant and Machinery Spares group~~

Adjustment of other materials Component

- (vii) ~~Price adjustment for increase or decrease in cost of local materials other than cement, steel, bitumen and POL procured by the contractor shall be paid in accordance with the following formula~~

$$V_m = 0.85 \times (P_m/100) \times R \times (M_i - M_0)/M_0$$

~~V_m = Increase or decrease in the cost of work during the month under consideration due to change in rates for local materials other than cement, steel, bitumen and POL.~~

~~M_0 = The All India wholesale price index (all commodities) on 28 days preceding the scheduled date of opening of technical Bids, as published by the **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**~~

~~M_i = The All India wholesale price index (all commodities) for the month under consideration as published by the **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry.**~~

~~P_m = Percentage of local material components (other than cement, steel, bitumen and POL) of the work.~~

The following percentage will govern the price adjustment for the entire contract:

1. Labour	P_l%
2. Cement	P_c%
3. Steel	P_s%
4. Bitumen	P_b%
5. POL	P_f%
6. Plant & Machinery Spares	P_p%
7. Other Materials	P_m%
Total		100 %

25. The proportion of payments retained (retention money) shall be 6% {CL. 48} from each bill subject to a maximum of 5% of final contract price.
26. Amount of Liquidated damages for in completion of works
- For Whole of work {CL.49} delay (1/2000)th of the Initial contract price, rounded off to the nearest Thousand, per day. ~~For sectional Completion (wherever specified In item 6 of Contract data) (1/2000)th of initial contract price for #5 km Section, rounded off to the nearest thousand per day.~~

27. Maximum limit of liquidated damages For delay in completion work 10 percent of the Initial {CL. 49} Contract Price rounded off to the nearest thousand
- ~~28. Amount of Bonus for early completion~~ ~~Amount of bonus for early Completion of work shall be given as per CL.50 of Section 3~~
- ~~29. Maximum limit of bonus for early Completion of work~~ ~~5 percent of the Contract {CL. 50} Price~~
30. The amount of the advance payment are: {CL. 51 & 52}

#Nature of Advances

Amount (Rs.) Conditions to Be fulfilled

- | | | |
|-----|---|--|
| i | Mobilization 10% of the contract Price | On submission of unconditional Bank Guarantee. (To be drawn Before the end of 20% of the contract period). The contractor may furnish four bank guarantees of 2.5 % of each valid for the full period. |
| ii | Equipment 90% for new and 50% of depreciated value for old equipment. Total amount will be subject to a maximum of 5% of the Contract Price | After equipment is brought to site (provided the Engineer is satisfied That the equipment is required for performance of the contract) and on submission of unconditional Bank Guarantee for amount of advance |
| iii | Secured Advance for Non-persish able material Brought to site | Deleted |

(The advance payment will be paid to the Contractor no later than 28 days after fulfillment of the above conditions).

31. **Repayment of advance payment for mobilization and equipment** {CL. 51.3}
The advance loan shall be repaid with percentage deduction from the interim payments certified by the Engineer under the Contract. Deduction shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the Contractor has reached not less than 20 percent of the Contract Price or 6 (six) months from the date of payment of first installment of advance, whichever period concludes earlier, and shall be made at the rate of 20 percent **(collectively for both Mobilization Advance and Equipment Advance)** of the amounts of all Interim Payment Certificate until such time as the loan has been repaid, always provided that the loan shall be completely repaid prior to the expiry of the original time for completion pursuant to Clause 17 and 28.
32. Deleted
33. The securities shall be for the following minimum amounts equivalent {CL. 52}
As a percentage of the Contract Price:
Performance Security for 5 percent of contract price plus Rs..... (to be decided after evaluation of the bid) as additional security in terms of ITB Clause 29.5

The standard form of Performance security acceptable to the Employer shall be an unconditional Bank Guarantee of the type as presented in Section 8 of the Bidding Documents.
34. The Schedule of Operating and maintenance Manuals.....N/A. {CL. 58}
35. The date by which “as– built” drawings (in scale as directed) in 2 sets {CL. 58} are required within 28 days of the issue of certificate of completion of the whole or section of the work, as the case may be.
36. The amount to be withheld for failing to supply “as built” drawings {CL. 58} by the Date required is Rs..... Lakhs.
37. The following events shall also be fundamentals breach of contract: {CL.59.2} “The Contractor has contravened Sub- clause 7.1 and Clause 9 of GCC”
38. The percentage to apply the value of the work not completed representing {Cl 60} the Employer’s additional cost for completing the Works shall be 20 per cent.

SECTION-5 TECHNICAL SPECIFICATION

GENERAL TECHNICAL SPECIFICATIONS

1.0 General :

All measurements shall be made in the metric system. Different items of work shall be measured in accordance with the procedures set forth in the relevant sections read in conjunction with General Conditions of Contract. The same shall not however apply in the case of lump-sum items. All measurements and computations unless otherwise indicated shall be carried nearest to the following limits :

- (i) length and breadth... 10mm
 - (ii) height, depth or thickness of earthwork, sub-base, bases, surfacing, and structural members5mm
 - (iii) areas,0.01 Sq. Meter
 - (iv) cubic contents..... 0.01 cubic meter
- in recording dimensions of work the sequence of length, width and height or depth or thickness shall be followed.

2.0 Measurement of lead for Materials:

Where lead is specified in the contract for construction materials, the same shall be measured as described hereunder.

Lead shall be measured over the shortest practicable route and not the one actually taken and the decision of the Engineer-in-charge in this regard shall be taken as final. Distance up to and including 100 meters shall be measured in units of 50 meters, exceeding 100 meters but not exceeding 1 KM. in units of 100 meters and exceeding 1 km. in units of 500 meters. The half and greater than half of the units shall be reckoned as one and less than half of the units ignored. In this regard, the source of the material shall be divided into suitable blocks and for each block the distance from the center of the block to the center of placing pertaining to that block shall be taken as the lead distance.

3. Surface Regularity of Sub grade & Pavement Courses :

The surface regularity of completed sub-base courses and wearing surfaces in the longitudinal and transverse directions shall be within the tolerances indicated in Table below. The longitudinal profile shall be checked with a 3 meter long straight edge, at the middle of each traffic lane along a line parallel to the center line of the road. The transverse profile shall be checked with a set of three camber boards at intervals of 10 meters.

PERMITTED TOLERANCES OF SURFACE REGULARITY FOR PAVEMENT COURSES

Sr. No.	Type of Construction	Longitudinal Profile with 3 meter straight edge					Cross Profile
		Maximum Permissible undulation in mm	Maximum number of undulation permitted in any 300m. length exceeding in mm.				Maximum permissible variation from specified profile camber template-mm
			18	12	10	6	
1	2	3	4	5	6	7	8
1	Earth Sub grade	36	30	-	-	-	15
2	Granular / lime / Cement Stabilized Sub – base.	23	-	30	-	-	12
3	Water Bound Macadam with Nominal size metal (20-50) mm	18	-	-	30	-	8
4	Semi – Dense Carpet @	15	-	-	-	20	6

Notes:-

1 . These are for machine laid surfaces. If laid manually, due to unavoidable reason, tolerance upto 50percent above these values in this column may be permitted. However, this relaxation does not apply to the values of maximum undulation for longitudinal and cross profiles mentioned in columns 3 and 8 in the

table.

2. Surface evenness requirements in respect of both the longitudinal and cross profiles should be simultaneously satisfied.

3. **Rectification** : Where the surface irregularity of sub grade and the various pavement courses fall outside the specified tolerances, the contractor shall be liable to rectify these in the manner described below and to the satisfaction of the Engineer-in-charge at his own cost.

(i) **Sub grade** : Where the surface is high, it shall be trimmed and suitably compacted. Where the same is low, the deficiency shall be corrected by adding fresh material. The degree of compaction and the type of material to be used shall conform to the specified requirements.

(ii) **Granular/Sub-base** : Same as at (i) above except that the degree of compaction and the type of material to be used shall conform to the specified requirements.

(iii) **Lime/Cement stabilized soil sub-base** : For Lime/Cement treated materials where the surface is high, the same shall be suitably trimmed while taking care that the material below is not disturbed due to this operation. However, where the surface is low, the same shall be corrected as described herein below. For cement treated material, when the time elapsed between detection of irregularity and the time of mixing of the material is less than 2 hours, the surface shall be scarified to a depth of 50 mm, supplemented with freshly mixed material as necessary and recomposed to the relevant specification. When this time is more than 2 hours, the full depth of the layer shall be removed from the pavement and replaced with fresh material to specification. In either case, the area treated shall not be less than 5 meters long by 2 meters wide. This shall also apply to lime treated material except that the time criterion shall be 3 hours instead of 2 hours.

(iv) **Water Bound Macadam Base** : Where the surface is high or low, the top 75mm shall be scarified, reshaped with added material as necessary and recompacted. The area treated at a place shall not be less than 5 meters long and 2 meters wide.

(v) **Bituminous Constructions** : For bituminous constructions, other than wearing course, where the surface is low, the deficiency shall be corrected by adding fresh material and recompaction to specifications.

Where this surface is high, the full depth of the layer shall be removed and replaced with fresh material and compacted to specifications. For wearing course, where the surface is high or low; the full depth of the layer shall be removed and replaced with fresh material and compacted to specifications in all cases where the removal and replacement of a bituminous layer is involved, the area treated shall not be less than 5 meter long and not less than 1 lane wide.

4. Quality Control Tests During Construction :

The materials supplied and the works carried out by the Contractor shall conform to the enclosed relevant specifications. For ensuring the requisite quality of construction, the materials and works shall be subjected to quality control test as described hereinafter, by the Engineer-in-charge. The testing frequencies set forth are the desirable minimum and the Engineer-in-charge shall have the full authority to carry out test as frequently as he may deem necessary to satisfy that the materials at work comply with the appropriate specifications. Test procedures for the various quality control tests are indicated in the respective sections of the specifications or for certain tests within this section. Where no specific testing procedure is mentioned, the test shall be carried out as per prevalent accepted engineering practice to the directions of the Engineer-in-charge.

5. Tests on Earthwork for Embankment Construction:

5.1 Borrow Material:

- (a) Sand Content (IS : 2720 Part IV)
Two test per 8000 Cubic Meters of soil.
- (b) Plasticity Test (IS : 2720 Part-V)
Each type to be tested. Two tests per 8000 Cubic Meters of soil.
- (c) Density test (IS : 2720 Part VII)
Each soil type to be tested. Two tests per 8000 Cubic Meters of soil.
- (d) Moisture Content Test (IS : 2720 Part-II)
One test for every 250 Cubic Meters of soil.

5.2 Compaction Control :

Control shall be exercised by taking at least one measurement of density for each 1000 square meters of compacted area, or closer as required to yield the minimum number of test results for evaluating day's work on statistical basis. The determination of density shall be in accordance with IS. : 2720 (Part XXVMI). Test locations shall be chosen only through random sampling techniques. Control shall not be based on the result of any one test but on the mean value of a set of 5-10 density determinations. The number of tests in one set of measurements shall be 5 as long as it is felt that sufficient control over borrow material

and the method of compactions is being exercised. If considerable variations are observed between individual density results, the minimum number of tests in one set of measurement shall be increase to 10. The acceptance of work shall be subject to the condition that the mean dry density equals or exceeds the specified density and the standard deviation for any set of results is below 0.08 gm/cc. However for earthwork in shoulders and in top 500 mm portion of the embankment below the sub grade at least one density measurement shall be taken for every 500 square meters of the compacted area provided further that the number of the tests in each set-of measurement shall be at least 10. In other respects, the control shall be similar to that described earlier.

6. Following materials shall conform to the Indian Standards shown against them :

- (1)Cement.....
- (2)Sand for masonry.
- (3).....Sand for concrete.
- (4).....Coarse aggregate.
- (5).....Mild Steel...
- (6)High yield strength deformed bars
 - (a) Hot Rolled..... IS : 1139
 - (b) Cold Twisted..... IS : 1786

7. Barrel thickness of pipes of different class shall be as under :

Sr. No.	Internal Diameter of pipe in mm	Barrel thickness (in mm).		
		NP1	NP2	NP2
1	80	25	25	-
2	100	25	25	-
3	150	25	25	-
4	250	25	25	-
5	300	30	30	-
6	350	32	32	75
7	400	32	32	75
8	450	35	35	75
9	500	-	35	75
10	600	-	40	80
11	700	-	40	80
12	800	-	45	90
13	900	-	50	100
14	1000	-	55	100
15	1100	-	60	115
16	1200	-	65	115

DETAILED TECHNICAL SPECIFICATIONS

REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME.

SCHEDULE: B-1,4,5,9,10

ITEM NO:01

Providing and supplying D. I. K-7 grade pipes for following nominal bore diameter with internal cement mortar lining including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. (IS 8329-2000). 150mm Dia Pipes.

150 mm Dia di Pipe K-7

100 mm Dia di Pipe K-7

[A] DUCTILE IRON PIPES:

Note: Wherever International Standards or Indian standards / specifications are mentioned, their equivalent or higher standards / specifications are also acceptable

Supply and Delivery of Ductile Iron Pipe as per IS: 8329-2000 or its latest revision or amendments if any including jointing material as EPDM ring as per IS 5382-1985 and ISO: 4633-1996 or its latest revision or amendments if any.

Standards

The following standards, specifications and codes are part of this specification. In all cases, the latest revision of the including all applicable official amendments and revisions shall be referred to. In case of discrepancy between this specification and those referred to herein, this specification shall govern.

1. ISO: 10803-1997 Design method for ductile iron pipes
2. IS: 8329-2000 Centrifugally Cast (spun) ductile iron pressure pipes for water, gas and sewage
3. ISO: 2531-1991 Ductile iron pipes, fittings and accessories for pressure pipelines.
4. ISO: 4179-1985 ductile iron pipes for pressure and non pressure-Centrifugal cement mortar lining - General requirements.
5. IS: 8112 Specification for 43 Grade ordinary Portland cement.
6. BS: 3416 Bitumen based coatings for cold application, suitable for use in contact with potable water.
7. ISO: 8179-1995 ductile iron pipes-External coating-Part-1 Metallic Zinc with finishing layer.
8. IS: 638 Sheet rubber jointing and rubber insertion jointing.
9. ISO: 4633-1996 Rubber seals-Joint rings.
10. IS: 5382-1985 Specification for Rubber sealing rings for gas mains, water mains and sewers.
11. AWWA C600 Installation of ductile iron water mains and their appurtenances.

1 Internal Diameter:

The nominal values of the internal diameters of pipe, expressed in millimeters are approximately equal to the number indicating their nominal sizes DN.

2 Length:

The working length of socket and spigot pipes shall be 5 m, 5.5 m, or 6 meters.

3 Thickness:

The wall thickness of pipe 'e' in mm shall be calculated as a function of nominal diameter by the following equation with minimum of 5 mm.

$$e = K (0.5 + 0.001 \text{ DN})$$

Where: e = wall thickness in mm, DN = the nominal diameter, K = the whole number coefficient

4 EPDM Rubber Gasket:

Rubber Gasket shall be suitably for Push-on-Joint.

The spigot ends shall be suitably chamfered or rounded off to facilitate smooth entry of pipe in the socket fitted with the rubber gasket

Rubber Gasket shall confirm to IS 5382-1985 and ISO: 4633-1996 its latest revision or amendments if any.

5 Sampling Criteria:

Sampling criteria for various tests, unless specified in IS 8329-2000, shall be as laid down in IS 11606. Mechanical test, Brunel hardness test, Hydrostatic test etc are shall be as per IS 8329-2000

6 Tolerances on External Diameter:

The nominal external diameter (DE) of the spigot end of socket and spigot pipes and when circumferentially using a diameter tape measured shall confirm to the requirements specified as follow. The positive tolerance is +1 mm and applies to all thickness classes of pipes. The maximum negative tolerance of the external diameter is specified as follow:

DN	Nominal	Positive Tolerance	Negative Tolerance
80	98	+1	-2.2
100	118	+1	-2.8
125	144	+1	-2.8
150	170	+1	-2.9
200	222	+1	-3.0
250	274	+1	-3.1
300	326	+1	-3.3
350	378	+1	-3.4
400	429	+1	-3.5
450	480	+1	-3.6
500	532	+1	-3.8
600	635	+1	-4.0

7 Tolerance on Ovality:

Pipes shall be as far as possible circular internally and externally. The tolerance for out-of-roundness of the socket and spigot ends is given below:

Nominal Diameter in mm	Allowable Difference Between Minor Axis and DE in mm
80 to 300	1.0
350 to 600	1.75
700	2.0
750 to 800	2.4
900 to 1000	3.5

8 Tolerance in thickness

The tolerance on wall thickness (e) and the flange thickness (b) of the pipes shall be as below:

Dimensions	Tolerance in mm
Wall thickness (e)	- (1.3 + 0.001 DN)(1)
Flange thickness (b)	+ (2+0.05b) & - (2+0.05b)

9 Coating

Pipe shall be delivered internally and externally coated.

External Coating:

Pipe shall be metallic zinc coated and after that it shall be given a finishing layer of bituminous paint as per IS - 8329-2000

Zinc coating shall comply with IS: 8329/EN 545/ ISO 8179. Only molten zinc spray coating shall be acceptable. The average mass of sprayed metal shall not be less than 130 g/sq.m with a local minimum of 110 g/sq.m.

Bitumen overcoat shall be of normal thickness of 70 microns unless otherwise specified. It shall be a cold applied compound complying with the requirements of BS 3416 Type II suitable for tropical climates factory applied preferably through an automatic process.

Damaged areas of coating shall be repainted on site after removing any remaining loose coating and wire brushing any rusted areas of pipe.

Internal lining:

Internally pipe shall be Portland cement mortar lined (as per IS - 8329-2000). The mortar shall contain by mass at least one part of cement to 3.5 part of sand. All pipes and fittings shall be internally lined with cement mortar using high speed centrifugal process in accordance with IWO 4179/IS 8329. Cement mortar lining shall be applied at the pipe manufacturing shop in conformity with the aforesaid standards. No admixtures in the mortar shall be used without the approval of the Engineer. The quantity to cement proportion of sand if justified by the sieve analysis. Pipe lining shall be inspected on site and any damage or defective areas shall be made good to the satisfaction of the Engineer. Lining shall be uniform in thickness all along the pipe. The minimum thickness of factory applied cement mortar lining shall be as per IS: 8329 Annex-B or ISO 4179. This is given below.

Nominal Pipe Size (mm)	Nominal lining thickness (mm)
Up to 300	3
350-600	5
700-1200	6
1400-2000	9

10 Joint

Jointing of DI pipes and fittings shall be push-on type

Push-on-joints

The Contractor shall source the push-on-joint gaskets only from the pipe manufactures. In turn the pipe manufacturer shall supply at least 10% additional quantity of gaskets over and above the requirement to the Contractor at no extra cost.

The gasket used for joints shall be suitable for natural and purified water conveyance. In jointing DI pipes and fittings, the Contractor shall take into account the manufacturer's recommendations as to the methods and equipments to be used in assembling the joints. In particular the Contractor shall ensure that the spigot end of the pipe to be jointed is smooth and has been properly chamfered, so that once the rubber ring is correctly positioned before the joint is made, does not get damaged by friction or sharp edges of the spigot Chamfer. The rubber rings and the recommend lubricant shall be obtained only through the pipe manufacturer.

Rubber ring bundles from every lot shall carry with them manufacturer's test certificate for the following mechanical properties.

1. Hardness
2. Tensile strength
3. Compression set
4. Accelerated aging test
5. Water absorption test
6. Stress relaxation test

Rubber rings shall be clearly labeled in bundles to indicate the type of ring, the type of joint, the size of the pipe with which they are to be used, the manufacturer's name and trade mark, the month and year of manufacture and the shelf life.

11 Testing of Pipe:

The main test among others to be conducted shall be as per IS: 8329-2000 or with its latest revision/amendments.

[A] Mechanical Tests

Mechanical tests shall be carried out during manufacture of pipes as specified in the Standards. The frequency and sampling of tests for each batch of pipes shall be in accordance with IS 11606-1986. The test results so obtained for all the pipes and fittings of different sizes shall be submitted to Engineer. The method for tensile tests and the minimum tensile strength requirement for pipes and fittings shall be as per IS: 8329/EN 545 for pipes and IS: 9523/EN 545 for fittings.

[B] Brunel Hardness Test

For checking the Brinell hardness the test shall be carried out on the test ring or bars cut from the pipes used for the ring test and tensile test in accordance with IS: 1500. The test shall comply with the requirements specified in IS: 1500/ISO 6506.

[C] Re-tests

If any test piece representing a lot fails in the first instance, two additional tests shall be made on test pieces selected from two other pipes from the same lot. If both the test results satisfy the specified requirements the lot shall be accepted. Should either of these additional test pieces fail to pass the test, the lot shall be liable for rejection.

- [d]** For hydrostatic test at works, the pipes and fittings shall be kept under test pressure as specified in the standard for a period of minimum 15 seconds during which the pipes shall be struck moderately with a 700 g hammer for confirmation of satisfactory sound. They shall withstand the pressure test without showing any leakage, sweating or other defect of any kind. The hydrostatic test shall be conducted before surface coating and lining.

12. Price Variation: This shall be as per 'Price Variation clause' given in the volume.

13 Quality Assurance

The manufacturer shall have a laid down Quality Assurance Plan for the manufacture of the products offered which shall be submitted along with the tenders.

14 Mode of measurement and payments

The payment shall be as per payment schedule.

ITEM NO:02

Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Socket & Spigot Type. 80 To 300mm Dia.

DI Specials with all types of diameters suitable of K9 grade pipes (As per Tender Item) with inner cement mortar lining the necessary DI Specials required during the lowering & laying of Ductile Iron Pipe shall be supplied by the agency and shall be as per standard specification. And as per IS specification.

It shall be of best quality as per requirement & the Rate shall be including loading, unloading, carting, insurance and labor charge etc. complete.

Joint

Jointing of DI pipes and fittings shall be push-on type .

Push-on-joints

The Contractor shall source the push-on-joint gaskets only from the pipe manufactures. In turn the

pipe manufacturer shall supply at least 10% additional quantity of gaskets over and above the requirement to the Contractor at no extra cost.

The gasket used for joints shall be suitable for natural and purified water conveyance. In jointing DI pipes and fittings, the Contractor shall take into account the manufacturer's recommendations as to the methods and equipments to be used in assembling the joints. In particular the Contractor shall ensure that the spigot end of the pipe to be jointed is smooth and has been properly chamfered, so that once the rubber ring is correctly positioned before the joint is made, does not get damaged by friction or sharp edges of the spigot Chamfer. The rubber rings and the recommend lubricant shall be obtained only through the pipe manufacturer.

Rubber ring bundles form every lot shall carry with them manufacturers test certificate for the following mechanical properties.

Hardness

Tensile strength

Compression set

Accelerated again test

Water absorption test

Stress relaxation test

Rubber rings shall be clearly labeled in bundles to indicate the type of ring, the type of joint, the size of the pipe with which they are to be used, the manufacturer's name and trade mark, the month and year of manufacture and the shelf life.

Mode of measurement and payments

The payment shall be as per payment schedule B.

ITEM NO:03

'Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.

For CC 1:2:4 or Asphalt Road.

1.0 General:

- 1.1 The excavation for trenches will generally, refers to open excavation for trenches in wet / dry conditions for pipe laying work.

2.0 Clearing of Sites:

- 2.1 The site on which the pipelines are to be laid and shown on plan and the area required for setting out and other operations shall be cleared and all obstruction loose stones and materials, rubbish of all kinds, stumps, brushwood as trees shall be removed as directed the roots shall be entirely grubbed up.
- 2.2 The products of the clearing to restacked in such a place and in such a manner, as directed by the engineer in charge.
- 2.3 All holes or hollows whether originally existing or produced by digging up roots, shall be carefully filled up with earth, well watered, well rammed leveled off, as may be directed.
- 2.4 The agency has to obtain necessary permission for diverting the traffic or public as per requirement from competent authority for carrying out the work.

3.0 Setting Out:

The center lines of all pipe trenches etc. shall be given by the Engineer-in-charge and it will be the responsibility of the contractor to install substantial reference marks, bench marks, etc. and maintain them as long as required true to line, level curve and slopes. The contractor shall assure full responsibility for alignment, and dimension of trench.

The labor materials etc. required for setting out and establishing benchmarks and other reference marks shall be arranged by the contractor at his own cost.

4.0 Excavation:

- 4.1 The excavation for the pipe trenches shall also include removal of all materials of whatever nature and whether wet or dry condition necessary for laying of pipelines exactly in accordance with alignment, levels grades and curves shown on the plans or as directed by the Engineer-in-charge. Trenches shall be excavated to the exact width and depth according to the size of pipe and the sides shall be left vertical as far as possible or according to the angle of repose of various soils. Unless there is a specific extra provision in the contract for shoring and strutting or for cutting side slopes the contractor shall at his own cost do the necessary shoring and strutting or cutting of slopes to the angle of repose or both approved by the Engineer-in-charge. The contractor shall notify the Engineer before starting excavation to enable him to take cross sectional levels for purpose of measurements before the ground is disturbed. The bottom of the trenches shall be leveled both longitudinally and transversely or slopped as directed by the Engineer. The contractor shall at his own cost to remove such portions of boulders or rocks, as are rectified to make the bottom of the trench level. No filling shall be allowed to bring the trench to level. If by contractor's mistake excavation is made deeper than shown on the plans and if ordered by the Engineer the extra depth shall have to be made with selected excavated stuff only with watering, ramming etc. as directed, by the Engineer and at the cost of the contractor. Other hard excavation shall be cleared of all sorts including loose materials and cut to firm surface, either level, stepped as directed by the Engineer. The Engineer may order such changes in the dimensions and alignment of pipe trench as may be deemed necessary to secure satisfactory cover over pipeline.

After each excavation is completed, the contractor shall notify the Engineer to that effect and no laying of pipeline will be allowed to be laid until Engineer has approved the depth and dimensions of trenches, level and measurements.

Excavation by the Use of Explosives:

Unless otherwise stated herein, I.S. Specification “IS: 4081: Safety Code for Blasting and IS 3764-1966 safety code of Excavation works and related Drilling Operations” shall be followed. As far as possible all blasting shall be completed prior to commencement of construction. At all stages of excavation, precautions shall be taken to preserve the rock below and beyond the lines specified for the excavation, in the soundest possible condition. The quantity and strength of explosives used shall be such as will neither damage nor crack the rock outside the limits of excavation. All precautions, as directed by Employer’s Representative, shall be taken during the blasting operations and care shall be taken that no damage is caused to adjoining buildings or structures as a result of blasting operations. In case of damage to permanent or temporary structures, Contractor shall repair the same to the satisfaction of Employer’s Representative at his cost. As excavation approaches its final lines and levels, the depth of the charge holes and amount of explosives used shall be progressively and suitably reduced.

The contractor shall obtain a valid Blasting License from the authorities concerned. No explosive shall be brought near the work in excess of quantity required for a particular amount of firing to be done; and surplus left after filling the holes shall be removed to the magazine. The magazine shall be built as away as possible from the area to be blasted. Employer’s Representative’s prior approval shall be taken for the location proposed for the magazine.

In no case shall blasting be allowed closer than 30 meters to any structure or to locations where concrete has just been placed. In the latter case the concrete must be at least 7 days old. Blasting for excavation in hard rock will only be allowed if permitted by competent authority otherwise shall be done with chiseling only.

For blasting operations, the following points shall be observed.

- i) Contractor shall employ a competent and experienced supervisor and licensed blaster in-charge of each set of operation, which shall be held personally responsible to ensure that all safety regulations are carried out.
- ii) Before any blasting is carried out, Contractor shall intimate Employer’s Representative and obtain his approval in writing for resorting to such operations. He shall intimate the hours of firing charges, the nature of explosive to be used and the precautions taken for ensuring safety.
- iii) Contractor shall ensure that all workmen and the personnel at site are excluded from an area within 200 m radius from the firing point, at least 15 minutes before firing time by sounding warning whistle. The area shall also be given a warning by sounding a distinguishing whistle.
- iv) The blasting of rock near any existing buildings, equipments or any other property shall be done under cover and Contractor has to make all such necessary muffling arrangements. Covering may preferably be done by MS plates with adequate dead weight over them. Blasting shall be done with small charges only and where directed by Employer’s Representative; a trench shall have to be cut by chiseling prior to the blasting operation, separating the area under blasting from the existing structures.
- v) The firing shall be supervised by a Supervisor and not more than 6 (six) holes at a time shall be set off successively. If the blasts do not tally with the number fired, the misfired holes shall be carefully located after half an hour and when located, shall be exploded by drilling a fresh hole along the misfired hole (but not nearer than 600 mm from it) and by exploding a new charge.
- vi) A wooden tamping rod with a flat end shall be used to push cartridges home and metal rod or hammer shall not be permitted. The charges shall be placed firmly into place and not rammed or pounded. After a hole is filled to the required depth, the balance of the hole shall be filled

- with stemming, which may consist of sand or stone dust or similar inert material.
- vii) Contractor shall preferably detonate the explosives electrically.
- viii) The explosives shall be exploded by means of a primer, which shall be fired by detonating a fuse instantaneous detonator (F.I.D) or other approved cables. The detonators with F.I.D. shall be connected by special nippers.
- ix) In dry weather and normal dry excavation, ordinary low explosive gunpowder may be used. In damp rock, high explosive like gelatin with detonator and fuse wire may be used. Underwater or for excavation in rock with substantial accumulated seepage electric detonation shall be used.
- x) Holes for charging explosives shall be drilled with pneumatic drills, the drilling pattern being so planned that rock pieces after blasting will be suitable for handling without secondary blasting.
- xi) When excavation has almost reached the desired level, hand trimming shall have to be done for dressing the surface to the desired level.
- xii) Any rock excavation beyond an over break limit of 75 mm shall be filled up as instructed by Employer's Representative, with concrete of strength not less than M10. Stopping in rock excavation shall be done by hand trimming.
- xiii) Contractor shall be responsible for any accident to workmen, public or Employer's property due to blasting operations. Contractor shall also be responsible for strict observance of rules, laid by Inspector of explosives, or any other Authority duly constituted under the State and / or Union Government as applicable at the place of excavation.

Stripping Loose Rock:

All loose boulders, detached rocks partially and other loose material which might move therewith not directly in the excavation but so close to the area to be excavated as to be liable, in the opinion of Employer's Representative, to fall or otherwise endanger the workmen, equipment, or the work shall be stripped off and removed from the area of the excavation. The method used shall be such as not to render unstable or unsafe the portion, which was originally sound and safe.

Any material not requiring removal in order to complete the permanent works, but which, in the opinion of Employer's Representative, is likely to become loose or unstable later, shall also be promptly and satisfactorily removed.

Classification of Strata:

The decision regarding, classification of strata shall rest with the Engineer in charge and his decision shall be final and binding to the contractor.

All the materials encountered in the excavation shall be classified as under:-

Ordinary soil and soft murrum:

These will include all materials of an earthy or sandy nature, which can be easily ploughed or small shingle, and gravel, which can be easily removed.

Hard murrum:

This shall include all kinds of disintegrated rock or shale or inundated clay which can be removed with a shovel without difficulty and which do not require blasting.

Soft rock:

This shall includes all materials which is rock or hard conglomerate, all decomposed and weathered rock, highly fissured rock old masonry and also soft rock boulders bigger than 1/2 cubic meter and other varieties of rock. Which do not require blasting and which can be removed with the pie crowbars wedges and hammer.

Hard rock:

This shall include rocks, occurring in masses, which could best be removed by chiseling.

5.0 Shoring and Strutting:

- 5.1 Shoring & strutting if required shall have to be carried out by the contractor, for which any extra charge will not be paid.

5.2 During excavation if water connections, sewage connections, telephone lines khalkuva (soak pits) etc. are damaged by the contractor, the same shall have to be restored by the contractor without any extra cost.

6.0 Protection:

6.1 The trenches shall be strongly fenced and red light signal shall be kept at night and arrangement of watchman to prevent accidents should be done. Sufficient care and protective measure shall be taken to see that the excavation shall not affect or damage the adjoining structure. The contractor shall be entirely responsible for any injury to life and damage to the properties etc. Necessary protection work such as guide ropes, crossing places, barricades, caution boards etc. shall be provided by the contractor.

7.0 The excavation in all sorts of soil, hard murrum, soft rock or hard rock or any type of soil shall have to be carried out up to the required depth by the agency

8.0 Disposal of Excavated Stuff:

8.1 No excavated stuff from trench are to be placed even temporarily nearer than 1.5 meter or greater distance up to 90 meter or as prescribed by the Engineer from the outer edge of trench. All excavated material will be the property of the owner. The rate of excavation includes sorting out of useful materials and stacking them separately as directed within specified lead. The excavated stuff suitable and useful for refilling or for other use shall be stacked at convenient places. The materials not useful in any way shall be disposed off as directed by the Engineer from the outer edge of trench.

8.2 The site should be cleared off on completion of work.

9.0 Additional Requirements:

9.1 At the joints of pipes, the trench shall be excavated to an additional depth of 15 cm. and width of 30 cm. And length of 15 cm. beyond the edge of collar on both the sides or as directed. The rate include for such extra excavation made at the joints. The trenches shall be excavated perfectly in straight line. The bottom of the trench shall be kept as per invert level or as directed. To maintain the proper slope the usual method of site rails and boning rods shall be adopted. The contractor shall have to provide and fix and maintain sight rails and boning rods without any extra cost.

If the contractor fails or makes delay to give hydraulic test of the pipe line laid in any of the section, without any genuine reason, he shall be responsible to get any part of the length trenches refill in such case (i.e. before testing) for safety of pedestrian and/or vehicular traffic as found necessary by the engineer-in-charge without any extra cost. If found necessary and directed by the Engineer-in-charge, the contractor shall have to excavate the refilled trenches, during hydraulic test without any extra cost.

At all road crossings, trenches shall be excavated only for half width of the road and pipe shall be laid. The other half shall be excavated only after back filling over the laid pipeline is done so as to make it suitable for the traffic. The contractor shall provide diversion when the pipeline is to be laid along the road as required and shall maintain the diversion or any part of it, without any extra cost. At all road crossings, the pipe shall be laid below the crest of road.

9.2 The contractor shall break the road surface by chiseling to the exact width and length as shown on the drawing or as directed by the Engineer-in-charge.
The excavated stuff shall be deposited in uniform layers to avoid mixing with other kind of materials at non-objectionable place or as directed by the Engineer-in-charge.

10.0 Measurement and Payment:

10.1 Payment shall be made as per actual work done. On M³Unit bases.

10.2 The rate for the item of excavation shall include the following unless and otherwise mentioned.
(a) Clearing of site

- (b) Setting out work including all materials and labour.
- (c) Providing and subsequently removing, shoring and strutting outing slopes etc.
- (d) Excavation and removal and staking of all excavated stuff as directed.
- (e) Necessary protection including labour materials equipment etc. ensure safety and protection against risk or accident.
- (f) Providing facilities for inspection and damage to property if caused during progress of work.
- (g) Compensation for injury to life and damage to property if caused during progress of work.
- (h) Restoring of water supply connections, sewer connections, telephone lines, khalkuva soak pits Septic Tank etc. if damaged by contractor without extra payment.
- (j) Clearing the site on completion of works directed by the Engineer.

11.0 Dewatering in all Sort of Soil.

During the excavation, if subsoil water is met with Contractor shall have to provide necessary equipment and laborers for dewatering the trenches/pits by bailing out water or water mixed with clay; if pumping out subsoil water is found to be necessary, Contractor shall provide sufficient number of pumps for the same. In both the above cases the excavation shall be done to the required level and the pipes shall be laid to proper alignment and gradient. Contractor shall also make necessary arrangement for the disposal of drained water to nearby storm water drain or in a pit if allowed by Owner/Engineer. In no case the water shall be allowed to spread over the adjoining area. Before discharging this water into public sewer/drain, Contractor shall take necessary permission from the local authorities.

ITEM NO:04

Lowering, Laying and Joining C. I. S & S Spun pipes suitable for tyton joints/ Mortarlined D. I. Pipes of various classes with C.I./M.S. specials of following diameters in propoer position, grade and alignment as directed by engineer in charge including hydraulic testing etc. complete. Tyton joint. 150mm Dia.

150 mm Dia di Pipe K-7

100 mm Dia di Pipe K-7

GENERAL:

The pipes & joints shall be procured, supplied by the Contractor at work site at his own cost. Every care shall be taken in carting them to site. During transportation any damage shall be occurring to pipes for fittings the replacement of pipes given by the contractor at his own cost.

The trenches shall be well leveled so that pipes are laid evenly among them. The pipes shall be fixed within two rubber rings to be supplied by department at the place shown in schedule A, if directed by the Engineer-in-charge or mentioned in item of schedule B. The specification for titan joints i.e. Rubber Rings shall be as per details specification material section.

The contractor shall make his own arrangement for obtaining permission for storing & stacking of pipes etc. from land boards whether they are Government, Municipal Local Bodies or Private land owner.

Every pipes before lowering into the trenches shall be got checked and thoroughly cleaned and the beds of the trenches shall be properly graded and leveled as required on the line, without any claim for extra cost whether it is required. The pipe shall be carefully lowered into the trenches with the help of a suitable type of chain pulley blocks, which shall first be approved by the Engineer-in-Charge. Each pipe shall be properly jacked and the spigot perfectly fixed into the socket. No jointing operation shall be started unless the gradients levels are approved by the Engineer-in-Charge or his representatives.

The pipes shall be laid complete in centerline ranged accurately by means of a string attached to both marked center of site rails and no deviation shall be permissible without the permission of Engineer-in-Charge. The pipe shall be laid in reasonably dry trenches and no circumstances on slushy bedding.

The pipes shall be brushed before lowering any laying or remove any soil or dirt etc. that may have accumulated.

The inside socket and outside of the spigot-shall be carefully cleaned. The pipe shall be lowered carefully with socket and toward and the flow of water or up till or as directed and spigot and should be carefully inserted into the socket and the space shall be filled with the joint.

Payment shall be as per payment schedule

TESTING OF WATER PIPES:

After each section of the pipeline has been completed it shall be tested for water tightness before being covered. The contractor shall at his own cost fill up water in pipe line and given necessary hydraulic test section by section and the pipe line shall stand the pressure which shall stand the pressure which shall exceed the working pressure by (a) 50% of the highest pressure in the section. (b) 30m whichever is less without showing any leakage or sweating anywhere in the pipes joints specials valves etc. if any defect are found the contractor shall be made good the same at his own cost.

Any leaking joints shall be made good and above test pressure in to be lowered gradually after satisfactory test is & over.

NAGAR PALIKA will not be able to provide water for testing of the pipelines & water containers of the project. This shall have to be managed by the contractor at his costs and risk.

The hydraulic test shall be given again if considered necessary by the Executive Engineer or his representative to show that no further leakages or sweating is there. The contractor shall have to make necessary arrangements for water testing as well as plugging the opening of pipes etc. as directed without claiming any extra cost. The pipelines shall be kept filled with water for a work lines shall be kept filled with water for a week or till it is situated for testing is done.

If the pipe lines are laid in detached sanctioned & not in continuous length due to any reasons such as non availability of specials or due to obstacle etc. The contractor shall see that no end of pipes length is kept open-ends are immediately covered up either by suitable blank flange or cap slug or by means of double layer gunny bags clothes tied properly by mild steel wire without any claim for extra-cost.

The rate shall be per meter of pipe line laid including all specials and fitting jointly etc. Cutting and waste shall not be paid separately. The length shall be measured not on the straight line and curves along the centre line over the pipe and specials correct up to 1 cm. Payment of untested section shall be made at 70% of the tendered rate. Remaining payment shall be made on giving satisfactory hydraulic test by the contractor. Payment for untested pipeline shall be made for maximum length of 1 km. in each size of pipeline.

Payment shall be as per payment schedule

ITEM NO:05

Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 20 mm Size.

The concrete shall be consisting of one part of cement three parts of sand and six parts of stone aggregate. The concrete shall be thoroughly mixed dry in spell batches and mixed

clean portable water properly so that every part of aggregate is uniformly coated with cement plaster.

The cement concrete must be laid gently so as not to be permit segregation of aggregate consolidation shall be rapidly carried out and sufficient labour shall be employed to permit the rolling spreading consolidation etc. being complete within short time and shall be finished neatly and care properly for 10 days. Completion of the work.

Cement

The cement shall be Portland cement manufactured as per I.S.S. 455/1967 (revised). The cement shall be stacked properly. The contractor shall see that sufficient quantity of cement is kept ready on site for the work of hand. The contractor shall also see that cement supplied shall be good quality. The cement shall be got tested in approved Govt. Laboratory with his own cost for various test of cement.

Sand

The sand shall sharp hard durable and free from the organic impurities sand shall be clean and shall not contain any lumps flaky particulars sulking or any other deleterious substances and shall be of good quality and got previously approved properly graded and shall be washed before use if necessary.

Excessive bulking of sand is not allowed and shall confirmation I.S.S.(revised) No.883/1970.

Metal

Metal shall be of black trap be salt or granite without skin or face coloring and shall be of best quality and previously approved by the Engineer in charge. The metal shall not contain any deleterious materials which may impair the quality of the concrete and shall conform to I.S.S.No.385/1970 (revised).

All metal before use in the work shall be well graded, thoroughly clean and washed if found necessary for various proportion of concrete shall be as under for R.C.C.

1:11/2:3	12MM TO 18 MM
1:2:4	12MM TO 18 MM
1:3:6	12MM TO 38 MM

Water

Water used in the all works shall be clean and potable and of quality as specified under B.R.C. of Indian part. VI section 5 clause 4.1.5. To 4.1.5 the arrangement for storing sufficient quality of water of site shall be made by the contractor at his own cost.

Mixing

The concrete shall nearly be mixed in a mechanical mixer. Mixing shall be continuous till there is uniform distribution of the material and the mass is uniform colour is consistency but in no case shall be mixing as done in the less than two minutes. The consolidation of concrete shall be done by the mixed.

Switched in immediately curing shall be done for a period not less than 14 days after the concrete is placed in position. The concrete cube of 15 cm x 15cm shall be taken and shall be got tested in the laboratory for its crushing strength at the contractor's cost. At least two samples of cubes for each day's work for the same proportion shall be taken.

Necessary register for the cube test register shall be maintained at the site of the work. Any unsatisfactory work carried out or the contractor shall have to be removed and redone without any extra payment.

The concrete surface on the removal of the work shall be finished with cement mortar 1:2 No extra payment shall be made for finishing the work. For small work like block pre cast RCC steps etc. Hand mixing may be allowed on request with 10% extra use of cement.

The general of the task of concrete work i.e. grading proportioning aggregate fines and course mixing placing remaining consolidation curing and removing for form work etc. shall be done as per the I.S.S. part I general 1370/1965 and part II 3370/1965.

Form Work

The form work shall be conform to the straight line dimensions as shown in the plan and constructed as to remain sufficiently rigid the placing the compacting of concrete and shall be sufficiently tight to prevent load liquid from the concreting. All rubbish parts particularly chipping showing of snow dust shall be removed from the interior of form before the concrete is placed and form work is contact with the concrete shall cleaned and thoroughly wetted or treated with oil and approved composition.

Care shall be taken that such approved composition is kept out of concrete with the reinforcement. In no circumstances shall forms trust until the concrete reaches strength of the set twice the stress to which the concrete may be subjected in the time of sticking and days of removal shall be specified in I.S. The form work shall be sufficiently strong and free from knots to with stand all the loads such as not concrete live impact load due to vibration etc.

The centering shall be got approved from the Engineer in charge before concreting. The form work shall be stripped off as per the instruction of the Engineer-in-charge. The current relevant ISS No shall be followed. The payment is made on M3 basis.

ITEM NO:06

'Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.

Filling in trenches for pipes and drains shall be commenced as soon as the joints of pipe and drains have been tested and passed. The backfilling material shall be properly consolidated taking due care so that no damage is caused to the pipes.

Where the trenches are excavated in soil, the filling from the bottom of the trench to the level of the center line of the pipe shall be done by hand compaction with selected approved earth in layers not exceeding 8 cm; backfilling above the level of the center line of the pipes shall be done with selected earth by hand compaction, or other approved means in layers not exceeding 15 cm.

In case of excavation of trenches in rock, the filling up to a level 30 cm above the top of the pipe shall be done with fine materials such as earth, murrum, etc. The filling up to the level of the centerline of the pipe shall be done by hand compaction in layers not exceeding 8 cm whereas the filling above the centerline of the pipe shall be done by hand compaction or approved means in layers not exceeding 15 cm. The filling from a level 30 cm above the top of the pipe to the top of the trench shall be done by hand or other approved mechanical methods with broken rock filling of size not exceeding 15 cm mixed with fine material as available to fill up the voids.

Filling of the trenches shall be carried out simultaneously on both sides of the pipe to avoid unequal pressure on the pipe.

Measurement and Payment

Payment shall be made on cubic meter basis of actual refilling done.

ITEM NO:07

Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.

Reinforcement bars to be used in RCC work shall have to be supplied by the contractor as per schedule-B. The rates include providing, cutting, bending, binding, hooking and placing in position including cost of binding wire. The bars shall be fusion bonded and epoxy coated. Depending upon the type of reinforcement steel proposed in design (i.e. M.S. or deformed etc.) the steel shall conform to relevant

ISS codes in practice. Contractor shall produce necessary test certificate in absence of which the steel bars shall be get tested by the Department at the contractor's cost. Steel bars shall be cut, bent up, hooked bound with wires and then placed in position as per approved drawing. The steel shall be got checked through Engineer-in-charge. Before any concrete is placed in formwork advance intimation shall be given to the Engineer-in-charge for this purpose. The steel shall be cleared of any dust or rust that might have been deposited on bars.

Reinforcement shall be accurately fixed and maintained firmly in the correct position by the use of blocks, spacers, chairs, binding wire etc. to prevent displacement during placing and compaction of concrete. The tied in place reinforcement shall be approved by the engineer-in charge prior to concrete placement. Spacers shall be of such materials and designs as will be durable, not lead to corrosion of the reinforcement and not cause scaling of the concrete cover. Binding wire shall be 16 gauge soft annealed wires. Ends of the binding wire shall be bent away from the concrete surface and in no case encroach into the concrete cover.

The rate shall be paid as per payment schedule.

Mode of Payment : As per schedule B.

ITEM NO:08

'Labour charges for Jointing in DI pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/Crane, dewatering machine, fuel, operator etc complete. (including cost of jointing material but excluding cost of pipe).'

For 150mm Dia Pipe.

For 100mm Dia Pipe.

Existing DI/CI/PVC /HDPE pipe lines is required to be jointed with new pipeline to start water supply. Jointing materials such as CI/DI/HDPE specials, CID joints etc. will be brought on site of work from departmental store. Specials will be supplied by the contractor as per supply item narrated in schedule-B. The rate includes carting of specials to the work site. The rate includes necessary excavation, dewatering of trenches and refilling the trench after completing the work including jointing materials if required for connecting pipeline.

The pipe shall be brushed throughout to remove any soil deposited or stone therein. If required cutting of pipes or specials shall be done in workman like manner and with proper tools. The cut and shall be made in line and level and finished like as original one, without any extra claim.

After arranging in proper alignment each pipe shall be properly checked and spigot and shall be perfectly fixed into the socket. Socket ends of all pipes shall face uphill irrespective of the direction of water flow, any deviation or either in plan or elevation of less than 11% angle shall usually be effected by laying the straight pipes round a flat curve of radius that the minimum thickness of lead at the face of the socket shall not be produced below 6m. or the opening between the spigot and socket increased beyond 12 mm at any point. The spigot shall be carefully centered into the socket by one or more laps of spun yarn. Sufficient yarn shall be forced into the socket to lease a depth for leads as shown in IS as per abstract attached herewith. After inserting specials in pipeline, the same will be fitted as per instruction of engineer in charge. After completing the jointing work, the joint will be tested for water tightness before being covered through excavated stuff.

Excavated stuff will be used for refilling and job work includes all necessary material and

labour required to connect pipeline. The size of pipe will be considered as main line connected with branch.

The rate shall be paid per no. of completed work.

ITEM NO:09

Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.

Electric/Telephone Cable

Details specification same as per item description and as directed by Engineer-in-charge.

ITEM NO:10

'Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- Crushed stone aggregates 40 mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth

1.0. Materials:

1.1. Water:

Water shall not be salty brackish and shall be clean, reasonably clear and free objectionable quantities of silt and traces of oil and injurious alkalis, salts, organic matter and other deleterious material which will either weaken the mortar of concrete or cause efflorescence or attack the steel in R.C.C. Potable water will generally found suitable for curing, mortar or concrete.

1.2 Sand:

Sand shall be natural sand, clean, well graded hard strong, durable and gritty particles free from injurious amounts of dust, clay kankar nodules, soft or flaky particles shale, alkali salts organic matter, loam, mica or other deleterious substances and shall be got approved from the Engineer-in-Charge. 29

1.3 Stone Aggregate:

Coarse aggregate shall be of machine crushed stone of black trap or equivalent and be hard strong, dense, durable, clean and free from skin and coating likely to prevent proper adhesion of mortar.

The aggregate shall generally be cubical in shape unless special stones of particular quarries are mentioned. Aggregates shall be machine crushed from the best black trap or equivalent hard stone as approved. Aggregate shall have no deleterious reaction with cement. The size of the coarse aggregate for plain cement and ordinary reinforced cement concrete shall be generally as per IS 456.

1.4 Cement:

Cement shall be ordinary Portland slag cement as per I.S.269-1976 or Portland slag cement as per I.S. 455-1976

2.0 Workmanship:

2.1 General:

Before starting concrete bed of foundation trenches shall be cleared of all loose materials, levelled, watered and rammed as directed.

2.2 Proportion of Mix:

The Proportion of cement, sand and coarse aggregate shall be one part of cement, 3 parts of sand, 6 parts

of stone aggregates and shall so measured by volume.

2.3 Mixing:

The concrete shall be mixed in a mechanical mixer at the site of work. Hand mixing may however be allowed for smaller quantity of work if approved by the Engineer-in-charge. When hand mixing is permitted by the engineer-in-charge in case of break-down of machineries and in the interest of the work, it shall be carried out on a water tight platform and care shall be taken to ensure that mixing is continued until the mass is uniform in colour and consistency. However such cases 10% more cement than otherwise required shall have to be used without any extra cost. The mixing in mechanical mixer shall be done for a period 1 to 2 minutes. The quantity of water shall be sufficient to produce a dense concrete of required workability for the purpose.

2.4 Transporting & placing the concrete:

The concrete shall be handled from the place of mixing to the final position in not more than 15 minutes by the method s directed and shall be placed into its final position, compacted and finished within 30 minutes of mixing with water i.e. before the setting commences. The concrete shall be laid in layers of 15 cms to 20 cms.

2.5 Compacting:

The concrete shall be rammed with heavy iron rammers and rapidly to get the required compaction and allow all the interstices to be filled with mortar.

2.6 Curing:

After the final set, the concrete shall be kept continuously wet, if required by ponding for a period of not less than 7 days from the date of placement.

3.0 Mode of measurement and Payment:

The concrete shall be measured for its length breadth and depth, limiting dimensions to those specified on plan or as directed. The rate shall be paid per Cum basis.

ITEM NO:11

Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.

1.0. Materials

- 1.1. Water shall conform to M-1. Cement shall conform to M-3. Sand shall conform to M-6. Grit shall conform to M-8. Coarse aggregate shall conform M-12.
- 1.2. The shuttering to be provided shall be of ordinary timber plank and shall conform to M-26.
- 1.3. The dimensions of scantlings and battens shall conform to the design. The strength of the wood shall not be less than that assumed in the design.

2.0. General

- 2.1. The concrete mix shall be designed from preliminary tests. The proportion of the concrete mix shall be 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm. nominal size) by volume concrete work shall have exposed concrete surface or as specified in the item.

- 2.2.** The proportioning of cement and aggregates shall be done by weight and necessary precautions shall be taken in the production to ensure that the required work cube strength is attained and maintained. The controlled concrete shall be in grades of M-100, M-150, M-200, M-250, M-300, M-350 & M-400 with prefix controlled added to it. The letter M refers to mix and the numbers specify 28 days works cube compressive strength of 150 mm. cubes of the mix expressed in Kg./cm.
- 2.3.** The proportion of cement, sand and coarse aggregate shall be determined of weight. The weigh batch machine shall be used for maintaining proper control over the proportion of aggregates as per mix design. The strength requirements of different grades of concrete shall be as under:

**Grade of Concrete Compressive strength of 15 cms. cubes in kg/cmt. at
28 days, conducted in accordance with I.S. 516-1959.**

Preliminary test Min.	Work Test Min.	
M 150	200	150
M 200	260	200
M 250	320	250
M 300	380	300
M 350	440	350
M 400	500	400

In all cases, the 28 days compressive strength specified in above be the criteria for acceptance or rejection of the concrete. Where the strength of a concrete mix as indicated by tests, lies in between the strength of any two grades specified in the above table, such concrete shall be classified in for purpose as concrete belonging to the lower of the grades betweenwhich its strength lies.

3.0. Workmanship

- 3.1.** The proportions for ingredients chosen shall be such that concrete has adequate workability for conditions prevailing on the work question and can be property compacted with means available except where it can be shown to the satisfaction of the Engineer-in-charge, that supply of properly graded aggregate of uniform quality can be maintained till the completion of work, grading of aggregate shall be controlled by obtaining the coarse aggregates in different sizes and bending them in the right proportions as required. Aggregates of different sizes shall be stocked in separate stock piles. The required quantity of material shall be stock piled several hours, preferably a day before use. The grading of coarse and fine aggregate shall be checked as frequently as possible, the frequency for a given job being determined by Engineer-in-charge to ensure that the suppliers are maintaining the uniform grading as approved for samples used in the preliminary tests.
- 3.2.** In proportioning concrete, the quantity of both cement and aggregate shall be determined by weight. Where the weight of cement is determined by accepting the maker's weight per bag, a reasonable number of bags shall be weighted separately to check the net weight. Where cement is weighted form bulk stocks at site and not by bags, it shall be weighed separately from the aggregate. Water, shall either be measured by volume in calibrated tanks or weighed. All measuring equipment shall be maintained in clean and serviceable condition. Their accuracy shall

be periodically checked.

- 3.3.** It is most important to keep the specified water cement ratio constant and at its correct value. To this end, moisture content in both fine and coarse aggregates shall be determined by the Engineer-in-charge according to the weather conditions. The amount of mixing water shall then be adjusted to compensate for variations in the moisture content. For the determination of moisture content in the aggregates I.S. 2386 (Part-III) shall be referred to. Suitable adjustments shall also be made in the weights of aggregates due to variation in their moisture content. Minimum quantity of cement to be used in controlled concrete shall not be less than 220 kg./m³ in plain concrete and not less than 250 kg/m³ in reinforced concrete.

- 3.4** The form work shall conform to the shape lines and dimensions as shown on the plans and be constructed as to remain sufficiently rigid during the placing and compacting of the concrete. Adequate arrangements shall be made by the contractor to safe-guard against any settlement of the form-work during the course of concreting and after concreting. The form work of shuttering, centering, scaffolding, bracing etc. shall be as per design.

4.0. Clearing and Treatment of forms:

- 4.1.** All rubbish, particularly chipping shaving and saw dust shall be removed from the interior of the form before the concrete work is placed and the-form in contact with concrete shall be cleaned and thoroughly wetted or treated. The surface shall be then coated with soap solution applied before concreting is done. Soap solution for the purpose shall be prepared by dissolving yellow soap in water to get consistency of paint. Alternatively a coat of raw linseed oil shall be applied after thoroughly cleaning the surface. Care shall be taken that the coating does not get on construction joint surface and reinforced bars..

5.0 Stripping time:

- 5.1.** In normal circumstances and where ordinary cement is used forms may be struck after expiry of following periods.

(a) Sides of walls columns and vertical faces of beams.....24 to 48 hours.

(b) Beam soffits, (props, left under).....7 days.

(c) Removal of props slabs:

(i) Slabs spanning up to 4.5. m.....7 days.

(ii) Spanning over 4.5 m.....14 days.

(d) Removal of props to beams and Arches:

(i) Spanning up to 6 m.....14 days.

(ii) Spanning over 6 m.....21 days.

6.0 Procedure when removing the form work :

- 6.1.** All form work shall be removed without such shock or vibrations as would damage the reinforced concrete surface. Before the soffits form work and struts are removed, the soffits and the concrete surface shall be exposed where necessary in order to ascertain that the concrete has sufficiently hardened.

7.0 Centering:

- 7.1. The centering to be provided shall be got approved. It shall be sufficiently strong to ensure absolute safety of the form work and concrete work before, during and after pouring concrete. Watch should be kept to see that behavior or centering and form work is satisfactory during concreting. Erection should also be such that it would allow removal of forms in proper sequence without damaging either the concrete or the forms to be removed.
- 7.2. The props of centering shall be provided on firm foundation or base of sufficient strength to carry the loads without any settlement.
- 7.3. The centering and form work shall, be inspected and approved by the Engineer-in-charge before concreting. But this will not relieve the contractor of his responsibility for strength, adequacy and safety of form work and centering. If there is a failure of form work or centering, contractor shall be responsible for the damages to property.

8.0 Scaffolding:

- 8.1. All scaffolding, hoisting arrangements and ladders etc. required for the facilitating of conceding shall be provided and removed on completion of work by contractor at his own expense. The scaffolding, hoisting arrangements and ladders etc. shall be strong enough to with stand all live, dead and impact loads expected to act and shall be subject to the approval of the Engineer-in-charge. However contractor shall be solely responsible for the safety of the scaffolding, hoisting arrangement, ladders, work and workman etc.
- 8.2. The scaffolding, hoisting arrangements and ladder shall allow easy approach to the work spot and afford easy inspection.
- 8.3. The rate is applicable to all condition of working and height up to 4 mts. The rate shall include the cost of materials and labour for various operations involved such as :
 - (a) Splayed edges, notching, allowance for overlaps and passing at angles, battens centering, shuttering propping, bolting, wedging easing, striking and removal.
 - (b) Filleting to form stop chamfered edges or splayed external angles not exceeding 20 mm: width to beams, columns and the like.
 - (c) Temporary openings in the forms for pouring concrete, if required removing rubbish etc.
 - (d) Dressing with oil to prevent adhesion of concrete with shuttering and.
 - (e) Raking or circular cutting.

9.0 Re-Use:

- 9.1. Before re-use, all form shall be inspected by Engineer-in-charge and their suitability ascertained. The forms shall be scarred, cleaned and joints are gone over, repaired where required. Inside surface shall be retreated to prevent adhesion of concrete.

10.0. Mode of measurement & payment

- 10.1. The consolidated cubical contents of concrete work as specified in item shall be measured. No deduction shall be made for
 - (a) Ends of dissimilar materials such as joints, beams, posts, girders, falters, purling trusses, corbels and steps etc. up to 500 Sq, Cm. in section.

- 10.2.** Form work shall be measured as the area in square meters to shuttering in contact with concrete except in the case of inclined member and portion of curved profile and upper side in which case on area of underside shall be measured for payment.
- 10.3.** Form work to secondary beams shall be measured up to the sides of main beams but no deduction shall be made from the form work of the main beam at the inter section point. No deduction shall be made from the form work of a column at inter section of beams.
- 10.4.** The rate includes cost of all materials labour, tools and plant required for mixing, placing in position, vibrating and compacting, finishing, as directed, curing and all other incidental expenses for producing concrete of specified strength. The rate includes the cost of form work.
- 10.5.** The rate shall be for a unit of **one cubic meter**.

DOMESTIC HOUSE CONNECTIONS.

ITEM NO:1

Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.

1.0. Materials

- 1.1.** The pipes shall be standard I.S.I. mark U.P.V.C. pipe (SCH-40) of specified dia.
- 1.2.** The fittings, clamps etc. required for specified dia. bore pipes shall be of best quality and makes as approved by the Engineer-in-charge. Necessary accessories with inner / outer brass thread shall be used as required and instruction by Engineer in charge.

2.0. Workmanship

2.1. Cutting, Laying & Jointing

- 2.1.1.** When the tubes are to be cut or rethreaded, the ends shall be carefully filed out so that no obstruction to bore is offered. The ends of the tubes shall then be threaded conforming to the requirements of I.S. 554-1955 with pipe dies and taps carefully in such a manner that it will not result in slackness of joints when the two pieces are screwed together.
- 2.1.2.** The taps and dies shall be used only for straightening screw threads which have become bent or damaged and shall not be used for turning of the threads so as to make them slack as the latter procedure may not result in the water tight joint. The screw threads for tube and fitting shall be protected from edge until they are fitted.
- 2.1.3.** In jointing the trenches, the inside of the socket and the screwed end of the tubes shall be oiled and smeared with white or red lead and wrapped around with a few turns of fine spun yarn round the screwed end of the tube. The end shall then be tightly screwed in the socket, tees, etc. with a pipe wrench. Care shall be taken that all times free from dust and dirt during fixing. But from the joints shall be removed after screwing. After laying the open ends of the pipes shall be temperately plugged to prevent access of water, soil, or any other foreign matter. Jointing shall be carried out with proper chemical adhesive material and allow to dry.
- 2.1.4.** Any threads exposed after jointing shall be painted or in the case of underground piping thickly coated with approved anti-corrosive paint to prevent corrosion.

2.2. Fixing in trenches

- 2.2.1.** In case of fixing in trenches, these shall run on the surface or in trenches unless otherwise specified. The fixing shall be done by means of standard pattern, holder clamps keeping the pipes about 15 mm. clear of the wall. When it is found necessary to pattern, holder clamps keeping the pipes about 15 mm. clear of the wall. When it is found necessary to conceal the pipes and when specified so, chasing may be adopted or pipe fixed in ducts or recesses etc. provided that there is sufficient space to work on the pipe with usual tools. The pipe shall not ordinarily be buried in walls

or solid floors, where unavoidable, pipe may be buried for short distances provided that adequate protection is given against damage and where so required joints are not buried. Where required M.S. tube sleeve shall be fixed at a place a pipe is peasant through a wall or floor for expansion and contraction and other movements. In case the pipe is embedded in trenches, it should be painted with anti-corrosive bitumastic paint of approved quality. The pipe should not come in contact with lime mortar or lime concrete as the pipe is affected by lime. Under the floors, the pipe shall be laid in layer of sand filling.

- 2.2.2.** All pipes and fittings shall be fixed truly vertical and horizontal unless unavoidable. The pipes shall be fixed to walls with standard pattern clamps of required size and shape, one end of which shall be properly plugged or cemented into walls with cement mortar 1:3 (1 cement : 3 coarse sand) and the other tightened round the pipes to hold it securely. These clamps shall be spaced at regular intervals in straight lengths at 2 MC/C interval in horizontal run and 2.5 m. interval in vertical run. For pipe of 15 mm. dia. up to 25 mm. dia the holes in the trenches shall be made by drilling with chisel or jumper and not by dismantling the brick work or concrete. However for bigger diameter pipes the holes shall be carefully made (1 cement : 3 coarse sand), and properly finished to match the adjacent surface.

2.3. Testing of joints :

- 2.3.1.** After laying and jointing, the pipes and fillings shall be inspected under working conditions of pressure and flow. Any joints found liken shall be redone, and ail leaking pipes removed and replaced without extra cost.
- 2.3.2.** The pipes and fittings after they are laid shall be tested to hydraulic pressure of 6 Kg./Sq cm. The pipe shall be slowly and carefully charged with water allowing all air to escape and avoiding all shocks and water hammer. The draw off takes and stop cock shall then be closed and specified hydraulic pressure shall be applied gradually. The pressure gauge must be accurate. The pipes and fittings shall be tested in sections as the work laying proceeds, keeping, the joints exposed for inspection during the testing.

3.0. Mode of measurements and payment

- 3.1.** The description of the item shall, unless otherwise stated be held to include where necessary conveyance and delivery, handling, unloading, storing fabrication, hoisting, all labour for finishing to required shape and size, setting, fitting in position straight, cutting and waste return of packing etc.
- 3.2.** The length shall be measured on running meter basis of finished work. The length shall be taken along the centre line of the pipe and fittings. The pipes fixed in trenches etc. shall be measured and paid under this item.
- 3.3.** All the work shall be measured in decimal system as fixed in its place, subject to tolerance given below unless otherwise stated.
- (i) Dimension shall be measured to the nearest 0 01 meter.
- (ii) Area shall be worked out to the nearest 0.01 sq. meter.
- 3.4.** All measurements of cutting shall unless otherwise stated by held to include the consequent waste.

- 3.5. In case of fitting of unequal bore, the targets bore shall be measured for the test.
- 3.6. Testing of pipe lines fittings, and joints include for providing all plant appliances necessary for obtaining access to the work to be tested and carrying out the tests.
- 3.7. The rate includes U.P.V.C. pipe (SCH-40) with screwed socket joints to gather with all fittings (such as bends, sockets springs, elbows, test, crosses, short pieces, clamps and plugs, unions etc.) and fixing complete with clamping wall hooks, wooden plug etc. and also curing, screwing and waste and for making forged (or hand made) bends on piping as required. Connector shall be inserted where required or directed. The rate also includes cutting through walls, floors etc. and their making good and painting exposed threads with anti-corrosive paint as above and testing where tubes are to be fixed in trenches, the rates shall not include painting of pipes, providing sleeves and sand filling under floor for which separate payment shall be made.
- 3.8. The rate shall be for a unit of one running meter.

ITEM NO:2

Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum

OR

ITEM NO:3

In Hard murrum, boulders including Macadam road

1.1 General

- 1.1 The excavation for trenches will generally, refers to open excavation for trenches in wet / dry conditions for pipe laying work.

2.0 Clearing of Sites:

- 2.1 The site on which the pipelines are to be laid and shown on plan and the area required for setting out and other operations shall be cleared and all obstruction loose stones and materials, rubbish of all kinds, stumps, brushwood as trees shall be removed as directed the roots shall be entirely grubbed up.
- 2.2 The products of the clearing to restacked in such a place and in such a manner, as directed by the engineer in charge.
- 2.3 All holes or hollows whether originally existing or produced by digging up roots, shall be carefully filled up with earth, well watered, well rammed leveled off, as may be directed.
- 2.4 The agency has to obtain necessary permission for diverting the traffic or public as per requirement from competent authority for carrying out the work.

3.0 Setting Out:

The center lines of all pipe trenches etc. shall be given by the Engineer-in-charge and it will be the responsibility of the contractor to install substantial reference marks, bench marks, etc. and maintain them as long as required true to line, level curve and slopes. The contractor shall assure full responsibility for alignment, and dimension of trench.

The labor materials etc. required for setting out and establishing benchmarks and other reference marks shall be arranged by the contractor at his own cost.

4.0 Excavation

- 4.1 The excavation for the pipe trenches shall also include removal of all materials of whatever nature and whether wet or dry condition necessary for laying of pipelines exactly in accordance with alignment,

levels grades and curves shown on the plans or as directed by the Engineer-in-charge. Trenches shall be excavated to the exact width and depth according to the size of pipe and the sides shall be left vertical as far as possible or according to the angle of repose of various soils. Unless there is a specific extra provision in the contract for shoring and strutting or for cutting side slopes the contractor shall at his own cost do the necessary shoring and strutting or cutting of slopes to the angle of repose or both approved by the Engineer-in-charge. The contractor shall notify the Engineer before starting excavation to enable him to take cross sectional levels for purpose of measurements before the ground is disturbed. The bottom of the trenches shall be leveled both longitudinally and transversely or slopped as directed by the Engineer. The contractor shall at his own cost to remove such portions of boulders or rocks, as are rectified to make the bottom of the trench level. No filling shall be allowed to bring the trench to level. If by contractor's mistake excavation is made deeper than shown on the plans and if ordered by the Engineer the extra depth shall have to be made with selected excavated stuff only with watering, ramming etc. as directed, by the Engineer and at the cost of the contractor. Other hard excavation shall be cleared of all sorts including loose materials and cut to firm surface, either level, stepped as directed by the Engineer. The Engineer may order such changes in the dimensions and alignment of pipe trench as may be deemed necessary to secure satisfactory cover over pipeline.

After each excavation is completed, the contractor shall notify the Engineer to that effect and no laying of pipeline will be allowed to be laid until Engineer has approved the depth and dimensions of trenches, level and measurements.

Excavation by the Use of Explosives

Unless otherwise stated herein, I.S. Specification "IS: 4081: Safety Code for Blasting and IS 3764-1966 safety code of Excavation works and related Drilling Operations" shall be followed. As far as possible all blasting shall be completed prior to commencement of construction. At all stages of excavation, precautions shall be taken to preserve the rock below and beyond the lines specified for the excavation, in the soundest possible condition. The quantity and strength of explosives used shall be such as will neither damage nor crack the rock outside the limits of excavation. All precautions, as directed by Employer's Representative, shall be taken during the blasting operations and care shall be taken that no damage is caused to adjoining buildings or structures as a result of blasting operations. In case of damage to permanent or temporary structures, Contractor shall repair the same to the satisfaction of Employer's Representative at his cost. As excavation approaches its final lines and levels, the depth of the charge holes and amount of explosives used shall be progressively and suitably reduced.

The contractor shall obtain a valid Blasting License from the authorities concerned. No explosive shall be brought near the work in excess of quantity required for a particular amount of firing to be done; and surplus left after filling the holes shall be removed to the magazine. The magazine shall be built as a way as possible from the area to be blasted. Employer's Representative's prior approval shall be taken for the location proposed for the magazine.

In no case shall blasting be allowed closer than 30 meters to any structure or to locations where concrete has just been placed. In the latter case the concrete must be at least 7 days old. Blasting for excavation in hard rock will only be allowed if permitted by competent authority otherwise shall be done with chiseling only.

For blasting operations, the following points shall be observed.

- i) Contractor shall employ a competent and experienced supervisor and licensed blaster in-charge of each set of operation, which shall be held personally responsible to ensure that all safety regulations are carried out.
- ii) Before any blasting is carried out, Contractor shall intimate Employer's Representative and obtain his approval in writing for resorting to such operations. He shall intimate the hours of firing charges, the nature of explosive to be used and the precautions taken for ensuring safety.
- iii) Contractor shall ensure that all workmen and the personnel at site are excluded from an area within 200 m radius from the firing point, at least 15 minutes before firing time by sounding warning whistle. The area shall also be given a warning by sounding a distinguishing whistle.
- iv) The blasting of rock near any existing buildings, equipments or any other property shall be done under cover and Contractor has to make all such necessary muffling arrangements. Covering may preferably be done by MS plates with adequate dead weight over them. Blasting shall be done with small charges only and where directed by Employer's Representative; a trench shall

- have to be cut by chiseling prior to the blasting operation, separating the area under blasting from the existing structures.
- v) The firing shall be supervised by a Supervisor and not more than 6 (six) holes at a time shall be set off successively. If the blasts do not tally with the number fired, the misfired holes shall be carefully located after half an hour and when located, shall be exploded by drilling a fresh hole along the misfired hole (but not nearer than 600 mm from it) and by exploding a new charge.
 - vi) A wooden tamping rod with a flat end shall be used to push cartridges home and metal rod or hammer shall not be permitted. The charges shall be placed firmly into place and not rammed or pounded. After a hole is filled to the required depth, the balance of the hole shall be filled with stemming, which may consist of sand or stone dust or similar inert material.
 - vii) Contractor shall preferably detonate the explosives electrically.
 - viii) The explosives shall be exploded by means of a primer, which shall be fired by detonating a fuse instantaneous detonator (F.I.D) or other approved cables. The detonators with F.I.D. shall be connected by special nippers.
 - ix) In dry weather and normal dry excavation, ordinary low explosive gunpowder may be used. In damp rock, high explosive like gelatin with detonator and fuse wire may be used. Underwater or for excavation in rock with substantial accumulated seepage electric detonation shall be used.
 - x) Holes for charging explosives shall be drilled with pneumatic drills, the drilling pattern being so planned that rock pieces after blasting will be suitable for handling without secondary blasting.
 - xi) When excavation has almost reached the desired level, hand trimming shall have to be done for dressing the surface to the desired level.
 - xii) Any rock excavation beyond an over break limit of 75 mm shall be filled up as instructed by Employer's Representative, with concrete of strength not less than M10. Stopping in rock excavation shall be done by hand trimming.
 - xiii) Contractor shall be responsible for any accident to workmen, public or Employer's property due to blasting operations. Contractor shall also be responsible for strict observance of rules, laid by Inspector of explosives, or any other Authority duly constituted under the State and / or Union Government as applicable at the place of excavation.

Stripping Loose Rock

All loose boulders, detached rocks partially and other loose material which might move therewith not directly in the excavation but so close to the area to be excavated as to be liable, in the opinion of Employer's Representative, to fall or otherwise endanger the workmen, equipment, or the work shall be stripped off and removed from the area of the excavation. The method used shall be such as not to render unstable or unsafe the portion, which was originally sound and safe.

Any material not requiring removal in order to complete the permanent works, but which, in the opinion of Employer's Representative, is likely to become loose or unstable later, shall also be promptly and satisfactorily removed.

Classification of Strata:

The decision regarding, classification of strata shall rest with the Engineer in charge and his decision shall be final and binding to the contractor.

All the materials encountered in the excavation shall be classified as under:-

Ordinary soil and soft Murom:

These will include all materials of an earthy or sandy nature, which can be easily ploughed or small shingle, and gravel, which can be easily removed.

Hard Murom:

This shall include all kinds of disintegrated rock or shale or inundated clay which can be removed with a shovel without difficulty and which do not require blasting.

Soft rock:

This shall include all materials which is rock or hard conglomerate, all decomposed and weathered rock, highly fissured rock old masonry and also soft rock boulders bigger than 1/2 cubic meter and other varieties of rock. Which do not require blasting and which can be removed with the pie crowbars wedges and hammer?

Hard rock:

This shall include rocks, occurring in masses, which could best be removed by chiseling.

5.0 Shoring and Strutting:

- 5.1 Shoring & strutting if required shall have to be carried out by the contractor, for which any extra charge will not be paid.
- 5.2 During excavation if water connections, sewage connections, telephone lines khalkuva (soak pits) etc. are damaged by the contractor, the same shall have to be restored by the contractor without any extra cost.

6.0 Protection

- 6.1 The trenches shall be strongly fenced and red light signal shall be kept at night and arrangement of watchman to prevent accidents should be done. Sufficient care and protective measure shall be taken to see that the excavation shall not affect or damage the adjoining structure. The contractor shall be entirely responsible for any injury to life and damage to the properties etc. Necessary protection work such as guide ropes, crossing places, barricades, caution boards etc. shall be provided by the contractor.

- 7.0 The excavation in all sorts of soil, hard Murom, soft rock or hard rock or any type of soil shall have to be carried out up to the required depth by the agency

8.0 Disposal of Excavated Stuff

- 8.1 No excavated stuff from trench are to be placed even temporarily nearer than 1.5 meter or greater distance up to 90 meter or as prescribed by the Engineer from the outer edge of trench. All excavated material will be the property of the owner. The rate of excavation includes sorting out of useful materials and stacking them separately as directed within specified lead. The excavated stuff suitable and useful for refilling or for other use shall be stacked at convenient places. The materials not useful in any way shall be disposed off as directed by the Engineer from the outer edge of trench.
- 8.2 The site should be cleared off on completion of work.

9.0 Additional Requirements

- 9.1 At the joints of pipes, the trench shall be excavated to an additional depth of 15 cm. and width of 30 cm. And length of 15 cm. beyond the edge of collar on both the sides or as directed. The rate include for such extra excavation made at the joints. The trenches shall be excavated perfectly in straight line. The bottom of the trench shall be kept as per invert level or as directed. To maintain the proper slope the usual method of site rails and boning rods shall be adopted. The contractor shall have to provide and fix and maintain sight rails and boning rods without any extra cost.

If the contractor fails or makes delay to give hydraulic test of the pipe line laid in any of the section, without any genuine reason, he shall be responsible to get any part of the length trenches refill in such case (i.e. before testing) for safety of pedestrian and/or vehicular traffic as found necessary by the engineer-in-charge without any extra cost. If found necessary and directed by the Engineer-in-charge, the contractor shall have to excavate the refilled trenches, during hydraulic test without any extra cost,

At all road crossings, trenches shall be excavated only for half width of the road and pipe shall be laid. The other half shall be excavated only after back filling over the laid pipeline is done so as to make it suitable for the traffic. The contractor shall provide diversion when the pipeline is to be laid along the road as required and shall maintain the diversion or any part of it, without any extra cost. At all road crossings, the pipe shall be laid below the crest of road.

- 9.2 The contractor shall break the road surface by chiseling to the exact width and length as shown on the drawing or as directed by the Engineer-in-charge.

The excavated stuff shall be deposited in uniform layers to avoid mixing with other kind of materials at non-objectionable place or as directed by the Engineer-in-charge.

10.0 Measurement and Payment

- 10.1 Payment shall be made as per actual work done. On cu mt. unit bases

- 10.2** The rate for the item of excavation shall include the following unless and otherwise mentioned.
- (a)** Clearing of site
 - (b)** Setting out work including all materials and labor.
 - (c)** Providing and subsequently removing, shoring and strutting outing slopes etc.
 - (d)** Excavation and removal and staking of all excavated stuff as directed.
 - (e)** Necessary protection including labor materials equipment etc. to ensure safety and protection against risk or accident.
 - (f)** Providing facilities for inspection and damage to property if caused during progress of work.
 - (g)** Compensation for injury to life and damage to property if caused during progress of work.
 - (h)** Restoring of water supply connections, sewer connections, telephone lines, khalkuva Soak pits Septic Tank etc. if damaged by contractor without extra payment.
 - (j)** Clearing the site on completion of works directed by the Engineer.

ITEM NO:4

Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed

General:

All fill material shall be subject to the Employer's Representative's approval. If any material is rejected by Employer's Representative, the Contractor shall remove the same forthwith from the site. Surplus fill material shall be deposited/disposed off as directed by Employer's Representative after the fill work is completed. No earth fill shall commence until surface water discharges and streams have been properly intercepted or otherwise dealt with to the approval of the Employer's Representative.

Material To the extent available, selected surplus spoil from excavations shall be used as backfill. Backfill material shall be free from lumps, organic or other foreign material. All lumps of earth shall be broken or removed. Where excavated material is mostly rock, the boulders shall be broken into pieces not larger than 150 mm size, mixed with properly graded fine material consisting of murrum or earth to fill the voids and the mixture used for filling. If fill material is required to be imported, the Contractor shall make arrangements to bring such material from outside borrow pits. The material and source shall be subject to the prior approval of the Employer's Representative. The approved borrow pit areas shall be cleared of all bushes, roots of trees, plants, rubbish, etc. Topsoil containing foreign material shall be removed. The materials so removed shall be disposed of as directed by Employer's Representative. The Contractor shall provide the necessary access roads to borrow areas and maintain the same if such roads do not exist.

Filling in Trenches

Filling in trenches for pipes and drains shall be commenced as soon as the joints of pipe and drains have been tested and passed. The backfilling material shall be properly consolidated taking due care so that no damage is caused to the pipes. Where the trenches are excavated in soil, the filling from the bottom of the trench to the level of the center line of the pipe shall be done by hand compaction with selected approved earth in layers not exceeding 8 cm; backfilling above the level of the center line of the pipes shall be done with selected earth by hand compaction, or other approved means in layers not exceeding 15 cm. In case of excavation of trenches in rock, the filling up to a level 30 cm above the top of the pipe shall be done with fine materials such as earth, murrum, etc. The filling up to the level of the centerline of the pipe shall be done by hand compaction in layers not exceeding 8 cm whereas the filling above the centerline of the

pipe shall be done by hand compaction or approved means in layers not exceeding 15 cm. The filling from a level 30 cm above the top of the pipe to the top of the trench shall be done by hand or other approved mechanical methods with broken rock filling of size not exceeding 15 cm mixed with fine material as available to fill up the voids. Filling of the trenches shall be carried out simultaneously on both sides of the pipe to avoid unequal pressure on the pipe.

ITEM NO:5

Cutting of Road: In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting

Details specification same as per item description and as directed by Engineer-in-charge.

ITEM NO:6

Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.

The concrete shall be consist of one part of ordinary Portland cement confirming to IS 269-1976 Three parts of well graded angular best quality river sand free of dust and organic matter and size 1 mm. To 3 mm and Six parts of approved quality black trap kapachi of size 12 mm to 25 mm. All C.C. work shall be carried out as per I.S.S. regulations and as per standing practice and ordered prevailing in PWD. All the items are to be carried out as per details supplied and as required and directed by the engineer in charge or his authorized agencies. The work will have to be strictly as per approved design and as directed by the engineer in charge.

Aggregate

The course aggregate and the fine aggregate for the concrete shall be hard, clean, tough & durable and shall e free from all deleterious matter such as dust, lump of clay, soft & flaxy pieces, shale alkali, organic matter.

The materials shall be got approved by the Engineer-In-Charge or his agent.

The proportion of course and fine aggregate shall be that one part of cement, three parts of fine aggregates & Six parts of course aggregates by volume. The proportion of cement & water of the water cement ratio shall be as specified, having regard to the nature of work & strength to be developed.

Mixing

Whether the concrete is mixed by hand or in a mechanical mixture. It shall be thoroughly mixed and the concrete placed in its final position with the minimum of delay. Every pieces of aggregate shall be uniformly coated by cement paste.

Laying & Consolidation

The concrete must be laid gently (Not dumped) from height so as not to pent segregation of aggregates. after placing it shall be well compacted by tampl and/or mortar to cream up. In no case ramming shall be prolonged after the cement has begun to take its initial set. In no case, more water is added in order to reduce the work of completion.

Curing.

As soon as the concrete has set sufficiently the surface shall be protected from rapid drying by being covered with wet sand, wet gunny bags or where possible by forming shallow pools of water on the top. The setting shall be continued for at least 10 days & usually two to three weeks.

Workmanship

Water stops shall be cleaned before placing them in position. Oil or grease shall be removed thoroughly using water and suitable detergents. Water stops shall be procured in long lengths as manufactured to avoid joints as far as possible. Standard L or T type of intersection pieces shall be procured for use depending on their requirement. Any non-standard junctions shall be made by cutting the pieces to profile for jointing. Lapping of water stops shall not be permitted. All jointing shall be of fusion welded type as per manufacturer's instructions. Water stops shall be placed at the correct location/level and suitably supported at intervals with the reinforcement to ensure that it does not deviate from its intended position during concreting and vibrating. Care shall also be taken to ensure that no honey-combing occurs because of the serrations/end grips, by placing concrete with smaller size aggregates in this region. Projecting portions of the water stops embedded in concrete shall be thoroughly cleaned of all mortar/ concrete coating before resuming further concreting operations. The projecting water stop shall also be suitably supported at intervals with the reinforcement to maintain its intended position during concreting so as to ensure that it does not bend leading to formation of pockets. In addition, smaller size aggregates shall be used for concreting in this region also.

Mode of payment

The rate shall be paid per cum. of completed work as per payment schedule

ITEM NO:7

Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or new laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mm Dia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.

Details specification same as per item description and as directed by Engineer-in-charge.

PVC PIPE LINE

SCHEDULE-B2,3,6,7,8,11,12

ITEM NO:1

Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/ 1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete. Note :- One coupler / ring shall be provided with each full length pipe cost of which is included in rates below. a) Test Pressure 10.0 Kg/cm².

110 mm Dia PVC Pipes

90 mm Dia PVC Pipes

U-PVC PIPES:

UNPLASTICIZED PVC PIPES

For Indian manufacturers a valid license issued by the Bureau of Indian Standards for marking the PVC pipes with ISI mark is a mandatory requirement both for PVC pipes & rings

STANDARDS:

- The UPVC Pipes to be manufactured, supplied and delivered under the scope of this contract shall be manufactured in accordance and confirming to IS:4985-2000 or its latest revision or amendments or other authoritative standard that ensure at least a substantially equal quality to the IS:4985-2000 or its latest revision or amendments
- Electrometric sealing ring shall be as per specification of IS – 5382-1985, and ISO: 4633-1996 or it shall be EPDM rubber ring.
- The dimensions, material compositions, tests etc. shall be as per IS:4985-2000 or with its latest revision or amendments.
- The minimum wall thickness weight shall be as per Appendix I of the tender.
- The colour of pipes shall be as per IS 4985-2000
- Bureau of Indian Specifications (BIS) / Indian Standard (IS) shall mean the Latest version issued by BIS.

The material from which the pipes are made shall consist substantially of unplasticized polyvinyl chloride conforming to IS: 10151, to which may be added only those additives that are absolutely needed to facilitate the manufacture of the polymer, and the production of sound, durable pipes of good surface, finish, mechanical strength and opacity.

The bulk density of the UPVC compound shall be 0.50 to 0.53 and the density of UPVC pipe shall be 1.40 to 1.46 g / cm³.

The additional of the manufactures own rework material shall comply to clause 4.2 of IS: 4985.

PVC resin of suspension grade K-66/K-67 shall be used for extrusion of UPVC pipe.

- In line with BIS 4985-2000 the tolerance on outside diameter of the pipe shall be as under:

Nominal outside Diameter	Min. outside diameter in mm		Outside diameter at any point in mm	
	Minimum	Maximum	Minimum	Maximum
90	90	90.3	88.9	91.1
110	110	110.4	108.6	111.4
140	140	140.5	138.3	141.7
160	160	160.5	158.0	162.0
180	180	180.6	177.8	182.2
200	200	200.6	197.6	202.4
250	250	250.8	247.0	253.0

225	225	225.7	222.3	227.7
280	280	280.9	276.6	283.4
315	315	316	311.2	318.8

- “The pipes shall be transported to the store by flat floored trucks in pre packed wooden crate. The height of crate should not be exceeding more than 2 meters. The both ends of packaging unit (crate) shall be covered with plastic sheet to ensure adequate protection during transport. At the time of packing and stacking of pipes, the sockets shall be alternated within the pipe of pipes and shall project sufficiently for the pipes to be correctly supported along their whole length. The pipes shall rest uniformly on the vehicle bed over their whole length during transport to avoid sagging or deformation.

The packing material like wooden crate, plastic sheet etc. shall be the property of tenderer and he is permitted to reuse the packing material for transporting next batch of pipes”.

- The pressure rating of pipes shall be in accordance with IS 4985 with a maximum continuous working pressure at 27° C. of 6 & 10 kg/cm². This working pressure shall be down graded for ambient underground soil temperature of 45° C. as per the figure given in IS 4985 for design purposes.
- The pipes when subjected to internal hydrostatic pressure in accordance with IS: 12235-1986 (part – 8) shall not burst during the prescribed test duration. The temperature, duration and test and induced internal stress shall conform to the parameters given below:

Sr. No.	Test	Temp. (°C)	Min. duration (h)	Induced Stress (Mpa)	Requirements
1	Type test	60	1000	10	No failure
2	Acceptance Test	27	1	36	No failure

- The integral socket of the pipe shall be tested for internal hydrostatic pressure in accordance with ISO: 3603 and ISO 1167.
- The UPVC pipe shall not contain vinyl chloride monomer (VCM) exceeding 1 ppm when determined by means of gas phase chromatography using the “headspace” method according to IS: 10151.
- The wall of the socket and the wall of the plain pipe shall not transmit more than 0.2% of visible light falling on them when tested in accordance with IS:12235 (part -3).

The pipes shall be supplied in straight length of 6 meters with tolerance of +20mm and -0mm. The effective length of socket pipe shall be considered as shown in figure 2 of IS 4985.

All plastic and non plastic material for components of the UPVC piping system e.g. Elastomeric sealing ring, lubricants, when in permanent or in temporary contact with water which is intended for human consumption, shall not adversely affect the quality of the drinking water.

Concentrations of chemicals, biological agents or other substance leached from pipe materials in contact with drinking water and the values of the relevant physical parameters, shall not exceed the maximum values recommended by IS: 10500.

The pipe material shall be in accordance with IS 4985, clause 6.3.

- The quality control system and sampling model shall be as under:

Quality Control System and Sampling Model				
Order of Tests to be conducted	By Manufacturer	By Third Party Inspection / PMC representative	Codes/Standards to be followed	Remark
Raw Material 1) Resin K-valve	Laboratory test certificates from the original	Verification of test certificates and witness of	IS: 4669	For every batch of PVC resin used

Quality Control System and Sampling Model				
Order of Tests to be conducted	By Manufacturer	By Third Party Inspection / PMC representative	Codes/Standards to be followed	Remark
Particle size dis. Bulk density 2) PVC compo und density	manufacturer of resin and confirmation of the same by the pipe manufacturer in their laboratory. Both test certificates have to be presented during inspection	sample test at pipe manufacture's laboratory at discretion		prior to formulation of compound
Process Check Degree of fusion of extruded UPVC pipe by Acetone immersion test.	Minimum one specimen per extrusion condition or moulding condition per day	May witness test during inspection	ASTM D 2152	Test shall be conducted on samples from each machine
On line Check Quality Outside diameter Wall thickness Length of pipe surface finish Socket dimensions	Each & every pipe shall be checked by the manufacturer during extrusion of pipe	Sample testing shall be done for acceptance of the lot as per sampling procedure given Appendix – A, Table -5 of IS 4985	IS: 4985 ISO: 2045 Specification	Wall thickness shall also be checked by cutting the pipe at any place by the inspector
Finished product check. Reversion test Stress relief test	Min. 2 samples per machine per shift shall be tested	Sample testing shall be done as per IS 4985, Table 6&7	IS: 4985 IS: 12235 Part 5&6	Test records shall be submitted to PMC on request
Drop impact test Internal Hydrostatic pressure test. Pressure test for integral joint	Min. 1 samples per machine per shift	Sample testing shall be done as per IS 4985, Table-8	IS: 4985 IS: 12235 Part 8&9 ISO 3603 ISO 1167	Whenever the pipe is cut for hydrostatic test, the inspector will also verify the pipe thickness
Capacity Effect on water	Min. one sample for every change in compound formulation	One sample per 100 km of length of supply at the discretion of inspector	IS: 4985 IS: 12235 Part 3,4&10	Test records shall be submitted to PMC on request

Quality Control System and Sampling Model				
Order of Tests to be conducted	By Manufacturer	By Third Party Inspection / PMC representative	Codes/Standards to be followed	Remark
Long term hydrostatic test	Min. 3 samples of different diameter from the regular production lot.	May witness test during inspection	Is: 4985 IS: 12235	Test records shall be submitted to PMC on request
Density	Min. one sample per machine per shift	Min 5 samples per lot	IS: 8543 part 1/ sec 2	Reconfirmation may be done at store by checking the samples at the approved laboratory
Ash content	Min. one sample per machine per shift	Min 5 samples per lot	MTNL Standard/ ISO: 3451-5	Reconfirmation may be done at store by checking the samples at the approved laboratory
Vicat softening temp.	Min. one sample per machine per shift	Min. one sample per lot.	ISO : 2507	

TEMPERATURE VARIATIONS:

All the pipes to be manufactured, supplied and delivered shall be subjected to weather conditions like sun, dust, rain, wind as available in State of Gujarat. They shall be also subjected to carry and convey drinking water under variable temperature conditions ranging from 4 C⁰ to 45 C⁰.

MARKING :

The methods of marking all the pipes to be delivered under scope of contract shall ensure that all the information will remain legible even after transportation, storage in open space etc. In general the legible and indelible marking upon the goods shall indicate the followings;

- i) Certification mark on each pipe.
- ii) Manufacturers brand name and/or trademark.
- iii) Purchasers mark as "NAGAR SEVASADN, PADRA" be inscribed.
- iv) The outside diameter and pressure rating.
- v) Batch number or lot number.
- vi) Inspector's mark on each pipe
- vi) Any other important matter that the manufacturer or purchaser deems fit to be inscribed.

ELASTOMERIC SEALING RING

These sealing ring shall be Saturnine Butadiene in red color as specified in IS. The lubricant applied for jointing of elastomeric rubber ring shall be of good quality and comply the following specifications:

- a) Must have paste like consistency and be ready for use, preferably soap jelly.
- b) Has to adhere wet and dry surfaces of UPVC pipes and rubber ring.
- c) Must be non-toxic.
- d) Must be water-soluble.
- e) Must non-affecting physico-chemical and organoleptic properties of drinking water carried on the pipe.
- f) Must not have an objectionable odour.
- g) Must not harmful to the skin.

Elastomeric sealing ring shall be in accordance with one of the types (Type - 1 to Type – 6) as per ISS 5382. These sealing rings shall be EPDM rubber ring. The sealing ring shall be with ISI mark.

In case of imported EPDM Ring, such rings shall conform to relevant International Standards or the Standards of country of origin, which are equivalent or higher than the Bureau of Indian Standard Specifications. In case of manufacturers who have applied for getting a BIS certification mark, it would be mandatory for such bidders to produce the BIS certification license on or before the date of opening of the price bids. An undertaking in this regard shall have to be provided along with the technical bid.

The rubber sealing rings shall be vulcanized from Ethylene Propylene (EPDM) with strengths as per table 2 of IS 5382-1985.

TYPE TEST:

- a) Type test capacity, test for effect on water, test for resistance to Sulfuric Acid, internal Hydrostatic pressure test for 1000 Hrs. shall be carried out at least once at any time during the contract. Or shall be taken at least once during every six months irrespective of the ordered quantity.
- b) The said type test shall be taken by the NAGAR SEVASADN, PADRA's representative or third party inspection agency at the in-house laboratory of the manufacturer

COLOR OF PIPES:

- The color of the pipes shall be as per IS 4985-2000.
- The pipes shall bear ISI mark confirming to IS:4985-2000 or its latest amendment/revision if any.

TEST FOR PVC RESIN & PIPE:

Test For PVC Resin

It shall be sufficient to show the certificate of chemical test (in accordance with IS 4669) to the inspecting authority to confirm the 'K' value to be 64 to 67 as per clause No. 6.1.2. of IS 4985-2000

Specific Gravity and Ash Content Tests:

a) Density:

These tests shall be carried out by the inspection agency as per the IS:4985-2000 OR its latest revision OR amendments. The value shall be between 1.40 and 1.46 as per the ISS clause No. 10.6

b) Sulphate Ash content:

When tested as per Annex B, of IS 4985-2000, the sulphated ash content in the pipe shall not exceed IS standard.

c) Other test shall be carried out as per ISS 4985-2000 or its latest revision or amendment

TOLERANCE IN WEIGHT OF PIPES:

(-) 1% tolerance in actual weight of pipes shall be allowed but in overall weight there should not be any minus tolerance i.e. minus tolerance may be compensated in overall weight. If the tolerance is in minus, the consignment shall be outright rejected. The weight of pipes as given in Appendix-I shall be considered. If required the consignee can weight the whole lot of supply for verification.

Quality Assurance

The manufacturer shall have a laid down Quality Assurance Plan for the manufacture of the products offered which shall be submitted along with the tenders.

Unit weight and minimum wall thickness of unplasticized ring fit type PVC pipes are as per IS 4985-2000.

The bidder shall have to arrange for random testing of pipes brought on site, in CIPET in the presence of NAGAR SEVASADN, PADRA representative and on satisfactory report from the CIPET the payment of pipes will be made.

ITEM NO:2

Providing and supplying at store or site of work incl. freight, loading, unloading, stacking, insurance & all taxes etc. complete. P. V. C. Tee (Moulded) - 160 x 160 mm.

P. V. C. Tee (Moulded) - 160 x 110 mm

P. V. C. Tee (Moulded) - 110 x 110 mm

P. V. C. Reducer (Moulded) - 200 x 160 mm

P. V. C. Reducer (Moulded) - 160 x 110 mm

P. V. C. Couplers 10 Kg/cm² (Moulded) - 110mm

1) PVC Specials with ISI Mark

The PVC Specials shall be of the same material used for PVC pipes and should be best quality approved by Engineer-in-charge. It shall be of best quality as per IS specification and rate shall be including loading, unloading, carting, insurance and labour charge etc. complete. The PVC Specials as per requirement at the time of execution of work shall be supplied by the contractor. The PVC specials should be as per standard and shall be got approved by the Engineer in charge before being used. The specials should be perfectly in working condition and having necessary threads holes etc. as per standard. PVC specials should be as per IS standard specification and should be price make. All the specials should be suitable for PVC pipes, specials should be got checked before being used. Ends and threads of the specials should be in good working condition. The rates are inclusive of all taxes such as freight, GST and octroi etc. incl. Loading and unloading etc complete.

The payment shall be made per unit of Schedule B

ITEM NO:3

Supplying following materials including all taxes and carting. PVC Solvent Cement/Solution.

Details specification same as per item description and as directed by Engineer-in-charge.

ITEM NO:4

'Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.

For CC 1:2:4 or Asphalt Road.

1.2 General

1.1 The excavation for trenches will generally, refers to open excavation for trenches in wet / dry conditions for pipe laying work.

2.0 Clearing of Sites:

2.1 The site on which the pipelines are to be laid and shown on plan and the area required for setting out and other operations shall be cleared and all obstruction loose stones and materials, rubbish of all kinds, stumps, brushwood as trees shall be removed as directed the roots shall be entirely grubbed up.

2.2 The products of the clearing to restacked in such a place and in such a manner, as directed by the engineer in charge.

2.3 All holes or hollows whether originally existing or produced by digging up roots, shall be carefully filled up with earth, well watered, well rammed leveled off, as may be directed.

2.4 The agency has to obtain necessary permission for diverting the traffic or public as per requirement from competent authority for carrying out the work.

3.0 Setting Out:

The center lines of all pipe trenches etc. shall be given by the Engineer-in-charge and it will be the responsibility of the contractor to install substantial reference marks, bench marks, etc. and maintain them as long as required true to line, level curve and slopes. The contractor shall assure full responsibility for alignment, and dimension of trench.

The labor materials etc. required for setting out and establishing benchmarks and other reference marks shall be arranged by the contractor at his own cost.

4.0 Excavation

4.1 The excavation for the pipe trenches shall also include removal of all materials of whatever nature and whether wet or dry condition necessary for laying of pipelines exactly in accordance with alignment, levels grades and curves shown on the plans or as directed by the Engineer-in-charge. Trenches shall be excavated to the exact width and depth according to the size of pipe and the sides shall be left vertical as far as possible or according to the angle of repose of various soils. Unless there is a specific extra provision in the contract for shoring and strutting or for cutting side slopes the contractor shall at his own cost do the necessary shoring and strutting or cutting of slopes to the angle of repose or both approved by the Engineer-in-charge. The contractor shall notify the Engineer before starting excavation to enable him to take cross sectional levels for purpose of measurements before the ground is disturbed. The bottom of the trenches shall be leveled both longitudinally and transversely or slopped as directed by the Engineer. The contractor shall at his own cost to remove such portions of boulders or rocks, as are rectified to make the bottom of the trench level. No filling shall be allowed to bring the trench to level. If by contractor's mistake excavation is made deeper than shown on the plans and if ordered by the Engineer the extra depth shall have to be made with selected excavated stuff only with watering, ramming etc. as directed, by the Engineer and at the cost of the contractor. Other hard excavation shall be cleared of all sorts including loose materials and cut to firm surface, either level, stepped as directed by the Engineer. The Engineer may order such changes in the dimensions and alignment of pipe trench as may be deemed necessary to secure satisfactory cover over pipeline.

After each excavation is completed, the contractor shall notify the Engineer to that effect and no laying of pipeline will be allowed to be laid until Engineer has approved the depth and dimensions of trenches, level and measurements.

Excavation by the Use of Explosives

Unless otherwise stated herein, I.S. Specification "IS: 4081: Safety Code for Blasting and IS 3764-1966 safety code of Excavation works and related Drilling Operations" shall be followed. As far as possible all blasting shall be completed prior to commencement of construction. At all stages of excavation, precautions shall be taken to preserve the rock below and beyond the lines specified for the excavation, in the soundest possible condition. The quantity and strength of explosives used shall be such as will neither damage nor crack the rock outside the limits of excavation. All precautions, as directed by Employer's Representative, shall be taken during the blasting operations and care shall be taken that no damage is caused to adjoining buildings or structures as a result of blasting operations. In case of damage to permanent or temporary structures, Contractor shall repair the same to the satisfaction of Employer's Representative at his cost. As excavation approaches its final lines and levels, the depth of the charge holes and amount of explosives used shall be progressively and suitably reduced.

The contractor shall obtain a valid Blasting License from the authorities concerned. No explosive shall be brought near the work in excess of quantity required for a particular amount of firing to be done; and surplus left after filling the holes shall be removed to the magazine. The magazine shall be built as a way as possible from the area to be blasted. Employer's Representative's prior approval shall be taken for the location proposed for the magazine.

In no case shall blasting be allowed closer than 30 meters to any structure or to locations where concrete has just been placed. In the latter case the concrete must be at least 7 days old. Blasting for excavation in hard rock will only be allowed if permitted by competent authority otherwise shall be done with chiseling only.

For blasting operations, the following points shall be observed.

- I) Contractor shall employ a competent and experienced supervisor and licensed blaster in-charge of each set of operation, which shall be held personally responsible to ensure that all safety regulations are carried out.

- ii) Before any blasting is carried out, Contractor shall intimate Employer's Representative and obtain his approval in writing for resorting to such operations. He shall intimate the hours of firing charges, the nature of explosive to be used and the precautions taken for ensuring safety.
- iii) Contractor shall ensure that all workmen and the personnel at site are excluded from an area within 200 m radius from the firing point, at least 15 minutes before firing time by sounding warning whistle. The area shall also be given a warning by sounding a distinguishing whistle.
- iv) The blasting of rock near any existing buildings, equipments or any other property shall be done under cover and Contractor has to make all such necessary muffling arrangements. Covering may preferably be done by MS plates with adequate dead weight over them. Blasting shall be done with small charges only and where directed by Employer's Representative; a trench shall have to be cut by chiseling prior to the blasting operation, separating the area under blasting from the existing structures.
- v) The firing shall be supervised by a Supervisor and not more than 6 (six) holes at a time shall be set off successively. If the blasts do not tally with the number fired, the misfired holes shall be carefully located after half an hour and when located, shall be exploded by drilling a fresh hole along the misfired hole (but not nearer than 600 mm from it) and by exploding a new charge.
- vi) A wooden tamping rod with a flat end shall be used to push cartridges home and metal rod or hammer shall not be permitted. The charges shall be placed firmly into place and not rammed or pounded. After a hole is filled to the required depth, the balance of the hole shall be filled with stemming, which may consist of sand or stone dust or similar inert material.
- vii) Contractor shall preferably detonate the explosives electrically.
- viii) The explosives shall be exploded by means of a primer, which shall be fired by detonating a fuse instantaneous detonator (F.I.D) or other approved cables. The detonators with F.I.D. shall be connected by special nippers.
- ix) In dry weather and normal dry excavation, ordinary low explosive gunpowder may be used. In damp rock, high explosive like gelatin with detonator and fuse wire may be used. Underwater or for excavation in rock with substantial accumulated seepage electric detonation shall be used.
- x) Holes for charging explosives shall be drilled with pneumatic drills, the drilling pattern being so planned that rock pieces after blasting will be suitable for handling without secondary blasting.
- xi) When excavation has almost reached the desired level, hand trimming shall have to be done for dressing the surface to the desired level.
- xii) Any rock excavation beyond an over break limit of 75 mm shall be filled up as instructed by Employer's Representative, with concrete of strength not less than M10. Stopping in rock excavation shall be done by hand trimming.
- xiii) Contractor shall be responsible for any accident to workmen, public or Employer's property due to blasting operations. Contractor shall also be responsible for strict observance of rules, laid by Inspector of explosives, or any other Authority duly constituted under the State and / or Union Government as applicable at the place of excavation.

Stripping Loose Rock

All loose boulders, detached rocks partially and other loose material which might move therewith not directly in the excavation but so close to the area to be excavated as to be liable, in the opinion of Employer's Representative, to fall or otherwise endanger the workmen, equipment, or the work shall be stripped off and removed from the area of the excavation. The method used shall be such as not to render unstable or unsafe the portion, which was originally sound and safe.

Any material not requiring removal in order to complete the permanent works, but which, in the opinion of Employer's Representative, is likely to become loose or unstable later, shall also be promptly and satisfactorily removed.

Classification of Strata:

The decision regarding, classification of strata shall rest with the Engineer in charge and his decision shall be final and binding to the contractor.

All the materials encountered in the excavation shall be classified as under:-

Ordinary soil and soft Murom:

These will include all materials of an earthy or sandy nature, which can be easily ploughed or small

shingle, and gravel, which can be easily removed.

Hard Murom:

This shall include all kinds of disintegrated rock or shale or inundated clay which can be removed with a shovel without difficulty and which do not require blasting.

Soft rock:

This shall includes all materials which is rock or hard conglomerate, all decomposed and weathered rock, highly fissured rock old masonry and also soft rock boulders bigger than 1/2 cubic meter and other varieties of rock. Which do not require blasting and which can be removed with the pie crowbars wedges and hammer?

Hard rock:

This shall include rocks, occurring in masses, which could best be removed by chiseling.

5.0 Shoring and Strutting:

- 5.1 Shoring & strutting if required shall have to be carried out by the contractor, for which any extra charge will not be paid.
- 5.2 During excavation if water connections, sewage connections, telephone lines khalkuva (soak pits) etc. are damaged by the contractor, the same shall have to be restored by the contractor without any extra cost.

6.0 Protection

- 6.1 The trenches shall be strongly fenced and red light signal shall be kept at night and arrangement of watchman to prevent accidents should be done. Sufficient care and protective measure shall be taken to see that the excavation shall not affect or damage the adjoining structure. The contractor shall be entirely responsible for any injury to life and damage to the properties etc. Necessary protection work such as guide ropes, crossing places, barricades, caution boards etc. shall be provided by the contractor.

- 7.0 The excavation in all sorts of soil, hard Murom, soft rock or hard rock or any type of soil shall have to be carried out up to the required depth by the agency

8.0 Disposal of Excavated Stuff

- 8.1 No excavated stuff from trench are to be placed even temporarily nearer than 1.5 meter or greater distance up to 90 meter or as prescribed by the Engineer from the outer edge of trench. All excavated material will be the property of the owner. The rate of excavation includes sorting out of useful materials and stacking them separately as directed within specified lead. The excavated stuff suitable and useful for refilling or for other use shall be stacked at convenient places. The materials not useful in any way shall be disposed off as directed by the Engineer from the outer edge of trench.
- 8.2 The site should be cleared off on completion of work.

9.0 Additional Requirements

- 9.1 At the joints of pipes, the trench shall be excavated to an additional depth of 15 cm. and width of 30 cm. And length of 15 cm. beyond the edge of collar on both the sides or as directed. The rate include for such extra excavation made at the joints. The trenches shall be excavated perfectly in straight line. The bottom of the trench shall be kept as per invert level or as directed. To maintain the proper slope the usual method of site rails and boning rods shall be adopted. The contractor shall have to provide and fix and maintain sight rails and boning rods without any extra cost.

If the contractor fails or makes delay to give hydraulic test of the pipe line laid in any of the section, without any genuine reason, he shall be responsible to get any part of the length trenches refill in such case (i.e. before testing) for safety of pedestrian and/or vehicular traffic as found necessary by the engineer-in-charge without any extra cost. If found necessary and directed by the Engineer-in-charge, the contractor shall have to excavate the refilled trenches, during hydraulic test without any extra cost,

At all road crossings, trenches shall be excavated only for half width of the road and pipe shall be laid. The other half shall be excavated only after back filling over the laid pipeline is done so as to make it suitable for the traffic. The contractor shall provide diversion when the pipeline is to be laid along the

road as required and shall maintain the diversion or any part of it, without any extra cost. At all road crossings, the pipe shall be laid below the crest of road.

- 9.2** The contractor shall break the road surface by chiseling to the exact width and length as shown on the drawing or as directed by the Engineer-in-charge.

The excavated stuff shall be deposited in uniform layers to avoid mixing with other kind of materials at non-objectionable place or as directed by the Engineer-in-charge.

10.0 Measurement and Payment

10.1 Payment shall be made as per actual work done. On cu mt. unit bases

10.2 The rate for the item of excavation shall include the following unless and otherwise mentioned.

- (a) Clearing of site
- (b) Setting out work including all materials and labor.
- (c) Providing and subsequently removing, shoring and strutting outing slopes etc.
- (d) Excavation and removal and staking of all excavated stuff as directed.
- (e) Necessary protection including labor materials equipment etc. to ensure safety and protection against risk or accident.
- (f) Providing facilities for inspection and damage to property if caused during progress of work.
- (g) Compensation for injury to life and damage to property if caused during progress of work.
- (h) Restoring of water supply connections, sewer connections, telephone lines, khalkuva Soak pits Septic Tank etc. if damaged by contractor without extra payment.
- (j) Clearing the site on completion of works directed by the Engineer.

ITEM NO:5

Lowering, laying and jointing PVC/uPVC/cPVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works at all level including cost of labour, material, giving satisfactory hydraulic testing as per ISI Code etc. comp.

110 mm Dia PVC Pipes

90 mm Dia PVC Pipes

The Pipes shall be supplied by the Agency as per schedule 'B'. Every care shall be taken in carting them to site. Contractor shall have to pay for any damage to the pipes carting, loading, unloading etc. or in laying. They are to be laid and tested as per specification given below.

LAYING AND JOINTING:

These items for laying and jointing pipe line and do not include the work of excavation. Every pipes and specials shall be cleared properly and examined for any cracks or defects. The rejected pipes and fitting shall have to be removed from site by the contractor immediately and stacked as directed at his own cost. Before lowering laying the pipe into the trenches, the excavation shall be got checked and approved. Necessary solvent cement for P.V.C. Pipes shall be applied with brush inside the fittings and outside the end of pipe after using the pipes sand comb with sand paper the coupler shall then be pressed till there remains no recess between the ends of pipes. The joints shall be protected from direct sun as they finished.

The refilling shall be done after necessary hydraulic testing carried out according to the instruction of Engineer-in-Charge.

The interior of the pipe already laid must be kept clean as the work under process. The ends of pipe shall be closed with a wooden plug the temporary stop of the work.

TESTING :

The Contractor shall give at his own cost necessary hydraulic testing section by section. Minimum length of 500 Rmt per section pipe line should stand the required highest pressure in the section without showing leakage anywhere in the pipe joints specials valves etc. if any defects are found the contractor shall be made good the same at his own cost.

The contractor shall have to make necessary arrangement for pressure meter and plugging all ends of pipes without claiming extra cost. If the pipes are broken during testing due to test pressure, the contractor shall be responsible to replace the pipe without any extra claim however the pipes shall be supplied by the Department Free of Cost. The pressure water shall be installed at appropriate place as directed by Engineer-in-Charge. Before actual testing, the pipe section shall be filled with water for a period of at least 24 hours. The required pressure subject to class of pipe shall be maintained for at least 30 minutes in presence of Engineer-in-Charge. No extra claim shall be made to contractor for pumping and pressure arrangement and plugging the pipe section.

The rate shall be paid per R.Mt. of complete work in all respect.

ITEM NO:6

Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 40 mm Size.

The course and fine aggregates for the concrete shall be hard, clean angular and most durable trap stone available and sand shall be free from all deleterious materials such as dust, lumps of clays soft 14 and flaky pieces, organic matter loam etc. The Executive Engineer or his representative before use shall pass the materials. The sand shall be well graded up to a size of 6mm. and shall be screened properly washed and dried before being used. The course aggregate shall be properly washed and shall be such as all the aggregates will pass through 25cm. size sieve.

Cement used shall be Indian Portland Cement for approved brand confirming to the latest specifications. All the cement shall be stored water tight sheds on raise floor prevent from dampness.

The proportion of concrete shall be 1:3:6 That is one part of cement 3 part of Sand and 6 part of coarse aggregate by Volume.

The Mixing shall be done by mechanical mixture of hand mixing as directed. After the materials incl. water put in the drum, mixing shall be continued for at least two minutes before the contents are discharged. The drums shall remove at a speed of less than 14 and not more than 18 revolutions per minute. The drums shall be completely emptied before receiving the materials of the next charge. The concrete must be used immediately after it is prepared and within 10 minutes and in no case shall be used after the cement has attained an initial set. The contractor has to make his own arrangements for concrete mixtures and no extra payment shall be made for machine mixing. The concrete shall be laid gently that is no dumped from a height so as not to permit the suggestions of aggregate. The whole concreting must be done as per level given and finished to the slopes directed by the Executive Engineer or his representative before laying concrete the sub grade shall be completely trenched with water.

Consolidation shall be rapidly carried out sufficient labour being employed to permit of light ramming, rolling and spreading etc. and the where operation completed within a short time as possible and using

the concrete to cream up. In no case the ramming be prolonged after the cement has begun to take an initial set.

As soon as concrete has sufficiently that is after about an hour of laying the surface must be protected. From drying out by keeping wet, either by wet gunny cloth or pounding. The work shall be kept at least for 7 Days. The entire work is to be carried out to the satisfaction of the Executive Engineer or his representative.

The rate shall be paid per one cum. of work done

ITEM NO:7

'Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.

General:

All fill material shall be subject to the Employer's Representative's approval. If any material is rejected by Employer's Representative, the Contractor shall remove the same forthwith from the site. Surplus fill material shall be deposited/disposed off as directed by Employer's Representative after the fill work is completed. No earth fill shall commence until surface water discharges and streams have been properly intercepted or otherwise dealt with to the approval of the Employer's Representative.

Material To the extent available, selected surplus spoil from excavations shall be used as backfill. Backfill material shall be free from lumps, organic or other foreign material. All lumps of earth shall be broken or removed. Where excavated material is mostly rock, the boulders shall be broken into pieces not larger than 150 mm size, mixed with properly graded fine material consisting of murrum or earth to fill the voids and the mixture used for filling. If fill material is required to be imported, the Contractor shall make arrangements to bring such material from outside borrow pits. The material and source shall be subject to the prior approval of the Employer's Representative. The approved borrow pit areas shall be cleared of all bushes, roots of trees, plants, rubbish, etc. Topsoil containing foreign material shall be removed. The materials so removed shall be disposed of as directed by Employer's Representative. The Contractor shall provide the necessary access roads to borrow areas and maintain the same if such roads do not exist.

Filling in Trenches

Filling in trenches for pipes and drains shall be commenced as soon as the joints of pipe and drains have been tested and passed. The backfilling material shall be properly consolidated taking due care so that no damage is caused to the pipes. Where the trenches are excavated in soil, the filling from the bottom of the trench to the level of the center line of the pipe shall be done by hand compaction with selected approved earth in layers not exceeding 8 cm; backfilling above the level of the center line of the pipes shall be done with selected earth by hand compaction, or other approved means in layers not exceeding 15 cm. In case of excavation of trenches in rock, the filling up to a level 30 cm above the top of the pipe shall be done with fine materials such as earth, murrum, etc. The filling up to the level of the centerline of the pipe shall be done by hand compaction in layers not exceeding 8 cm whereas the filling above the centerline of the pipe shall be done by hand compaction or approved means in layers not exceeding 15 cm. The filling from

a level 30 cm above the top of the pipe to the top of the trench shall be done by hand or other approved mechanical methods with broken rock filling of size not exceeding 15 cm mixed with fine material as available to fill up the voids. Filling of the trenches shall be carried out simultaneously on both sides of the pipe to avoid unequal pressure on the pipe.

ITEM NO:8

Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.

Reinforcement bars to be used in RCC work shall have to be supplied by the contractor as per schedule-B. The rates include providing, cutting, bending, binding, hooking and placing in position including cost of binding wire. The bars shall be fusion bonded and epoxy coated. Depending upon the type of reinforcement steel proposed in design (i.e. M.S. or deformed etc.) the steel shall conform to relevant ISS codes in practice. Contractor shall produce necessary test certificate in absence of which the steel bars shall be get tested by the Department at the contractor's cost. Steel bars shall be cut, bent up, hooked bound with wires and then placed in position as per approved drawing. The steel shall be got checked through Engineer-in-charge. Before any concrete is placed in formwork advance intimation shall be given to the Engineer-in-charge for this purpose. The steel shall be cleared of any dust or rust that might have been deposited on bars.

Reinforcement shall be accurately fixed and maintained firmly in the correct position by the use of blocks, spacers, chairs, binding wire etc. to prevent displacement during placing and compaction of concrete. The tied in place reinforcement shall be approved by the engineer-in charge prior to concrete placement. Spacers shall be of such materials and designs as will be durable, not lead to corrosion of the reinforcement and not cause scaling of the concrete cover. Binding wire shall be 16 gauge soft annealed wires. Ends of the binding wire shall be bent away from the concrete surface and in no case encroach into the concrete cover.

The rate shall be paid as per payment schedule.

Mode of Payment : As per schedule B.

ITEM NO:9

Labour charges for Jointing on Existing Pipe/Repairing leakage in CI/DI/PVC/HDPE pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/ Crane, dewatering machine, fuel, operator etc complete (including cost of jointing material but excluding cost of pipe). From 200mm Dia Ex. Pipe.

Existing DI/CI/PVC /HDPE pipe lines is required to be jointed with new pipeline to start water supply. Jointing materials such as CI/DI/HDPE specials, CID joints etc. will be brought on site of work from departmental store. Specials will be supplied by the contractor as per supply item narrated in schedule-B. The rate includes carting of specials to the work site. The rate includes necessary excavation, dewatering of trenches and refilling the trench after completing the work including jointing materials if required for connecting pipeline.

The pipe shall be brushed throughout to remove any soil deposited or stone therein. If

required cutting of pipes or specials shall be done in workman like manner and with proper tools. The cut and shall be made in line and level and finished like as original one, without any extra claim.

After arranging in proper alignment each pipe shall be properly checked and spigot and shall be perfectly fixed into the socket. Socket ends of all pipes shall face uphill irrespective of the direction of water flow, any deviation or either in plan or elevation of less than 11% angle shall usually be effected by laying the straight pipes round a flat curve of radius that the minimum thickness of lead at the face of the socket shall not be produced below 6m. or the opening between the spigot and socket increased beyond 12 mm at any point. The spigot shall be carefully centered into the socket by one or more laps of spun yarn. Sufficient yarn shall be forced into the socket to lease a depth for leads as shown in IS as per abstract attached herewith. After inserting specials in pipeline, the same will be fitted as per instruction of engineer in charge. After completing the jointing work, the joint will be tested for water tightness before being covered through excavated stuff.

Excavated stuff will be used for refilling and job work includes all necessary material and labour required to connect pipeline. The size of pipe will be considered as main line connected with branch.

The rate shall be paid per no. of completed work.

ITEM NO:10

Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Flanged ended. 80 to 300mm dia.

DI Specials with all types of diameters suitable of K9 grade pipes (As per Tender Item) with inner cement mortar lining the necessary DI Specials required during the lowering & laying of Ductile Iron Pipe shall be supplied by the agency and shall be as per standard specification. And as per IS specification.

It shall be of best quality as per requirement& the Rate shall be including loading, unloading, carting, insurance and labor charge etc. complete.

Joint

Jointing of DI pipes and fittings shall be push-on type .

Push-on-joints

The Contractor shall source the push-on-joint gaskets only from the pipe manufactures. In turn the

pipe manufacturer shall supply at least 10% additional quantity of gaskets over and above the requirement to the Contractor at no extra cost.

The gasket used for joints shall be suitable for natural and purified water conveyance. In jointing DI pipes and fittings, the Contractor shall take into account the manufacturer's recommendations as to the methods and equipments to be used in assembling the joints. In particular the Contractor shall ensure that the spigot end of the pipe to be jointed is smooth and has been properly chamfered, so that once the rubber ring is correctly positioned before the joint is made, does not get damaged by friction or sharp edges of the spigot Chamfer. The rubber rings and the recommend lubricant shall be obtained

only through the pipe manufacturer.

Rubber ring bundles from every lot shall carry with them manufacturers test certificate for the following mechanical properties.

Hardness

Tensile strength

Compression set

Accelerated aging test

Water absorption test

Stress relaxation test

Rubber rings shall be clearly labeled in bundles to indicate the type of ring, the type of joint, the size of the pipe with which they are to be used, the manufacturer's name and trade mark, the month and year of manufacture and the shelf life.

Mode of measurement and payments

The payment shall be as per payment schedule B.

ITEM NO:11

Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.

Electric/Telephone Cable

Details specification same as per item description and as directed by Engineer-in-charge.

ITEM NO:12

'Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- Crushed stone aggregates 40 mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth

1.0. Materials:

1.1. Water:

Water shall not be salty brackish and shall be clean, reasonably clear and free objectionable quantities of silt and traces of oil and injurious alkalis, salts, organic matter and other deleterious material which will either weaken the mortar of concrete or cause efflorescence or attack the steel in R.C.C. Potable water will generally found suitable for curing, mortar or concrete.

1.2 Sand:

Sand shall be natural sand, clean, well graded hard strong, durable and gritty particles free from injurious amounts of dust, clay kankar nodules, soft or flaky particles shale, alkali salts organic matter, loam, mica or other deleterious substances and shall be got approved from the Engineer-in-Charge. 29

1.3 Stone Aggregate:

Coarse aggregate shall be of machine crushed stone of black trap or equivalent and be hard strong, dense, durable, clean and free from skin and coating likely to prevent proper adhesion of mortar.

The aggregate shall generally be cubical in shape unless special stones of particular quarries are mentioned. Aggregates shall be machine crushed from the best black trap or equivalent hard stone as approved. Aggregate shall have no deleterious reaction with cement. The size of the coarse aggregate for plain cement and ordinary reinforced cement concrete shall be generally as per IS 456.

1.4 Cement:

Cement shall be ordinary Portland slag cement as per I.S.269-1976 or Portland slag cement as per I.S. 455-1976

2.0 Workmanship:

2.1 General:

Before starting concrete bed of foundation trenches shall be cleared of all loose materials, levelled, watered and rammed as directed.

2.2 Proportion of Mix:

The Proportion of cement, sand and coarse aggregate shall be one part of cement, 3 parts of sand, 6 parts of stone aggregates and shall so measured by volume.

2.3 Mixing:

The concrete shall be mixed in a mechanical mixer at the site of work. Hand mixing may however be allowed for smaller quantity of work if approved by the Engineer-in-charge. When hand mixing is permitted by the engineer-in-charge in case of break-down of machineries and in the interest of the work, it shall be carried out on a water tight platform and care shall be taken to ensure that mixing is continued until the mass is uniform in colour and consistency. However such cases 10% more cement than otherwise required shall have to be used without any extra cost. The mixing in mechanical mixer shall be done for a period 1 to 2 minutes. The quantity of water shall be sufficient to produce a dense concrete of required workability for the purpose.

2.4 Transporting & placing the concrete:

The concrete shall be handled from the place of mixing to the final position in not more than 15 minutes by the method s directed and shall be placed into its final position, compacted and finished within 30 minutes of mixing with water i.e. before the setting commences. The concrete shall be laid in layers of 15 cms to 20 cms.

2.5 Compacting:

The concrete shall be rammed with heavy iron rammers and rapidly to get the required compaction and allow all the interstices to be filled with mortar.

2.6 Curing:

After the final set, the concrete shall be kept continuously wet, if required by ponding for a period of not less than 7 days from the date of placement.

3.0 Mode of measurement and Payment:

The concrete shall be measured for its length breadth and depth, limiting dimensions to those specified on plan or as directed. The rate shall be paid per Cum basis.

ITEM NO:13

Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.

1.0. Materials

- 1.1. Water shall conform to M-1. Cement shall conform to M-3. Sand shall conform to M-6. Grit shall conform to M-8. Coarse aggregate shall conform M-12.
- 1.2. The shuttering to be provided shall be of ordinary timber plank and shall conform to M-26.
- 1.3. The dimensions of scantlings and battens shall conform to the design. The strength of the wood shall not be less than that assumed in the design.

2.0. General

- 2.1. The concrete mix shall be designed from preliminary tests. The proportion of the concrete mix shall be 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm. nominal size) by volume concrete work shall have exposed concrete surface or as specified in the item.
- 2.2. The proportioning of cement and aggregates shall be done by weight and necessary precautions shall be taken in the production to ensure that the required work cube strength is attained and maintained. The controlled concrete shall be in grades of M-100, M-150, M-200, M-250, M-300, M-350 & M-400 with prefix controlled added to it. The letter M refers to mix and the numbers specify 28 days works cube compressive strength of 150 mm. cubes of the mix expressed in Kg./cm.
- 2.3. The proportion of cement, sand and coarse aggregate shall be determined of weight. The weigh batch machine shall be used for maintaining proper control over the proportion of aggregates as per mix design. The strength requirements of different grades of concrete shall be as under:

Grade of Concrete Compressive strength of 15 cms. cubes in kg/cmt. at

28 days, conducted in accordance with I.S. 516-1959.

Preliminary test Min.	Work Test Min.	
M 150	200	150
M 200	260	200
M 250	320	250
M 300	380	300
M 350	440	350
M 400	500	400

In all cases, the 28 days compressive strength specified in above be the criteria for acceptance or rejection of the concrete. Where the strength of a concrete mix as indicated by tests, lies in between the strength of any two grades specified in the above table, such concrete shall be classified in for purpose as concrete belonging to the lower of the grades betweenwhich its strength lies.

3.0. Workmanship

- 3.1. The proportions for ingredients chosen shall be such that concrete has adequate workability for conditions prevailing on the work question and can be property compacted with means available except where it can be shown to the satisfaction of the Engineer-in-charge, that supply of properly

graded aggregate of uniform quality can be maintained till the completion of work, grading of aggregate shall be controlled by obtaining the coarse aggregates in different sizes and bending them in the right proportions as required. Aggregates of different sizes shall be stocked in separate stock piles. The required quantity of material shall be stock piled several hours, preferably a day before use. The grading of coarse and fine aggregate shall be checked as frequently as possible, the frequency for a given job being determined by Engineer-in-charge to ensure that the suppliers are maintaining the uniform grading as approved for samples used in the preliminary tests.

- 3.2.** In proportioning concrete, the quantity of both cement and aggregate shall be determined by weight. Where the weight of cement is determined by accepting the maker's weight per bag, a reasonable number of bags shall be weighted separately to check the net weight. Where cement is weighted from bulk stocks at site and not by bags, it shall be weighed separately from the aggregate. Water, shall either be measured by volume in calibrated tanks or weighed. All measuring equipment shall be maintained in clean and serviceable condition. Their accuracy shall be periodically checked.
- 3.3.** It is most important to keep the specified water cement ratio constant and at its correct value. To this end, moisture content in both fine and coarse aggregates shall be determined by the Engineer-in-charge according to the weather conditions. The amount of mixing water shall then be adjusted to compensate for variations in the moisture content. For the determination of moisture content in the aggregates I.S. 2386 (Part-III) shall be referred to. Suitable adjustments shall also be made in the weights of aggregates due to variation in their moisture content. Minimum quantity of cement to be used in controlled concrete shall not be less than 220 kg./m³ in plain concrete and not less than 250 kg/m³ in reinforced concrete.
- 3.4** The form work shall conform to the shape lines and dimensions as shown on the plans and be constructed as to remain sufficiently rigid during the placing and compacting of the concrete. Adequate arrangements shall be made by the contractor to safe-guard against any settlement of the form-work during the course of concreting and after concreting. The form work of shuttering, centering, scaffolding, bracing etc. shall be as per design.

4.0. Clearing and Treatment of forms:

- 4.1.** All rubbish, particularly chipping shaving and saw dust shall be removed from the interior of the form before the concrete work is placed and the-form in contact with concrete shall be cleaned and thoroughly wetted or treated. The surface shall be then coated with soap solution applied before concreting is done. Soap solution for the purpose shall be prepared by dissolving yellow soap in water to get consistency of paint. Alternatively a coat of raw linseed oil shall be applied after thoroughly cleaning the surface. Care shall be taken that the coating does not get on construction joint surface and reinforced bars..

5.0 Stripping time:

- 5.1.** In normal circumstances and where ordinary cement is used forms may be struck after expiry of following periods.
- (a) Sides of walls columns and vertical faces of beams.....24 to 48 hours.

- (b) Beam soffits, (props, left under).....7 days.
- (c) Removal of props slabs:
 - (i) Slabs spanning up to 4.5. m.....7 days.
 - (ii) Spanning over 4.5 mm.....14 days.
- (d) Removal of props t beams and Arches:
 - (i) Spanning up to 6 mm.....14 days.
 - (ii) Spanning over 6 m.....21 days.

6.0 Procedure when removing the form work :

- 6.1.** All form work shall be removed without such shock or vibrations as would damage the reinforced concrete surface. Before the soffits form work and struts are removed, the soffits and the concrete surface shall be exposed where necessary in order to ascertain that the concrete has sufficiently hardened.

7.0 Centering:

- 7.1.** The centering to be provided shall be got approved. It shall be sufficiently strong to ensure absolute safety of the form work and concrete work before, during and after pouring concrete. Watch should be kept to see that behavior or centering and form work is satisfactory during concreting. Erection should also be such that it would allow removal of forms in proper sequence without damaging either the concrete or the forms to be removed.
- 7.2.** The props of centering shall be provided on firm foundation or base of sufficient strength to carry the loads without any settlement.
- 7.3.** The centering and form work shall, be inspected and approved by the Engineer-in-charge before concreting. But this will not relieve the contractor of his responsibility for strength, adequacy and safety of form work and centering. If there is a failure of form work or centering, contractor shall be responsible for the damages to property.

8.0 Scaffolding:

- 8.1.** All scaffolding, hoisting arrangements and ladders etc. required for the facilitating of conceding shall be provided and removed on completion of work by contractor at his own expense. The scaffolding, hoisting arrangements and ladders etc. shall be strong enough to with stand all live, dead and impact loads expected to act and shall be subject to the approval of the Engineer-in-charge. However contractor shall be solely responsible for the safety of the scaffolding, hoisting arrangement, ladders, work and workman etc.
- 8.2.** The scaffolding, hoisting arrangements and ladder shall allow easy approach to the work spot and afford easy inspection.
- 8.3.** The rate is applicable to all condition of working and height up to 4 mts. The rate shall include the cost of materials and labour for various operations involved such as :
 - (a) Splayed edges, notching, allowance for overlaps and passing at angles, battens centering, shuttering propping, bolting, wedging easing, striking and removal.
 - (b) Filleting to form stop chamfered edges or splayed external angles not exceeding 20 mm: width to beams, columns and the like.

- (c) Temporary openings in the forms for pouring concrete, if required removing rubbish etc.
- (d) Dressing with oil to prevent adhesion of concrete with shuttering and.
- (e) Raking or circular cutting.

9.0 Re-Use:

- 9.1.** Before re-use, all form shall be inspected by Engineer-in-charge and their suitability ascertained. The forms shall be scarred, cleaned and joints are gone over, repaired where required. Inside surface shall be retreated to prevent adhesion of concrete.

10.0. Mode of measurement & payment

- 10.1.** The consolidated cubical contents of concrete work as specified in item shall be measured. No deduction shall be made for
- (a) Ends of dissimilar materials such as joints, beams, posts, girders, girders, purling trusses, corbels and steps etc. up to 500 Sq. Cm. in section.
- 10.2.** Form work shall be measured as the area in square meters to shuttering in contact with concrete except in the case of inclined member and portion of curved profile and upper side in which case on area of underside shall be measured for payment.
- 10.3.** Form work to secondary beams shall be measured up to the sides of main beams but no deduction shall be made from the form work of the main beam at the inter section point. No deduction shall be made from the form work of a column at inter section of beams.
- 10.4.** The rate includes cost of all materials labour, tools and plant required for mixing, placing in position, vibrating and compacting, finishing, as directed, curing and all other incidental expenses for producing concrete of specified strength. The rate includes the cost of form work.
- 10.5.** The rate shall be for a unit of **one cubic meter**.

SCHEDULE FOR TESTING OF MATERIALS

For ensuring quality control and workmanship, various tests prescribed below for materials

shall Be taken at periodical intervals as stipulated below.

Sr. No.	Brief Description of Materials to be tested (2)	Qty. of Materials (3)	Prescription of test which shall be carried	Frequency @ which test shall be carried out	Total No. of Test 'to be taken.
1	25 to 90 H. B.Metal 40 to 63 H. B.Metal 40 to 50 M. C.Metal 20 to 50 M. C.Metal Kapachi		- Gradation Test - Impact Value - Flakiness Index - Water absorption test - Sp. gravity	1 to 100 Cmt. - 1 Test 100 to 500 Cmt. - 3 Test 500 to 1500 Cmt. - 5 Test 1500 to 5000 Cmt. - 7 Test	
2	Grit		- Stripping Value, gradation, Water absorption, Sp. gravity	One test per work	
3	Murum		- P. I. Value - C.B.R.	One test per work	
4	Quarry spall		- C.B.R. - Gradation	One test per work	
5	Asphalt		- Penetration Test as per Specification	Tanker Test 1 1 2to15 2 16to50 3	
6	Tack Coat		- Binder temperature for application - Rate of spread of binder	Irregular close in intervals Two test per day.	
7	Carpet & Seal coat mix		- Grading - temperature of binder in boiler, aggregates in the dryer and mix at the time of laying and rolling (Binder content vide 45 IMD 2172) Rate of Spreaded mix materials.	One test on individual constituents and mixed aggregates from the dryer for each 100 tons of mix subject to minimum of Two tests per plant per day. One Test for each 100 tons of mix subjects to mini. of Two per day plant. Regular control through checks on layer thickness.	
8	Bricks		- Water absorption - Effloresce - Size - Compressive Strength	1 Test @ 50,000 Bricks	
9	Cement		Consistency - Compressive Strength	1 Test / 50 M.T. 2 Tests / 100 M.T. 3 Tests / 200 M.T.	

			<ul style="list-style-type: none"> - Initial & Final setting time - Fineness - Soundness - Specific Gravity - Chemical analysis 	4 Tests / 400 M.T. 5 Tests / 500 M.T. 6 Tests / 600 M.T.	
10	Steel (TMT / M.S.)		<ul style="list-style-type: none"> - Tensile strength - Yield Stress - Elongation - Size - Bend - Rebend 	1 Test / 40 M.T. 1 Test / 40 M.T. 1 Test / 40 M.T. 1 Test / 40 M.T. 1 Test / 20 M.T. 1 Test / 20 M.T.	
11	C.C. Cube in M-150 M-200, M-250, M-300, M-350 Grade		- Compressive Strength	1 to 5 C.mt. - 1 Set 6 to 15 C.mt. 2 Sets 16 to 20 C.mt. - 3 Sets 20 to 50 C.mt. - 4 Sets 51 above - 4 One additional sample for each 100 C.mt. / or.	
12	Coarse Sand		C.B.R., silt content, sieve analysis	One Test per work	
13	Sand (For concrete work)		<ul style="list-style-type: none"> - Specific Gravity - Alkali Reactivity - Petrography Exa. - Gradation - Silt Content - Water absorption test 	2 Tests per season or change of river	
14	Crushed stone Aggregate (For concrete work)		<ul style="list-style-type: none"> - Gradation - Water absorption - Impact Value - Abrasion Value - Soundness Test 	1 Sample / 150 Cum. or 2 Sample / Season each source.	
15	Water for all item pertaining to water		<ul style="list-style-type: none"> - Portability - Salinity - Chemical analysis 	One sample for each source of supply	

16	Earthwork for Embankment		<ul style="list-style-type: none"> - Sand content - Atterberg's limit - Density test - Moisture content - C.B.R. 	2 Test / 8000 Cum 2 Test / 8000 Cum 2 Test / 8000 Cum 1 Test / 250 Cum. 1 Test / work	
17	Cement concrete		- Mix design	One time test for each concrete grade beyond M-200	

**LIST OF REGISTERS TO BE
MAINTAINED AT SITE
ANNEXURE – 1**

**FOLLOWING DOCUMENTS/REGISTERS TO BE MAINTAINED AT SITE FOR ENSURING
PROPER QUALITY CONTROL OF WORK IN PROGRESS.**

A complete set of Contract Documents

A Complete set of drawings (tender drawings and Good for Execution Drawings)

A complete set of change in specification or scope if any and approval thereof.

Master Test Register for Material for field Test.

Lab Report

Lab/Field Test.

Register for bricks testing. Lab/Field

Concrete Pouring Card

Bitumen Test Register

Paint Register

Empty Bags Of Cement Shall Be Deposited On Monthly Basis At Store Of Padra Nagarpalika Padra And Same Shall Be Recorded In Store Register For Cement.

Register for approval of samples for various materials.

Site Order Book.

Register showing defects noticed during execution of work and compliance reports.

Hindrance Register

APPROVED LIST OF MATERIALS
LIST OF APPROVED MAKE / MANUFACTURER/ BRAND OF MATERIALS FOR CIVIL
ITEMS

The following are approved brand makes/manufacture's makes listed below. In case it is established that material as listed below is not available in the market, approved equivalent material and finished of any other specialized brand names/ manufacturer's makes may be used as per approval of Architect.

Material certificate: Material tests as required by the Engineer, if any, shall be carried out by the Contractor from the approved laboratories and the tests reports shall be submitted in the required formats before use of such material. The Engineer shall have the right to reject any material or work, if he finds that the quality of material used/intended to be used and work are not satisfactory. The Contractor shall make good such defective material or the works at his own cost (within the contract price) and without causing any delay to the completion time as specified in the TENDER.

No	Item	Approved make
1	Cement	Ambuja, Ultratech, JK Laxmi, Jaypee, Sanghi, Siddhee, ACC or approve by Architect/EIC
2	White Cement	Birla, J.K
3	Sand	Locally available & as approved sample
4	Aggregates	Vadagam or approved by Client
5	Bricks	As per approved sample by Client
6	Reinforcement bar/TMT Bars	Sail ,Tata, Rinl, Jindal , Vizag , GUJ NRE, Kamdhenu, National Electotherm, ASR Thermax, Gallant, Sanghi, Friends, Vinayak, Varsana, Utkarsh, Aditya, Grace,God
7	Structural steel	Sail ,Tata, Rinl, Jindal, Essar, Vizag, Asian, Appolo
8	Paver blocks	Vyara, Super, Sona tiles, Asian or equivalent
9	Shuttering plywood	Kitply, Anchor, Green, Pragati or equivalent
10	Anti-termite treatment	Pest control India, Bayer-Premise, Rallis India- Termex, Item Secure
11	Waterproofing compound	Pidilite, Sikka, Balendura, Fosroc, Kerakoll, BASF, Sunanda Chemical
12	Weather sealant	Kerakoll, Down corning, Fosroc, Sikka, Dr. Fixit (Pidilite), Bostik, Wacker
13	Joint Filler / silicon paint	Wacker, Dowcorning, Sika, Chokshi, Saudal.
14	Tile adhesive	Saint gobain - Weber, Balendura , Kerakoll, Pidilite , Roff , Myk Laticrete
15	Epoxy grouting	Myk Laticrete, Dubond, Kerakoll, Bal Endura, Fosroc , Saint Gobain -Weber, Pidilite
16	Paint, primer	Jotun, Asian, Berger, Nerolac, Indigo, ICI
17	Putty	Birla , Berger, Asian
18	Polish	MRF, Asian, ICI, Taralac
19	Water stops	Arti Cables, Fixopan
20	Granite	As per approved sample

21	Vitrified tiles/ Glazed tiles/ Ceramic tiles	Varmora, Sunheart, Nitco, Kajaria, Somany, Asian, Simpolo, Motto, Silon, Johnson
22	Glass Mosaic	Pavit, Italia, Bissaza , Piccolo
23	Auto sensor Door	Dorma, Geze , Ozone
24	Glass door hardware & fittings	Dorma, Geze, Haffle, Enox, Kitch
25	Door Window & Furniture Hardware	Kitch, EPPW, Dorma, Palladium, Ozon, Magnum, Yale.
26	Adhesives	Fevicol, Kitcol, Araldite, BAL.
27	Anchor fastener / bolts	Hilti. Fischer, Mungo
28	Linseed oil	Saffola
29	Floor spring	Ozone, Everite, Hemco, Godrej, Hyper, Starling, Dorma , Enox
30	Door closer	Godrej, Dorma, Enox , Eficient Gadget, Yale
31	Locks	Godrej, Dorset, Yale, EPPW, Dorma, Kitch.
32	Glass	Modiguard, Saint-Gobain, Asahi, HNG
33	Wood	Teak, Sal sycamore, Merandi
34	Flush door- decorative / non-decorative	Greenly-door, century- door, Archidply - door, Euro door, Nippon, Duro
35	MS Rolling shutter	Sarvottam, Suryoday, Gandhi, Sagar
36	Ply (BWP - IS 710 & BWR 303)	Green ply, Euro ply, Nippon, Duro, Century, Silicon (evoke)
37	Laminate	Greenlam, Century, Merino, Euro, Royal touch, Formica, Nippon
38	Veneer	Greenlam, Century ply, Euro ply, Timex, Natural Deco wood
39	MDF	Nuwood ,Maftalal, Duratuff
40	Prelam particle board	Novapan, Bhutan. (exterior grade only)
41	Cement bonded particle board	NCL (Bison board), Everest (Eternite), Shera
42	Compact sheet	Vir, Bloom, Formica.
43	Alluminium heavy duty section	Jindal, Domal series, Hindalco, Banco, Gujarat Extrusion
44	Sanitary vessels	Kohler, Jaquar, Hindware, Cera, Parryware, Johnson
45	Sanitary accessories	Kohler, Jaquar, Hindware, Cera, Parryware, Johnson
46	Hand drayer	Euronics , Cera, Jaquar
47	Toilet Cubical	Marino, Greenlam, Matalium, T-Line
48	CPVC & UPVC , PVC pipe	Prince, Supreme, Astral, Finolex, Ashirvad flow guard,
49	Polycarbonate sheet	Makrolon, Lexan, Bayer, Dunpalon, Sabic, Coxwell
50	Anchor fastener and bolts	Hilti, Fischer
51	Gypsum board false ceiling	Saint gobain, USG Boral, Ecotone, Hilux
52	Grid ceiling	Aerolite, Saint gobain, Armstrong, Anutone
53	Accoustic Ceiling	Armstrong , Anutone , Aerolite, Saint gobain

54	Metal ceiling	Metalium , Supersill , USG Boral, Aerolite
55	ACP	Aludecor, Alucobond, Alston, Alstrong, Eurobond , VIVA
56	Acoustic paneling	Artois, Ecotone, Aerolite
57	Glass film	3M, Avery , Garvey,
58	Modular Glass Partition	Sonic, Kubik, Otic , Ozone
59	Carpet flooring	Welspun, Unitex, Ecosoft,Tarkett Flotex, Solarbrite Rosetta, Dubond Sorona
60	Wooden flooring	Vista, Pergo , Armstrong, Mikasa, Ecosoft, Quick step
61	Roller blinds	Vista, Hunterdouglas, Ferrari
62	Hardware & fittings	Hettich, Haffle, Enox, Ebco, kitch
63	Aluminium profile handles & frames	Olive, Hettich, Haffle, Enox, Ebco, kitch
64	Door hardware & accessories	Geze ,Haffle, Enox, Dorma, Kitch, Ozone, kitch
65	PVC edge beading	Rehau , Dolken
66	Furniture	Monarch, Amardeep , HOFF, Godrej , Wipro
67	Glass wool/ synthwool	Rockwool, Twiga , Acosonic
68	Compactor	Kompress , Wipro , Godrej , HOFF
69	Artificial stone	Emcer , Kalinga, CMC, AGL , Johnson
70	Vinyl	Welspun , Solarbrite , Tarkett, Unitex, Responsive, LG
71	Window locks cum handle	Alualpha, Giessee or equivalent.
72	Filler rubber of glass panel	EPDM quality only
73	Wool felt/weather strip	Anand, red-diplex ltd or equivalent
74	Rust Remover	Feovert (Krishna Conchem), Roff Rust Clear (Pidilite Industries)
75	Polymer bonding agent	Monobond (Krishna Conchem), Roff Bond Repair (Pidilite Industries)
76	Non-shrink grout	Polygrout -HS (Krishna Conchem), Roff Grout GP (Pidilite Industries)
77	Super plasticizer for jacketing	Supercon-100 (Krishna Conchem), RoffPlast 330 / Concrete Master
78	Rebar and Anchor Fasteners	Hilti or Fischer OR Mungo.
79	Acrylic SBR base bonding agent	Mono-bond SBR (Krishna Conchem), CICO, BASF, Pidilite
80	Epoxy Bonding	EPI bond 21 LP (Krishna Conchem), Roff Concrete Bond (Pidilite)
81	Modular Kitchen	Timbor Home, Tiara furniture system, Godrej interio
82	PVC Sleeve	Supreme / Astral / Prince
83	Expansion Board	Capcell HD Board
84	Expansion Joint	Pidilite / Roof/Laticreteor mentioned in BOQ
85	Expansion Joint System	3R as per Item description
86	Water Proofing	BASf/ Fosroc / Sika or mentioned in BOQ
87	Overdeck Insulation	BASf/ Fosroc / Sika or mentioned in BOQ
88	PVC spacer	BAL Endura / Kerakoll / BASF

89	PVC Flooring	Armstrong, Gerflor, Tarkett
90	Self Levelling Chemicals	Ardex / BASF / Cico / Sika
91	Anti-bacterial Paint	Sikka / Liquid Plastic/SSK/Viessmann/artilin / BASF / Huntsman
92	Galvalume roofing sheet	Jindal,Mansha,Eashar
93	Pre coated Sheet	J.S.Eng., Fielders, Rama, Shree Precoated, S.Kumar
94	Floor stamping	Ultratech, Vyara, Flexstone or Equivalent
95	WPC door	Alstone , Flexibond or equivalent
96	Roofing shingles	Saint Gobain , Malarkey , Technicol , Docke or equivalent
97	Fiber Cement sheet board	Ecopro, Everest , Shera , CK Birla Group
98	Roof Gutter	Saint Gobain , Malarkey , Technicol or equivalent

PLUMBING MAKE LIST

Sr.No.	Item	Approved Make
1.	SWR PVC PIPE & FITTINGS 6 KG CM ² ; FITTINGS : 6 KG CM ²	ASTRAL / SUPREME/PRINCE/FINOLEX
2.	ECO. DRAIN PIPE & FITTINGS	SUPREME/ ASTRAL
3.	GULLY TRAP	GIRCO / TIRUMALA / SONIA/ SUPREME/ASTRAL
4.	STONE WARE PIPES FOR INTERNAL UNDER GROUND DRAIN PIPE	GIRCO / TIRUMALA / SONIA
5.	RCC HUME PIPES EXTERNAL MAIN UNDER GROUND PIPE	INDIAN HUME PIPE / PRANALI
6.	M.S/G.I. PIPES FOR WATER SUPPLY	TATA / JINDAL/ SWASTIK
7.	ASTM/CPVC PIPE & FITTINGS FOR WATER SUPPLY	ASTRAL / SUPREME/ASHIRWAD / FINOLEX
8.	COMPOSITE PLUMBING PIPE & COMPOSITE FITTINGS	KITEC OR EQ
9.	G.I. PIPES FITTINGS WATER SUPPLY	DRP-M / R-BRAND / ZOLOTO
10.	GI TO GI JOINTS	CHAMPION / EQUIVALENT
11.	SOLVENT CEMENT	SUPREME / KISSAN / FINOLEX
12.	BALL VALVES	LEADER / ZOLOTO / AUDCO
13.	WHEEL VALVES	LEADER / ZOLOTO/AUDCO
14.	DCV / NRV	ZOLOTO/SPIREX/AUDCO
15.	TAR	SHALIBIND / TIKIBOND-BS
16.	SELF PRIMING SEWAGE PUMPS	HBD / GRUNDFOS
17.	VALVES	AUDCO/ZOLOTO / R.B. / KBL / KSB
18.	PUMPS	KIRLOSKAR / GRUNDFOS/XYLEM
19.	STARTER	SIEMENS / L&T
20.	PRESSURE GAUGE	BELLS / H GURU
21.	BOTTLE TRAP & WASTE COUPLING	JAQUAR / HINDWARE/KOHLER
22.	DEWATERING PUMPS	GROUNDFOSS/KIRLOSKAR/ KSB
23.	HYDROPNEUMATIC SYSTEM	GRUNDFOS OR EQUIVALENT
24.	EOT CRANE WITH HOIST	INDEF / ELECTROMECH / SAFEX / WH-BRADY / EQUIVALENT
25.	METALLIC BELLOWS	BELLOW FLEX / PRICISION / DHRUV / B.D.ENGR.
26.	ELECTRIC GEYSER	A-O SMITH/ RACOLD/SPHERHOT
27.	HOT WATER GENERATOR	THERMAX/A.O.SMITH / KEPL OR EQUIVALENT

No	Item	Approved Make
LT PANELS,LT CABLES SWITCHGEAR & ACCESSORIES		
1	ENCLOSURE MANUFACTURER	ACTIVE ENGINEERS, ELMEX, AD ENTERPRISE, ACCESS CONTROL PANELS.
2	MCB/ELCB/RCCB/ELMCB	LEGRAND, ABB,HAGER,SCHNEIDER,C&S, L&T,SEIMENS
3	MCCB/ACB	LEGRAND, ABB, SCHNEIDER,SIEMENS,L&T
4	DISTRIBUTION BOX	LEGRAND, ABB,HAGER,SCHNEIDER,C&S, L&T,SEIMENS
5	CHANGEOVER SWITCH	HH ELECON,L&T, ABB, HPL,C&S
6	CAPACITOR	L&T, EPCOS,CONZERV,DATAR,POWERMATRIX,ABB
7	PUSH BUTTON	SIEMENS,ABB,L&T,SCHNEIDER
8	INDICATING LIGHT	SIEMENS,ABB,L&T
9	TIMERS	L&T,SIEMENS,ABB,CONZERV
10	SELECTOR SWITCH	L&T,SEIMENS,KAYCEE
11	AUTOMATIC TRANSFER SWITCH	L&T,HPL,CUMMINS,HAVELLS
12	CTs	KAPPA,L&T,AREVA,MAXWELL
13	PTs	KAPPA,L&T,AREVA,MAXWELL
14	CONNECTORS	L&T, SCHINDER,SEIMENS,ABB
15	PROTECTION RELAY	AREVA,L&T,ABB,SEIMENS
16	ANALOG/DIGITAL METER/LOAD MANAGER/MFM	CONSERV,L&T,SCHNEIDER/ABB/HPL
17	IRON CLAD SWITCH WITH REWIREABLE FUSE/SFU	KEW, TRISHUL,SUPER,C&S
18	METALCLAD SWITCH WITH REWIREABLEFUSE/S FU	HAVELLS, KEW,C&S, INDOASIAN
19	MAIN LT CABLE	AVOCAB,FINOLEX,PRIMECAB,POLYCAB,DIAMON DPOWER,RRCABLE,HAVELLS
20	CABLE GLANDS	COMET, HMI, DOWELLS, SIEMENS,CROMPTON,HEX
21	CABLE LUGS	DOWELLS,JOHNSON,HEX
22	BUSDUCT	L&T,SCHNEIDER,C&S,SEIMENS,LEGRAND

INTERNAL WIRING, FIXTURES & ACCESSORIES		
1	RIGID FR PVC CONDUIT	NIHIR,PRECISION,POLYCAB,BEC, Power Flow
2	ACCESSORIES OF CONDUIT	NIHIR,PRECISION,POLYCAB,BEC
3	COPPER FLEXIBLE WIRES	AVOCAB,FINOLEX,POLYCAB,RRCABLE,HAVELLS ,Caliplast
4	TISSINO TYPE SWITCHES & SOCKETS	POINTER-TRUMP, SSK-TOPLINE PC, ANCHOR-PENTA CHEERY
5	MODULAR TYPE SWITCHES & SOCKETS	LEGRAND-MYRIUS, MK-WRAP ROUND, ANCHOR-WOODS,HAVELLS-CRABTREE-ATHENA
6	PVC TAPE	STEEL GRIP,ANCHOR
7	M.S. CONDUIT	BEC,AKG,STEEL CRAFT
8	LIGHT FIXTURES & LAMPS	OSRAM, XAL WIPRO, PHILIPHS, NIRVANA, GE, CG, , JAQUAR ,ENDO , TISVA ,LT
9	CEILING FAN & EXHAUST FAN	USHA,CG,ORIENT,HAVELLS
10	CALL BELL	ANCHOR/ORPAT/MAX
11	WATER COOLER	VOLTAS,USHA,BLUESTAR
12	GEYSER	RECOLD,HAVELLS,BAJAJ,SPHEREHOT
13	MOTOR PUMP SET	CROMPTON,AMRUT,KSB,UNEEL,KIRLOSKAR
CABLE TRAY, RACEWAY & ACCESSORIES		
1	CABLE TRAY	INDIANA,RUSHABH,PROFAB
2	ALUMINIUM FLOOR RACEWAY	MK OR APPROVED BY CONSULTANTS
3	GI FLOOR RACEWAY	MK OR APPROVED BY CONSULTANTS
4	PVC WALL RACEWAY	MK, PROFAB,LEGRAND
	UPS & INVERTER	
1	UPS	NUMERIC,EATON,APC, BPE
2	INVERTER	SUVIK,SUKAM,MEGATECH
3	SMF BATTERY	PANASONIC,EXIDE,GLOBAL (YUASA)
4	RACK	FABRICATED
STREETLIGHT POLES, FIXTURES & ACCESSORIES		
1	GI POLES	FABRICATED
2	MS POLES	FABRICATED
3	SMC PRESS MOULDED JUNCTION BOX	SYNTEX OR AS APPROVED BY CONSULTANTS

LIGHTNING PROTECTION & EARTHING SYSTEM		
1	AIR TERMINAL	MAP, LPI, INDESCO
2	SUPPORTING GAYED MAST	MAP, LPI, INDESCO
3	LIGHTNING STROKE RECORDER	MAP, LPI, INDESCO
4	COPPER BONDED ROD & CHEMICAL COMPOUND	MAP, LPI, INDESCO
5	ELECTROLYTIC/CHEMICAL EARTHING KIT	GRESLO, GALAXY EARTHING

ELV SYSTEM & ACCESSORIES		
1	FIRE ALARM PANEL & DISPLAY PANEL	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
2	REPEATER PANEL	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
3	ADDRESSABLE & CONVENTIONAL SMOKEDETECTORS	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
4	INTELLIGENT SMOKE & HEAT DETECTORS	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
5	ADDRESSABLE & CONVENTIONAL HEAT DETECTORS	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
6	ADDRESSABLE & CONVENTIONAL BEAMDETECTORS	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
7	FAULT ISOLATOR	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
8	RESPONSE INDICATOR	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
9	MANUAL CALL POINT	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
10	ADDRESSABLE HOOTER	ESSER, EDWARD, NOTIFIER, SIEMENS, GST
11	FIRE CABLE	RRCABLE, FINOLEX,DELTON,POLYCAB, AVOCAB ,Caliplast
12	RJ-45 SOCKET OUTLET (COMPUTER & TELEPHONE)	LEGRAND-MYRIUS, MK-WRAP ROUND, ANCHOR-WOODS, HAVELLS-CRABTREE-ATHENA, PLEXONICS, AECONNECT
13	RJ-11 TELEPHONE SOCKET	LEGRAND-MYRIUS, MK-WRAP ROUND, ANCHOR-WOODS,HAVELLS-CRABTREE- ATHENA, PLEXONICS
14	CAT-6 CABLE	TYCO ELE(AMP), SCHINDER ELE.(DIGILINK), R&M,SYSTIMAX,MOLEX, PLEXONICS, AECONNECT
15	CAT-6E CABLE	TYCO ELE(AMP), SCHINDER ELE.(DIGILINK), R&M,SYSTIMAX,MOLEX, PLEXONICS, AECONNECT
16	TELEPHONE TAG BOX	KRONE
17	TELEPHONE PAIR WIRE	RRCABLE, FINOLEX,DELTON,POLYCAB
18	NETWORK SWITCH	CISCO,HP, PLEXONICS, , D LINK, AECONNECT, NETGEAR
19	ETHERNET SWITCH	CISCO,HP, PLEXONICS , D LINK, , AECONNECT, NETGEAR
20	PATCH CORDS	CISCO,HP, PLEXONICS , D LINK , , AECONNECT, NETGEAR

21	U RACKS	VERO PRESIDENT, VALRACK, SPIDER OR APPROVED BY CONSULTANTS, AECONNECT
22	PUSH BUTTON PHONE	PANASONIC, BEETEL, SONY OR APPROVED BY CONSULTANTS, PRAMODA
23	PROGRAM PHONE	PANASONIC, BEETEL, SONY OR APPROVED BY CONSULTANTS, MATRIX
24	AMPLIFIER (POWER & BOOSTER)	JBL, AUDIOQUEST, BOSCH, AVTRON
25	AUDIO MIXER	JBL, AUDIOQUEST, BOSCH, AVTRON
26	CD/DVD/FM PLAYER	JBL, AUDIOQUEST, BOSCH, SONY, AVTRON
27	MICROPHONE	JBL, AUDIOQUEST, BOSCH, AVTRON
28	MULTIPLEXER	JBL, AUDIOQUEST, BOSCH, AVTRON
29	CEILING AND WALL SPEAKER	JBL, AUDIOQUEST, BOSCH, AVTRON
30	GOOSENECK MIC	JBL, AUDIOQUEST, BOSCH, AVTRON
31	WIRELESS MIC	JBL, AUDIOQUEST, BOSCH, BEYERDYNAMIC
32	STAND MIC	JBL, AUDIOQUEST, BOSCH
33	SPEAKER CABLE	RRCABLE, FINOLEX, DELTON, POLYCAB, CALIPLAST
34	2 MP HD IR VERIFOCAI CAMERA	AVTRON, HONEYWELL, SONY, SCHNEIDER (PELCO), HIKVISION, CPPLUS
35	2 MP FIX DOME CAMERA	AVTRON, HONEYWELL, SONY, SCHNEIDER (PELCO), HIKVISION, CPPLUS
36	DOME CAMERA	AVTRON, HONEYWELL, SONY, SCHNEIDER (PELCO), HIKVISION, CPPLUS
37	DIGITAL VIDEO RECORDER	AVTRON, HONEYWELL, SONY, SCHNEIDER (PELCO), HIKVISION, CPPLUS
38	NETWORK VIDEO RECORDER	AVTRON, HONEYWELL, SONY, SCHNEIDER (PELCO), HIKVISION, CPPLUS
39	LED/LCD DISPLAY UNIT	SONY, SAMSUNG, PANASONIC, LG

Sr. No.	Description	Make
1	VRF	DAIKIN, O GENERAL, HITACHI, MITSUBISHI, BLUESTAR / TOSHIBA
2	Treated Fresh Air Unit	Zeco / Citizen / Ethos
3	Dx Type Condensing Unit	DAIKIN, O GENERAL, HITACHI, MITSUBISHI, BLUESTAR / TOSHIBA
4	Ventilation Fan	Kruger/Nicotra/System Air
5	Grills/ Jet Nozzel	Caryaire /System Air /Ruskin Titus
6	Nitrile Insulation	K Flex/ Armacell /Areoflex
7	Copper pipes	Maxflow / Mandev
8	Drain Pipe	Prince/Finolex/ Astral
9	GI Sheet	Jindal/Tata
10	Electrical Cables	Polycab/Finolex Eq Approve

Only above said material is to be used as per Schedule "B"

Notes:

The consultant / Nagarpalika reserves the right to select the manufacturers or approved make from the above list and also to make changes (add or delete names of other makes) in this list during the execution of the contract, Tenderers should quote rates of various items considering supply/ use of first preference make of material selected by him. Second preference make material would be accepted by the consultant if they are satisfied that first preference make material cannot be supplied/ used by Tenderers due to any specific reasons. However, the final decision for accepting second preference makes or accepting only first preference would be that of the consultant.

Note:

All the material/ makes listed above and other than as specified above shall be used after obtaining prior approval from the architect/ Eng. in charge equivalent material listed in complete tender document should only be used in case the specified material or not available the equivalent material should be used after obtaining prior approval from the architect/Eng-in-charge. Any extra item has to be approved in advance and then execute the same else university will not be liable for payment of such item. If any items are not included in the tender and need to do on site then contractor has to give RA (rate analysis) for the same.

TENDERER'S SEAL AND SIGNATURE.

SECTION - 6

FORM OF BID

FORM OF BID

Description of the Works:

BID

To :

Address :

1. We offer to execute the Works described above and remedy any defects therein in conformity with the conditions of Contract, specification, drawings, Bill of Quantities and Addenda for the sum (s) of

(-----)

2. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works in the Contract within the time stated in the document.
3. We agree to abide by this Bid for the period of 120 Days from the date fixed for receiving the same, and it shall remain binding upon it and may be accepted at any time before the expiration of that period.
4. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
5. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this ----- day of ----- 20

Signature ----- in the capacity of -----

----- Duly authorized to sign bids for and on behalf of -----

(in block capitals or typed)

Address

Witness

Address

Occupation

SECTION - 7

BILL OF QUANTITIES

INDEX

BILL OF QUANTITIES

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1. BILL OF QUANTITIES Preamble to Price Schedules

NAME OF PROJECT: REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME... The bill of Quantities shall be read in conjunction with the Instructions to Bidder, Conditions of Contract, Technical Specifications and Drawings.

1. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
2. The rates and prices tendered in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all constructional plant, layout, supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
3. The rates and prices shall be quoted entirely in Indian Currency.
4. A rate or prices shall be entered against each item in the Bill Quantities, whether quantities are stated or not. The cost of Items against which Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities (in case of Item rate contract).
5. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no Items are provided the cost shall be deemed to be distributed among the rates and prices entered for the related items of Work.
6. General direction and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering rates or prices against each item in the Bill of Quantities.
7. The method of completed work of payment shall be in accordance with the specification for Road and Bridge works. For building works specifications for building are to be followed.
8. Errors will be corrected by the Employer for any arithmetic errors pursuant to Clause 29 of the Instructions to Bidder.
9. Rock is defined as all materials which, in the opinion of the Engineer, required blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for its removal, and which cannot be extracted by ripping with a tractor of at least 150 kw with a single rear mounted heavy duty ripper.
10. Break Up Of Schedule Of Payment As per Schedule-B
11. The rates and prices shall be submitted in the electronic formats given by n-procure which is called Schedule B, rates and prices received in any other formats will be rejected and the Bids will be disqualified.
12. It will be entirely at the discretion of the Employer to accept or reject the bidder's proposal, without giving any reasons whatsoever and the bidder shall not be permitted to withdraw his bid on this account.
13. Price Schedule-A gives the Schedule showing approximately the materials to be free supplied from the

by client.

14. In Schedule-B the Bidder shall quote prices for the items on lump sum / unit rate as called for against the BOQ item.
15. In Price Schedule-B, bidder shall quote his price for entire work. Prices quoted in Schedule-B only will be considered for price evaluation & shall form a part of the Contract Agreement.
16. In the Price Schedule-B bidder shall furnish breakup of his prices quoted in Price Schedule-B and shall be carried forward to Schedule-B for comparison and evaluation.
17. The total shall be carried forward to Schedule-B for comparison and evaluation.
18. Wherever for a particular item the quantities have been specified payment shall be on unit rate basis and unit variation in quantity will be paid with pro rata basis.
19. Each item is to be individually priced online and the amounts shall be added up to arrive at the "Total of each Price Schedule". No column in the Schedules of prices shall be left blank except where the item description requires the item to be priced on "as applicable" basis. The item shall not be priced if it is "not applicable" to the bidder's design, in which case the bidder shall add the words "NOT APPLICABLE". The wording in the item description is for subject matter guidance only; clause references are indicative only and all other relevant clauses shall also be referred to. The prices shall allow for all the works covered under the bid and all liabilities and contractual obligations whether separately specified or not. Items against which no prices are quoted shall not be separately paid for and the bidder shall be deemed to have covered the cost of execution of such items (according to the requirements of the bid document) in the prices quoted for other items.
20. Items not specifically listed in his Price Schedules, but required to be executed for satisfactory working/safety of the system as specified, will not be separately paid for by the Employer when executed and shall be deemed to be already covered by other items And rates listed in the price sheets No extra payment shall be given for any item which is required to complete and perform the project.
21. The total of the item prices in Price Schedule-B shall be equal to the price quoted by the bidder in Price Schedule B and shall be firm and fixed, during the pendency of the Contract. In case of any discrepancy noted in the various price schedules, those in Schedule B will be considered and binding on the Contractor. The prices in Price Schedule B of the successful bidder shall be corrected accordingly. Only Price Schedule-B after carried over and arithmetic corrections if any will be considered for financial evaluation of the bid.
22. Schedule 'D gives the basis of interim payment for construction of civil works.
23. The bidder shall be deemed to have allowed in his price for provision, maintenance and final removal of all temporary works of whatsoever nature required for construction including temporary bunds, diverting water, pumping, de-watering etc. for the proper execution of works. The rates shall also be deemed to include any works and setting out that may be required to be carried out for laying out of all the works involved.
24. Prices shall be filled online only.
25. The Price Schedules are to be read in conjunction with the Conditions of Contract, the Specifications and other sections of these bid documents and these documents are to be taken as mutually explanatory of

one another.

26. The bidder shall interpret the data furnished and carry out any additional survey work, or investigation work required at his own cost.
27. The prices quoted shall also include the cost of materials utilized for testing.
28. The bidder should acquaint himself with the site conditions including the access to Work site. The successful bidder shall have to make suitable access to work sites at his own cost. These accesses will be used by the other contractors working for Padra Nagarpalika .
29. The item descriptions in price schedule are for subject matter guidance only and the prices shall include all the equipment's / materials / accessories and services required as per the specifications. The bidder shall fill in the price schedule furnished.
30. General Conditions of Contract, Clause No. 1, and Security Deposit.
31. 1% of the value of work will be deducted from the Running bill against labor cess which is nonrefundable.
32. Third Party Inspection/CSC agency will be deployed by Padra Nagarpalika and charges of the same will be borne by Bidder.
33. Any expenditure incurred by inspection/ CSC agency for the work misinformed by the contractor and charges of inspection/ CSC agency without any work due to misinformation shall be recovered from the contractor.
34. The prices shall be quoted inclusive all taxes, royalties and duties prevailing at the time of submission of the bids. Statutory variation if any during the currency of contract shall have to borne by the agency which shall be not be reimbursed.
35. The rates to be quoted by the contractor are inclusive of sales GST & all other taxes. No extra payment on this account will be made to the contractor.
36. The rates quoted shall be Inclusive of GST, and inclusive of all other taxes, duties which shall not be paid extra. While GST will be Payable for admissible part of actual work done at the approved tender rates and tender conditions of price variations. GST shall be paid as per prevailing rates at the time of payment. The TDS shall be deducted at source as per provision of IT rules and policy.
37. Goods and Service Tax (GST TDS) Amount as per Government Rules and Regulation will be Deducted from Contractors / Bidder Running Bill / Final Bill by Nagarpalika Stage / Bill Wise.(as per resolution GST/1017/1097/GST Cell dated 15/09/2018)
38. The Ministry of Finance and Company Affairs, Department of Revenue, Government of India has issued a notification No. 6/2007-Central Excise Circular No. 6/2007, dated 1th March 2007 regarding the Central Excise Duty Exemption. By this notification, the notification 659/50/2002 dated 6th September, 2002 has been amended and the earlier notification 26/2009 dated 4th December, 2009 has been amended and the Items of materials, instruments, apparatus and appliance, ancillary equipment's and their components/parts, etc. for setting up of Water Treatment Plants and the Pipes needed for delivery of water from its source to the Plant and from there to the Storage facility (as mentioned in notification No.6/2007) are exempted from Central Excise Duty subject to the Certification by the Collector/ District Magistrate/ Deputy Commissioner of the District, regarding its use on such Projects. Necessary Project Authority Certificate shall be made available to the Contractor, as per the prevailing rules, to facilitate

him to avail the benefit in terms of Exemption of Central Excise. (Circulars attached herewith)

39. Royalties: The contractor shall be liable to pay the royalty of the quarried materials/ minerals used in the construction of works at the rates specified in the Narmada Water Resources, Water Supply & Kalpsar Dept. Resolution No. GEN-2010-595-(6)-M.I.Cell (K-1) Dt. 29-4-2011 (Gujarati Version Copy enclosed) and shall be recovered from the running bills of the work from time to time and remaining amount if any shall be recovered from the final bill before releasing the security deposit of the work. The contractor shall furnish the statement showing the quantity of quarried materials / minerals from whom purchased (with full address of the seller) and copies of the bills for purchase to the Executive Engineer of the in charge of the work. The contractor shall also furnished such additional information as regards royalty payment to the competent authority.
40. Agency shall have to take Insurance policy and intimate to Padra Nagarpalika along with the evidence within time limit. In case of noncompliance entire responsibility shall be rest with the agency and required amount shall be recovered from any due amount of the agency.
41. Padra Nagarpalika can recover penalty amount from the agency for not taking the insurance. Though the penalty amount is recovered, responsibility of the agency for taking insurance shall be continued and will not be escaped from the responsibility.
42. The contractor shall apply fair means of stock maintenance and shall adopt accounting standard as may be prescribed under GST Act as applicable in the state of Gujarat. For arriving at the difference in procurement prices due to introduction of GST it will be open for the Board to ask for original invoices, lorry receipt, weigh bridge slips, payment details and such other documents as may be required for the purpose.
- The claim of contractor regarding GST shall have to be backed by documentary evidence substantiating the actual payment of tax duly certified by the competent tax authority. The final decision regarding the quantum of claim amount to be recovered or reimbursed shall be of the competent authority and shall be binding on the contractor.
43. To facilitate bidder during the bidding stage, department has provided the indicative quantities in the minimum BOQ, which are meant to appraise the bidder about magnitude of the work and these are likely to vary on the basis of detailed survey and geotechnical investigation depending upon land/ ROU availability during execution and the contractor shall have no objection to such minor or major changes or deletion or addition of the item/ items. The sizing indicated in the drawing and minimum BOQ is binding to contractor and size smaller/ lower than this may not be permitted. However, in case higher/ larger size is required as per detailed survey and geotechnical investigation based detailed Design for execution, quantity variation beyond 10% on upward side will be adjusted on pro rata basis. Quantity variation on lower side will be adjusted, irrespective of the variation. This being turnkey tender, any item specifically not mentioned in the BOQ, but required for approval of the competent authority is deemed to be covered in the project. Payment towards various items indicated in minimum BOQ for shall be made on the prorata basis i.e. in case estimate is X and approved contract rate is Y, then ratio of X/Y would be applicable for making the payment towards the item executed. For the item indicated in the minimum BOQ is not executed by the contractor, payment shall not be made towards that particular item.

Signature of Contractor

Chief Officer
Padra Nagarpalika Padra

2. BID FORM

Bidders are required to fill up all the blank spaces in this Bid Form.

**To,
Chief Officer
Padra Nagarpalika
Padra**

Dear Sir,

**SUB: REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER:
15 TH FINANCE SCHEME.**

1. Having visited the site and examined the Bid Documents, Drawings, Conditions of Contract, Specifications, Schedules, Annexure, Preamble to Price Schedules, Price Schedules etc. including Addenda / Amendments to the above, for the execution of the above Contract, we the undersigned offer to Design, Engineer, Procure, Construct, Complete, Commission, operate, maintain and Run the whole of the said works for 06 Months from the date of commissioning including defects liability period as given in Conditions of Contract and in conformity with the drawings, conditions of Contract, specifications, Preamble to Price Schedules, Price Schedules, Annexure, Bidding Documents, including Addenda Nos._____ (insert numbers) for Lump sum fixed price of Rs._____.

(Rupees_____) for Construction including free trial run for three months or such other sum as may be ascertained in accordance with the conditions.

2. I / We agree that

(a) If we fail to provide required facilities to the Employer's representative or any other person / Agency by the Employer to perform on his behalf for carrying out the inspection and testing of materials and workmanship.

Or

(b) If we incorporate into the Works, materials before they are tested and approved by the Engineer's representative

Or

(c) If we fail to deliver pure water of required quantity according to the conditions / stipulations of the Contract, the Engineer will be at liberty to take any action including termination of Contract and impose at his absolute discretion any penalties, and / or reject the work.

3. We undertake, if our Bid is accepted, to complete and deliver the works in accordance with the Contract within 06 Months, inclusive of monsoons, from the date or receipt of Letter of Acceptance issued to us by you.

4. We agree to abide by this Bid for a period of $120+45=165$ days from the last date of submission of bid and it shall remain binding upon us and may be accepted at any time before the expiry of that period.

5. In the event of our Bid being accepted, we agree to enter into a formal Contract Agreement with you incorporating the conditions of Contract thereto annexed but until such agreement is prepared this Bid together with your written acceptance thereof shall constitute a binding Contract between us.

6. We agree, if our Bid is accepted, to furnish performance Security in the forms and of value specified in the General Conditions of Contract.

7. We have independently considered the amounts of liquidated damages shown in Appendix to Bid and agree that they represent a fair estimate of the damages likely to be suffered by you in the event of the work not being completed by us in time.

8. We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this _____ day of _____ 20_____

(Signature) _____

(Name of the person) _____

(In the capacity of)

Company Seal _____ (Name of firm)

Duly authorized to sign Bid for and on behalf of
(Fill in block capitals)

Witness:

Signature _____

Name _____

PADRA NAGARPALIKA PADRA

BID DOCUMENT FOR REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME. (SECOND ATTEMPT) .

GENERAL SUMMARY

Sr. No.	Description		Amount
1	REPLACEMENT OF WATER SUPPLY LINES AT MANUSMRUTI SOCIETY - 150MM DIA DIK-7 PIPE AT PADRA.AND DOMESTIC HOUSE CONNECTIONS. (60 Nos.)	Rs.	1327700.00
2	REPLACEMENT OF WATER SUPPLY LINES AT BAJRANG NAGAR 110MM PVC AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (95 Nos.)	Rs.	857700.00
3	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT RAM NAGAR 110MM PVC AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (60 Nos.)	Rs.	788700.00
4	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT BACK SIDE OF MASJID (CHAKLAMA) - 100MM DIA DIK-7 PIPE AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (60 Nos.)	Rs.	471800.00
5	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT BEHIND OLD POST OFFICE TULSI (CHORO) - 100MM DIA DIK-7 PIPE AT PADRA.AND DOMESTIC HOUSE CONNECTIONS. (65 Nos.)	Rs.	709700.00
6	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT TRIKAMJI TEMPLE NALA SIDE 110MM PVC AT PADRA.AND DOMESTIC HOUSE CONNECTIONS. (25 Nos.)	Rs.	300800.00
7	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT SANTRAM NAGAR 110MM PVC AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (35 Nos.)	Rs.	487600.00
8	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT BOYAVAD , GITABHARTI POD , SANTOSPURI POD 110MM PVC AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (80 Nos.)		676500.00
9	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT LAAL BAVA NO LIMDO - 150MM DIA DIK-7 PIPE AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (100 Nos.)		1355700.00
10	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT NANDERA SHERI - 100MM DIA DIK-7 PIPE AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (75 Nos.)		926700.00
11	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT SANTARAM BHAGOL MALIWAS 110MM PVC AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (35 Nos.)		313800.00
12	ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT SANTARAM BHAGOL MALIWAS 90 MM PVC AT PADRA AND DOMESTIC HOUSE CONNECTIONS. (25 Nos.)		261700.00
	Total, Rs.		8478400.00

I / We am/are willing to carry out the work at _____ % above / below (percent should be written in figure and in words) of the estimated rates mentioned above. Amount of my/our tender works out as under.

(In words) _____ percentage above / below the estimated rate.

Estimated Amount put to tender	Rs.	8478400.00
Deduct _____ % below Rs.	Rs.	
Net Amount	Rs.	

(In words) _____

Estimated Amount put to tender	Rs.	8478400.00
Add _____ % above Rs.	Rs.	
Total Amount	Rs.	

(In words) _____ **SECTION-7 BILL OF QUANTITIES-175**

*(Please strike out whichever is not applicable)	
Note :1	All work shall be carried out as per Public Works Department Hand Book and other specifications of Division or as directed.
Note :2	Rates quoted include clearance of site (prior commencement of work and its close) in all respects and hold good for work under.
Note : 3	I/ We have read the conditions mentioned in this tender and agree to abide by the same.
Note : 4	In all R.C.C. Items in Rate Analysis Standard Cement Consumption has been taken as per Govt. G.R.: PRC-10/2017 Cement Consumption/16/C Date:11/05/2017 as stated in S.O.R. therefore in R.C.C. items where there is a change as per actual mix design the cost of difference of cement consumption have been deducted from the rate of original item at the rate of input rate mentioned in all the tender.

Signature of Contractor

President
Padra Nagarpalika
Padra

Chief Officer
Padra Nagarpalika
Padra

PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT MANUSMRUTI SOCIETY - 150MM DIA DIK-7 PIPE AT PADRA.

SCHEDULE-B1

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying D. I. K-7 grade pipes for following nominal bore diameter with internal cement mortar lining including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. (IS 8329-2000). 150mm Dia Pipes.				
1.1	150 mm Dia di Pipe K-7	345.00	1425.00	Rmt.	4,91,625.00
2.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Socket & Spigot Type. 80 To 300mm Dia.	250.00	148.00	No.	37,000.00
3.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and struting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	302.00	102.35	Cmt.	30,909.70
3.1	For CC 1:2:4 or Asphalt Road.	91.00	427.80	Cmt.	38,929.80
4.0	Lowering, Laying and Joining C. I. S & S Spun pipes suitable for tyton joints/ Mortalined D. I. Pipes of various classes with C.I./M.S. specials of following diameters in propoer position, grade and alignment as directed by engineer in charge including hydraulic testing etc. complete. Tyton joint. 150mm Dia.				
4.1	150 mm Dia di Pipe K-7	335.00	87.40	Rmt.	29,279.00

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PER	AMOUNT Rs.
5.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 20 mm Size.	2.00	4730.87	Cmt.	9,461.74
6.0	Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.	388.00	25.30	Cmt.	9,816.40
7.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	70.00	89.12	Kgs	6,238.40
8.0	Labour charges for Jointing in DI pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/Crane, dewatering machine, fuel, operator etc complete. (including cost of jointing material but excluding cost of pipe). 'For 150mm Dia Pipe.	2.00	2870.40	Nos.	5,740.80
9.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	10.00	2103.35	No.	21,033.50
9.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
10.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- Crushed stone aggregates 40 mmnominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	31.00	3080.90	Cmt.	95,507.90
11.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	46.00	4247.56	Cmt.	1,95,387.76
			Total		9,75,024.00
			Add 18% GST		175504.32
			Total Rs.		1150528.32
			Say, Rs.		1150600.00

PADRA MUNICIPALITY, PADRA					
DOMESTIC HOUSE CONNECTIONS. (60 Nos.)					
<u>SCHEDULE-B1.1</u>					
Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

7	Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.	1.00	80.0	No.	80.00
				Total, Rs.	2500.04
				Say, Rs.	2501.00
				For 60 Connections	150060.00
				Add 18% GST	27010.80
				Total Rs.	177070.80
				Say, Rs.	177100.00

PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT BAJRANG NAGAR 110MM PVC AT PADRA.

SCHEDULE-B2

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/ 1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete. Note :- One coupler / ring shall be provided with each full length pipe cost of which is included in rates below. a) Test Pressure 10.0 Kg/cm ² .				
1.1	110 mm Dia PVC Pipes	275.00	439.00	Rmt.	1,20,725.00
2.0	Providing and supplying at store or site of work incl. freight, loading, unloading, stacking, insurance & all taxes etc. complete. P. V. C. Tee (Moulded) - 160 x 160 mm.	0.00	952.00	No.	-
2.1	P. V. C. Tee (Moulded) - 160 x 110 mm	6.00	857.00	No.	5,142.00
2.2	P. V. C. Tee (Moulded) - 110 x 110 mm	6.00	407.00	No.	2,442.00
2.3	P. V. C. Reducer (Moulded) - 200 x 160 mm	3.00	901.00	No.	2,703.00
2.4	P. V. C. Reducer (Moulded) - 160 x 110 mm	3.00	375.00	No.	1,125.00
2.5	P. V. C. Couplers 10 Kg/cm ² (Moulded) - 110mm	5.00	235.00	No.	1,175.00
3.0	Supplying following materials including all taxes and carting. PVC Solvent Cement/Solution.	10.00	308.20	No.	3,082.00
4.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	239.00	102.35	Cmt.	24,461.65
4.1	For CC 1:2:4 or Asphalt Road.	72.00	427.80	Cmt.	30,801.60
5.0	Lowering, laying and jointing PVC/uPVC/cPVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works at all level including cost of labour, material, giving satisfactory hydraulic testing as per ISI Code etc. comp.	0.00	32.20	Rmt.	-
5.1	110 mm Dia PVC Pipes	265.00	21.85	Rmt.	5,790.25
6.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 40 mm Size.	3.00	3873.83	Cmt.	11,621.49

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
7.0	Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.	309.00	25.30	Cmt.	7,817.70
8.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	105.00	89.12	Kgs	9,357.60
9.0	Labour charges for Jointing on Existing Pipe/Repairing leakage in CI/DI/PVC/HDPE pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/ Crane, dewatering machine, fuel, operator etc complete (including cost of jointing material but excluding cost of pipe). From 200mm Dia Ex. Pipe.	2.00	3933.00	Nos.	7,866.00
10.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Flanged ended. 80 to 300mm dia.	20.00	155.00	Kg.	3,100.00
11.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	10.00	2103.35	No.	21,033.50
11.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
12.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3-coarse sand : 6- Crushed stone aggregates 40 mmnominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	24.00	3080.90	Cmt.	73,941.60
13.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	36.00	4247.56	Cmt.	1,52,912.16
			Total		4,89,191.55
			Add 18% GST		88054.48
			Total Rs.		577246.03
			Say, Rs.		577300.00

PADRA MUNICIPALITY, PADRA

DOMESTIC HOUSE CONNECTIONS. (95 Nos.)

SCHEDULE-B2.1

Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

- 7 Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.

1.00	80	No.	80.00
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Total, Rs.	2500.04
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Say, Rs.	2501.00
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For 95 Connections	237595.00
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Add 18% GST	42767.10
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Total Rs.	280362.10
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Say, Rs.	280400.00
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PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT RAM NAGAR 110MM PVC AT PADRA.

SCHEDULE-B3

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/ 1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete. Note :- One coupler / ring shall be provided with each full length pipe cost of which is included in rates below. a) Test Pressure 10.0 Kg/cm ² .				
1.1	110 mm Dia PVC Pipes	285.00	439.00	Rmt.	1,25,115.00
2.0	Providing and supplying at store or site of work incl. freight, loading, unloading, stacking, insurance & all taxes etc. complete. P. V. C. Tee (Moulded) - 160 x 160 mm.	0.00	952.00	No.	-
2.1	P. V. C. Tee (Moulded) - 160 x 110 mm	8.00	857.00	No.	6,856.00
2.2	P. V. C. Tee (Moulded) - 110 x 110 mm	8.00	407.00	No.	3,256.00
2.3	P. V. C. Reducer (Moulded) - 200 x 160 mm	5.00	901.00	No.	4,505.00
2.4	P. V. C. Reducer (Moulded) - 160 x 110 mm	5.00	375.00	No.	1,875.00
2.5	P. V. C. Couplers 10 Kg/cm ² (Moulded) - 110mm	6.00	235.00	No.	1,410.00
3.0	Supplying following materials including all taxes and carting. PVC Solvent Cement/Solution.	15.00	308.20	No.	4,623.00
4.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	248.00	102.35	Cmt.	25,382.80
4.1	For CC 1:2:4 or Asphalt Road.	75.00	427.80	Cmt.	32,085.00
5.0	Lowering, laying and jointing PVC/uPVC/cPVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works at all level including cost of labour, material, giving satisfactory hydraulic testing as per ISI Code etc. comp.	0.00	32.20	Rmt.	-
5.1	110 mm Dia PVC Pipes	275.00	21.85	Rmt.	6,008.75
6.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 40 mm Size.	3.50	3873.83	Cmt.	13,558.41

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
7.0	Refilling the pipeline trenches incl. ramming, watering, consolidating disposal of surplus stuff as directed within a radius of 3 km.	321.00	25.30	Cmt.	8,121.30
8.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	122.50	89.12	Kgs	10,917.20
9.0	Labour charges for Jointing on Existing Pipe/Repairing leakage in CI/DI/PVC/HDPE pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/ Crane, dewatering machine, fuel, operator etc complete (including cost of jointing material but excluding cost of pipe). From 200mm Dia Ex. Pipe.	2.00	3933.00	Nos.	7,866.00
10.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Flanged ended. 80 to 300mm dia.	20.00	155.00	Kg.	3,100.00
11.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	10.00	2103.35	No.	21,033.50
11.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
12.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3-coarse sand : 6- Crushed stone aggregates 40 mmnominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	25.00	3080.90	Cmt.	77,022.50
13.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	38.00	4247.56	Cmt.	1,61,407.28
			Total		5,18,236.74
			Add 18% GST		93282.61
			Total Rs.		611519.35
			Say, Rs.		611600.00

PADRA MUNICIPALITY, PADRA

DOMESTIC HOUSE CONNECTIONS. (60 Nos.)

SCHEDULE-B3.1

Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

7 Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.

1.00 80 No. 80.00

Total, Rs. 2500.04

Say, Rs. 2501.00

For 60 Connections 150060.00

Add 18% GST 27010.80

Total Rs. 177070.80

Say, Rs. 177100.00

PADRA MUNICIPALITY, PADRA

**ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT BACK SIDE OF MASJID (CHAKLAMA) -
100MM DIA DIK-7 PIPE AT PADRA.**

SCHEDULE-B4

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PE R	AMOUNT Rs.
1.0	Providing and supplying D. I. K-7 grade pipes for following nominal bore diameter with internal cement mortar lining including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. (IS 8329-2000). 100mm Dia Pipes.				
1.1	100 mm Dia di Pipe K-7	105.00	968.00	Rmt.	1,01,640.00
2.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Socket & Spigot Type. 80 To 300mm Dia.	55.00	148.00	No.	8,140.00
3.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	90.00	102.35	Cmt.	9,211.50
3.1	For CC 1:2:4 or Asphalt Road.	27.00	427.80	Cmt.	11,550.60
4.0	Lowering, Laying and Joining C. I. S & S Spun pipes suitable for tyton joints/ Mortalined D. I. Pipes of various classes with C.I./M.S. specials of following diameters in propoer position, grade and alignment as directed by engineer in charge including hydraulic testing etc. complete. Tyton joint. 150mm Dia.				
4.1	100 mm Dia di Pipe K-7	100.00	63.25	Rmt.	6,325.00
5.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 20 mm Size.	0.50	4730.87	Cmt.	2,365.44

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PE R	AMOUNT Rs.
6.0	Refilling the pipeline trenches incl. ramming, watering, consolidating disposal of surplus stuff as directed within a radius of 3 km.	116.00	25.30	Cmt.	2,934.80
7.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	17.50	89.12	Kgs	1,559.60
8.0	Labour charges for Jointing in DI pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/Crane, dewatering machine, fuel, operator etc complete. (including cost of jointing material but excluding cost of pipe). 'For 100mm Dia Pipe.	2.00	2068.85	Nos.	4,137.70
9.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	5.00	2103.35	No.	10,516.75
9.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
10.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- Crushed stone aggregates 40 mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	9.00	3080.90	Cmt.	27,728.10
11.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	14.00	4247.56	Cmt.	59,465.84
			Total		2,49,669.33
			Add 18% GST		44940.48
			Total Rs.		294609.81
			Say, Rs.		294700.00

PADRA MUNICIPALITY, PADRA					
DOMESTIC HOUSE CONNECTIONS. (60 Nos.)					
SCHEDULE-B4.1					
Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

7	Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.	1.00	80.0	No.	80.00
			Total, Rs.		2500.04
			Say, Rs.		2501.00
			For 60 Connections		150060.00
			Add 18% GST		27010.80
			Total Rs.		177070.80
			Say, Rs.		177100.00

PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT BEHIND OLD POST OFFICE TULSI (CHORO) - 100MM DIA DIK-7 PIPE AT PADRA.

SCHEDULE-B5

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PE R	AMOUNT Rs.
1.0	Providing and supplying D. I. K-7 grade pipes for following nominal bore diameter with internal cement mortar lining including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. (IS 8329-2000). 100mm Dia Pipes.				
1.1	100 mm Dia di Pipe K-7	190.00	968.00	Rmt.	1,83,920.00
2.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Socket & Spigot Type. 80 To 300mm Dia.	95.00	148.00	No.	14,060.00
3.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and struting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	167.00	102.35	Cmt.	17,092.45
3.1	For CC 1:2:4 or Asphalt Road.	50.00	427.80	Cmt.	21,390.00
4.0	Lowering, Laying and Joining C. I. S & S Spun pipes suitable for tyton joints/ Mortalined D. I. Pipes of various classes with C.I./M.S. specials of following diameters in propoer position, grade and alignment as directed by engineer in charge including hydraulic testing etc. complete. Tyton joint. 150mm Dia.				
4.1	100 mm Dia di Pipe K-7	185.00	63.25	Rmt.	11,701.25
5.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 20 mm Size.	1.00	4730.87	Cmt.	4,730.87

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PE R	AMOUNT Rs.
6.0	Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.	214.00	25.30	Cmt.	5,414.20
7.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	35.00	89.12	Kgs	3,119.20
8.0	Labour charges for Jointing in DI pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/Crane, dewatering machine, fuel, operator etc complete. (including cost of jointing material but excluding cost of pipe). 'For 100mm Dia Pipe.	2.00	2068.85	Nos.	4,137.70
9.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	5.00	2103.35	No.	10,516.75
9.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
10.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- Crushed stone aggregates 40 mmnominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	17.00	3080.90	Cmt.	52,375.30
11.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	25.00	4247.56	Cmt.	1,06,189.00
			Total		4,38,740.72
			Add 18% GST		78973.33
			Total Rs.		517714.05
			Say, Rs.		517800.00

PADRA MUNICIPALITY, PADRA					
DOMESTIC HOUSE CONNECTIONS. (65 Nos.)					
<u>SCHEDULE-B5.1</u>					
Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

7	Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.	1.00	80.0	No.	80.00
				Total, Rs.	2500.04
				Say, Rs.	2501.00
				For 65 Connections	162565.00
				Add 18% GST	29261.70
				Total Rs.	191826.70
				Say, Rs.	191900.00

PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT TRIKAMJI TEMPLE NALA SIDE 110MM PVC AT PADRA.

SCHEDULE-B6

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/ 1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete. Note :- One coupler / ring shall be provided with each full length pipe cost of which is included in rates below. a) Test Pressure 10.0 Kg/cm ² .				
1.1	110 mm Dia PVC Pipes	90.00	439.00	Rmt.	39,510.00
2.0	Providing and supplying at store or site of work incl. freight, loading, unloading, stacking, insurance & all taxes etc. complete. P. V. C. Tee (Moulded) - 160 x 160 mm.	0.00	952.00	No.	-
2.1	P. V. C. Tee (Moulded) - 160 x 110 mm	8.00	857.00	No.	6,856.00
2.2	P. V. C. Tee (Moulded) - 110 x 110 mm	8.00	407.00	No.	3,256.00
2.3	P. V. C. Reducer (Moulded) - 200 x 160 mm	5.00	901.00	No.	4,505.00
2.4	P. V. C. Reducer (Moulded) - 160 x 110 mm	5.00	375.00	No.	1,875.00
2.5	P. V. C. Couplers 10 Kg/cm ² (Moulded) - 110mm	6.00	235.00	No.	1,410.00
3.0	Supplying following materials including all taxes and carting. PVC Solvent Cement/Solution.	15.00	308.20	No.	4,623.00
4.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	77.00	102.35	Cmt.	7,880.95
4.1	For CC 1:2:4 or Asphalt Road.	23.00	427.80	Cmt.	9,839.40
5.0	Lowering, laying and jointing PVC/uPVC/cPVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works at all level including cost of labour, material, giving satisfactory hydraulic testing as per ISI Code etc. comp.				
5.1	110 mm Dia PVC Pipes	85.00	21.85	Rmt.	1,857.25
6.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 40 mm Size.	1.00	3873.83	Cmt.	3,873.83
7.0	Refilling the pipeline trenches incl. ramming, watering, consolidating disposal of surplus stuff as directed within a radius of 3 km.	100.00	25.30	Cmt.	2,530.00

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
8.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	35.00	89.12	Kgs	3,119.20
9.0	Labour charges for Jointing on Existing Pipe/Repairing leakage in CI/DI/PVC/HDPE pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/ Crane, dewatering machine, fuel, operator etc complete (including cost of jointing material but excluding cost of pipe). From 200mm Dia Ex. Pipe.	2.00	3933.00	Nos.	7,866.00
10.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Flanged ended. 80 to 300mm dia.	20.00	155.00	Kg.	3,100.00
11.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	5.00	2103.35	No.	10,516.75
11.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
12.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- Crushed stone aggregates 40 mmnominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	8.00	3080.90	Cmt.	24,647.20
13.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	12.00	4247.56	Cmt.	50,970.72
				Total	1,92,330.30
				Add 18% GST	34619.45
				Total Rs.	226949.75
				Say, Rs.	227000.00

PADRA MUNICIPALITY, PADRA

DOMESTIC HOUSE CONNECTIONS. (25 Nos.)

SCHEDULE-B6.1

Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and strutting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

- 7 Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.

1.00	80	No.	80.00
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Total, Rs.	2500.04
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Say, Rs.	2501.00
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For 25 Connections	62525.00
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Add 18% GST	11254.50
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Total Rs.	73779.50
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Say, Rs.	73800.00
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PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT SANTRAM NAGAR 110MM PVC AT PADRA.

SCHEDULE-B7

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/ 1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete. Note :- One coupler / ring shall be provided with each full length pipe cost of which is included in rates below. a) Test Pressure 10.0 Kg/cm ² .				
1.1	110 mm Dia PVC Pipes	175.00	439.00	Rmt.	76,825.00
2.0	Providing and supplying at store or site of work incl. freight, loading, unloading, stacking, insurance & all taxes etc. complete. P. V. C. Tee (Moulded) - 160 x 160 mm.	0.00	952.00	No.	-
2.1	P. V. C. Tee (Moulded) - 160 x 110 mm	7.00	857.00	No.	5,999.00
2.2	P. V. C. Tee (Moulded) - 110 x 110 mm	7.00	407.00	No.	2,849.00
2.3	P. V. C. Reducer (Moulded) - 200 x 160 mm	4.00	901.00	No.	3,604.00
2.4	P. V. C. Reducer (Moulded) - 160 x 110 mm	4.00	375.00	No.	1,500.00
2.5	P. V. C. Couplers 10 Kg/cm ² (Moulded) - 110mm	5.00	235.00	No.	1,175.00
3.0	Supplying following materials including all taxes and carting. PVC Solvent Cement/Solution.	10.00	308.20	No.	3,082.00
4.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	153.00	102.35	Cmt.	15,659.55
4.1	For CC 1:2:4 or Asphalt Road.	46.00	427.80	Cmt.	19,678.80
5.0	Lowering, laying and jointing PVC/uPVC/cPVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works at all level including cost of labour, material, giving satisfactory hydraulic testing as per ISI Code etc. comp.	0.00	32.20	Rmt.	-
5.1	110 mm Dia PVC Pipes	170.00	21.85	Rmt.	3,714.50
6.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 40 mm Size.	2.00	3873.83	Cmt.	7,747.66

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
7.0	Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.	198.00	25.30	Cmt.	5,009.40
8.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	70.00	89.12	Kgs	6,238.40
9.0	Labour charges for Jointing on Existing Pipe/Repairing leakage in CI/DI/PVC/HDPE pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/Crane, dewatering machine, fuel, operator etc complete (including cost of jointing material but excluding cost of pipe). From 200mm Dia Ex. Pipe.	2.00	3933.00	Nos.	7,866.00
10.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Flanged ended. 80 to 300mm dia.	20.00	155.00	Kg.	3,100.00
11.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	5.00	2103.35	No.	10,516.75
11.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
12.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3-coarse sand : 6- Crushed stone aggregates 40 mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	16.00	3080.90	Cmt.	49,294.40
13.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	23.00	4247.56	Cmt.	97,693.88
			Total		3,25,647.34
			Add 18% GST		58616.52
			Total Rs.		384263.86
			Say, Rs.		384300.00

PADRA MUNICIPALITY, PADRA

DOMESTIC HOUSE CONNECTIONS. (35 Nos.)

SCHEDULE-B7.1

Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

- 7 Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.

1.00 80 No. 80.00

Total, Rs. 2500.04

Say, Rs. 2501.00

For 35 Connections 87535.00

Add 18% GST 15756.30

Total Rs. 103291.30

Say, Rs. 103300.00

PADRA MUNICIPALITY, PADRA

**ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT BOYAVAD , GITABHARTI POD , SANTOSPURI
POD 110MM PVC AT PADRA.**

SCHEDULE-B8

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/ 1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete. Note :- One coupler / ring shall be provided with each full length pipe cost of which is included in rates below. a) Test Pressure 10.0 Kg/cm ² .				
1.1	110 mm Dia PVC Pipes	205.00	439.00	Rmt.	89,995.00
2.0	Providing and supplying at store or site of work incl. freight, loading, unloading, stacking, insurance & all taxes etc. complete. P. V. C. Tee (Moulded) - 160 x 160 mm.	0.00	952.00	No.	-
2.1	P. V. C. Tee (Moulded) - 160 x 110 mm	7.00	857.00	No.	5,999.00
2.2	P. V. C. Tee (Moulded) - 110 x 110 mm	7.00	407.00	No.	2,849.00
2.3	P. V. C. Reducer (Moulded) - 200 x 160 mm	4.00	901.00	No.	3,604.00
2.4	P. V. C. Reducer (Moulded) - 160 x 110 mm	4.00	375.00	No.	1,500.00
2.5	P. V. C. Couplers 10 Kg/cm ² (Moulded) - 110mm	5.00	235.00	No.	1,175.00
3.0	Supplying following materials including all taxes and carting. PVC Solvent Cement/Solution.	10.00	308.20	No.	3,082.00
4.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	180.00	102.35	Cmt.	18,423.00
4.1	For CC 1:2:4 or Asphalt Road.	54.00	427.80	Cmt.	23,101.20
5.0	Lowering, laying and jointing PVC/uPVC/cPVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works at all level including cost of labour, material, giving satisfactory hydraulic testing as per ISI Code etc. comp.	0.00	32.20	Rmt.	-
5.1	110 mm Dia PVC Pipes	200.00	21.85	Rmt.	4,370.00
6.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 40 mm Size.	2.50	3873.83	Cmt.	9,684.58

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
7.0	Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.	233.00	25.30	Cmt.	5,894.90
8.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	87.50	89.12	Kgs	7,798.00
9.0	Labour charges for Jointing on Existing Pipe/Repairing leakage in CI/DI/PVC/HDPE pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/ Crane, dewatering machine, fuel, operator etc complete (including cost of jointing material but excluding cost of pipe). From 200mm Dia Ex. Pipe.	2.00	3933.00	Nos.	7,866.00
10.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Flanged ended. 80 to 300mm dia.	20.00	155.00	Kg.	3,100.00
11.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	5.00	2103.35	No.	10,516.75
11.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
12.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3-coarse sand : 6- Crushed stone aggregates 40 mmnominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	18.00	3080.90	Cmt.	55,456.20
13.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	27.00	4247.56	Cmt.	1,14,684.12
				Total	3,73,192.75
				Add 18% GST	67174.70
				Total Rs.	440367.45
				Say, Rs.	440400.00

PADRA MUNICIPALITY, PADRA

DOMESTIC HOUSE CONNECTIONS. (80 Nos.)

SCHEDULE-B8.1

Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

7	Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.	1.00	80	No.	80.00
					Total, Rs. 2500.04
					Say, Rs. 2501.00
					For 80 Connections 200080.00
					Add 18% GST 36014.40
					Total Rs. 236094.40
					Say, Rs. 236100.00

PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT LAAL BAVA NO LIMDO - 150MM DIA DIK-7 PIPE AT PADRA.

SCHEDULE-B9

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying D. I. K-7 grade pipes for following nominal bore diameter with internal cement mortar lining including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. (IS 8329-2000). 150mm Dia Pipes.				
1.1	150 mm Dia di Pipe K-7	320.00	1425.00	Rmt.	4,56,000.00
2.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Socket & Spigot Type. 80 To 300mm Dia.	235.00	148.00	No.	34,780.00
3.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and struting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	279.00	102.35	Cmt.	28,555.65
3.1	For CC 1:2:4 or Asphalt Road.	84.00	427.80	Cmt.	35,935.20
4.0	Lowering, Laying and Joining C. I. S & S Spun pipes suitable for tyton joints/ Mortalined D. I. Pipes of various classes with C.I./M.S. specials of following diameters in propoer position, grade and alignment as directed by engineer in charge including hydraulic testing etc. complete. Tyton joint. 150mm Dia.				
4.1	150 mm Dia di Pipe K-7	310.00	87.40	Rmt.	27,094.00
5.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 20 mm Size.	1.50	4730.87	Cmt.	7,096.31
6.0	Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.	358.00	25.30	Cmt.	9,057.40

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PER	AMOUNT Rs.
7.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	52.50	89.12	Kgs	4,678.80
8.0	Labour charges for Jointing in DI pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/Crane, dewatering machine, fuel, operator etc complete. (including cost of jointing material but excluding cost of pipe). 'For 150mm Dia Pipe.	2.00	2870.40	Nos.	5,740.80

PADRA MUNICIPALITY, PADRA					
DOMESTIC HOUSE CONNECTIONS. (100 Nos.)					
<u>SCHEDULE-B9.1</u>					
Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

7	Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.	1.00	80.0	No.	80.00
				Total, Rs.	2500.04
				Say, Rs.	2501.00
				For 100 Connections	250100.00
				Add 18% GST	45018.00
				Total Rs.	295118.00
				Say, Rs.	295200.00

PADRA MUNICIPALITY, PADRA

**ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT NANDERA SHERI - 100MM DIA DIK-7
PIPE AT PADRA.**

SCHEDULE-B10

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PE R	AMOUNT Rs.
1.0	Providing and supplying D. I. K-7 grade pipes for following nominal bore diameter with internal cement mortar lining including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. (IS 8329-2000). 100mm Dia Pipes.				
1.1	100 mm Dia di Pipe K-7	255.00	968.00	Rmt.	2,46,840.00
2.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Socket & Spigot Type. 80 To 300mm Dia.	130.00	148.00	No.	19,240.00
3.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	225.00	102.35	Cmt.	23,028.75
3.1	For CC 1:2:4 or Asphalt Road.	68.00	427.80	Cmt.	29,090.40
4.0	Lowering, Laying and Joining C. I. S & S Spun pipes suitable for tyton joints/ Mortalined D. I. Pipes of various classes with C.I./M.S. specials of following diameters in propoer position, grade and alignment as directed by engineer in charge including hydraulic testing etc. complete. Tyton joint. 150mm Dia.				
4.1	100 mm Dia di Pipe K-7	250.00	63.25	Rmt.	15,812.50
5.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 20 mm Size.	1.50	4730.87	Cmt.	7,096.31

SR. NO.	DESCRIPTION	QTY	TOTAL RATE	PE R	AMOUNT Rs.
6.0	Refilling the pipeline trenches incl. ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km.	289.00	25.30	Cmt.	7,311.70
7.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	52.50	89.12	Kgs	4,678.80
8.0	Labour charges for Jointing in DI pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/Crane, dewatering machine, fuel, operator etc complete. (including cost of jointing material but excluding cost of pipe). 'For 100mm Dia Pipe.	2.00	2068.85	Nos.	4,137.70
9.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	10.00	2103.35	No.	21,033.50
9.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
10.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3-coarse sand : 6- Crushed stone aggregates 40 mmnominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	23.00	3080.90	Cmt.	70,860.70
11.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	34.00	4247.56	Cmt.	1,44,417.04
			Total		5,97,641.40
			Add 18% GST		107575.45
			Total Rs.		705216.85
			Say, Rs.		705300.00

PADRA MUNICIPALITY, PADRA					
DOMESTIC HOUSE CONNECTIONS. (75 Nos.)					
SCHEDULE-B10.1					
Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

7	Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.	1.00	80.0	No.	80.00
				Total, Rs.	2500.04
				Say, Rs.	2501.00
				For 75 Connections	187575.00
				Add 18% GST	33763.50
				Total Rs.	221338.50
				Say, Rs.	221400.00

PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT SANTARAM BHAGOL MALIWAS 110MM PVC AT PADRA.

SCHEDULE-B11

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/ 1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete. Note :- One coupler / ring shall be provided with each full length pipe cost of which is included in rates below. a) Test Pressure 10.0 Kg/cm ² .				
1.1	110 mm Dia PVC Pipes	80.00	439.00	Rmt.	35,120.00
2.0	Providing and supplying at store or site of work incl. freight, loading, unloading, stacking, insurance & all taxes etc. complete. P. V. C. Tee (Moulded) - 160 x 160 mm.	0.00	952.00	No.	-
2.1	P. V. C. Tee (Moulded) - 160 x 110 mm	8.00	857.00	No.	6,856.00
2.2	P. V. C. Tee (Moulded) - 110 x 110 mm	8.00	407.00	No.	3,256.00
2.3	P. V. C. Reducer (Moulded) - 200 x 160 mm	5.00	901.00	No.	4,505.00
2.4	P. V. C. Reducer (Moulded) - 160 x 110 mm	5.00	375.00	No.	1,875.00
2.5	P. V. C. Couplers 10 Kg/cm ² (Moulded) - 110mm	6.00	235.00	No.	1,410.00
3.0	Supplying following materials including all taxes and carting. PVC Solvent Cement/Solution.	15.00	308.20	No.	4,623.00
4.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	68.00	102.35	Cmt.	6,959.80
4.1	For CC 1:2:4 or Asphalt Road.	21.00	427.80	Cmt.	8,983.80
5.0	Lowering, laying and jointing PVC/uPVC/cPVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works at all level including cost of labour, material, giving satisfactory hydraulic testing as per ISI Code etc. comp.	0.00	32.20	Rmt.	-
5.1	110 mm Dia PVC Pipes	75.00	21.85	Rmt.	1,638.75
6.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 40 mm Size.	1.00	3873.83	Cmt.	3,873.83
7.0	Refilling the pipeline trenches incl. ramming, watering, consolidating disposal of surplus stuff as directed within a radius of 3 km.	89.00	25.30	Cmt.	2,251.70

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
8.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	35.00	89.12	Kgs	3,119.20
9.0	Labour charges for Jointing on Existing Pipe/Repairing leakage in CI/DI/PVC/HDPE pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/ Crane, dewatering machine, fuel, operator etc complete (including cost of jointing material but excluding cost of pipe). From 200mm Dia Ex. Pipe.	2.00	3933.00	Nos.	7,866.00
10.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Flanged ended. 80 to 300mm dia.	20.00	155.00	Kg.	3,100.00
11.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	5.00	2103.35	No.	10,516.75
11.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
12.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- Crushed stone aggregates 40 mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	7.00	3080.90	Cmt.	21,566.30
13.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.etc as directed.	11.00	4247.56	Cmt.	46,723.16
				Total	1,78,338.29
				Add 18% GST	32100.89
				Total Rs.	210439.18
				Say, Rs.	210500.00

PADRA MUNICIPALITY, PADRA

DOMESTIC HOUSE CONNECTIONS. (35 Nos.)

SCHEDULE-B11.1

Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

- 7 Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.

1.00	80	No.	80.00
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Total, Rs.	2500.04
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Say, Rs.	2501.00
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For 35 Connections	87535.00
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Add 18% GST	15756.30
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Total Rs.	103291.30
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Say, Rs.	103300.00
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PADRA MUNICIPALITY, PADRA

ESTIMATE FOR REPLACEMENT OF WATER SUPPLY LINES AT SANTARAM BHAGOL MALIWAS 90 MM PVC AT PADRA.

SCHEDULE-B12

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
1.0	Providing and supplying in standard length ISI mark rigid unplasticised PVC pipes suitable for potable water with ring fit joint including cost of rings, as per IS specification no. 4985/ 1988 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores and including cost of jointing material etc. complete. Note :- One coupler / ring shall be provided with each full length pipe cost of which is included in rates below. a) Test Pressure 10.0 Kg/cm ² .				
1.1	90 mm Dia PVC Pipes	75.00	292.00	Rmt.	21,900.00
2.0	Providing and supplying at store or site of work incl. freight, loading, unloading, stacking, insurance & all taxes etc. complete. P. V. C. Tee (Moulded) - 160 x 160 mm.	0.00	952.00	No.	-
2.1	P. V. C. Tee (Moulded) - 160 x 90 mm	8.00	857.00	No.	6,856.00
2.2	P. V. C. Tee (Moulded) - 110 x 90 mm	8.00	407.00	No.	3,256.00
2.3	P. V. C. Reducer (Moulded) - 200 x 160 mm	5.00	901.00	No.	4,505.00
2.4	P. V. C. Reducer (Moulded) - 160 x 90 mm	5.00	375.00	No.	1,875.00
2.5	P. V. C. Couplers 10 Kg/cm ² (Moulded) - 90mm	6.00	235.00	No.	1,410.00
3.0	Supplying following materials including all taxes and carting. PVC Solvent Cement/Solution.	15.00	308.20	No.	4,623.00
4.0	Excavation for pipe line trenches for water supply, sewerage line, manhole etc. all with shoring and strutting if required as per required gradient and line including safety provisions using site rails and stacking excavated stuff including up to all required lead cleaning the site etc. complete for all lifts and strata as specified. In all sort of soil and soft murrum. Upto 1.50 Mt. Depth.	63.00	102.35	Cmt.	6,448.05
4.1	For CC 1:2:4 or Asphalt Road.	19.00	427.80	Cmt.	8,128.20
5.0	Lowering, laying and jointing PVC/uPVC/cPVC pipes and specials of following class and diameter including cost of conveyance from stores to site of works at all level including cost of labour, material, giving satisfactory hydraulic testing as per ISI Code etc. comp.	0.00	32.20	Rmt.	-
5.1	90 mm Dia PVC Pipes	70.00	21.85	Rmt.	1,529.50
6.0	Providing C.C. M - 100 for encasing of pipe using trap metal size 40 mm to 50 mm including from work curing consolidation etc. complete. Using Trap Metal 40 mm Size.	1.00	3873.83	Cmt.	3,873.83
7.0	Refilling the pipeline trenches incl. ramming, watering, consolidating disposal of surplus stuff as directed within a radius of 3 km.	82.00	25.30	Cmt.	2,074.60

SR. NO.	DESCRIPTION	QUANTITY	TOTAL RATE	PER	AMOUNT Rs.
8.0	Supplying cutting, bending, binding and placing in position steel as per plan and design and as per ISS 2502 including cost of steel and binding wire for reservoirs/structures only including lift up to 6 meter height or depth below G.L. for all diameters. Do-Thermo mechanically Treated (TMT) bars Fe-500 grade for all diameters.	35.00	89.12	Kgs	3,119.20
9.0	Labour charges for Jointing on Existing Pipe/Repairing leakage in CI/DI/PVC/HDPE pipeline of following diameter at different places including necessary excavation manually or by machinery, removing of mud, dewatering, cleaning of pipe, cutting of pipe, Jointing & repairing using CID joints including CID joints, rubber rings, nut bolts, hiring excavator, Hydra/ Crane, dewatering machine, fuel, operator etc complete (including cost of jointing material but excluding cost of pipe). From 200mm Dia Ex. Pipe.	2.00	3933.00	Nos.	7,866.00
10.0	Manufacture, Supply & Delivery of Ductile Iron Flange socket spigot bends, tees, reducers or any other specials as per BS-EN-545/1995 Class-A series K12 suitable for use with D.I. Pipes manufactured as per IS:8329/1994 delivery of specials is to be made to GWSSB store or site of works any where in Gujarat including all taxes, loading, unloading, carting, stacking, insurance, inspection charges, octroi etc. complete. With external bitumen & zinc coating & internal cement mortar lining. Flanged ended. 80 to 300mm dia.	20.00	155.00	Kg.	3,100.00
11.0	Restoration of infrastructures like Kharkuwa, Electrical Line, Telephone cables all types, water lines, gas line, septic tanks, etc.	5.00	2103.35	No.	10,516.75
11.1	Electric/Telephone Cable	5.00	818.80	No.	4,094.00
12.0	Providing and laying cement concrete 1:3:6 (1-Cement : 3- coarse sand : 6- Crushed stone aggregates 40 mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	7.00	3080.90	Cmt.	21,566.30
13.0	Providing and laying controlled cement concrete M.250 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (A) Foundations, footings, Base of columns and Mass concrete.	10.00	4247.56	Cmt.	42,475.60
				Total	1,59,217.03
				Add 18% GST	28659.07
				Total Rs.	187876.10
				Say, Rs.	187900.00

PADRA MUNICIPALITY, PADRA

DOMESTIC HOUSE CONNECTIONS. (25 Nos.)

SCHEDULE-B12.1

Item No.	Description	Qty.	Total Rate	Unit	Amount
1	Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	5.00	72.64	Rmt	363.20
2	Excavation for pipeline trenches for Water supply, Sewerage line, Manhole etc. All with soring and struting if required gradient and line including safety provisions using site rails and stacking excavated struff including upto all required lead cleaning the site etc. Complete for all lift sand strata as specified (A) Total Excavation upto 1.50 mt Depth In all softs and soil and soft murrum	1.01	102.35	Cum	103.37
3	In Hard murrum, boulders including Macadam road	0.79	112.7	Cum	89.03
4	Refilling the Pipeline trenches including ramming, watering, consolidating desposal of surplus stuff as directed within a radius of 3 km. Refilling as directed	1.80	25.3	Cum	45.54
5	Cutting of Road : In Hard Rock and/or in C.C 1:2:4 or R.C.C with Blasting, breaking, Chiseling or By Chiseling Breaking only. Indian Patent stone Cutting	0.56	375.72	Cum	210.40
6	Providing C.C.M.:100 for encasing pipes using trap metal size 12 mm to 50 mm incl. form work curing consolidation etc. complete for various location on pipe line. using trap metal 20 mm nominal size.	0.34	4730.87	Cum	1608.50

- Making hole for Fitting saddle into Existing pipe (110/90/63/50 mm) or New laying pipe, Lowering, Laying and Jointing 110/90/63/50 mm X 15 mmDia. Service Saddle including cost of conveyance from stores to site of works including cost of labour, material, with cement solvent, giving satisfactory hydraulic testing as per ISI code.

1.00 80 No. 80.00

Total, Rs. 2500.04

Say, Rs. 2501.00

For 25 Connections 62525.00

Add 18% GST 11254.50

Total Rs. 73779.50

Say, Rs. 73800.00

SECTION - 8

SECURITIES AND OTHER FORMS

BID SECURITY (BANK GUARANTEE)

WHEREAS, ----- (name of Bidder) (hereinafter called the "The Bidder") has submitted his bid Dated ----- (Date) for the construction of ----- (Name of Contractor hereinafter called "the Bid")

KNOW ALL PEOPLE by these presents that We ----- (name of Bank) of ----- (name of country) having our Registered office at ----- (hereinafter called "the bank") are bound unto ----- (name of Employer) (hereinafter called "The Employer") in the sum of ----- * for which payment well and truly to be made to the said Employer the Bank itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this ----- day of ----- 20

THE CONDITIONS of these obligations are:

(1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid;

Or

(2) If the Bidder has 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, if required; or
- B. Fails or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders; or
- C. does not accept the correction of the Bid Price pursuant to Clause 27 (Correction of Errors)

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 any of the three conditions, specifying the occurred conditions or conditions.

This Guarantee will remain in force up to and including the date----- **
days after the deadline for submission of Bids as such the deadline is stated in the
Instructions to Bidders or as it may be extended by the Employer, 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

DATE -----

SIGNATURE-----

WITNESS -----

SEAL-----

(Signature, name and address)

* The Bidder should insert the amount of the guarantee in words and figures
denominated in Indian Rupees. This figure should be the same as shown in
Clause 16.1(Bid Security) of the Instructions to Bidders.

****45 days** after the **end of the validity period** of the Bid. Date should be inserted
by the Employer before the Bidding documents are issued.

PERFORMANCE SECURITY

TO,

----- (Name of Employer)
----- (Address of Employer)

WHEREAS ----- (name and address of Contractor) (hereafter called "the Contractor") has undertaken, in pursuance of Contracts No. ----- dates ----- to execute ----- (name of Contract and brief description of Works) (hereinafter called "The Contract")

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligation in accordance with the Contract.

AND WHEREAS we have agreed to give the Contractors such a bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, up to a total of ----- (Amount of guarantee)* ----- (in words), such sum being payable in types and proportions of currencies in which the Contract prices is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of ----- (amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the contractor before presenting is with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract to of the Works to be performed thereunder or of any of the Contract documents which may be made between your and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such charge, addition or modifications.

This guarantee shall be valid until 60 days from the date of expiring of the Defect Liabilities period.

Signature and Seal of the guarantor -----

Name of Bank -----

Address -----

Date -----

*An amount shall be inserted by the Guarantor, representing the percentage the Contract price specified in the Contract denominated in Indian Rupees.

ADDITIONAL PERFORMANCE SECURITY

[Clause 34.1. (A)]

TO,

----- (Name of Employer)

----- (Address of Employer)

WHEREAS ----- (Name and address of Contractor) (hereafter called "The Contractor") has undertaken, in pursuance of Contracts No. ----- Dates ----- to execute ----- (Name of Contract and brief description of Works) (hereinafter called "The Contract")

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligation in accordance with the Contract.

AND WHEREAS we have agreed to give the Contractors such a bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, up to a total of ----- (Amount of guarantee) ----- (in words), such sum being payable in Types and proportions of currencies in which the Contract prices is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of ----- (Amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the contractor before presenting is with the demand

We further agree that no change or addition to or other modification of the terms of the Contract to of the Works to be performed thereunder or of any of the Contract documents which may be made between your and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such charge, addition or modifications.

This guarantee shall be valid until **28 days** from the project completion date.

Signature and Seal of the guarantor -----

Name of Bank -----

Address -----

Date -----

BANK GUARANTEE FOR ADVANCE PAYMENT

TO,

----- (Name of Employer)

----- (Address of Employer)

----- (Name of Contractor)

Gentlemen:

In accordance with the provisions of the Conditions of Contract, sub-clause 51.1 ("Advance Payment") of the above mentioned Contract, -----
----- (name and address of Contractor) (hereinafter called "the Contractor") shall deposit with (name of Employer) a bank guarantee his proper and faithful performance under the said Clause of the Contract in an amount of ----- (amount of Guarantee)* -
----- in words).

We, the ----- (bank of financial institution), as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to -----
(Name of Employer) on his first demand without whatsoever right of obligation on our part and without his first claim to the Contractor, in the amount not exceeding ---
----- (amount of guarantee)* ----- (in words)

We further agree that no change or addition to or other modifications of the terms of the Contractor or Works to be performed thereunder or of any of the Contract documents which may be made between ----- (name of Employer) and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modifications.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until ----- (name of employer) receives full repayment of the same amount from the contractor.

YOUR'S TRULY

Signature and Seal _____
Name of Bank/ Financial Institution _____
Address _____
Date _____

* An amount shall be inserted by that Bank or Financial Institution representing the amount of the Advance Payment, and denominated in Indian Rupees.

Letter of Acceptance
(Letter head paper of the Employer)

_____ (date)

To,

_____ (Name and address of the Contractor)

Dear Sirs,

This is to notify you that your Bid dated _____ for execution of the _____ (Name of the contract and identification number, as given in the Instructions to Bidders) for the Contract Price of Rupees _____ (_____) (amount in words and figures) as corrected and modified in accordance with the Instructions to Bidders* is hereby accepted by our agency.

You are requested to furnish performance security, in the form detailed in para 34.1 of ITB for an amount equivalent to Rs. ____ Within **10 days** of the receipt of this letter of acceptance up to beyond **60 days** from the date of expiry of defects Liability period i.e. up to _____ and the Additional Performance Security for an amount equivalent to Rs. ____ shall be valid beyond 28 (twenty-eight) days of Project Completion Date i.e. up to _____ and sign the contract, failing which action as stated in Para 34.3 of ITB will be taken.

Yours Faithfully

Authorized Signature
Name and title of Signatory
Name of Employer

* Delete "Corrected and" or and modified if only one of these actions applies. Delete as corrected and modified in accordance with the Instructions to Bidders, if corrections or modifications have not been affected.

Issue of Notice to proceed with the work

(Letterhead of the Employer)

----- (date)

To,

_____ (Name and address of the Contractor)

Dear Sirs,

Pursuant to your furnishing the requisite security in ITB Clause 34.1 and
signing of the Contract for the construction of _____

_____ at a bid Price of Rs.

_____.

You are hereby instructed to proceed with the execution of the said works in
accordance with the contract documents.

Yours faithfully

(Signature, name and title of signatory authorized
To sign on behalf of Employer)

AGREEMENT FORM

This agreement, made on the _____ day of _____ Between
_____ (name and address of Employer) (Hereinafter called "the
Employer) and _____ (name and address of
Contractor) hereinafter called "the Contractor" of the other part.

Whereas the Employer is desirous that the Contractor execute

Name and identification number of contract (hereinafter called "the works") and the
employer has accepted the Bid by the Contractor for the execution and completion of
such works and the remedying of any defects therein, at a cost of Rs.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS

1. In this Agreement, words and expression shall have the same meanings as are
respectively assigned to them in the conditions of contract hereinafter referred to
and they shall be deemed to form and be read construed as part of this Agreement.
2. In Consideration of the payment to be made by the Employer to the contractor as
hereinafter mentioned, the Contractor hereby covenants with the Employer to
executive and complete the works and remedy any defects therein in conformity
in all aspects with the provisions of the contracts.
3. The employer hereby covenants to pay the Contractor in consideration of the
execution and completion of the works and the remedying the defects wherein
contract price or such other sum as may become payable under the provisions of
the Contract at the times and in the manner prescribed by the contract.
4. The Following documents shall be deemed to form and be ready and construed as
part of this Agreement viz
 - i) letter of Acceptance
 - ii) Notice to proceed with the works:
 - iii) Contractor's Bid

- iv) Conditions of contract: General and Special
- v) Contract Data
- vi) Additional conditions
- vii) Drawings
- viii) Bill of Quantities and
- ix) Any other documents listed in the Contract
data as forming part of the Contract.

In witness whereof the parties there to have caused this Agreement to be
executed the day and year first before written

The Common seal of _____

Was hereunto affixed in the presence of :

Signed, sealed and Delivered by the said _____

In the presence of

Binding signature of Employer _____

Binding Signature of Contractor _____

UNDERTAKING

(For Investment)

I, the undersigned do hereby undertake that our firm M/s
..... Would invest a minimum cash up
to **25 %** of the value of the work during implementation of the contract.

(Signed by an Authorized officer of the firm)

Title of officer

Name of firm

DATE

UNDERTAKING (For Validity)

I, the undersigned do hereby undertake that our firm M/s

.....

..... agree to abide by this bid for a period

.....

days

for date fixed for receiving the same and it shall be binding on us and may be
accepted at any time before the expiration of that period.

_____. (Signed
by an Authorized officer of the
firm)

Title of officer

Name of firm

DATE

(ON COMPANY'S LETTER HEAD)
LETTER OF SUBMISSION OF BID, ASSURANCE LETTER.

**To,
CHIEF OFFICER
PADRA NAGARPALIKA
PADRA .**

Respected Sir,

SUB: REPLACEMENT OF WATER SUPPLY LINES IN VARIOUS AREA AT PADRA NAGARPALIKA UNDER: 15 TH FINANCE SCHEME.

1. With reference to the tender invited by you for the above mentioned work/s, I/We do hereby offer to perform, provide execute complete and maintain the work/s in conformity with the drawings, conditions of tender articles of agreement and conditions of contract, specifications, and bill of quantities for the sum of Total Quoted Amount at the rate quoted in the bill of quantities.
2. I / We have satisfied ourselves as to the location of site, examined the drawings and read of Articles of Agreement, conditions of tender, conditions of contract and specifications etc. and I/We understand that the works are to be completed within _____ calendar months. I/We agree to finish the whole of the works within _____ calendar months from the date of commencement of the work fully understanding that the time is the essence of the contract.
3. I/We will carry out various types of Pre and Post total station survey work in Connection with stipulated quantities in Schedule-B for smooth running of project and site layout management.
4. I/We will obtain at various locations for Deciding the Depth of Foundation and other criteria.
5. The Bidder/Contractor will have to Prepare Detailed Structure Design and Drawing on the Basis of Own Design for Component at his own Expanse According to Stages of Payment Given in Schedule-B, The Chief Officer Padra Nagarpalika, Padra , will not bare any Additional Expanse regarding the same.
6. We have independently considered the amount of liquidity damages as stated in the appendix and the general conditions of the contract and agree that it represents fair estimate of the loss likely to be suffered by The Chief Officer Padra Nagarpalika Padra in the event of the works not being completed by us in time.
7. If our tender is accepted, we will, when required, furnish the security deposit for the sum

named in the appendix to the general conditions of the contract for the due performance of the contract.

8. We agree to abide by this tender for the period of Bid Validity from the Last date of Submission of tender, which may be extended further by mutual agreement. It shall remain binding upon us. If the tender is withdrawn by us, our earnest money will be forfeited.
9. Unless and until a formal agreement is prepared and executed this tender together with your written acceptance thereof shall constitute a binding contract between us.
10. We agree that at your sole discretion and without assigning any reason whatsoever, you reserve the right to accept and/or reject any or all tenders. The Chief Officer Padra Nagarpalika, does not bind itself to accept the lowest tender.

Date:
of the firm) Witness:

Yours faithfully,
(Signature of the Tenderer with the seal

1. **Signature :**
Name:
Address:

2. **Signature :**
Name:
Address:

SBD SECTION-9

DRAWING

SECTION - 10

DOCUMENTS TO BE FURNISHED BY BIDDER

NOTE: ALL SUPPORTING DOCUMENTS MUST BE FURNISHED BY BIDDER AS PER BID EVALUATION CRITERIA FOR THE PURPOSE OF REALIZATION OF DRAFT TENDER PAPER.

PADRA NAGARPALIKA PADRA

Terms and Conditions:

- Bidder must have follow all Rules and Resolutions Issued by Government of Gujarat Roads and Building Department/Finance Department /Central Government.
- For Roads Works Bidder must have to Follow Resolution No.PRC-10-2015-55-C Dated 04.11.2015 issued by GOG, R&B Department.
- Price Escalation / Star Rate Price Adjustment Will not be paid by PADRA NAGARPALIKA PADRA.
- All other Acts / Rules / Regulation, by laws order, notification etc. present or future Applicable to the CONTRACTOR / OWNER from time to time for performing the aforesaid WORKS.