GWALIOR SMART CITY DEVELOPMENT CORPORATION LIMITED

BID DOCUMENT

‘Renovation and Rejuvenation of Skill Development Centre at Regional Art and Craft Design Centre’

Gwalior, Madhya Pradesh, India

Tender Reference Number: GSCDCL/042/2018

Date of Issue: **16-04-2018**

OFFICE OF THE EXECUTIVE DIRECTOR
GWALIOR SMART CITY DEVELOPMENT CORPORATION LIMITED
Nagar Nigam Mukhyalay, City Center, Gwalior, Madhya Pradesh

DISCLAIMER

Gwalior Smart City Proposal **(SCP)** has been selected to implement the Area Based Development **(ABD)** and pan-city proposals by Government of India (GoI) under Smart City Mission **(SCM).** Gwalior SCP proposes smart solutions in ABD area and across pan city with various smart features and infrastructure.

To implement smart city projects in Gwalior, Gwalior Municipal Corporation **(GMC)** and Madhya Pradesh Urban Development Corporation has formed a special purpose vehicle called Gwalior Smart City Development Corporation Limited **(GSCDCL).**

GSCDCL has prepared this Tender Document (TD) for the '**Renovation and Rejuvenation of Skill Development Centre at Regional Art and Craft Design Centre '**. This TD is a detailed document with specific terms and conditions on which the Bidder is expected to work. GSCDCL has taken due care in preparation of information contained herein and believes it to be accurate. However, neither GSCDCL or any of its authorities or agencies nor any of their respective officers, employees, agents, or advisors give any warranty or make any representations, express or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in connection or arising out of it.

The information provided in this document is to assist the Bidder(s) preparing their proposals. However, this information is not intended to be exhaustive and interested parties are expected to make their own inquiries to supplement and verify information in this document. The information is provided on the basis that it is non-binding on GSCDCL or any of its authorities or agencies, or any of their respective officers, employees, agents, or advisors. Each Bidder is advised to consider the TD as per its understanding and capacity. The Bidders are also advised to do appropriate examination, enquiry and scrutiny of all aspects mentioned in the TD before bidding. The Bidders are encouraged to take professional help of experts on financial, legal, technical, taxation, and any other matters/ sectors appearing in the document or specified work. The Bidders should go through the TD in detail and bring to notice of GSCDCL any kind of error, misprint, inaccuracy or omission.

GSCDCL reserves the right not to proceed with the project, to alter the timeline reflected in this document, or to change the process or procedure to be applied. It also reserves the right to decline to discuss the project further with any party submitting a proposal. No reimbursement of cost of any type will be paid to persons, entities submitting a proposal under or pursuant to this TD.

[To be provided on a non-judicial stamp papers of appropriate amount, duly notarized]

{Location, Date}

To:

The Executive Director,
Gwalior Smart City Development Corporation Limited (GSCDCL)
Nagar Nigam Mukhyalay, City Center, Gwalior, Madhya Pradesh

Reference: GSCDCL NIT No. …….. ("TD") dated. ……

Dear Sir/Madam,

Over and above all our earlier confirmations and submissions as per the requirements of the TD, I/ we hereby declare, confirm and undertake that:

1 I/ We have quoted item rate price considering all items as requested by GSCDCL in the TD and stand committed to deliver to the highest standards and quality as required by GSCDCL to meet the timelines of the project. My/ Our bid submission is in line with the requirements of GSCDCL as stated in the TD.
2 I/ We confirm that we have factored in all costs and expenses for meeting the complete scope and deliverables of the TD.
3 I/ We are completely aware of the service level requirements and timelines specified by GSCDCL and are committed to adhering to the same. I/ We have also clearly taken note of the service level requirements of GSCDCL and expectations from us and wish to confirm that we have taken care of every aspect to meet the same.
4 I/We have gone through the bid documents and its terms and conditions and fully understood it. All the terms and conditions are acceptable to me / us.
5 I/ We have clearly understood GSCDCL's requirements and wish to confirm that I/ we shall abide by the terms and conditions of the TD.
6 I/ We confirm and understand that all arithmetical totaling errors will be corrected for the purpose of evaluation only and the consideration of that error for payment would be completely according to GSCDCL's discretion. I/ We also confirm and understand that for all other errors which we have made in the bid, GSCDCL, for the purpose of evaluation will take the corrected amount based on the price quoted by me/ us in the price sheets but the payment of such amounts would be completely according to GSCDCL's discretion.
7 I/ We confirm that I/ we will provide the best of my/ our resources and the people proposed by me/ us will be dedicated to GSCDCL for the sake of resource continuity. Further, I/ We also confirm that GSCDCL may interview the key resources proposed by me/ us and confirm its acceptability. In any event if a resource is found unfit by GSCDCL I/ we agree to change the same and provide GSCDCL with a replacement within reasonable time so as not to affect the services/ project timelines.
8 I/ We confirm and understand that GSCDCL has an aggressive rollout schedule and I/ we will adhere to the rollout schedule at no additional cost/burden to GSCDCL.
9 I/ We confirm that all the proposed solution components are compatible and interoperable with each other and the solution will meet the functional and technical requirements of GSCDCL.
10 I/ We confirm that the prices and values quoted by me/ us encompass the complete scope of the project and I/ we will ensure that the quality of deliverables for the project is not affected due to any pricing pressures.
11 There has been no conviction by a Court of Law or indictment / adverse order by a regulatory authority for a grave offence against me/ us. It is further certified that there is no investigation pending against me/us or the CEO, Directors/ Manager/ key employees of my/ our concern.
12 That the decision of GSCDCL will be final and undisputable in accepting or rejection of my / our offer.
13 That the self-certified information given in the bid document is fully true and authentic.

14 That:

a) Earnest money, will be deposited ONLINE/RTGS/NEFT/IMPS.
b) Information regarding financial qualification and annual turn-over is correct.
c) Information regarding various physical qualifications is correct.

15 No close relative of the undersigned and firm/company is employed with GSCDCL or any of its affiliates, shareholders or such other agencies that may influence the outcomes of this tender.

Dated this……..by …….20

[*Signature of the authorized signatory*]

[*Name of the authorized signatory*]

[*Designation*]

Phone no, [*insert phone number*]

Address: [*insert postal address for correspondence*]

E-mail [*insert e-mail for correspondence*]

SECTION – 1

GWALIOR SMART CITY DEVELOPMENT CORPORATION LIMITED

NOTICE INVITING TENDER (NIT)

NIT No.: GSCDCL/042/2018 Date: 16-04-2018

Gwalior Smart City Development Corporation Limited (GSCDCL) invites online **item rate bids** for the following works (estimated on UADD SOR w.e.f. 10/05/2012) from eligible registered contractors and firms of repute fulfilling eligibility criteria (Bidders) through www.mpeproc.gov.in for **"Renovation and Rejuvenation of Skill Development Centre at Regional Art and Craft Design Centre".**

The details are as under:

Key Schedule		
	Event's Name	**Information**
1.	Probable Amount of Contract	Rs. 76,84,781 (Rupees Seventy Six lakhs eighty four thousand seven hundred eighty one)
2.	Tender document Fee	Rs. 10,000/- (Rupees Ten Thousand only) to be paid only through Online e-Tendering Payment Gateway
3.	Earnest Money Deposit (EMD)	Rs76,847/- (Rupees Seventy Six thousand Eight hundred Forty only)
4	Last date for sending pre-bid queries	24-04-2018 till 17:30 hours. At gscdcltender@gmail.com
5.	Date, Time & Place of Pre-bid Meeting	25-04-2018 at 14:00 hours. Venue: Gwalior Smart City Development Corporation Limited, Nagar Nigam Mukhyalay, City Center, Gwalior, Madhya Pradesh
6.	Last date for Online Purchase of Tender Document	14-05-2018 till 1730 hours.
7.	Last date of Online Submission of Bids	15-05-2018 till 1730 hours.
8.	Date & Time for Opening of Pre-Qualification	16-05-2018 at 1600 hours.
9.	Date & Time for Opening of Technical Proposal	16-05-2018 at 1610 hours.
10.	Date & Time for Opening of Financial Proposals	Will be intimated later to the technically qualified Bidders
11.	Project Award Criteria	Lowest Bidding

Note: The bidders shall have to submit their bids online and upload the relevant documents as per key schedule (key dates).

1. All details relating to the Bid Document(s) can be viewed and downloaded from the website mentioned in NIT.
2. Bid document can be purchased after making online payment of portal fees through Credit/Debit/Cash Card/internet banking.
3. At the time of submission of the Bid the eligible bidder shall be required to:
   (i) pay the cost of Bid Document(No exemption is applicable);

(ii) deposit the Earnest Money(No exemption is applicable);
(iii) Submit a check list; and
(iv) Submit an affidavit.

Details can be seen in the Bid Data Sheet.

4. Eligibility for Bidders:
   a) At the time of submission of the Bid the bidder should have valid registration with the Government of Madhya Pradesh, PWD in appropriate class. However, such bidders who are not registered with the Government of Madhya Pradesh and are eligible for registration can also submit their bids after having applied for registration with appropriate authority.
   b) The bidder would be required to have valid registration with MPPWD in appropriate class at the time of signing of the Contract.
   c) Failure to sign the contract by the selected bidder, for whatsoever reason, shall result in forfeiture of the earnest money deposit.
5. Pre-qualification – Prequalification conditions, as applicable, are given in the Bid Data Sheet.
6. Special Eligibility – Special Eligibility Conditions, if any, are given in the Bid Data Sheet.
7. Amendment to NIT, if any, would be published on website only, and not in Newspaper.

Executive Director
Gwalior Smart City Development Corporation Ltd.

TENDER DOCUMENT

TABLE OF CONTENTS

SECTION – 2

INSTRUCTIONS TO BIDDERS (ITB)

A. GENERAL

1. SCOPE OF BID

The detailed scope of work (hereinafter referred to as 'Work') for the project titled '**Renovation and Rejuvenation of Skill Development Centre at Regional Art and Craft Design Centre'**, is described below:

Background & Introduction to the Project

Gwalior Smart City Mission through the Smart City Proposal (SCP) delineated Regional Art and Craft Design Centre to be renovated and rejuvenated as a skill development centre. Government of Madhya Pradesh (GoMP) realizes the importance of Skill Development as a powerful tool to empower the local artisans by providing them a platform to outreach and promote their artwork at national and international platform. Skill building is an important instrument to increase the efficacy and quality of labour for improved productivity and economic growth. GoMP is working towards an important aspect i.e. Economic Development by Development of Skill Development Centers for Handloom and Handicraft.

Under the module of Economic Development – Development of Skill Development Centres for Handloom and Handicraft, Regional Art and Craft Design Centre is been identified as one of the important centers for Skill Development in sculpture making. Regional Art and Craft Design Centre was setup by Vikas Ayukt HastShilpa, Ministry of Textiles, Government of India with the purpose to encourage and promote the talents of the artisans and craftsmen through giving them a platform to exhibit their artwork via exhibition, studios etc. The centre is well equipped with the required equipment's.

The aim of this sub-project is 'To Revitalize, Renovate and Rejuvenate the Regional Arts and Craft Design Centre by the **Integration of Space, Art, Music and Food to attract more people and make the place more Vibrant.'** To achieve the envisaged vision for the centre **,** the purpose of planning is to segregate the Working Zone with the Public Zone and to create a space for the public like- seating spaces, creating a platform for performances. The aim of designing is to revive the centre by providing the adequate infrastructure and to improvise the existing condition of the site. The provision of adequate size of exhibition hall is provided. An office with adequate furniture and interior works is provided. Provision of display stalls for the artisans where they can sell off their art is provided at the centre. The purpose is to rejuvenate the centre and to link the artisans through the market linkages to promote their artwork.

The total site delineated for this purpose is 3000 Sq.m approximately .The total built-up area of the building is approximately 600 Sq.m. The Gwalior Smart City mission through this project broadly intends to: Revitalize the Regional Art and Craft Design Centre to promote the artwork of the artisans and expand their outreach through market linkages.

Proposed Works

The nature of works proposed for the project are as follows:

- Dismantling and demolition activities;
- Civil works involving earthwork and laying of foundations;
- Civil works involving masonry works in brick/ stone;
- Civil works involving surface cleaning stone embellishments;
- Civil works involving plastering in lime mortar;
- Retrofitting and civil works involving provisioning for services conduits (electrical);
- Retrofitting and civil works involving provisioning for utility services piping (water supply);

- Civil works involving water proofing and laying of flooring;
- Civil works involving provision of wooden, glazed ;doors, windows, ventilators
- Civil works involving sanitary and plumbing installation;
- Civil works involving finishing works like lime based painting of interior and exterior surfaces
- Electrical works involving supply, installation, testing and commissioning of HV, MV and LV cabling, wiring, main/ submain, fixtures and fittings;
- Civil and interior refurbishment works involving supplying, installation and positioning of movable furniture;
- Horticulture works involving landscaping, development and plantation works;
- Specialized works involving supply, installation, testing and commissioning of landscape lighting, etc.;
- Specialized works involving supply and installation of street and garden furniture like tree guard, dustbins, bollards, signage, benches, fountain, art installations, etc.; and
- Any other works as per the detailed project report, bill of quantities and/or as per the direction of the competent authority during the execution of the works.

2. GENERAL QUALITY OF WORK

The work shall have to be executed in accordance with the drawings (prepared by Contractor and approved by the competent authority), technical specifications specified in the Bid Data Sheet/Contract Data, and shall have to meet high standards of workmanship, safety and security of workmen and works.

3. PROCEDURE FOR PARTICIPATION IN E-TENDERING

The procedure for participation in e-tendering is given in the Bid Data Sheet.

4. ONE BID PER BIDDER

4.1. The bidder can be an individual entity or a Consortium/joint venture (if permitted as per Bid Data sheet). In case Consortium/Joint Venture is permitted, the requirement of Consortium/Joint Venture shall be as per the Bid Data Sheet.

4.2. No bidder shall be entitled to submit more than one bid whether jointly or severally. If he does so, all bids wherein the bidder has participated shall stand disqualified.

5. COST OF BIDDING

The bidder shall bear all costs associated with the preparation and submission of his bid, and no claim whatsoever for the same shall lie on the GSCDCL.

6. SITE VISIT AND EXAMINATION OF WORKS

The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the work. All costs shall have to be borne by the bidder.

B. BID DOCUMENTS

7. CONTENT OF BID DOCUMENTS

The Bid Document comprises of the following documents:

1. NIT with all amendments.
2. Instructions to Bidders,
3. Conditions of Contract:
   i. Part I General Conditions of Contract and Contract Data; and
   ii. Part II Special Conditions of Contract.
4. Specifications
5. Drawings,
6. Priced Bill of Quantities
7. Technical and Financial Bid
8. Letter of Acceptance
9. Agreement and
10. Any other document(s), as specified.

8. The bidder is expected to examine carefully all instructions, conditions of contract, the contract data, forms, terms and specifications, bill of quantities, forms and drawings in the Bid Document. Bidder shall be solely responsible for his failure to do so.

9. PRE-BID MEETING

Wherever the Bid Data Sheet provides for pre-bid meeting:

9.1. Details of venue, date and time would be mentioned in the Bid Data Sheet. Any Change in the schedule of pre-bid meeting would be communicated on the website only, and intimation to bidders would not be given separately.

9.2. Any prospective bidder may raise his queries and/or seek clarifications in writing before or during the pre-bid meeting. The purpose of such meeting is to clarify issues and answer questions on any matter that may be raised at that stage. The

9.3. Employer may, at his option, give such clarifications as are felt necessary.

9.4. Minutes of the pre-bid meeting including the gist of the questions raised and the responses given together with any response prepared after the meeting will be hosted on the website.

9.5. Pursuant to the pre-bid meeting if the Employer deems it necessary to amend the Bid Document, it shall be done by issuing amendment to the online NIT.

10. AMENDMENT OF BID DOCUMENTS

10.1. Before the deadline for submission of bids, the Employer may amend or modify the Bid Documents by publication of the same on the website.

10.2. All amendments shall form part of the Bid Document.

10.3. The Employer may, at its discretion, extend the last date for submission of bids by publication of the same on the website.

C. PREPARATION OF BID

11. The bidders have to prepare their bids online, encrypt their Bid Data in the Bid Forms and submit Bid Seals (Hashes) of all the envelopes and documents related to the Bid required to be uploaded as per the time schedule mentioned in the key dates of the Notice Inviting e- Tenders after signing of the same by the Digital Signature of their authorized representative.

12. DOCUMENTS COMPRISING THE BID

The bid submitted online by the bidder shall be in the following parts:

Part 1 – This shall be known as Envelope A and would apply for all bids. Envelope A shall contain the following as per details given in the Bid Data Sheet:

(i) Registration number or proof of application for registration and organizational details in format given in the Bid Data sheet
(ii) Payment of the cost of Bid Document;
(iii) Earnest Money; and
(iv) EPF Registration
(v) An affidavit duly notarized.

Part 2 – This shall be known as Envelope B and required to be submitted only in works where pre-qualification conditions and/or special eligibility conditions are stipulated in the Bid Data Sheet. Online Envelope B shall contain a self-certified sheet duly supported by documents to demonstrate fulfilment of pre-qualification conditions.

Part 3 – This shall be known as Online Envelope C and would apply to all bids. Envelope C shall contain financial offer in the format prescribed enclosed with the Bid Data Sheet. Financial offer shall

be submitted online only.

13. LANGUAGE

The bid as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer shall be in English. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English. In such case, for the purposes of interpretation of the bid, such translation shall govern.

14. TECHNICAL PROPOSAL

14.1. Only, in case of bids with pre-qualification conditions defined in the Bid data sheet, the Technical Proposal shall comprise of formats and requirements given in the Bid Data Sheet.

14.2. All the documents/ information enclosed with the technical proposals should be self-attested and certified by the Bidder. The Bidder shall be liable for forfeiture of his earnest money deposit, if any document/ information are found false/fake/untrue before acceptance of Bid. If it is found after acceptance of the Bid, the sanctioning authority may at his discretion forfeit his performance security/guarantee, security deposit, enlistment deposit and take any other suitable action.

15. FINANCIAL BID

15.1. The Bidder shall have to quote rate for each items of Bill of Quantities (BOQ) as described in Annexure J-1.

15.2. The Bidder shall fill in rates and prices and line item total (both in figures and words) for all items described in the BOQ 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 GSCDCL when executed and shall be deemed covered by the other rates and prices in the BOQ.

15.3. All duties, taxes(excluding GST), and other levels payable by the Bidder under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.

15.4. The rates and prices quoted by the Bidder shall be fixed for the entire duration of the Contract.

16. PERIOD OF VALIDITY OF BIDS

The bids shall remain valid for a period specified in Bid Data Sheet after the date of “close for biding” as prescribed by the Employer. The validity of the bid can be extended by mutual consent in writing.

17. EARNEST MONEY DEPOSIT (EMD)

The Bidder shall furnish, as part of the Bid, Earnest Money Deposit (EMD), of the amount specified in the Bid Data Sheet.

17.1. The amount of EMD to be deposited ONLINE/RTGS/NEFT/IMPS in favour of CEO, Gwalior Smart City Development Corporation Limited (GSCDCL).

17.2. Bid not accompanied by EMD shall be liable for rejection as non-responsive. No exemption is permitted.

17.3. EMD of bidders whose bids are not accepted will be returned within 10(ten) working days of the decision on the bid.

17.4. EMD of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the Bank Guarantee of required value for Performance Security.

17.5. Failure to sign the contract by the selected bidder, for whatsoever reason, shall result in forfeiture of its EMD.

D. SUBMISSION OF BID

18. The bidder is required to submit bid online only under the digital signature of authorized signatory.

E. OPENING AND EVALUATION OF BID

19. PROCEDURE

19.1. Cover 'A' shall be opened first online at the time and date notified and its contents shall be checked. In cases where Cover 'A' does not contain all requisite documents, such bid shall be treated as nonresponsive, and Cover "B" and/or "C" of such bid shall not be opened.

19.2. Wherever Cover 'B' (Technical Bid) is required to be submitted, the same shall be opened online at the time and date notified. The bidder shall have freedom to witness opening of the Cover 'B'. Cover 'C' (Financial Bid) of bidders who are not qualified in Technical Bid (Cover 'B') shall not be opened.

19.3. Cover 'C' (Financial Bid) of the qualified bidders shall be opened online at the time and date notified. The bidder shall have freedom to witness opening of the Cover 'C'.

19.4. After opening Cover 'C' all responsive bids shall be compared to determine the lowest evaluated bid.

19.5. The GSCDCL reserves the right to accept or reject any bid, and to annul the biding process and reject all the bids at any time prior to contract award, without incurring any liability. In all such cases reasons shall be recorded.

19.6. The GSCDCL reserves the right of accepting the bid for the whole work or for a distinct part of it.

20. CONFIDENTIALITY

20.1. Information relating to examination, evaluation, comparison and recommendation of contract award shall not be disclosed to bidders or any other person not officially concerned with such process until final decision on the bid.

20.2. Any attempt by a bidder to influence the Employer in the evaluation of the bids or contract award decisions may result in the rejection of its bid.

F. AWARD OF CONTRACT

21. AWARD OF CONTRACT

The Employer shall notify the successful bidder by issuing a 'Letter of Acceptance' (LOA) that his bid has been accepted.

22. PERFORMANCE SECURITY

22.1. Prior to signing of the Contract the bidder to whom LoA has been issued shall have to furnish performance Security and Additional Performance Security (if applicable) of the amount, form and duration, etc. as specified in the Bid Data Sheet.

22.2. If the Bid, which results in the lowest evaluated Bid price, is seriously unbalanced or front loaded the opinion of GSCDCL, GSCDCL after evaluation, taking in to consideration the schedule of the estimated contract price may require Additional Performance Security from the Successful Bidder for such unbalanced Bid price.

22.3. If the lowest evaluated Bid price is lower by 15% or more of the SOR amount, such Bid will be deemed as unbalanced Bid price and classified as unworkable rate. For such unbalanced bids which classify as unworkable rate, the bidder to whom LOA has been issued, shall furnish, in addition to the performance security, an Additional Performance Security of an amount, which will be equal to the difference between the unworkable rate calculated with reference to the SOR amount and agreement amount. By way of illustration, if the lowest evaluated Bid price is lower by 22% of the SOR amount, the Additional Performance Security for the unworkable rate that shall be required from the successful bidder shall be calculated as 7% of the SOR amount, being the difference between 22% of the SOR amount and 15% as the benchmark for classification as unworkable rate.

23. SIGNING OF CONTRACT AGREEMENT

23.1. The successful bidder shall have to furnish Performance security and additional performance security, if any, and sign the contract agreement within 15 days of issue of LOA.

23.2. The signing of contract agreement shall be reckoned as intimation to commencement of work. No separate work order shall be issued by the Employer to the contractor for commencement of work.

23.3. In the event of failure of the successful bidder to submit Performance Security and additional performance security if any or sign the Contract Agreement, its EMD shall stand forfeited without prejudice to the right of the employer for taking action against the bidder.

23.4. An indicative terms and conditions of the GCC, SCC and/or the draft contract that shall be executed by and between GSDCL and the successful bidder is attached. GSDCL reserves the right to modify/ amend the said terms and conditions of the GCC, SCC and/or draft contract after consultation with the successful bidder. Such terms and conditions as may be considered necessary by the GSCDCL at the time of finalization of the Agreement, successful bidder would be required to execute the Agreement with such conditions.

24. CORRUPT PRACTICES

The Employer requires that bidders observe the highest standard of ethics during the procurement and execution of contracts. In pursuance of this policy, the Employer:

i. may reject the bid for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract; and
ii. may debar the bidder declaring ineligible, either indefinitely or for a stated period of time, to participate in bids, if it at any time determines that the bidder has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, a contract.
iii. may debar the bidder if he is being blacklisted by any Department of State Government or Government of India for non-performance/ sub- standard execution or any other reason whatsoever in similar type of works.

For the purposes of this provision, the terms set forth above are defined as follows:

a) “corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
b) “fraudulent practice” means any act or omission, including a misrepresentation, that

knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

c) “coercive practice” means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

d) “Collusive practice” means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.

BID DATA SHEET

GENERAL

S.N.	Particulars	Data
1	Office inviting Tender	Gwalior Smart City Development Corporation Limited
2	NIT No.	GSCDCL/042/2018
3	Date of NIT	16-04-2018
4	Bid document download Available from date & time	17-04-2018, 10:30
5	Website link	http://www.mpeproc.gov.in

SECTION 1– NIT

Clause Reference	Particulars	Data
2	Portal fees	Rs. _____(shall be reflected on the portal)
3	Cost of bid document	Rs.10,000/- (Ten thousand only)
	Cost of bid document payable at	Bidders shall be directed to the payment gateway through the portal
	Cost of bid document in favour of	Executive Director, Gwalior Smart City Development Corporation Limited
4	Affidavit format	Annexure B
5	Pre-qualifications required	No
	If Yes, details	As per Annexure C
6	Special Eligibility	Yes
	If Yes, details	As per Annexure D
7	Key Dates	Annexure A

SECTION 2–ITB

Clause Reference	Particulars	Data
1	Name of work	**'Renovation and Rejuvenation of Skill Development Centre at Regional Art and Craft Design Centre'**
2	Specifications	Annexure E
3	Procedure for participation in e-tendering	Annexure F

Clause Reference	Particulars	Data
4	Whether Consortium/Joint-venture is allowed	No
9	Pre-bid meeting to held	Yes
	If Yes, Date, Time & Place	Date: 2 5 -04-2018 at Time: 14:00 Hrs Place: Gwalior Smart City Development Corporation Limited, Nagar Nigam Mukhyalaya, City Centre, Gwalior
12	Envelope-A should reach in physical form to	Deleted
14	Envelope-B Technical Proposal	Annexure – I (Formats I-1 to I-5)
	Envelope-C Financial Bid	Annexure – J
15	Material to be issued by the department	Nil
16	Period of Validity of Bid	180 Days
	Earnest Money Deposit	Rs 76,847/- (Rupees Seventy Six thousand Eight hundred Forty only)
17	Forms of Earnest Money Deposit	Amount of EMD to be deposited only ONLINE/RTGS/NEFT/IMPS **(Make payments before 48 Hours)**
	EMD valid for a period of	Not less than 180 days from the last date of bid submission
	ONLINE/RTGS/NEFT/IMPS Chief Executive Officer, Gwalior Smart	ONLINE/RTGS/NEFT/IMPS Chief Executive Officer, Gwalior Smart
21	Letter of Acceptance (LoA)	Annexure L
22	Amount of Performance Security	5% of contract amount
	Additional Performance Security, if any (as per clauses 22.2, 23.1, 23.3)	Yes, applicable.
	Performance security in the format	Annexure M
	Performance security in favour of	Executive Director, Gwalior Smart City Development Corporation Limited,
	Performance security valid up to	Till 3 (three) months from the date of expiry of the Defect Liability Period

Annexure – A

KEY DATES & EVENTS

S. No.	Department Stage	Bidder's Stage	Start		Expiry		Envelopes
			Date	Time	Date	Time	
1.		Purchase of Tender – Online	17/04/2018	1030 Hours	14/05/2018	1730 Hours	
2.	Pre-Bid Meeting		25/05/2018	1400 Hours			
3.		Bid Submission – Online			15/05/2018	1730 Hours	
4.	Mandatory Submission Pre-qualification Opening		16/05/2018	1600 Hours			Envelope A
5.	Technical Proposal Opening		16/05/2018	1610 Hours			Envelope B
6.	Financial Bid Opening		TBA				Envelope C

Note: Original Affidavit shall have to be submitted by the Successful Bidder before agreement. Scan copy of affidavit and all other declaration shall be submitted by the bidder online.

Annexure – B
(See clause 3 of Section 1-NIT)

AFFIDAVIT

(To be contained in Envelope A)
(On Non-Judicial Stamp of Rs.100)

I/we _____who is/are _____ *(status in the firm/company)* and competent for submission of the affidavit on behalf of M/S _____ *(name of the bidder)* do solemnly affirm an oath and state that:

I/we are fully satisfied for the correctness of the certificates/records submitted in support of the following information in bid documents which are being submitted in response to notice inviting e- tender No. _____ for _____ *(name of work)* dated _____ issued by the _____ *(name of the Authority)*

I/we are fully responsible for the correctness of following self-certified information/ documents and certificates:

1. That the self-certified information given in the bid document is fully true and authentic.
2. That:
   a) Earnest Money Deposit, and other relevant documents provided by the Bank are authentic.
   b) Information regarding financial qualification and annual turn-over is correct.
   c) Information regarding various physical qualifications is correct.
3. No close relative of the undersigned and our firm/company is working in the department.

OR

Following close relatives are working in the department:

Name: _____ Designation: _____ Present Posting _____

Signature with Seal of the Deponent *(bidder)*

I/ We, _____ above deponent hereby certify that the facts mentioned in above para(s) 1 to 3 are correct to the best of my knowledge and belief.

Verified today _____ *(dated)* at _____ *(place)*

Signature with Seal of the Deponent *(bidder)*

Annexure – C
(See clause 5 of Section 1 NIT)

PRE-QUALIFICATION CRITERIA

This work **'Renovation and Rejuvenation of Skill Development Centre at Regional Art and Craft Design Centre'** has Civil/Retrofitting nature of work:

The area of specialization required for execution of this work are Civil/Retrofitting for which the Bidders are encouraged to bid as Consortium or incorporated Joint Ventures. However bidders possessing the required experiences and meeting the prequalification criteria can bid as single entity.

1. Mandatory Qualifications

	Criteria
	Requirement
i) Valid Registration	Registration No. issued by centralized registration system of Govt. of MP or proof of application for registration
ii) PAN No.	Must have pan no. in name of the company/firm/organisation incorporated under Indian Law
iii) GSTIN No.	Must have GSTIN Certificate in name of the company/firm/organisation incorporated under Indian Law
iv) EPF No.	Must have valid EPF registration in name of the company/firm/organisation incorporated under Indian Law

Annexure – D

(See clause 6 of Section 1 NIT)

SPECIAL ELIGIBILITY CRITERIA

Not Applicable

Annexure – E

(See clause 2 of Section 2-ITB & Clause 10 of GCC)

SPECIFICATIONS

Specifications of proposed works in order of their preference are compliant to the latest versions of MPUADD (part 1 to 4), CPWD (volume I & II), and MORTH specifications and standards. Non Scheduled works have detailed specifications supported by detailed design drawings.

The works in General shall be carried out as per latest MP-UADD Specifications, (updated with corrections slips issued upto last date of submission of tender) unless otherwise specified in the nomenclature of the individual item or in the particular specifications of concerned items of works.

For items not covered under MP-UADD specifications with correction slips or those specifications are not given in the technical specifications appended or not incorporated in the nomenclature of the individual item, the work shall be done as per latest relevant BIS Codes of Practice or as per approval of Engineer-in-charge.

All the works shall be executed as per the approved drawings / designs. The patterns shown in the tender drawings can be modified as per the site requirements by the Engineer- in-charge and nothing extra whatsoever shall be payable over and above the quoted rates.

Material should be of the best approved quality obtainable and they shall comply with the respective Indian Standard Specifications. Samples of all materials shall be got approved before placing order and the approved sample shall be deposited with the Client/Engineer In-Charge.

1.1.1. GENERAL

FOUNDATION AND PLINTH

a) The work in foundation and plinth shall include: (a) For buildings: All works upto 1.2 metre above ground level or upto floor 1 level whichever is lower: (b) For abutments, piers and well steining: all works upto 1.2 m above the bed level: (c) For retaining wall, wing walls, compound walls, chimneys, over head reservoirs/ tanks and other elevated structures: All works upto 1.2 metre above the ground level: (d) For reservoirs/ tanks (other than overhead reservoirs/ tanks): All works upto 1.2 metre above the ground level: I For basements: All works upto 1.2 m above ground level or upto floor 1 level whichever is lower. Note: Specific provision shall be made in the estimate for such situations where the foundation level is more than 3 (three) metre depth from the plinth for all types of structures mentioned above.

MEASUREMENTS

a) In booking dimensions, the order shall be consistent and in the sequence of length, width and height or depth or thickness.

b) Rounding off: Rounding off where required shall be done in accordance with IS: 2-1960. The number of significant places rounded in the rounded off value should be as specified.

MATERIALS

a) Samples of all materials to be used on the work shall be got approved by the contractor from the Engineer-in-Charge well in time. The approved samples duly authenticated and sealed shall be kept in the custody of the Engineer-in-Charge till the completion of the work. All materials to be provided by the contractor shall be brand new and as per the samples approved by the Engineer-in-Charge.

b) Materials obtained by the contractor from the sources approved by the Department shall be subjected to the Mandatory tests. Where such materials do not conform to the relevant specifications, the matter shall be taken up by the Engineer-in-Charge for appropriate action against the defaulters. In all such cases, necessary documents in original and proof of payment relating to the procurement of materials shall be made available by the contractor to the Engineer-in-Charge.

c) Samples, whether submitted for approval to govern bulk supplies or required for testing before use and also the sample of materials bearing ‘Standard mark,’ if required for testing, shall be provided free of cost by the contractor. All other incidental expenditure to be incurred for testing of samples e.g. packaging, sealing transportation, loading, unloading etc. except testing charges shall be borne by the contractor.

d) The materials, supplied by the Department shall be deemed to be complying with the specifications.

e) Materials stored at site, depending upon the individual characteristics, shall be protected from atmospheric effects due to rain, sun, wind and moisture to avoid deterioration.

f) Materials like timber, paints etc. shall be stored in such a way that there may not be any possibility of fire hazards. Inflammable materials and explosives shall be stored in accordance with the relevant rules and regulations or as approved by Engineer-in-Charge in writing so as to ensure desired safety during storage.

g) The unit weight of materials unless otherwise specified shall be reckoned as given in IS: 1911-1967.

SAFETY IN CONSTRUCTION

a) The contractor shall employ only such methods of construction, tools and plant as are appropriate for the type of work or as approved by Engineer-in-Charge in writing.

b) The contractor shall take all precautions and measures to ensure safety of works and workman and shall be fully responsible for the same. Safety pertaining to construction works such as excavation, centering and shuttering, trenching, blasting, demolition, electric connections, scaffolds, ladders, working platforms, gangway, mixing of bituminous materials, electric and gas welding, use of hoisting and construction machinery shall be governed by CPWD safety code, relevant safety codes and the direction of Engineer-in-Charge

1.1.2. DISMANTLING AND DEMOLISHING

c) All materials obtained from dismantling or demolition shall be the property of the Government unless otherwise specified and shall be kept in safe custody until they are handed over to the Engineer in-Charge/ authorized representative.

d) The demolition shall always be well planned before hand and shall generally be done in reverse order of the one in which the structure was constructed. The operations shall be got approved from the Engineer-in-Charge before starting the work.

e) Due care shall be taken to maintain the safety measures prescribed in IS 4130.

f) Necessary propping, shoring and or under pinning shall be provided to ensure the safety of the adjoining work or property before dismantling and demolishing is taken up and the work shall be carried out in such a way that no damage is caused to the adjoining work or property. Wherever specified, temporary enclosures or partitions and necessary scaffolding with suitable double scaffolding and proper cloth covering shall also be provided, as directed by the Engineer-in-Charge.

g) Necessary precautions shall be taken to keep noise and dust nuisance to the minimum. All work needs to be done under the direction of Engineer-in-Charge. Helmets, goggle, safety belts etc. should be used whenever required and as directed by the Engineer-in-Charge.

h) The demolition work shall be proceeded with in such a way that it causes the least damage and nuisance to the adjoining building and the public.

i) Dismantling shall be done in a systematic manner. All materials which are likely to be damaged by dropping from a height or by demolishing roofs, masonry etc. shall be carefully removed first. Chisels and cuters may be used carefully as directed. The dismantled articles shall be removed manually or otherwise, lowered to the ground (and not thrown) and then properly stacked as directed by the Engineer-in-Charge.

j) Where existing fixing is done by nails, screws, bolts, rivets, etc., dismantling shall be done by taking out the fixing with proper tools and not by tearing or ripping off.

k) Any serviceable material, obtained during dismantling or demolition, shall be separated out and stacked properly as directed by the Engineer-in-Charge within a lead of 50 metres. All unserviceable materials, rubbish etc. shall be disposed off as directed by the Engineer-in-Charge.

l) The contractor shall maintain/disconnect existing services, whether temporary or permanent, where required by the Engineer-in-Charge.

m) No demolition work should be carried out at night especially when the building or structure to be demolished is in an inhabited area.

n) Screens shall be placed where necessary to prevent injuries due to falling pieces.

o) Water may be used to reduce dust while tearing down plaster from brick work.

p) Safety belts shall be used by labourers while working at higher level to prevent falling from the structure.

q) First-aid equipment shall be got available at all demolition works of any magnitude.

1.1.3. CIVIL WORKS

MATERIALS AND WORKMANSHIP

a) The term “Materials” shall mean all materials, goods and articles of every kind whether raw, processed or manufactured and equipment and plant of every kind to be supplied by the implementing agency for incorporation in the works.

b) All materials shall be of the specified quality and should match the original in colour, texture and composition. New material should be of acceptable conservation grade.

c) Materials shall be transported, handled (stacked where necessary)and stored in such a manner as to prevent deterioration, damage or contamination failing which such damaged materials will be rejected and shall not be used on any part of the works under this contract.

d) Work shall be performed only by mason skilled and competent in the particular class of work. Wherever possible skilled craftsperson must be engaged and traditional methods employed in reconstruction processes. All work should match the standard and quality of the original workmanship of the building.

e) The building civil works should be carried out in a manner complying with the principles of good practices as accepted nationally and internationally.

f) H-frame scaffolding and other special scaffolding should be provided for accessing and working on certain parts of the building without causing any harm to the structures. Special care must be taken while working so that flooring is not damaged. Scaffolding may be propped against the face of the building with suitably padded buffer.

g) Recycling of the material: The material should be reused as far as possible. This essentially includes the stone and bricks. The stone should also be reused after consultation with the client and the principal consultant.

h) The scaffolding should be metal cup lock system.

i) All vehicular movement within the forecourt for movement of material or man power should move at a minimum distance of 2 meters from the buildings and should follow the demarcated pathway.

SAMPLING AND TESTING OF MATERIALS

a) The implementing agency shall submit samples of such materials (before going for bulk supply, bulk supply shall be taken up after obtaining written approval of the said samples by the authority concerned) as may be required by the Project Manager for Quality Assurance and shall carry out the specified tests directed by the Project Manager at the site or at the supplier’s premises or at a laboratory approved by the Project Manager.

b) Samples shall be submitted and tests carried out sufficiently early to enable further samples to be submitted and tested if required by the Project Manager for Quality Assurance.

c) Final specifications of the building materials, to be used for conservation work, should be based on laboratory tests to ensure that they comply with the original materials. Scientific investigations of the art work materials should be carried out to better inform proposed conservation interventions.

d) The implementing agency shall give the Project Manager seven days’ notice in writing of the date on which any of the materials will be ready for testing or inspection. The Project Manager shall attend the test at the appointed place within seven days of the said date on which the materials are expected to be ready for testing or inspection according to the implementing agency, failing

which the test may proceed in his absence unless instructed by the Project Manager to carry out such a test on a mutually agreed upon date.

e) The implementing agency shall in any case submit to the Project Manager within seven days of every test such number of certified copies (not exceeding six) of the test readings as the Project Manager may require.

f) The provisions of this clause shall also apply to materials supplied under any nominated sub-contract.

STANDARDS

a) The latest specifications, as prepared and published by Public Works Department, Govt. of Uttar Pradesh, shall be construed to be a part of the tender. These shall be followed in respect of all materials, workmanship and various tests to be performed and the acceptance criteria.

b) In respect of items, where Public Works Department, specifications are either not available or do not serve the intent of design, the Central Public Works Department, Govt. of India, Specifications shall govern.

c) Where Specifications are still not found, the latest provisions of National Building Code of India / Indian Standards (IS) / IRC / MORTH / CPHEEO shall hold good.

d) The requirement of these specifications shall be fulfilled by the implementing agency within the tendered rates. The items quoted shall be deemed to have taken these specifications into account.

e) At the request of client, the implementing agency has to provide a certificate stating that the materials supplied comply in all respects with the standard; the implementing agency shall obtain the certificate and forward it to the Project Engineer.

f) If no standard is indicated, the relevant Indian Standard, if any, shall apply. Indian Standards are published by:

Indian Standards Institution,

Manak Bhavan,

9, Bahadur Shah ZafarMarg,

New Delhi – 110 002

g) In case of discrepancy between the Technical Specification and the Standards referred to herein, the Technical Specification shall govern.

SITE CLEARANCE

a) **De-vegetation:** The growth of vegetation in the joints of historic brick buildings is the principle factor in causing their ruin. Therefore the plants and trees growing on and close to the structure need to be removed as specified by conservation architect.

In removing weeds, trees or shrubs, etc. from walls, it is essential that the roots should be completely destroyed, and during the process of raking out, any tendrils found in the joints should be followed up and removed. The stumps can be injected with chemical called Round up or tree killer, arsenic or hot lime slurry shall be poured around the roots.

Joints which have to be raked out in order to destroy the vegetation should, after the earth etc. has been removed, be immediately re-pointed.

The removal of trees from historic masonry is an operation that demands special care. As a rule large trees should be removed in sections in order to prevent injury being done to the masonry.

Refilling shall be done by using earth in layers of 200mm. thickness with compaction in pits.

DISMANTLING AND DEMOLISHING WITHIN BUILDINGS/SITES

a) **Dismantling:** The term 'Dismantling' implies carefully separating the parts without damage and removing. This may consist of dismantling one or more parts of the building as specified or shown on the drawings.

b) **Precautions:** All materials obtained from dismantling or demolition shall be the property of the Government unless otherwise specified and shall be kept in safe custody until they are handed over to the Project Manager/ authorized representative.

c) **Findings on site:** The findings should be brought in to notice of the conservation architect. The constructions details will be reviewed on the basis of the new findings. The implementing agency should photo document the various findings on site during the course of civil/retrofiiting works. It is important that the implementing agency adheres to the time plan keeps the Engineer-in-charge informed about the various explorations in the building so that the documentation of the findings and relevant changes in the details can be carried.

d) **Marking and keeping material:** All materials removed in accordance with the items of work shall be marked as they are removed, so as to clearly show where they have been removed from, and shall be kept on the site and protected from damage until they are inspected by the Engineer-in-charge.

e) The dismantling shall always be well planned before hand and shall generally be done in reverse order of the one in which the structure was constructed. The operations shall be got approved from the Project Manager before starting the work.

f) Due care shall be taken to maintain the safety measures prescribed in IS 4130.

g) **Care in removal:** All demolition shall be undertaken in a careful manner with minimum disturbance to prevent any damage to other parts or to the rest of the building.

h) While removing the incompatible later additions (lime washes, cement plaster, etc.) the implementing agency shall take all precautions to protect the existing original details (art work, original plaster and original elements).

i) **Protection of building/site features and materials:** Utmost care must be taken to ensure that the fabric of the building is not damaged in the course of demolition works as well as during civil/retrofitting works. Special care must be taken to protect floor surfaces (brick floors, marble floors, stone etc.),

j) Necessary propping, shoring and or under pinning shall be provided to ensure the safety of the adjoining work or property before dismantling and demolishing is taken up and the work shall be carried out in such a way that no damage is caused to the adjoining work or property. Wherever specified, temporary enclosures/ partitions or necessary scaffolding (suitable double scaffolding and proper cloth covering), shall also be provided, as directed by the Project Engineer.

k) Necessary precautions shall be taken to keep noise and dust nuisance to the minimum.

l) All work needs to be done under the direction of Project Manager Engineer-in-charge. Helmets, goggle, safety belts etc. should be used whenever required and as directed by the Project Manager.

m) The demolition work shall be proceeded with in such a way that it causes the least damage and nuisance to the adjoining building and the public.

n) Dismantling shall be done in a systematic manner. All materials which are likely to be damaged by dropping from a height or by demolishing roofs, masonry etc. shall be carefully removed first.

o) Chisels and cutters may be used carefully as directed. The dismantled articles shall be removed manually or otherwise, lowered to the ground (and not thrown) and then properly stacked as directed by the Project Manager/ Engineer-in-charge.

p) Where existing fixing is done by nails, screws, bolts, rivets, etc., dismantling shall be done by taking out the fixing with proper tools and not by tearing or ripping off.

q) Any serviceable material, obtained during dismantling or demolition, shall be separated out and stacked properly as directed by the Project Manager/ Engineer-in-charge within a lead of 50 meters. All unserviceable materials, rubbish etc. shall be disposed of as directed by the Project Manager/ Engineer-in-charge.

r) The implementing agency shall maintain/disconnect existing services, whether temporary or permanent, where required by the Project Engineer/ Engineer-in-charge.

s) No demolition work should be carried out at night especially when the building or structure to be demolished is in an inhabited area.

t) Screens shall be placed where necessary to prevent injuries due to falling pieces as it a tourist site. Care must be taken for the safety of tourist during implementation. Water may be used to reduce dust while tearing down plaster from brick/stone work.

MASONRY WORK

a) **Materials:** Materials shall comply with the specifications and standards as specified.

b) **Lime:** This specification lays down the general characteristics of lime to be used for the conservation work. No readymade or factory made lime is to be used for any of the work.

The classification of lime to be used for various purposes is as follows:

Lime for making lime plaster: Class C lime: Fat lime

Supply and Storage:. The class C shall be supplied as quick lime. Lime supplied as quick lime or lump lime at the site should be in a sealed condition and subsequently stacked in a store or any other place which is dry and under cover well protected from rain. This is necessary because quick lime deteriorates quickly as it attracts moisture and carbon dioxide from atmosphere. For storing it should be piled up and covered with a blanket of lime dust to exclude moist air. Therefore it should be slaked as soon as possible in a pit called a '*Haudi'* specially constructed for this. It should be slaked for at least 10 days prior to its use for making lime mortar and plaster.

Rejection of Lime: The lump or quick lime having stone pieces, impurities and powdery shall be rejected. The Implementing agency at his own expense shall remove lime, which has been rejected by the Engineer, from the site of work within 3 days.

Lime slaking in tank*:* A tank or the *'Haudi'* lined with stone or brick and finished with cement large enough to permit, stirring and hoeing shall be prepared (generally tanks suitable for 5 quintals or 10 quintals of quick lime are used in practice). The tank shall be filled to half its depth with water.

Quick lime shall be gradually added till it fills the entire bottom to about half the depth of water. **(Never add water to lime).** While quick lime is being added it shall be constantly stirred and hoed so as to break up the lumps. No part of the lime shall be allowed to expose above water level. As the lime slakes with evolution of heat temperature begins to rise and more lime or water may be added till the required temperature is reached and that temperature should be maintained by the addition of more lime or water till all the lime apparently has slaked, the stirring and hoeing shall be continued during the above process and for some period even after the slaking is apparently over. This whole act has to done with utmost precaution to the body by covering the eyes with glass goggles and wearing rubber boots.

Maturing: After the lime has cooled, more water shall be added if required and it shall be left undisturbed for not more than 7 days. The putty shall be allowed to mature but not allowed to dry out till it is used. Therefore the tank will need to be filled with water to allow the slaked lime to be constantly in submerged in water.

c) **Surkhi:** Surkhi is the powdered burnt bricks, brickbats and is used as an admixture to lime both for making lime mortar and lime plaster. Surkhi shall always be obtained from fully burnt or slightly under burnt, but never from over brunt bricks. Surkhi obtained from burnt loam shall not contain any un-burnt soil. Surkhi shall be perfectly clean, free from an admixture or any foreign element. Surkhi shall not contain soluble sulphate more than 0.5% for exposed work and work in damp situations and not more than 1.0% when used for works in dry and internal situations.

Stacking: Surkhi shall be stacked on masonry or wooden platform in regular stacks as of size2.0M x 2.0M x 0.6M at the places as directed by the Engineer and shall be protected from dust, rains and dampness and shall be kept under adequate coverings provided by the implementing agency.

d) **Sand:** Sand used in the making of mortar should be coarse grained, perfectly clean and sharp and preferably of a yellow and variegated colour. It should, if possible, be obtained from local pits.

It is absolutely essential that it should possess the above mentioned qualities in order that a successful result may be obtained for the lime mortar. Fine grained, dusty or dirty sand must not be allowed, and each fresh consignment should be carefully inspected in order to see that it corresponds with the sample approved in the first case. Many sands which would otherwise be of good quality contain lumps of foreign matter, or a quantity of dusty particles. Such sand may with the Engineers consent, be used after it has been thoroughly washed and sifted.

e) **Mortar mix–s** -Lime surkhi mortar and Lime surkhi plaster

Materials used**:** Lime: Lime A, B and C class shall be used in the preparation of mortar and shall, conform to lime specification 2.1.1

Surkhi Aggregates: It shall conform to Surkhi specification

Sand aggregate in lime mortar: *shall* confirm to sand specification

Water: For all mortars water used shall be free from mud, clay, and acidic, basic or organic impurities and shall be drinkable.

Proportion: The lime surkhi mortar shall be in conformance to the DSR-2016 specification for lime in 1:1:1 (1 lime putty: 1 surkhi: 1 fine sand).

The proportion of mix for mortar shall also depend upon the percentage purity of lime with regard to its CaO content. In case the CaO content of lime is lower, the proportion of lime shall be suitably increased to compensate, for the lower CaO content of the lime used. The lime plaster will be as per archaeological specification 3.1 (a) in 1:2 (1 lime: 2 surkhi).

Preparation of mortar: Mortar mill (Lime *Chakki or Mill*) mixing: Slaked lime in the required quantity and fine aggregates in proportions (For lime mortar, 1:1:1 (1 lime putty: 1 surkhi: 1 fine sand) and 1:2 (1 lime: 2 Surkhi) shall be put along with limewater/water in the *chakki* spreading uniformly all along its circumference and ground with a stone *chakki* till a mortar of uniform colour and desired consistency is obtained. As grinding is done the mixture shall be continuously raked and turned over and over especially from corners and sides. Mortar is to be ground to the required consistency depending on the mode of grinding i.e. bullock or tractor for 3 hrs and 1and half hour (at least) respectively. The prepared masala has to be then removed to a rectangular pit that would be used for storing of the masala with enough space to allow the masala to be mixed well for a short duration using feet before delivering it for application.

Addition of surkhi or other pozzolonas in the making of mortars gives the mortars the properties of hydraulic mortars i.e. quick setting properties and should be treated like Class A and Class B lime mortars, depending upon the hydraulicity.

Strengthening of the mortar: The prepared lime mortar should be added with the admixture of*Lapti ka paani + methi+ gulgul ka paani,* which should be added only after being filtered properly. The filtered admixture will be thoroughly mixed with the lime mortar and then added with *rumimastagi ka paani* for extra strengthening of the mortar.

Storage of Mortar: Lime mortars prepared shall be used up as soon as possible after mixing 2 days for Class B limes from the time of making Putty or first grinding. Mortars from Class C limes can be used for periods longer than 3 days after the making of mortar provided they are protected from drying out. The mortar left over at the end of the working hour should be properly covered with moistened jute bags. When the mortar is used after a gap of two days it should be sprinkled with limewater and mixed well using feet covered with gumboot.

Rejection of Mortar: Mortar not found in accordance with the specifications above and unsuitable according to field and laboratory tests of lime mortar shall be rejected. The implementing agency at its own cost shall remove rejected mortar from the site of work within 3 days.

SAND STONE WORK

a) **Sand stone slab flooring/ pathway:** Wherever old paving stones exist; the old stone slab will be re-laid in the same area with missing stones replaced. Where the new paving stones have to be laid care should be taken to see that the stones slab match as much as possible to the old paving stone slab.

WOOD WORK

a) **Fixing of new Doors:** The doors should be of best teak or other superior quality wood, free from knots, etc. It should match in size, colour, texture and design as per the existing doors in the west gateway. The door specifications and drawings given by the conservation architect should be referred in all respects.

FINISHING WORK

a) **Treatment of bulging plaster and damaged plaster:** The problem associated with deteriorating plaster is in the form of bulging, flaking and loss of plaster in small or big patches from the ceiling and wall surfaces. In case of severe conditions related to the above the deteriorated plaster can be carefully removed without harming the surface of the underlying masonry and re-plastering it. All this should be done under the strict supervision of Engineer-in-charge .

In many a place, the plaster separates from the walls and a gap is formed between them. There are two types of separation of plaster from the support, one in which the gap between the support and plaster is considerable with minor cracks formed on surface and another in which plaster is detached, the gap is too much. Here again it is advisable to repair the lime plaster, similar in composition to the original plaster for filling up the lost areas.

b) Surface finish: Removal of lime wash

While removal of lime washes/white wash from an old surface care should be taken to prevent injury to the underlying surface in particular any inscription, painting or relief beneath. Lime wash can be removed by light brushing with soft brush and water or light sponging in case of painted or delicate surface. In certain cases scraping using surgical blade and knife may be resorted to by skilled worker under close supervision and instruction of the engineer in consultation with the conservation architect.

The task of cleaning stucco work or removal of lime wash and dirt from the surface is a specialized and difficult job to be undertaken only under the directions supervision of art conservation expert in consultation with the conservation architect.

1.1.4. EARTHWORK

SITE CLEARANCE

a) Before the earth work is started, the area coming under cutting and filling shall be cleared of shrubs, rank vegetation, grass, brushwood, trees and saplings of girth up to 30cm measured at a height of one meter above ground level and rubbish removed up to a distance of 50 meters outside the periphery of the area under clearance. The roots of trees and saplings shall be removed to a depth of 60cm below ground level or 30 cm below formation level or 15 cm below sub grade level, whichever is lower, and the holes or hollows filled up with the earth, rammed and leveled.

b) The trees of girth above 30 cm measured at a height of one meter above ground shall be cut only after permission of the Engineer-in-Charge is obtained in writing. The roots of trees shall also be removed as specified

c) Existing structures and services such as old buildings, culverts, fencing, water supply pipe lines, sewers, power cables, communication cables, drainage pipes etc. within or adjacent to the area if required to be diverted/removed, shall be diverted/dismantled as per directions of the Engineer-in Charge and payment for such diversion/dismantling works shall be made separately.

d) In case of archaeological monuments within or adjacent to the area, the contractor shall provide necessary fencing around such monuments as per the directions of the Engineer-in-Charge and protect the same properly during execution of works. Payment for providing fencing shall be made separately.

e) Lead of 50 m mentioned in the 'Schedule Of Quantities' is the average lead for the disposal of excavated earth within the site of work. The actual lead for the lead for the disposal of earth may be more or less than the 50 m for which no cost adjustment shall be made in the rates.

f) Disposal of Earth shall be disposed off at the specified location or as decided by the Engineer-in Charge. The contractor has to take written permission about place of disposal of earth before the earth is disposed off, from Engineer-in-Charge.

EXCAVATION IN ALL KINDS OF SOILS

g) All excavation operations manually or by mechanical means shall include excavation and 'getting out' the excavated materials. In case of excavation for trenches, basements, water tanks etc. 'getting out' shall include throwing the excavated materials at a distance of at least one metre or half the depth of excavation, whichever is more, clear off the edge of excavation. In all other cases 'getting out' shall include depositing the excavated materials as specified. The subsequent disposal of the excavated material shall be either stated as a separate item or included with the items of excavation stating lead.

h) During the excavation the natural drainage of the area shall be maintained. Excavation shall be done from top to bottom. Undermining or undercutting shall not be done.

i) In firm soils, the sides of the trenches shall be kept vertical upto a depth of 2 meters from the bottom. For greater depths, the excavation profiles shall be widened by allowing steps of 50 cms on either side after every 2 meters from the bottom. Alternatively, the excavation can be done so as to give slope of 1:4 (1 horizontal: 4 vertical). Where the soil is soft, lose or slushy, the width of steps shall be suitably increased or sides sloped or the soil shored up as directed by the Engineer-in Charge. It shall be the responsibility of the contractor to take complete instructions in writing from the Engineer-in-Charge regarding the stepping, sloping or shoring to be done for excavation deeper than 2 meters.

j) The excavation shall be done true to levels, slope, shape and pattern indicated by the Engineer-in Charge. Only the excavation shown on the drawings with additional allowances for centering and shuttering or as required by the Engineer-in-Charge shall be measured and recorded for payment.

k) In case of excavation for foundation in trenches or over areas, the bed of excavation shall be to the correct level or slope and consolidated by watering and ramming. If the excavation for foundation is done to a depth greater than that shown in the drawings or as required by the Engineer-in-Charge, the excess depth shall be made good by the contractor at his own cost with the concrete of the mix used for levelling/ bed concrete for foundations. Soft/defective spots at the bed of the foundations shall be dug out and filled with concrete (to be paid separately) as directed

l) While carrying out the excavation for drain work care shall be taken to cut the side and bottom to the required shape, slope and gradient. The surface shall then be properly dressed. If the excavation is done to a depth greater than that shown on the drawing or as required by the Engineer-in-Charge, the excess depth shall be made good by the contractor at his own cost with stiff clay puddle at places where the drains are required to be pitched and with ordinary earth, properly watered and rammed, where the drains are not required to be pitched. In case the drain is required is to be pitched, the back filling with clay puddle, if required, shall be done simultaneously as the pitching work proceeds. The brick pitched storm water drains should be avoided as far as possible in filled-up areas and loose soils.

m) In all other cases where the excavation is taken deeper by the contractor, it shall be brought to the required level by the contractor at his own cost by filling in with earth duly watered, consolidated and rammed.

n) In case the excavation is done wider than that shown on the drawings or as required by the Engineer-in-Charge, additional filling wherever required on the account shall be done by the contractor at his own cost.

o) The excavation shall be done manually or by mechanical means as directed by Engineer-in-charge considering feasibility, urgency of work, availability of labour /mechanical equipment and other factors involved. Contractor shall ensure every safety measures for the workers. Neither any deduction will be made nor will any extra payment be made on this account.

EARTH WORK BY MECHANICAL MEANS

a) Earth work by mechanical means involves careful planning keeping in view site conditions i.e. type of soil, nature of excavation, distances through which excavated soil is to be transported and working space available for employing these machines. The earth moving equipment should be accordingly selected.

b) The earth moving equipment consists of excavating and transporting equipment. Excavating equipment may be further classified as excavators and tractor based equipment.

FILLING

a) The earth used for filling shall be free from all roots, grass, shrubs, rank vegetation, brushwood, tress, sapling and rubbish.

b) Filling with excavated earth shall be done in regular horizontal layers each not exceeding 20 cm in depth. All lumps and clods exceeding 8 cm in any direction shall be broken. Each layer shall be watered and consolidated with steel rammer or ½ tonne roller. Where specified, every third and top must layer shall also be consolidated with power roller of minimum 8 tonnes. Wherever depth of filling exceeds 1.5 metre vibratory power roller shall be used to consolidate the filing unless otherwise directed by Engineer-in-charge. The top and sides of filling shall be neatly dressed. The contractor shall make good all subsidence and shrinkage in earth fillings, embankments, traverses etc. during execution and till the completion of work unless otherwise specified.

SURFACE EXCAVATION

a) Excavations exceeding 1.5 m in width and 10 sqm. on plan but not exceeding 30 cm. in depth in all types of soils and rocks shall be described as surface excavation and shall be done as specified in 2.7 and 2.8.

EXCAVATION IN TRENCHES FOR PIPES, CABLES ETC. AND REFILLING

a) This shall comprise excavation not exceeding 1.5 mts in width or 10 sqm in plan and to any depth trenches for pipes. Cables etc. and returning the excavated material to fill the trenches after pipes, cables etc. are laid and their joints tested and passed and disposal of surplus excavated material upto 50 m lead

FILLING IN TRENCHES, PLINTH, UNDER FLOOR ETC.

a) Earth Normally excavated earth from same area shall be used for filling. Earth used for filling shall be free from shrubs, rank, vegetation, grass, brushwood, stone shingle and boulders (larger than 75mm in any direction), organic or any other foreign matter. Earth containing deleterious materials, salt peter earth etc. shall not be used for filling. All clods and lumps of earth exceeding 8 cm in any direction shall be broken or removed before the earth is used for filling.

SURFACE DRESSING

a) Surface dressing shall include cutting and filling upto a depth of 15 cm and clearing of shrubs, rank vegetation, grass, brushwood, trees and saplings of girth upto 30 cm measured at a height of one metre above the ground level and removal of rubbish and other excavated material upto a distance of 50 metres outside the periphery of the area under surface dressing. High portions of the ground shall be cut down and hollows depression filled upto the required level with the excavated earth so as to give an even, neat and tidy look

FELLING TREES

a) While clearing jungle, growth trees above 30 cm girth (measured at a height of one metre above ground level) to be cut, shall be approved by the Engineer-in-Charge and then marked at site. Felling trees shall include taking out roots upto 60 cm below ground level or 30 cm below formation level or 15 cm below sub-grade level, whichever is lower.

b) All excavation below general ground level arising out of the removal of trees, stumps etc. shall be filled with suitable material in 20 cm layers and compacted thoroughly so that the surfaces at these points conform to the surrounding area. The trunks and branches of trees shall be cleared of limbs and tops and cut into suitable pieces as directed by the Engineer-in-Charge.

1.1.5. CEMENT MORTAR

WATER

a) Water used for mixing and curing shall be clean and free from injurious quantities of alkalies, acids, oils, salts, sugar, organic materials, vegetable growth or other substance that may be deleterious to bricks, stone, concrete or steel. potable water is generally considered satisfactory for mixing. The Ph value of water shall be not less than 6. The following concentrations represent the maximum permissible values: (of deleterious materials in water).

CEMENT

a) The cement used shall be any of the following grade and the type selected should be appropriate for the intended use.

i. 33 grade ordinary Portland cement conforming to IS 269.
ii. 43 grade ordinary Portland cement conforming to IS 8112.
iii. 53 grade ordinary Portland cement conforming to IS 12269.
iv. Rapid hardening Portland cement conforming to IS 8041.
v. Portland slag cement conforming to IS 455.

vi. Portland Pozzolana cement (flyash based) conforming to IS 1489 (Part 1).
vii. Portland Pozzolona cement (calcined clay based) conforming to IS 1489 (part 2).
viii. Hydrophobic cement conforming to IS 8043
ix. Low heat Portland cement conforming to IS 12600.
x. Sulphate resisting Portland cement conforming to IS 12330
xi. White cement conforming to IS 8042

FINE AGGREGATE

a) Aggregate most of which passes through 4.75 mm IS sieve is known as fine aggregate. Fine aggregate shall consist of natural sand, crushed stone sand, crushed gravel sand stone dust or marble dust, fly ash and broken brick (Burnt clay). It shall be hard, durable, chemically inert, clean and free from adherent coatings, organic matter etc. and shall not contain any appreciable amount of clay balls or pellets and harmful impurities e.g. iron pyrites, alkalies, salts, coal, mica, shale or similar laminated materials in such form or in such quantities as to cause corrosion of metal or affect adversely the hardening, the strength, the durability or the appearance of mortar, plaster or concrete. The sum of the percentages of all deleterious material shall not exceed 5%. Fine aggregate must be checked for organic impurities such as decayed vegetation humps, coal dust etc. in accordance with the procedure prescribed.

1.1.6. BRICK WORK

COMMON BURNT CLAY BRICKS

a) Shall conform to IS:1077 and shall be hand moulded or machine moulded. They shall be free from nodules of free lime, visible cracks, flaws warpage and organic matter, have a frog 100 mm in length 40 mm in width and 10 mm to 20 mm deep on one of its flat sides. Bricks made by extrusion process and brick tiles may not be provided with frogs. Each brick shall be marked (in the frog where provided) with the manufacturer's identification mark or initials.

1.1.7. WOOD WORK AND PVC WORK

TIMBER

a) The timber shall be free from decay, fungal growth, boxed heart, pitch pockets or streaks on the exposed edges, splits and cracks. The timber shall be graded as first grade and second grade on the basis of the permissible defects in the timber. For both the grades, knots should be avoided over a specified limit.

b) Control on moisture content of timber is necessary to ensure its proper utility in various climatic conditions. For specifying the permissible limit of moisture content in the timber the country has been divided into four climatic zones as per Appendix B of Chapter 9. In each of the zones, maximum permissible limit of moisture content of timber for different uses, when determined in accordance with the procedure laid down

c) The process of drying timber under controlled conditions is called seasoning of timber. Timber shall be either air seasoned or kiln seasoned and in both cases moisture content of the seasoned timber shall be as specified in Table 9. 2 of Chapter 9 unless otherwise specified, air seasoned timber shall be used. Kiln seasoning of timber, where specified, shall be done as per IS 1141 in a plant approved by Engineer in-Charge.

PANELLING MATERIAL

a) Timber panels shall be preferably made of timber of larger width. The minimum width and thickness of a panel shall be 150 mm and 15 mm respectively. When made from more than one piece, the pieces shall be joined with a continuous tongue and groove joint, glued together and reinforced with metal dowels. The grains of timber panels shall run along the longer dimensions of the panels. The panels shall be designed such that no single panel exceeds 0.5 square metre in area.

b) Plywood boards are formed by gluing and pressing three or more layers of veneers with the grains of adjacent veneers running at right angles to each other. The veneers shall be either rotary cut

or sliced and shall be sufficiently smooth to permit an even spread of glue. Face veneers may be either decorative on both sides or one side commercial and the other decorative. Plywood shall be of BWP grade or BWR grade as per IS 303.

c) Particle boards shall be of medium density and manufactured from particles of agro waste, wood or lignocellulose i.e. material blended with adhesive and formed into solid panels under the influence of heat, moisture, pressure etc. The particle boards shall be flat pressed three layered or graded and of Grade-I as per Table 1 of IS 3087. Both surfaces of the boards shall be sanded to obtain a smooth finish and shall conform to IS 3087.

d) Fibre boards shall be of medium density cement board reinforced with wood fibre, produced by fiberizing steamed wood under pressure, blended with adhesive and wax and formed into solid panels under controlled conditions of heat and pressure as per IS 14862.

e) For panel exceeding 0.5 sqm in area, the nominal thickness of the glass to be used shall be as specified.

f) Particle Board Prelaminated particle board Grade-1 (FPT–I or graded wood particle board FPT-I) bonded with BWP type synthetic resin and prelaminated conforming to IS 12823 Grade-I, type II or I shall be used.

g) Fire retardant plywood shall generally conform to IS 5509. The plywood to be given fire retardant treatment shall conform to BWR grade of IS 303 to be able to stand pressure impregnation. Plywood for treatment shall be clean, free from oil or dirt patches on the surface and at a moisture content not exceeding 15 percent. In case of veneered decorative plywood care shall be taken that colour of the solution does not spoil to decorative surface.

DOOR, WINDOW AND VENTILATOR FRAMES

a) Timber for door, window and ventilators frames shall be as specified. Timber shall be sawn in the direction of the grains. All members of a frame shall be of the same species of timber and shall be straight without any warp or bow. Frames shall have smooth, well-planed (wrought) surfaces except the surfaces touching the walls, lintels, sill etc., which may be left clean sawn. Rebates, rounding or moulding shall be done before the members are jointed into frames. The depth of the rebate for housing the shutters shall be 15 mm, and the width of the rebates shall be equal to the thickness of the shutters. A tolerance of ± 2 mm shall be permitted in the specified finished dimensions of timber sections in frames.

b) The Jamb posts shall be through tenoned in to the mortise of the transoms to the full thickness of the transoms and the thickness of the tenon shall be not less than 2.5 cm. The tenons shall closely fit into the mortise without any wedging or filling. The contact surface of tenon and mortise before putting together shall be glued with polyvinyl acetate dispersion based adhesive conforming to IS 4835 or adhesive conforming IS 851 and pinned with 10 mm dia hard wood dowels, or bamboo pins or star shaped metal pins. The joints shall be at right angles when checked from the inside surfaces of the respective members. The joints shall be pressed in position. Each assembled door frame shall be fitted with a temporary stretcher and a temporary diagonal brace on the rebated faces.

c) The frames shall be got approved by the Engineer-in-Charge before being painted, oiled or otherwise treated and before fixing in position. The surface of the frames abutting masonry or concrete and the portions of the frames embedded in floors shall be given a coating of coal tar. Frames shall be fixed to the abutting masonry or concrete with holdfasts or metallic fasteners as specified. After fixing, the jamb posts of the frames shall be plugged suitably and finished neat. Vertical members of the door frames shall be embedded in the floor for the full thickness of the floor finish and shall be suitably strutted and wedged in order to prevent warping during construction. A minimum of three hold fasts shall be fixed on each side of door and window frames one at centre point and other two at 30 cm from the top and bottom of the frames. In case of window and ventilator frames of less than 1 m in height two hold fasts shall be fixed on each side at quarter point of the frames. Hold fasts and metallic fasteners shall be measured and paid for separately.

PANELLED GLAZED OR PANELLED AND GLAZED SHUTTERS

a) Panelled or glazed shutters for doors, windows, ventilators and cupboards shall be constructed in the form of timber frame work of stiles and rails with panel inserts of timber, plywood, block board, veneered particle board, fibre board wire gauze or float glass. The shutters may be single or multipanelled, as shown in the drawings or as directed by the Engineer-in-Charge. Timber for frame work, material for panel inserts and thickness of shutters shall be as specified. All members of the shutters shall be straight without any warp or bow and shall have smooth well planed face at right angles to each other.

b) Any warp or bow shall not exceed 1.5 mm for door shutter and 1 mm for window and ventilator shutters The right angle for the shutter shall be checked by measuring the diagonals and the difference between the two diagonals should not be more than 3 mm. General36elsiusled glazed 36elsiusled and glazed shutter shall conform to IS 1003 (Pt. 1 & 2).

c) Timber for stiles and rails shall be of the same species and shall be sawn in the directions of grains. Sawing shall be truly straight and square. The timber shall be planed smooth and accurate to the required dimensions. The stiles and rails shall be joined to each other by plain or haunched mortise and tenon joints and the rails shall be inserted 25 mm short of the width of the stiles. The bottom rails shall have double tenon joints and for other rails single tenon joints shall be provided. The lock rails of door shutter shall have its centre line at a height of 800 mm from the bottom of the shutters unless otherwise specified. The thickness of each tenon shall be approximately one-third the finished thickness of the members and the width of each tenon shall not exceed three times its thickness.

d) Gla36elsius36ing (Glazing) shall be done as specified in 9.2.6. Glazing in the shutters of doors, windows and ventilators of bath, WC and Lavatories shall be provided with frosted glass the weight of which shall be not less than 10 kg/sqm. Frosted glass panes shall be fixed with frosted face on the inside. Glass panels shall be fixed by providing a thin layer of putty conforming to IS 419 applied between glass pane and all along the length of the rebate and also between glass panes and wooden beading.

e) These shall be made from mild steel flat 40 × 5 mm size conforming to IS 7196 without any burns or dents. 5 cm length of M.S. flat at one end shall be bent at right angle and one hole 11 mm dia shall be made in it for fixing to wooden frame with 10 mm dia nut bolt. The bolt head shall be sunk into the wooden frame, 10 mm deep and pluged with wooden plug. At the other end 10 cm length of the hold fast flat shall be forked and bent of length as specified at right angle in opposite direction and embedded in cement concrete block of size 30 x 10 x 15 cm of mix 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate, 20 mm nominal size) or as specified

f) Fitting shall be of mild steel, brass, aluminium or as specified. Some mild steel fittings may have components of cast iron. These shall be well made, reasonably smooth, and free from sharp edges and corners, flaws and other defects. Screw holes shall be counter sunk to suit the head of specified wood screws.

UPVC- DOOR FRAMES

a) UPVC door frame shall be made of PVC material conforming to IS 10151. The door frame shall be made from extruded UPVC section having overall dimensions of 48 x 40 mm or 42 x 50 mm having wall thickness of 2.0 mm + 0.2 mm. Corners of the door frame to be jointed by M.S. galvanized brackets. Joints mitred and plastic welded. The hinge side vertical outer frames shall be reinforced by galvanized M.S. Tube of size 19 x 19 mm of wall thickness 1 mm + 0.1 mm and a tie rod shall be provided at the bottom of the frame. The frame shall be fabricated in factory as per nomenclature of the item and directions of Engineer-in-Charge.

b) The frames are to be fixed in prepared openings in the walls. All civil work and tiling should be completed before the fixing of the frames. The frames are to be fixed directly on the plastered wall. In case tiling is to be done in the place the frames are to be fitted, a 50 mm strip should be left untiled at the location where the frames are to be fitted. The frames are erected in the prepared opening such that the vertical members of the door frame are embedded 50 mm in the floor. The frame shall be fitted truly in plumb. A minimum of three anchor bolts or screws of size 65/100 shall be used to fix each vertical member. One bolt shall be fixed at 200 mm from the top member and one bolt shall be fixed at 200 mm from the floor. The third anchor bolt shall be fixed in the center. The top horizontal member shall be fixed using two 65/100 size anchor bolts or screws at a distance of 200 mm from both the corners.

1.1.8. STEEL WORK

STEEL WORK IN BUILT UP SECTION (WELDED)

a) Straightening, shaping to form, cutting and assembling, shall be as far as applicable, except that the words “riveted or bolted” shall be read as “welded” and holes shall only be used for the bolts used for temporary fastening as shown in drawings.

b) Welding shall generally be done by electric arc process as per IS 816 and IS 823. The electric arc method is usually adopted and is economical. Where electricity for public is not available generators shall be arranged by the contractor at his own cost unless otherwise specified. Gas welding shall only by resorted to using oxyacetylene flame with specific approval of the Engineer-in-charge. Gas welding shall not be permitted for structural steel work Gas welding required heating of the members to be welded along with the welding rod and is likely to create temperature stresses in the welded members. Precautions shall therefore be taken to avoid distortion of the members due to these temperature stresses.

c) The work shall be done as shown in the shop drawings which should clearly indicate various details of the joint to be welded, type of welds, shop and site welds as well as the types of electrodes to be used. Symbol for welding on plans and shops drawings shall be according to IS 813.

d) As far as possible every efforts shall be made to limit the welding that must be done after the structure is erected so as to avoid the improper welding that is likely to be done due to heights and difficult positions on scaffolding etc. apart from the aspect of economy. The maximum dia of electrodes for welding work shall be as per IS 814. Joint surfaces which are to be welded together shall be free from loose mill scale, rust, paint, grease or other foreign matter, which adversely affect the quality of weld and workmanship.

e) Before welding is commenced, the members to be welded shall first be brought together and firmly clamped or tack welded to be held in position. This temporary connection has to be strong enough to hold the parts accurately in place without any disturbance. Tack welds located in places where final welds will be made later shall conform to the final weld in quality and shall be cleaned off slag before final weld is made.

f) The specification shall be as described except that while erecting a welded structure adequate means shall be employed for temporary fastening the members together and bracing the frame work until the joints are welded. Such means shall consists of applying of erection bolts, tack welding or other positive devices imparting sufficient strength and stiffness to resist all temporary loads and lateral forces including wind. Owing to the small number of bolts ordinarily employed for joints which are to be welded, the temporary support of heavy girders carrying columns shall be specially attended. Different members which shall be fillet welded, shall be brought into as close contact as possible. The gap due to faulty workmanship or incorrect fit if any shall not exceed. 1.5 mm if gap exceeds 1.5 mm or more occurs locally the size of fillet weld shall be increased at such position by an amount equal to the width of the gap.

g) Before the member of the steel structures are placed in position or taken out of the workshop these shall be painted

1.1.9. FLOORING

RED OR WHITE FINE DRESSED SAND STONE FLOORING

a) The slabs shall be red or white as specified in the description of the item. The stone slabs shall be hard, sound, durable and tough, free from cracks, decay and weathering. In case of red sand stone, white patches or streaks shall not be allowed. However, scattered spots upto 10 mm diameter will be permitted. Before starting the work the contractor shall get samples of slabs approved by the Engineerin-Charge.

b) The slabs shall be hand or machine cut to the requisite thickness along planes parallel to the natural bed of stone and should be of uniform size if required.

c) Every slab shall be cut to the required size and shape and chisel dressed on all sides to a minimum depth of 20 mm. The top and the joints shall be fine tooled so that straight edge laid along the face is fully in contact with it. In case machine cut stones are used, chisel dressing and fine tooling of machine cut surface need not be done provided a straight edge laid anywhere along the machine cut surface is in contact with every point on it.

d) The thickness of the slabs after dressing shall be 40 mm or as specified in the description of item with a permissible tolerance of ± 2 mm.

e) Base concrete on which the slabs are to be laid shall be cleaned, wetted and mopped. The bedding for the slabs shall be with cement mortar 1:5 (1 cement : 5 coarse sand) or as given in the description of the item.

f) The average thickness of the bedding mortar under the slabs shall be 20 mm and the thickness at any place under the slabs shall not be less than 12 mm.

g) Mortar of specified mix shall be spreaded under each slab. The slab shall be washed clean before laying. It shall then be laid on top, pressed and larried, so that all hollows underneath get filled and surplus mortar works up through the joints. The top shall be tapped with a wooden mallet and brought to level and close to the adjoining slabs, with thickness of joint not exceeding 5 mm. Subsequent slabs shall be laid in the same manner. After laying each slab surplus mortar on the surface of slabs shall be cleaned off and joints finished flush.

h) In case pointing with other mortar mix is specified, the joint shall be left raked out uniformly and to a depth of not less than 12 mm when the mortar is still green. The pointing shall be cured for a minimum period of 7 days. The surface of the flooring as laid shall be true to levels and slopes as instructed by the Engineer-in-Charge.

i) Slabs which are fixed in the floor adjoining the wall shall enter not less than 12 mm under the plaster, skirting or dado. The junction between wall plaster skirting and floor shall be finished neatly and without waviness.

j) The finished floor shall not sound hollow when tapped with wooden mallet.

k) In case of chisel dressed stone flooring slight unevenness, if any existing between the edges of slabs at joints shall then be removed 38elsius38ging in a slant.

RED OR WHITE FINE DRESSED AND RUBBED SAND STONE FLOORING

a) The specifications for dressing the top surface and the sides shall be as described. In addition the dressed top and sides shall be table rubbed with coarse grade carborundum stone before paving, to obtain a perfectly true and smooth surface free from chisel marks.

b) The thickness of the slabs after dressing shall be as specified with a permissible tolerance of ± 2 mm.

c) The slabs shall be laid with 3 mm thick or 5 mm thick joints as specified in the description of the item.

d) Where the joints are to be limited to 3 mm thickness, the slabs shall be laid as specified in 11.19.3 except that the bedding mortar shall be as specified in 11.23.3 and sides of the slabs to be jointed shall be buttered with cement mortar 1:2 (1 cement: 2 stone dust) admixed with pigment to match the shade of the slab.

e) Where the slabs are to be laid with 5 mm thick joints, the specifications for laying shall be as described.

f) Finishing shall be as specified except that chisel marks and unevenness shall be removed by rubbing with coarse grade carborundum stone.

1.1.10. FINISHING

PAINTING

a) Materials Paints, oils, varnishes etc. of approved brand and manufacture shall be used. Only ready mixed Paint (Exterior grade) as received from the manufacturer without any admixture shall be used.

b) If for any reason, thinning is necessary in case of ready mixed Paint, the brand of thinner recommended by the manufacturer or as instructed by the Engineer-in-Charge shall be used.

c) Approved Paints, oil or varnishes shall be brought to the site of work by the contractor in their original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnight's work. The materials shall be kept in the joint custody of the contractor and the Engineer-in-Charge. The empties shall not be removed from the site of work, till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge.

d) Painting shall not be started until the Engineer-in-Charge has inspected the items of work to be painted, satisfied himself about their proper quality and given his approval to commence the painting work. Painting of external surface should not be done in adverse weather condition like hail storm and dust storm.

e) Painting, except the priming coat, shall generally be taken in hand after practically finishing all other building work.

f) The rooms should be thoroughly swept out and the entire building cleaned up, at least one day in advance of the Paint work being started.

g) The surface shall be thoroughly cleaned and dusted off. All rust, dirt, scales, smoke splashes, mortar droppings and grease shall be thoroughly removed before painting is started. The prepared surface shall have received the approval of the Engineer-in-Charge after inspection, before painting is commenced.

h) Before pouring into smaller containers for use, the Paint shall be stirred thoroughly in its containers, when applying also, the Paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform.

i) The painting shall be laid on evenly and smoothly by means of crossing and laying off, the latter in the direction of the grains of wood. The crossing and laying off consists of covering the area over with Paint, brushing the surface hard for the first time over and then brushing alternately in opposite direction, two or three times and then finally brushing lightly in a direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat.

j) Where so stipulated, the painting shall be done by spraying. Spray machine used may be (a) high pressure (small air aperture) type, or (b) a low pressure (large air gap) type, depending on the nature and location of work to be carried out. Skilled and experienced workmen shall be employed for this class of work. Paints used shall be brought to the requisite consistency by adding a suitable thinner.

k) Spraying should be done only when dry condition prevails. Each coat shall be allowed to dry out thoroughly and rubbed smooth before the next coat is applied. This should be facilitated by thorough ventilation. Each coat except the last coat, shall be lightly rubbed down with sand paper or fine pumice stone and cleaned off dust before the next coat is laid.

l) No left over Paint shall be put back into the stock tins. When not in use, the containers shall be kept properly closed.

m) No hair marks from the brush or clogging of Paint puddles in the corners of panels, angles of mouldings etc. shall be left on the work.

n) In painting doors and windows, the putty round the glass panes must also be painted but care must be taken to see that no Paint stains etc. are left on the glass. Tops of shutters and surfaces

in similar hidden locations shall not be left out in painting. However, bottom edge of the shutters where the painting is not practically possible, need not be done nor any deduction on this account will be done but two coats of primer of approved make shall be done on the bottom edge before fixing the shutters.

o) On painting steel work, special care shall be taken while painting over bolts, nuts, rivets overlaps etc.

p) The additional specifications for primer and other coats of Paints shall be as according to the detailed specifications under the respective headings.

PAINTING PRIMING COAT ON WOOD, IRON OR PLASTERED SURFACES

a) The primer for wood work, iron work or plastered surface shall be as specified in the description of item

b) The primer shall be ready mixed primer of approved brand and manufacture.

c) Where primer for wood work is specified to be mixed at site, it shall be prepared from a mixture of red lead, white lead and double boiled linseed oil in the ratio of 0.7 kg : 0.7 kg : 1 litre.

d) Where primer for steel work is specified to be mixed at site, it shall be prepared from a mixture of red lead, raw linseed oil and turpentine in the ratio of 2.8 kg : 1 litre : 1 litre.

e) The wood work to be painted shall be dry and free from moisture. The surface shall be thoroughly cleaned. All unevenness shall be rubbed down smooth with sand paper and shall be well dusted. Knots, if any shall be covered with preparation of red lead made by grinding red lead in water and mixing with strong glue sized and used hot. Appropriate filler material conforming to IS 345 with same shade as Paint shall be used where specified. The surface treated for knotting shall be dry before Paint is applied. After obtaining approval of Engineer-in-Charge for wood work, the priming coat shall be applied before the wood work is fixed in position. After the priming coat is applied, the holes and indentation on the surface shall be stopped with glazier's putty or wood putty. Stopping shall not be done before the priming coat is applied as the wood will absorb the oil in stopping and the latter is therefore liable to crack.

f) All rust and scales shall be removed by scrapping or by brushing with steel wire brushes. Hard skin of oxide formed on the surface of wrought iron during rolling which becomes loose by rusting, shall be removed.

PAINTING SYNTHETIC ENAMEL PAINT OVER G.S. SHEETS

a) Paint, suitable for painting over G.S. sheets, of approved brand and manufacture and of the required shade shall be used. New or weathered G.S. sheets shall be painted with a priming coat of one coat of redoxide zinc chromate Paint. Primer shall be applied before fixing sheets in place.

b) The painting of new G.S. sheets shall not usually be done till the sheets have weathered for about a year. When new sheets are to be painted before they have weathered they shall be treated with a mordant solution prepared by mixing 38 gm of copper acetate in a litre of soft water or 13 gm hydrochloric acid in a solution of 13 gm each of copper chloride, copper nitrate and ammonium chloride dissolved in a litre of soft water. This quantity of solution is sufficient for about 235 sqm. to 280 sqm of area and is applied for ensuring proper adhesion of Paint. The painting with the mordant solution will be paid for separately.

c) Before painting on new or weathered G.S. sheets, rust patches shall be completely cleaned with coarse emery paper and brush. All grease marks shall also be removed and the surface washed and dried and rusted surface shall be touched with synthetic enamel paint of approved brand, manufacturer and shade.

d) If the old Paint is firm and sound, it shall be cleaned of grease, smoke etc. The surface shall then be rubbed down with sand paper and dusted. Rusty patches shall be cleaned up and touched with synthetic enamel paint.

e) If the old Paint is blistered and flaked, it shall be completely removed as described in 13.41. Such removal shall be paid for separately and painting shall be treated as on new work.

f) The number of coats to be applied shall be as in the description of item. In the case of C.G.S. sheets, the crowns of the corrugations shall be painted first and when these get dried the general coat shall be given to ensure uniform finish over the entire surface without the crowns showing signs of thinning.

g) The second or additional coats shall be applied when the previous coat has dried.

PAINTING CAST IRON RAIN WATER, SOIL, WASTE AND VENT PIPES AND FITTINGS

a) The primer shall be prepared on site or shall be of approved brand and manufacture as specified in the item.

b) Paint shall be anti-corrosive bitumastic Paint, aluminium Paint or other type of Paint as specified in the description of the item.

c) The number of coat of painting over the priming coat shall be as stipulated in the description of the item. The application of Paint over priming coat shall be carried out as specified

1.1.11. SANITARY INSTALLATION

PLASTIC OVERHEAD STORAGE TANK

a) Plastic overhead storage tanks shall be of polyethylene (PE) of external black colour and internal PE lining in white. The tank material shall e non toxic suitable for potable water. The materials must be as per Bureau of Indian Standards. The capacities of the tanks shall be as specified in the BOQ.

EUROPEAN TYPE W.C.

a) European type W.C. Pan (EWC) : Shall be of wash down type, shall bear the mark of an approved firm and shall be of best quality. The closet shall be of 1st quality vitreous china ware having integrated trap 'P' or 'S' type with or without vent outlet,

b) Seat : The seat with lid shall be of PVC/Thermoplastic (black) and shall be fixed in position by using aluminium or plastic hinges supplied by manufacturer.

URINAL

a) Lipped Front Urinal : The urinal shall be of flat back lipped front basin of required dimensions in first quality white vitreous china ware of an approved make. It shall be fixed in position by using rawl plugs embedded in the wall with S.S. screws 75 mm long. Each urinal shall be connected to a 40 dia flexible PVC waste pipe which shall discharge into a 100 mm half round white porcelain channel & CI floor trap.

b) Wall Type Urinal This shall be a standing urinal with 300 x 300 wall glazed tiles set on the vertical wall at an inclination of 1:30 (aprox.). Height of tiles shall be 1200 mm and inside width of urinal shall be 700 mm. Division plates shall be 25 mm thick gray kota stone or black stone 470 mm wide x 750 mm high. The stone shall be embedded in wall by 25-35 mm. The balance will protrude from the vertical wall edge. A half-round white porcelain channel will be embedded at the bottom of the wall tiles in a PCC (1:3:6) platform 125 mm thick. The platform will protrude 600 mm from the wall. The platform flooring will be with 300 x 300 mm non-skid ceramic tiles set in cement/sand mortar (1:4) – 12 mm thick. The bed will slope towards the channel. All details are shown in drawings.

LAVATORY WASH BASIN (WHB)

a) Lavatory Basin : The basins shall b^{e} 1st class of white vitreous china of approved pattern. The size of the basin shall be as shown in drawing and BOQ. The basins shall be of approved quality and make.

b) Fittings: Each WHB shall be provided with a PTMT pillar tap (15 mm) and fitted with 32 mm dia PTMT waste complete in all respect of approved quality.

c) Fixing: The basin shall be supported on a pair of C.I., painted concealed type brackets embedded in wall with PCC (1:3:6) blocks. These brackets shall be painted to the required shade as specified.

d) 32 mm dia flexible PVC waste pipe with brass coupling nut shall discharge into the floor trap inlet below the WHB.

TOILET REQUISITES

a) Water connection: Water connection to flushing cistern, lavatory basins shall be by means of white PVC 15 mm dia connector with PTMT coupling nuts. The length of connector shall be 375 mm.

b) Shelf : This shall be of PT42elsiusrox. 500 mm. Long. Shelf shall be fixed to wall with SS screw and PVC hold fasts.

BRASS/C.P. ON BRASS WATER FITTINGS

a) All fittings shall be of standard manufacture and shall in all respect comply with the Indian Standard Specifications. The brass fittings shall be fixed in pipe line in a workman like manner. Care must be taken to see that joints between fittings are made leak proof. The fittings and joints shall be tested to a pressure of 7 Kg per sq.cm. unless otherwise specified. The defective fittings and the joints shall be repaired, redone or replaced at the contractors expense. PTMT (Polytetra Methylene Terepthalate) with hardness 75 on Rockwell scale, dimensionally stable upto 1200C. These fittings should conform to BIS recommendation or equivalent IS code if any

BIB COCK

a) The bib cock shall be of brass CP/PTMT specified quality with flat seat opening of screw down pattern of the size as specified.

STOP COCK

a) The stop cock shall be of brass CT/PTMT specified quality with flat seat opening of screw down pattern of the size as specified.

SHOWER ROSE

a) The shower rose (fixed mounted or telephone) shall be of brass CT/PTMT specified quality 100 mm ϕ with uniform perforation. The inlet size shall be 20 mm or 15 mm as specified.

HOT & COLD WATER MIXER

a) Shall be brass CP 15 mm inlet with or without integrated spout wall mounted of specified quality as approved.

H.C.I., SOIL, WASTE, AND VENT (ANTISYPHONAGE) PIPES AND FITTINGS:

a) H.C.I. Pipes and fittings: The heavy cast iron pipes and fittings shall be I.S.I marked pipes & fittings conforming to I.S. 3989/1970 & IS 1729/1979 of approved quality. The pipes shall be free from cracks and other flaws. The interior of pipes and fittings shall be clean and smooth and painted inside with approved anticorrosive paint. The painting will be factory furnished. Tolerance : In thickness & masses shall be as per IS of latest edition.

b) Fixing: The pipes and fittings shall be fixed to walls /ceilings by using proper clamps or ears integrated with the pipes. The pipes shall be fixed perfectly vertical or in a line as directed and

shown in drawing. If eared pipes are used fixing will be done wi43elsius43g43sed nail125-150 long embedded in pcc (1:2:4) with non- shrink grout.

c) Where pipes are laid along walls, the cast iron pipes are to be fixed 25 mm away from the wall surface. Cast iron bobbins etc. are to be used for this purpose.

d) The access door fittings shall be of proper design so as not to form any cavities in which filth may accumulate. Doors shall be provided with SS bolts and synthetic rubber gaskets. The doors shall be secured to make it leak proof.

e) Connections between main pipe and the branch pipes shall be made by using required types of fittings with/without access doors for cleaning.

f) Jointing : The annular space between the sockets and spigots will be first well packed in with spun yarn for half the depth of the socket. The remaining space in the socket will be filled with molten lead by using jointing collars or clay. After pouring lead the joint will be cooled and caulked with caulking tools to drive home the lead 3 mm behind socket edge.

g) Lead for Joints : It shall be bluish grey in colour very soft and malleable, free from mixture of zinc or tin conforming to IS 782.

h) Spun Yarn for Joints : This shall be of best quality dense rope. It shall be free from dust etc. It shall be caulked inside the socket in dry condition.

i) Procedure of Jointing : The spigot shall be carefully centred in the socket by laps of spun yarn. Twisted ropes of uniform thickness will be caulked into the annular space between spigot and socket, leaving the requisite depth for lead. Molten lead shall be poured and caulked as mentioned above. Alternatively joints may be caulked with a stiff mixture of cement/sand (1:1) with requisite quantity of waterproofing compound as described in BOQ.

j) Joints may also be with rubber gaskets as described in BOQ.

k) Testing : All H.C.I. pipes and fittings including joints will be tested by smoke test and left in working order after completion. The smoke test shall be carried out as stated below:

l) Smoke shall be pumped into the piping system at the lowest end from a smoke generator. The materials usually burnt are greasy cotton waste which form clear pungent smoke, which is usually detectable by sight as well as by smell, if leaks occur at any point of the pipes. The contractor will have to rectify all defects traced in such tests at their own expense to the complete satisfaction of the Engineer-in-Charge. The traps and soil fittings should be of heavy cast iron and should have water seal at least 50 mm., deep. While testing operation is done all traps should be filled with water. The pressure for smoke test shall be 38 mm WC.

m) Paintings: All the exposed H.C.I. pipes and fittings shall be painted with two coats of black bituminastic paint over a coat of primer.

n) The surface of the pipes and fittings to be painted shall be cleaned thoroughly before application of paint and primer.

1.1.12. WATER SUPPLY

GALVANISED IRON PIPES & FITTINGS

a) The pipes shall be 43elsius43g43sed (as per IS 4736), screwed and socketed and shall conform to I.S. 1239 (Part- I) with ISI mark. The fittings shall be of malleable cast iro43elsius43g43sed) (IS: 1879) with ISI mark.

b) Laying & Fixing: Where pipes have to be cut or re-threaded, ends shall be carefully reamed and filed so that no obstruction to bore is visible.

c) Jointing shall be done by applying a layer of white zinc paste and fine jute threads on the threaded part (external & internal) and the socket or fitting is to be screwed tight to a torque of approximately 4 kg-m During pressure testing the joint shall show no sign of leakage.

d) All cutting holes, chases, trenches etc. at any place necessary in connection with the work as per items of this tender and subsequent mending damages are to be included in the rates.

e) Internal works: Internal G.I. pipes and fittings inside the duct walls shall be fixed exposed by means of M.44elsius44g44sed holder bat clamps keeping the pipe 25 mm clear off the wall every where or concealed as directed. It shall be by chasing floors and walls as directed. The holder bat clamps shall be fixed at distances mentioned in the drawings and BOQ.

f) All pipes and fittings shall be fixed truly vertical or horizontal or as directed by the Engineer-in-Charge.

g) For internal works in toilets etc. pipes may be concealed within wall chases. The depth of chase shall be at least the outer dia of pipes and fittings. The pipes shall be anchored by means 44elsius44g44sed hooks.

h) External Works: For external work G.I. pipes and fittings shall be laid in trenches. The width of the trench shall be as shown in drawing. The pipes laid underground shall be 44elsiusrox. 900 mm below ground level. The work of excavation and refilling shall be done in accordance with the general specification for earthwork. All buried pipes shall be painted with 2 coals of coal tar epoxy paint to a DFT of maximum 100 microns.

i) Painting: All internal G.I. pipes and fittings shall be painted with 2 coats of enamel paint of approved quality over a coat of epoxy primer. The cost of such painting shall be included in the contractor's rate. All pipes and fittings in external work shall be painted with 2 coats of enamel paint over a coat of epoxy primer.

j) Testing : All G.I. pipes and fittings shall be tested by hydraulic pressure machine to a pressure of 7 kg per sq.cm. All leaky joints must be made leak proof by tightening or re-doing at contractor's expense. Water for testing shall be at contractors own cost.

Annexure – F
(See clause 3 of Section 2-ITB)

PROCEDURE FOR PARTICIPATION IN E-TENDERING

1. Registration of Bidders on e-Tendering System

All the PWD registered bidders from Madhya Pradesh or any other State of India with relevant experience are already registered on the new e-procurement portal https://www,mpeproc.gov.in. The user id will be the Contractor ID provided to them by MP Online. The password for the new portal has been sent to the Bidders on registered email ID. For more details may contact M/s Tata consultancy Services Corporate Block, 5th floor, DB city Bhopal-462011, email id: eprochelpdesk@mpsdc.gov.in Helpdesk phone numbers are available on website.

2. Digital Certificate:

The bids submitted online should be signed electronically with a class III Digital Certificate to establish the identity of the Bidder submitting the bid online. The Bidders may obtain class III digital certificate issued by an approved certifying authority authorized by the Controller of Certifying Authorities, Government of India. A class III digital certificate is issued upon receipt of the required proofs along with an application. Only upon the receipt of the required documents, a digital certificate can be issued. For details, please visit http:cca.gov.in.

Note:

i) It may take up to 7 (seven) working days for issuance of class III digital certificate; hence the Bidders are advised to obtain the certificate at the earliest. Those Bidders who already have valid class III digital certificate need not obtain another digital certificate for the same. The Bidders may obtain more information and the APPLICATION FORM REQUIRED TO BE SUBMITTED FOR THE ISSUANCE OF DIGITAL CERTIFICATE FROM http:cca.gov.in.

ii) Bids can be submitted till bid submission end date. Bidder will require digital signature for the bid submission. The digital certificate issued to the authorized user of a partnership firm/ private limited company/ public limited company and user for online bidding will be considered as equivalent to a no-objection certificate/ power of attorney to that user.
In case of partnership firm, majority of the partners have to authorize a specific individual through authority letter signed by majority of partners of the firm.
In case of private limited company, public limited company, the Managing Director may authorize a specific individual through an Authority Letter. Alternatively, a Board resolution may be passed authorizing such individual. Unless the authority letter or Board resolution is revoked, it will be assumed to represent adequate authority of the specific individual to bid on behalf of the organization for online bids as per The Information Technology Act, 2008. Information Technology Act 2008. This Authorized Representative/ User will be required to obtain a digital certificate. The Digital Signature executed through the use of the responsibility of Management/Partners of the concerned firm to inform the Certifying Authority, if the authorized user changes, and apply for a fresh Digital Certificate for the new Authorized user.

3. Set Up of Bidder's Computer System:

In order for a Bidder to operate on the e-tendering System, the computer system of the Bidder is required to be set up for Operating System, Internet Connectivity, Utilities, Fonts, etc. The details are available at https://www.mpeproc.gov.in

4. Key Dates:

The Bidders are strictly advised to follow the Key Dates as mentioned in Annexu–e - A.

5. Preparation and Submission of Bids:

The Bidders have to prepare the proposal online, encrypt their bid data in the Bid forms and submit Bid of all the envelopes and documents related to the Bid required to be uploaded as per the key schedule in adherence to the key dates of the NIT under the digital signature of the authorized representative.

6. Purchase of Bid Document:

For purchasing of the bid document, Bidders have to pay applicable bid amount only through online mode as per Bid Data Sheet. The cost of Bid document is separately mentioned in the detailed NIT. The Bid Document shall be available for purchase to concerned eligible Bidders immediately after online release of the bids and up to scheduled time and date as set in the key dates. The payment for the cost of bid document shall be made online through Credit/ Debit/ Cash Card or via internet banking.

7. Withdrawal, Substitution and Modification of Bids

Bidder can withdraw and modify the bid before submission end date.

Note:

- Bidders are requested to visit our e-tendering website regularly for any clarifications and/or due date extension or corrigendum.
- Bidder must positively complete online e-tendering procedure at www.mpeproc.gov.in.
- GSCDCL shall not be responsible in any way for delay/ difficulties/ inaccessibility of the downloading facility from the website for any reason whatsoever.
- In case, due date for opening of bids happens to be a holiday, the due date shall be shifted to the next working day for which no prior intimation will be given.
- GSCDCL reserves the right for extension of due date of opening of technical and or financial bid.

ANNEXURE-G

(See clause 4 of Section 2-ITB)

CONSORTIUM AGREEMENT

Deleted

ANNEXURE-H

(See clause 12 of Section 2 ITB& clause 4 of GCC)

ORGANIZATIONAL DETAILS

(To be enclosed with technical proposal)

S.N.	Particulars	Details
1.	Registration No. issued by centralized registration system of Govt. of MP or proof of application for registration	(If applicable, scanned copy of proof of application for registration to be uploaded)
2.	Valid registration of Bidder in appropriate class through centralized registration of Govt. of MP Registration no……. date…….	(Scanned copy of Registration to be uploaded)
3.	Name of Organization/ Individual	
4.	Entity of Organization Individual/Proprietary Firm/Partnership Firm (Registered under Partnership Act)/ Limited Company (Registered under the Companies Act– 1956)/ Corporation	(Scanned copy of Certificate to be uploaded)
5.	ISO Certification	(If applicable, scanned copy of Certificate to be uploaded)
6.	Address of Communication	
7.	Telephone Number with STD Code	
8.	Fax Number with STD Code	
9.	Mobile Number	
10.	E-mail Address for all communications	
11.	GST No	(If applicable, scanned copy of Certificate to be uploaded)
12.	Pan No	(If applicable, scanned copy to be uploaded)
13.	TAN No.	(If applicable, scanned copy to be uploaded)
14.	EPF Registration	(If applicable, scanned copy to be uploaded)
15.	Details of Authorized Representative	
	Name	
	Designation	
	Postal Address	
	Telephone Number with STD Code	
	Fax Number with STD Code	
	Mobile Number	
	E-mail Address	

Note: In case of partnership firm and limited company certified copy of partnership deed/ Articles of Association and Memorandum of Association along with registration certificate of the company shall have to be enclosed.

Signature of Bidder with Seal

Date:

Annexure – I

(See clause 14 of Section 2 of ITB)

ENVELOPE – B, TECHNICAL PROPOSAL

Technical Proposal shall comprise the following documents:

S.N.	Particulars to be submitted	Format
1.	Financial and Physical Experience	Deleted
2.	Annual Turnover	Deleted
3.	List of technical personnel for the key positions	(Format:–I - 3)
4.	List of Key equipment/ machine/s in quality control labs	(Format:–I - 4)
5.	List of Key equipment/ Machines for Construction Work	(Format:–I - 5)

Note:

1. Technical Proposal should be duly page numbered and indexed.
2. Technical Proposal should be uploaded on website www.mpeproc.gov.in, otherwise will not be considered.

Annexure- I (Format: I- 1)
(See clause 14 of Section 2 of ITB)

FINANCIAL & PHYSICAL EXPERIENCE DETAILS

Deleted

Annexure – I (Format:–I - 2)
(See clause 14 of Section 2 of ITB)

ANNUAL TURN OVER

Requirements:

Deleted

Annexure – I (Format:–I - 3)
(See clause 14 of Section 2 of ITB)

LIST OF TECHNICAL PERSONNEL FOR THE KEY POSITIONS

The Contractor will have to appoint the following key personnel during the execution and entire contract period, apart from other key personnel and support staff as necessary.

S. No.	Discipline	Minimum Qualification	Required nos.
1	Project Manager	Seven years of progressive experience in similar works with an appropriate technical qualification in management of civil and/or interior works projects, such as architecture, advanced civil draughtsmanship or civil engineering, preferably with a qualification in construction management from an institution of repute such as NICMAR	One
2	Quantity Surveyor	Seven Years of progressive experience in similar works with an appropriate qualification (certificate, diploma or degree in quantity survey)	One
3	Clerk of Works	Diploma in a technical field related to construction, with five years of progressive experience in maintaining material inventory, field survey measurement books.	One

Penalty for Non-deployment of above staff are as follows:

S. No.	Details	Penalty to be computed on Per Day basis
1	Project Manager	Rs. 40,000/- p.m.
2	Quantity Surveyor	Rs. 30,000/- p.m.
3	Clerks of Works	Rs. 30,000/- p.m.

Note: In case the staff in unavailable for a part of the month, the penalty shall be pro-rata.

Annexure – I (Format:–I - 4)
(See clause 14 of Section 2 of ITB)

List of Key Equipment / Machines for Quality Control Labs

Indicative Laboratory Equipment List			Available with the bidder		
S. No.	**Name of Equipment/ Machinery**	**Quantity**	**S. No.**	**Name of Equipment/ Machinery**	**Quantity**
1	Machinery and Equipment Required for Conducting Tests as per UADD/CPWD Specifications (latest Revision)				
2					
3					
4					
5					
6					
…					
…					
…					

- The Contractor shall arrange to provide fully furnished and adequately equipped field laboratory with adequate qualified technical staff. Preferably located adjacent to the Project Office and provided amenities like water supply, electric supply etc.
- The laboratory equipment shall confirm I.S. specifications. The Contractor shall carry out the calibration of the instruments as directed by the Engineer-in-charge on expiry date of calibration. On completion of work in all respect, the equipment will be the sole property of the Contractor.
- It shall be considered as incidental to the work, and no extra payment will be made what so ever will not be made for the same.

Annexure – I (Format:–I - 5)
(See clause 14 of Section 2 of ITB)

LIST OF EQUIPMENTS / MACHINES FOR CONSTRUCTION WORK

Bidders to furnish details of minimum requirement in the format given below for the Work:

S. No.	Name of Equipment/ Machinery	Min Quantity Required	Details of Equipment/ Machinery Available with the bidder	Quantity Available
1	Sand Blasting Machine	1		
2	Vibratory Roller	1		
3	Tractor	1		
4	Lime Mill (chakki) with slaking tank	1		
5	Loader with Back Hoe	1		
6	Tipper Truck	1		

After Inspection, Engineer In charge may accept the request as it is or instruct for some changes if required in the machinery which shall be carried out by the Contractor at this own cost. Only after its approval by the Engineer In Charge, the Contractor shall carry out work from the approved machinery.

Annexure – J
(See clause 14 of Section 2 of ITB)

FINANCIAL BID

TENDER FOR ITEM RATE CONTRACT:

NAME OF WORK: (NAME OF THE WORK AS APPEARING IN THE BID FOR THE WORK)

We do hereby bid for the execution of the above work within the time specified on item rate at a total price (in figures) …….. (in words)…….. excluding GST based on the rates of each item quoted in Annexure J-1 bill of quantities. The item wise rates given therein in all respects are in accordance with the specifications, designs, drawings and instructions in writing in all respects in accordance with such conditions so far as applicable.

We have visited the site of work and are fully aware of all the difficulties and conditions likely to affect carrying out the work. We have fully acquainted ourselves about the conditions in regard to accessibility of site and quarries/ kilns, nature and the extent of ground, working conditions including stacking of materials, installation of tools and plant conditions effecting accommodation and movement of labour etc. required for the satisfactory execution of contract.

Should this bid be accepted, we hereby agree to abide by and fulfil all the terms and provisions of the said conditions of contract annexed hereto so far as applicable, or in default thereof to forfeit and pay to the EXECUTIVE DIRECTOR, GWALIOR SMART CITY DEVELOPMENT CORPORATION LIMITED, GWALIOR; Madhya Pradesh or his/her successors in office the sums of money mentioned in the said conditions.

Note:

Only one rate above or below or at par against quantity of each item given in the Bill of Quantities shall be quoted.

Rate shall be quoted in figures as well as in words. If any difference in figures and words is found, lower of the two shall be taken as valid and correct rate. If the Bidder is not ready to accept such valid and correct rate and declines to furnish performance security and/or fails to sign the contract its earnest money deposit shall be forfeited.

In case the ra“e "ab”ve" “r "be”ow" is not given by a Bidder for any item of the Bill of Quantity, its bid shall be treated as non-responsive. Items for which no rate or price is entered by the Bidder will not be paid for by GSCDCL when executed and shall be deemed covered by the other rates and prices in the BoQ.

All duties, taxes, (excluding GST) and other levies payable by the Bidder shall be included in the rate quoted by the Bidder.

Signature of Bidder

Name of Bidder

Annexure – J -1

BILL OF QUANTITIES

S.No.	Items of Work	Unit	Quantity	Rate (INR)	Amount (INR)	Reference
1	**CIVIL and RETROFITTING WORKS**					
1.1.	***DISMANTLING AND DEMOLITION***					
1.1.1.	Demolishing Brickwork manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material at all levels including all lifts and leads as per direction of Engineer-in-charge. All demolition should be undertaken in a careful manner with minimum disturbance to prevent any damage to other parts					
a)	In Cement Mortar	Cu.m.	115			
1.1.2.	Taking out doors, windows and clerestorey window shutters (steel or wood) including stacking within 50 meters lead:					
a)	Of area below 3sq.meters	Each	46			
a)	Of area beyond 3 sq.meters	Each	6			
1.1.3.	Demolishing Paver Blocks including stacking of material within 50 meters lead as per direction of Engineer incharge	Sq.m.	240			
1.1.4.	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 meters lead	Sq.m.	406			
1.1.5.	Dismantling tile work in floors and roof laid in cement mortar including stacking material within 50m lead					
a)	For thickness of tiles upto 25mm	Sq.m.	61.4			
1.1.6.	Careful dismantling of cement plaster or skirting raking out joints and cleaning the surface for plaster inclusing disposal ofrubbish to the dumping ground withing 50meters lead as per directions of EIC/CA	Sq.m.	1544			
1.1.7.	Scraping and careful removal of white wash/ lime wash/ algae etc from stone (beams, louvers and others) with utmost care using jute/ sandpaper/ or nylon brush ensuring no damage is done to the existing stome material and design features. Preparing the surface for new application of paint/ lime wash	Sq.m.	805			

1.1.8.	Dismantling of flushing cistern of all types (C.I./PVC/Vitrious China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead	Nos.	3			
1.1.9.	Careful dismantling and stacking of D.F. Board, D.P. Switch, TP, TPN Switch or DB of any size complete with board or angle/flat iron frame and making site clear including refilling of holes as per direction of Enginner-in-Charge/ Conservation Architect	Each	41			
1.1.10.	Dismantling of existing light/fan/bell/socket out let point on separate board / wiring with insulated wire in casing/conduit / batten complete wi31elsiusign and accessories	each	121			
1.1.11.	Making the site clear of the dismantling installation by refilling the hole with cement mortar & finished with paint gitties and replacing to match the color of wall and ceiling	Point	41			
1.1.12.	Dismantling the existing ceiling/ exhaust/ cabin fan with accessories and making the site clear	Each	20			
1.1.13.	Relocation of Machines					
2	**Civil Works**					
2.2.1.	Earth work in excavation by manual means over areas including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.	Cu.m.	161.7			
2.2.2.	Filling by available excavated earth (excluding rock) in trenches, plinth , sides of foundation etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering lead upto 50m and lift upto 1.5m	Cum	161.7			
2.2.3.	Supplying and filling in plinth under floors including, watering, ramming consolidating and dressing complete					
a)	Mooram	Cum	435			
2.3.4.	Providing and laying brick bat coba sub base with aggregate 63 to 40mm size and approved binding material including screening, sorting, spreading, packing and consolidation with half tonne roller to template etc. complete.	Cum	138.5			

2.2.5.	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering All work up to plinth level. Cement concrete grade M-10 (Nominal Mix) with 20 mm maximum size of stone aggregate	Cum	124			
2.2.6.	Providing and laying damp-proof course 50mm thick with Cement concrete grade M-15 (Nominal Mix) with 20 mm maximum size of stone aggregate	Sq.m.	100			
2.2.7.	Providing and laying in position reinforced cement concrete grade M-20 (nominal mix) with 20 mm maximum size of stone aggregate for columns,beams, slabs etc. excluding the cost of shuttering and reinforcement	Cu.m.	33			
	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding including cost of binding wire upto two level including wastage etc. complete. Mild Steel and medium tensile steel bars	kg	1250			
2.2.8.	Centering and shuttering including strutting, propping etc. and removal of form for					
i	Foundations, footings, bases of columns, etc. For mass concrete.	Sq.m.	288			
ii	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	Sq.m.	6			
3	**Site Clearance**					
3.1.	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15cm deep and disposal of rubbish, lead upto 50m and lift upto 1.5m	100sq. m.	20.3			
3.2.	Disposal of building rubbish / malba / similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or as approved by Engineer-in-charge, beyond 50 m initial lead, for all leads including all lifts involved.	cu.m.	152.3			
4	***BRICKWORK***					
4.1.	Brick work will well burnt open bhatta bricks crushing strength not less than 25kg/cm² and water absorption not more than 20% in foundation and plinth In cm 1:6 including labour rate.					
i	Masonry below plinth beam	Cu.m.	31.5			

4.2	Brick work will well burnt open bhatta bricks crushing strength not less than 25kg/cm² and water absorption not more than 20% in above plinth level up to floor two level In cm 1:4. including labour rate	Cu.m.	187			
5	**STEEL WORK**					
5.1.	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
i	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	kg.	750			
6	**Finishing**					
	15mm cement plaster on the rough side of single or half brick wall of mix: 1:4 (1 cement: 4 fine sand)	Sq.m.	805			
6.1.	Finishing walls with textured exterior paint of required shade:					
i	New work (Two or more coats applied @3.28 liter/10 sq.m.) over and including base coat of water proofing cement paint applied @ 2.20kg/10sq.m.	Sq.m.	24			
6.2.	Finishing walls with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufactures specifications:					
i	Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @0.90 ltr/10 sqm over an under coat of primer applied @ 0.80 ltr/ 10 sqm of approved brand or manufacture	Sq.m.	7.2			
6.3.	White washing with lime to give an even shade.					
i	New Work (Three or more coats)	Sq.m.	1675			
6.4	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/steel works	Sq.m.	227.9			
6.5	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/steel works (second coat)	Sq.m.	227.9			
6.6.	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufactu'er's specifications including appropriate priming coat, preparation of surface, etc. complete On steel work	Sq.m.	227.9			

17.1.3.	Painting with aluminium paint of approved brand and manufacture to give an even shade:					
i	Two or more coats on new work	Sqm	562			
7	**DOORS/ WINDOWS**					
7.1.	Providing and fixing pressed steel door frames confirming to IS 4351 manufactured from commercial mild steel of 1.25mm thickness including hinges jamb lock jamb bead and if required angle threshold of mild steel angle of section 50x25mm or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means adjustable lugs with split end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards lock strike plate and shock absorbers as specified and applying a coat of approved steel primer after pre treatment of the surface as directed by engineer in charge, single rebate 80x50mm including labour rate.	Rm	12.5			
7.2.	Providing and fixing ISI marked flush door shutter conforming to IS 2202 (Part I) decorative type ,core of block board construction with frame o^{f} 1st class hard wood & well matched teak 3ply veneering with vertical grains or cross bands and face veneers on both of shutters , 35mm thick including ISI marked Stainless Steel butt hinges with necessary screws.	Sq.m.	5.67			
7.3.	Providing and fixing ISI marked oxidised M.S tower bolt black finish with necessary screws etc complete 150x10mm	Each	8			
7.4.	Providing and fixi34elsius34gnum handles anodized transparent or dyed to required colour or shade with necessary screws complete, 125mm.	Each	15			
8	**ELECTRICAL WORKS**					
8.1.	Supplying and fixing rigid steel conduit for surface conduit system					
i	Supplying and fixing rigid steel conduit ISI marked alongwith the accessories on surface including painting etc. as requir–d - H.G. Conduit 20mm, wall thickne–s - 1.6mm	Meter	300			
8.2.	Supplying and fixing rigid steel conduit for concealed conduit system					

i	Supplying and fixing rigid steel conduit ISI marked alongwith the accessories in concealed system including cutting the wall and plastering and repainting the wall with matching color to bring in its original condition as required: H.G. Conduit 50mm, wall thickne–s - 2mm	Meter	145			
8.3.	Wiring in Concealed Rigid Steel Conduit System with Modular Accessories					
8.3.1.	Point wiring including metallic switch box, sheet, switch, socket, lamp holders/ceiling roses etc. with 1.5Sq.mm. PVC insulated cable FR with copper multi strand conductor ISI marked in concealed rigid steel conduit ISI marked of suitable size and 1.5 Sq.mm. PVC insulated copper earth continuity conductor of green color inside conduit as per specification for :-					
i	Light Point/ Fan Point (medium Point)	Point	64			
8.4..	3Pin 6Amp socket outlet on separate boa–d - Medium Point (3m-6m)	Each	37			
8.5.	Power wiring in concealed rigid steel conduit system with modular accessories					
8.5.1.	Point wiring including metallic switch box, sheet for 3Pin 16amp.Socket outlet point with 4 sq.mm. PVC insulated cable FR with copper multi strand conductor ISI marked in concealed rigid steel conduit. ISI marked of suitable size including painting etc. with 16Amp. switch and socket/S.S. combined 16Amp. of ISI Marked and 4sq.mm. PVC insulated copper earth continuity conductor of green color inside conduit as per specification for :	Each				
a	On separate boa–d - medium point	Each	20			
b	Same board socket 16Amp.	Each	10			
8.6.	Supplying and fixing as per specification Bakelite pendent holder of approved make including flexible cord upto 3meter lenth with necessary materials complete	Each	15			
8.7.	Supplying and fixing in position LED of approved make as per IS specification					
i	15 Watt 250 Volt	Each	48			
8.8.	Supplying and drawing following pair, 0.5 sq.mm PVC insulated copper conductor unarmoured					

	telephone cable in existing surface / concealed, steel/ PVC conduit as required					
i	1 pair	Each	1			
8.9.	Supplying and drawing Co-axial T.V. Cable RG-6 grade , 0.7mm solid copper conductor PE insulated , shielded with fine tined copper braid and protected with PVC sheath in existing surface / concealed, steel /PVC as conduit as required	Each	1			
8.10.	Supplying and fixing of approved make resistance type fan regulator including connection etc as required on existing board	Each	12			
8.11.	Supplying , erection and testing of approved make electric ceiling fan of double ball bearing complete with standard down rod , canopy , hanging shackle , aluminium blades. Without regulator , A.C. 230 -250 volts including connections with all necessary material complete as required confirming to IS: 374/1979 with upto date ammendments					
i	Ceiling fan (Energy Saver 60W)-1400mm sweep	Each	14			
8.12.	Supplying, erecting and testing of approved make Exhaust fan heavy duty with mounting frame , blades AC 230-250 complete connection and including, frame bolt/anchor hold fastners etc. complete finished and as required					
i	450mm sweep 900 RPM	Each	1			
8.13.	Supplying. Fixing and testing of approved make fluorescent tube fitting 36/40 watt, rust resistant , stove enamelled paint, box type channel with cover, complete with electronic ballast(HF) complete duly wired (without tube rod) nas per specification and fixing as below:					
i	Fixing by stiff pendant arrangement with two pieces of steel conduit 19/20 dia 16 SWG and other necessary materials such as ball socket, wooden round block wi‘h”J' hook/anchor hole fastners fixed in ceiling including connection and as required for length upto 1.5 meters	Each	31			
9	**SITC of External Lighting Fixtures/Pole**					

9.1.	Supply Installation, testing and commissioning of LED type post top lantern light 30W fixures with required 4m pole, lamps, control gears, including connection with 3x1.5 sqmm flexible fire retardant copper connecting wire of required length complete as required for outdoor application.	Nos.	6			
9.2.	Supply Installation, testing and commissioning of LED type Uplighter 7W fixures with required lamps, control gears, including connection with 3x1.5 sqmm flexible fire retardant copper connecting wire of required length complete as required for outdoor application.	Nos.	30			
9.3.	Supply Installation, testing and commissioning of LED type Spike light 3W fixures with required lamps, control gears, including connection with 3x1.5 sqmm flexible fire retardant copper connecting wire of required length complete as required for outdoor application.	Nos.	35			
9.4.	Supply Installation, testing and commissioning of LED type Gate light 30W fixures with required lamps, control gears, including connection with 3x1.5 sqmm flexible fire retardant copper connecting wire of required length complete as required for outdoor application.	Nos.	4			
9.5.	Supply Installation, testing and commissioning of LED type Flood light 70W fixures with required 4m pole, lamps, control gears, including connection with 3x1.5 sqmm flexible fire retardant copper connecting wire of required length complete as required for outdoor application.	Nos.	25			
9.6.	Supply Installation, testing and commissioning of LED type Downlighter 6W fixures with required lamps, control gears, including connection with 3x1.5 sqmm flexible fire retardant copper connecting wire of required length complete as required for outdoor application.	Nos.	30			
9.7.	SITC of polycarbonate weather proof (IP- 55) outdoor type junction box including terminal/connector block as required by site incharge.	Nos.	4			
10	**WATER SUPPLY**					
10.1.	Providing and fixing G.I. Pipes medium class complete with G.I. fittings as per IS: 1239(Part-2) including trenching and refilling etc for External Work using 25mm dia. Nominal bore.	Meter	25			

10.2.	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixinf tee, including cutting and threading the pipe etc. complete. For 25mm to 40mm nominal bore.	Each	2			
10.3.	Fixing water meter and stop cock in G.I. Pipe line including cutting and threading the pipe and making long screws etc. complete (cost of water meter and stop cock to be paid separately)	Each	1			
	Concealed pipe including painting with anti corrosive bitumastic paint, cutting chases and making good the wall for 15mm dia nominal bore.	Meter	25			
10.4.	Providing and placing on at all floor levels high design HDPE (polyethylene) water storage tank ISI: 12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and arrangement and making necessary holes for inlet, outlet and and overflow pipes but withour fittings and the base support for tank.	Ltr.	4000			
10.5.	Sceptic tanks construction	Each	1			
11	**SANITARY WORKS**					
11.1.	Providing and fixing white vitreous china wall mounted type water closet (European type W.C. pan) with S trap, seat and lid, 10 litre low level white flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required	Nos.	2			
11.2.	Providing and fixing CP brass toilet paper holder	Nos.	2			
11.3.	Providing and fixing CP brass powerjet faucet complete with PVC pipe, holder and fittings	Nos.	2			
11.4.	Providing and fixing of C.P. brass trap 40 mm dia	Nos.	2			
11.5.	Providing and fixing CP brass valve cock	Nos.	2			
11.6.	Providing and fixing vitreous china below counter wash basin of 550mm x 400mm with C.I. brackets, including painting of fittings and brackets, cutting and making good the walls wherever require	Nos.	2			

11.7.	Providing and fixing of CP Brass Bottle trap 38 mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 263 gms complete with SS disposal pipe	Nos.	2			
11.8.	Providing and fixing of C.P. brass tower tap	Nos.	2			
11.9.	Providing and fixing of C.P. brass waste coupling	Nos.	2			
11.10.	Providing and fixing of C.P. brass towel ring	Nos.	1			
11.11.	Providing and fixing of C.P. brass and opaque glass round soap holder	Nos.	1			
11.12	Providing and fixing of C.P. brass and opaque glass tumbler holder	Nos.	1			
11.13	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Flexible pipe:40mm dia	Nos.	2			
11.14.	Providing and fixing in position best Indian single Lever Auto mixing Basin Mixer (Cartradge Size 32mm, nickel plating 0.10 micron and chrome plating 0.3micron) For Wash Basin are a use only .	Nos.	2			
11.15.	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350mm and 340x410x265mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required : One urinal basin with 5 litre white P.V.C. automatic flushing cistern.	Nos.	1			
11.16.	Providing and fixing PTMT 15 mm Urinal spreader size 95x69x100 mm wi½”/2" BSP thread and shapes. Weighing not less than 60 gms.	Nos.	1			
11.17.	Providing and fixing PTMT urinal cock of approved quality and colour. 15mm nominal bore, 80mm long, 42mm high and 30mm wide with BSP female threads weighing not less than 48gms	Nos.	1			
11.18.	Providing and fixi39elsius39led edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	Sq.m.	1.5			

12	**Stone FLOORING**					
12.1.	Providing and laying polished vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorpt'on's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete.					
a)	Size of Tile 60X60 cm X 10mm	Sqm	48.43			
12.2.	Providing and fixin^{g} 1st quality ceramic glazed wall tiles conforming to IS: 15622 (6 to 7mm thick) of approved make in all colors, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @3.3kg per sq.m. including pointing in white cement mixed with pigment of matching shade complete.	Sqm	51			
12.3.	Providing and laying Ceramic glazed floor tiles 300X300 mm (9 to 10 mm thick) o^{f} 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20mm thick Cement Mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with white cement and matching pigment etc., complete.	Sqm	18			
	Kota Stone slab 25mm thick flooring over 20mm(average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar (1 cement : 4 cousre sand) 1:4 (minimum size of kotastone 0.25 sq.m.)	Sqm	60			
12.4.	40 mm thick fine dressed stone flooring over 20mm (average) thick base of cement mortar 1:5 (1 cement : 5 coarse sand) with joints finished flush. (minimum size of kota stone 0.25sq.m.) in red sandstone	Sqm	320			

12.5.	Providing and laying 80 mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	Sqm	830			
13	**Cladding and copping**					
13.1.	Providing and fixing 20mm thk. polished Gwalior mint stone, stone cladding on benches, risers, etc. in required sizes/panels in shapes & designs with machine cut chamfered edges etc. laid over a bed of 12-15 mm thick cement mortar 1:3 (1 cement : 3 coarse sand) mixed with approved water proofing compound as per manufacturer's specifications. (Market Rate)	Sq.m.	174.6			
	Providing and laying 40 mm thick Polished tan brown granite stone (Base Price Rs. 1500/sq.m.) coping on top of toe walls etc. in required sections, size, lengths including making grooves etc. laid over a bed of 25 mm thick cement mortar 1:4 (1 cement : 4 coarse sand) jointing & pointing in white cement mortar 1 : 2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade, rubbing and polishing the same, all complete	Sq.m.	97			
13.2.	Providing and fixing 20 mm thk. polished Lalitpur stone cladding to external walls, columns, steps risers and treads,etc. in required sizes/panels in shapes & designs with machine cut chamfered edges etc. laid over a bed of 12-15 mm thick cement morter 1:3 (1 cement : 3 coarse sand) mixed with approved water proofing compound as per manufacturer's specifications . (Market Rate)	Sq.m.	156			
	FORMWORK					
	Providing and fixing double scaffolding system (cup lock system)on the exterior side, upto seven storey height made with 40mmdia. M.S. Tube 1.5m centre horizontal and vertical tubes joining with cup and lock system with M.S. tubes challies, M.S. Clamps, and M.S. Staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after. The scaffolding system shall be stiffened with bracings, runners,	kg	800			

	connection with the building etc. wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-in-Charge . The lavational area of the scaffolding shall be measured for payment purpose . The payment will be made once irrespective of duration of scaffolding					
14	**INTERIOR WORKS**					
14.1.	Sofa Chair Steel Frame / Visitor Chair Steel Frame Specifications: Frame Ty–e - 4 legs; Type of Seat and Backrest - Padded with Polyurethane Foam; Chair Ty–e - With Arms; Arm Materi–l - virgin plastic; Frame Material - chrome on MS; thickness of Polyurethane Foam Used in Backrest IN MM (+/- 3 m–) - 25 mm; Material of Fabric of Seat Cover - black leatherite ; Chair Height ±15(m–) - 850 mm Backrest Width ±10(m–) - 450 mm Seat Depth ±10(mm)- 430 mm Backrest Height ±10(m–) - 450 mm Size of Material (m–) - 14 SWG 25 mm round pipe; Seat Width ±10 (m–) - 450 mm Seat Height IN MM ±5(mm) - 460 Warranty period in number of years 1	Each	4			
14.2.	VISITOR CHAIR (mac) (MAC 153) ; Specifications : Type of Seat and Backrest Padded wi–h - Polyurethane Foam; Frame Ty–e - 4 Legs ;Chair Ty–e - With Arms Material of Fabric of Seat Cov–r - black leatherite; Thickness of Polyurethane Foam Used in Backrest IN MM (+/- 3 mm) N.A Thickness of Plywood used in Backrest IN MM (±1 m–) - 12 mm; Frame Materi–l - chrome on MS; Arm Materi–l - Polypropelene on metal Chair Height ±15(mm)- 850 mm Backrest Height ±10(m–) - 400 mm Seat Depth ±10(m–) - 450 mm Backrest Width ±10(mm)- 450 mm Size of Material (mm)- 14 SWG 25 mm round pipe ;Seat Height IN MM ±5(mm)- 430 Seat Width ±10 (mm) -450 mm Warranty period in number of years 1	Each	4			

14.3.	Avon Plastic chair with arms (AVON) ; Specifications : Seat Width in mm (+/- 5 m–) - 345; Seat Depth in mm (+/- 5 m–) - 340 Chair Height in mm (+/- 10 m–) - 540 Chair Dimensions Conforming To IS 3663 (Latest); Weight of Chair (IN Gram–) - 500 gram; Thickness of Polyurethane Foam Used in Seat in mm (+/- 2 mm)- No Cushion Density of PU Foam in KG per CuM No Cushion GSM/Thickness of Fabric (Gram per Sq Meter) NA; Thickness of Polyurethane Foam Used in Backrest in mm (+/- 2 mm) No cushion	Each	20			
14.4.	Adiko high Back Executive Chair (Adiko) (Adiko ADXN CR-095 high Back Executive Chair); Specifications : A–m - With Ergonomic Seat Desi–n - true Chair Ty–e - push back Height Adjustment ± 5(mm)- up to 120 mm Arm Type- Fixed Pedestal Base- ABS Plastic with ABS/Nylon Twin Caster Wheels Minimum- 5 Nos, of 50 mm Size Arm Materi–l - pu foam bonded chrome coted Overall Chair Height ±15–m - 1220 Seat Depth ±10 –m - 520 millimeter Backrest Width ±10–m - 520 millimeter Backrest Height ±15–m - 730 millimeter Seat Width ±10 mm- 520mm Seat Height ±15 –m - 450mm Warrantee period in number of years 1-year	Each	1			

14.5.	SOFA SET WOOD FRAME SR Interior (SR-2536) (SR Interior) (SR-2536); Specifications: Covering Material for Seat and Backrest fabric ;Frame Covering Partially Upholstered Number of Four Seater Units (Nos) NO FOUR SEATER UNITS Total Number of Seats in the Sofa Set (Nos) 5 Number of Two Seater Units (Nos) NO TWO SEATER UNIT Number of Three Seater Units (Nos) 1 Number of Single Seater Units (Nos) 2 Frame Structure Material and size (±1 mm) teak wood of minimum 25 mm thickness Seat Cusion Material foam Type of Spring in the Base / Seating eight way hand tied spring Depth of Sofa Units in mm (±10 mm) 850 Length of Four Seater Units in mm (±10 mm) 2500 Length of Three Seater Units in mm (±10 mm) 1850 Length of Two Seater Units in mm (±10 mm) 1400 Length of Single Seater Units in mm (±5 mm) 750 WARRANTY PERIOD IN NUMBER OF YEARS 1	Each	1			
14.6.	Royal Oak Retro Boss Table (Rosewood); Product Dimensions: Length (60.91 inches), Width (30.26 inches), Height (28.30 inches) Primary Material: MDF Color: Brown, Finish: Natural, Style: Modern Assembly Required: The product requires carpenter assembly and will be provided by the seller Warranty: 30 day warranty on manufacturing defects only Has natural finish	Each	1			
14.7.	Adiko Office Almirah with locker, 50x30x17 inches (Adiko) (Adik steel Office Almirah, ALL 540(B) ; Specifications : Materi–l - M.S sheet conforming to commercial quality CR- 1,Grade 340 of IS 513:2008 (reaffirmed 2013)(Fifth Revision)Amdt. no.1 Material of Almirah Doo–s - M S Sheet Width in mm (± 7 m–) - 760 millimeter Height (Without Pedestal) (in mm) (+/- 10 m–) - 1155 Depth in mm (±5 mm)- 480 millimeter	Each	1			

14.8.	**Adiko FILING CABIN–T - REGUL–R - 3 DRAW–R - AFCR 521(Adiko)** (Adiko FILING CABIN–T - REGUL–R - 3 DRAW–R - AFCR 521); Specifications : Loading Capacity of drawer in KG (+/- 2 K–) - 70 kilogram Lock Not Provided Locking Mechanism- central locki45elsius45gism; Drawer suspension- Telescopic Slide; Movable with Wheels at bott–m - false; Number of Drawer (NOS)- 3 ;Clutch compressor strip or Cradle str–p - made of steel sheet of 1 mm thickness(min); Sheet Thickness of Filing Drawer in mm (+/- 5–) - 1.1 millimeter Sheet Thickness of Side, Back, Top and bottom in mm (+/- 5–) - 1.5 millimeter Width ±10 (mm) - 450 millimeter Overall Height ±10(m–) - 1050 millimeter Height of smallest Drawer ±10(mm) ALL DRAWERS EQUAL Depth ±10(m–) - 660 millimeter Height of medium Drawer ±10(mm) ALL DRAWERS EQUAL Finish Synthetic enamel	Each	1			
14.9.	NOVA PEDESTAL WITH 3 DRAWERS 404(W) X 450(D) X 675(H) (spacewood) (NOVA); Specifications: Mode of Supply of Modular drawer pedestal unit Knocked Down To Be Assembled At Consignee Site By The Seller Type Three Drawer (Height Of Two Drawer 175 mm Each And One Drawer Of 282 mm) Material specification Prelaminated Particle Board of grade II type III of IS:12823/2013. Both sides laminated. Outer side laminated with shade matching with top shade and facia shade and having swede finish. Balancing Laminate of 0.5 mm thickness on the other side. Warranty period in number of yea	Each	1			

14.1	Assistant Table 1 drawe–s -S3; Specifications : Total Number of Storage Units single storage; Table Top Material and Thickness (±2 mm) 20 mm thick MDF Board of grade SBG II conforming to IS 12406 laminated with minimum 0.6 mm thick on Top side of type S, P or F having index 3.2.3 conforming to IS 2046 and minimum 0.5 mm thick balancing laminate on the other side Storage one side Table Height ±5(mm) 710 millimeter Table Top Length ±10(mm) 1190 millimeter Table Top Width ±10(mm) 470 millimeter Padestal (Under structure) Mild Steel Square Section of outside side minimum 25 mm and wall thickness minimum 1.2 mm Storage Unit and Drawer Units Material 0.8 mm M S sheet Depth of Storage Unit ±10(mm) 355 millimeter Depth of Locker / Cupboard type Storage unit N.A; Width of Locker / Cupboard type Storage unit N.A; WARANTEE PERIOD IN NUMBER OF YEARS 1	Each	5			
14.11	TEAK SIDE TABLE SR INTERIOR (SR-6510) (S.R INTERIOR) (–R - 6510); Specifications : Number of storage unit No storage Material of top ±2mm 25mm Teak wood Height of table ±10mm 650 mm Depth of table ±10mm 400 mm Height of largest storage unit N.A Height of Medium storage unit N.A Width of storage unit ±10mm N.A Length of table top ±10mm 600 mm Height of smallest storage unit N.A Depth of storage unit ±10mm N.A Warrantee period in number of years 1	Each	4			
14.12	FurnitureKraft Osaka Metal Single B–d - Product Dimensions: Length (198.12 cm), Width (99.06 cm), Height (44.45 cm) Primary Material: Mild Steel Color: Black, Finish: Glossy Finish, Style: Contemporary Bed Size: Single Assembly Required: The product requires carpenter assembly and will be provided by the seller Warranty: 6 Months on product Durable and high quality product	Each	3			

14.13	Forzza Montana 3-Door Wardrobe Tallisa Oak ; Product Dimensions: Length (90 cm), Width (42 cm), Height (180 cm) Primary Material: Engineered Wood Color: Dark Oak, Style: Contemporary Material : Engineered wo–d - 15 mm insect and termite resistant Chipboard laminated with PU paper. (Chipboa–d - Low density fibreboard manufactured from wood chips which are pressed and extruded, thus offering more strength)	Each	1			
15	**HORTICULTURE AND LANDSCAPING**					
15.2.	Ploughing of the existing ground to a depth of 15cm to 25cm and watering the same	100Sq. m.	20.3			
15.2.	Supplying and stacking of good earth at site including royalty and carriage upto 5 km complete (earth measured in stacks will be reduced by 20% for payment).	Cu.m.	360			
15.3.	Supply and stacking of manure at site including royalty and carriage up to 1km (manure measured in stacks will be reduced by 8% for payment)screened through sieve of I.S. designation 16mm	Cum	360			
15.4.	Rough dressing the trenched ground including breaking clods.	100sq. m.	20.3			
15.5.	Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.	100sq. m.	20.3			
15.6.	Fine dressing the ground	100sq. m.	20.3			
15.7.	Spreading of sludge, dump manure and/or good earth in required thickness as per direction of officer-in-charge (cost of sludge, dump manure and/ or good earth to be paid separately)	Cu.m.	360			
15.8.	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge	Cu.m.	360			
15.9.	Grassing wi“h "D”ob" grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for mowing including supplying good earth if needed (the good earth shall	100Sq. m.	100			

	be paid for separately). 7.5 cm apart in either direction.					
15.10.	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20% : one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressin48elsius48ging etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading a48elsius48ging as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately)	Cu.m.	32.4			
	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume(2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth , if any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately) : Holes 60cm Dia and 60cm deep	Each	2			
	Edging with bricks laid dry length wise including excavation, refilling, consolidating with hand picking and spreading neatly surplus earth within a lead of 50m: with 40 class designation chimney bricks	Meter	22			
15.11	Providing and Displaying of Wadelia trilobata plant,full of leaves in 15 cm size of Poly bags & as per direction of the officer-in-charge.	Each	70			
15.12.	Providing Plant Marigold jaffri orange/yellow/Russet colour well developed with fresh & healthy foliage with 40 to 50 flowers in bloom specimen plant 60 to 75 cm ht in 25 cm Earthen Pot/Plastic Pot.	Each	50			
15.13	Providing Plant Geranium double variety having 30 cm ht., in different colour well developed with fresh & healthy foliage (3 in one) well bloomed in 25 cm Earthen Pot/Plastic Pot.	Each	120			
15.14	Supply and stacking of Plumeria alba plant of height 165-180 cm. with 3-4 branches and thick stem in big size HDPE bags as per direction of the officer-in-charge	Each	10			

16	**IRRIGATION**					
16.1	Providing, laying and joining following P.V.C. pipes with solvent cement joint for 10kg/cm2 pressure including testing of joints, cost of jointing materials etc. complete in all respect.					
i	50 MM	RM	80			
ii	25MM	RM	40			
16.2.	Supply and installation of plastic popup and spray sprinkler with all fittings with					
i	Full circle nozzle	Each	6			
16.3.	Supply and installation of 50mm pressure adjusting plastic solenoid valve assembly (solenoid valve pressure range 1.5 bar to 10.0 bar), with plastic ball valve (10.0 bar pressure) union joint HDPE rectangular valve box etc.	Each	1			
17	**MISCELLENEOUS WORKS**					
17.1.	**WATER PROOFING**					
17.1.1.	20mm cement plaster of mix :					
i	1:4 (1 cement : 4 fine sand)	Sqm	562			
17.1.3.	Painting with aluminium paint of approved brand and manufacture to give an even shade:					
i	Two or more coats on new work	Sqm	562			
17.1.2.	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3 mm thick water proofing membrane, black finished reinforced with nonwoven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufact ure of density at 25°C, 0.87-0.89 kg/ litre and viscocity 70-160 cps. Over the primer coat the layer of membrane shall be laid using Butane Torch and sealing all joints etc, and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 650/ 450N/5cm. Tear strength in longitudinal and transverse direction as 300/250N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM,–D - 5147. The laying of membrane					
i	3mm thick	Sqm	562			

17.1.4.	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying: (a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. (b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry. (for toilets)	Sqm	3.6			
17.2.	**FIRE FIGHTING**					
17.2.1.	Fire fighting equipment Non SOR					
	Fire fighting extinguishers from certified manufactures with 1 or 2 yr warranty certificate. preferable capacity 10 kg.	Each	5			
17.3.	**AIR CONDITIONING**					

17.3.1.	Supply, installation, testing & commissioning of VRF/VRV Air-Conditioning system complete with indoor units, outdoor units, refrigerant, control cabling, earthing, insulation and the required controls for automatic temperature control excluding air distribution ducting in Town Hall. Cooling Range by the VRF unit shall be 22 + 2 d51elsiusius Indoor Unit: The total capacity of IDU should be minimum 35TR with multiple units of minimum 03 units of various capacities as per OEM standards Outdoor Unit: Variable Refrigerant Flow Outdoor unit consists of inverter driven compressor (combination of constant speed + variable speed or all variable speed, Scroll/DC twin rotary), air cooled condenser, fan motor, stands for outdoor units, vibration isolation pads etc.The total Output capacity of oudoor unit shall be minimum 44 HP. The Outdoor unit shall have multiple compressors of minimum 03 nos of various capacities (minimum of 10HP & maximum of 44HP) as per OEM standards.PIPING DETAILS: The refrigerant piping shall be hard drawn heavy duty copper of various sizes with necessary supports, fittings between condensing unit & indoor units along with suitable insulation. Necessary drain piping with supports/clamps from indoor unit to the ground level is in the scope of the supplier Cabling: All control/communication cables and power cable between IDUs and ODUs shall be in the scope of supplier. Guarantee period should be for a period of 36 months from the date of commissioning.	Each	15			
17.4.	**SOUND SYSTEM**					
17.4.1.	Testing/installation of existing/new sound system and equipm'nt's (Loudspeaker , Subwoofer , Monitor Loudspeakers , Graphic Equaliser, Amplifier Allen & Heath Mixer , Handheld Microphones Wireless).	Each	2			
17.4.2.	Making of boundary wall in stone of 1m height- including the pillar, upper and lower stone slab, fitting and transportation	Mts	47			
17.4.3.	SS dustbins as per manufactu'er's specs and detailing	Nos	8			
17.4.4.	Providing and fixing Stone sculptures inclusive of their foundation all inclusive.	Nos.	3			

17.5.5	Jet Fountain works for linear water body including plumbing and all accessories. Scope includes supply of fountain and accessories, installation, fitting, testing, etc.(bidder shall provide detail drawing and payment shall be done as per item rate)	Nos.	2			
17.5.6.	Smart Water ATM	Nos.	1			
17.7.7.	Miscellaneous Stone Work	Sq.m.	50			

Annexure-K

(See clause 15 of Section 2 of ITB)

MATERIALS TO BE ISSUED BY THE DEPARTMENT

Not Applicable

Annexure – L

(See clause 21 of Section 2 of ITB)

LETTER OF ACCEPTANCE (LOA)

No.:_____ Date: _____

M/s. _____

(Name and address of the Contractor)

Subject: _____

(Name of the work as appearing in the bid for the work)

Dear Sir (s),

Your bid for the work mentioned above has been accepted on behalf of the [Name of Authority], at your bided offer as per scope of work given therein. You are requested to submit within 15 (Fifteen) days from the date of issue of this letter:

a) The performance security/performance guarantee of Rs. _____ (in figures) Rupees _____ (in words only). The performance security shall be in the shape of term deposit receipt/ bank guarantee of any nationalized / schedule commercial bank.

b) Sign the contract agreement.

Please note that the time allowed for carrying out the work as entered in the bid is 6 (six) months including rainy season, shall be reckoned from the date of signing the contract agreement.

Signing the contract agreement shall be reckoned as intimation to commencement of work and no separate letter for commencement of work is required. Therefore, after signing of the agreement, you are directed to contact Engineer-in-charge for taking the possession of site and necessary instructions to start the work.

Yours faithfully,

EXECUTIVE ENGINEER

Annexure – M
(See clause 22 of Section 2 of ITB)

PERFORMANCE SECURITY

To,

_____
(Name of Employer)

_____

_____
(Address of Employer)

WHEREAS _____ (name and address of the Contractor) (hereinafter called the "Contractor") has undertaken, in pursuance of Letter of Acceptance No. _____ dated _____ 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 WHRereas we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, upto a total of Rs. _____ [amount of Guarantee]* Rupees _____ (in words), such sum being payable in the types and proportions of currencies in which the contract price 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 Rs. _____ [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 us with the demand. We also state that you are no way required to justify the demand raised to us.

We further agree that no change or addition to or other modification of the terms of the Contract of the Works to be performed there under or of any of the Contract documents which may be made between you 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 modification.

This guarantee shall be valid until 3 (three) months from the date of expiry of the Defect Liability Period.

_____
Signature, Name and Seal of the Guarantor

_____
(Name of the Bank)

_____
(Address, Phone No., Fax No., E-mail Address, of Signing Authority)

Date: _____

* An amount shall be inserted by the Guarantor, representing the percentage the Contract Price specified in the Contract including additional security for unbalanced Bids, if any and denominated in Indian Rupees.

SECTION - 3

CONDITIONS OF CONTRACT

Part – I: General Conditions of Contract [GCC]

Table of Clauses of GCC

A. GENERAL

1. DEFINITIONS

1.1 “Bill of Quantities” means the priced and completed Bill of Quantities forming part of the Bid.

1.2 “Chief Executive Officer” means the executive officer as defined under the relevant section of the article of association;

1.3“Completion“means completion of the work, as certified by the Engineer-in-Charge, in accordance with provisions of agreement.

1.4 “Contract” means the Contract between the Employer and the Contractor to execute, complete and/or maintain the work. Agreement is synonym of Contract and carries the same meaning wherever used.

1.5 “Contract Data Sheet” means the documents and other information which comprise of the Contract.

1.6 “Contractor “means a person or legal entity whose bid to carry out the work has been accepted by the Employer.

1.7 “Contractor’s bid” means the completed bid document submitted by the Contractor to the Employer.

1.8 “Contract amount” means the amount of contract worked out on the basis of accepted bid.

1.9 “Completion of work” means completion of the entire contracted work. Exhaustion of quantity of any particular item mentioned in the bid document shall not imply completion of work or any component thereof.

1.10 “Day” means the calendar day.

1.11 “Defect” means any part of the work not completed in accordance with the specifications included in the contract.

1.12 “Drawings” means drawings including calculations and other information provided or approved by the Engineer-in-Charge.

1.13 “Department” means Gwalior Smart City Development Corporation Limited, Gwalior as the case may be.

1.14 “Employer” means the party as defined in the Contract Data, who employs the Contractor to carry out the work. The employer may delegate any or all functions to a person or body nominated by him for specified functions. The word Employer/Government/Department wherever used denote the Employer.

1.15 “Engineer” means the person named in contract data sheet.

1.16 “Engineer in charge” means the person named in the contract data.

1.17 “Equipment” means the Contractor's machinery and vehicles brought temporarily to the Site for execution of work.

1.18 “Executive Director” means the executive director of the Board as appointed under the provision of the article of association;

1.19 “Government” means Government of Madhya Pradesh.

1.20 “In Writing” means communicated in written form and delivered against receipt.

1.21 “Material” means all supplies including consumables used by the Contractor for incorporation in the work.

1.22 “Stipulated date of completion” means the date on which the Contractor is required to complete the work. The stipulated date is specified in the Contract Data.

1.23 “Specification” means the specification of the work included in the Contract and any modification or addition made or approved by the Engineer-in-Charge.

1.24 “Start Date “means the date 14 days after the signing of agreement for the work. However, the employer may extend this time limit by another 14 days, as and when required.

1.25 “Sub-Contractor” means a person or corporate body who has a Contract (duly authorized by the employer) with the Contractor to carry out a part of the construction work under the Contract.

1.26 “Temporary Work” means work designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the work.

1.27 “Tender/Bid, Tenderer/Bidder” are the synonyms and carry the same meaning where ever used.

1.28 “Variation “means any change in the work which is instructed or approved as variation under this contract. The maximum variation shall be permitted upto 20% of contract value.

1.29 “Work” the expression "work" or "works" where used in these conditions shall unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the work by virtue of contract, contracted to be executed, whether temporary or permanent and whether original, altered, substituted or additional.

1.30 “Work Plan” means the implementation plan, including phasing of works, physical completion milestones and other such details that the Employer shall seek from time to time with respect to tracking progress of the works.

2. INTERPRETATIONS AND DOCUMENTS

2.1 Interpretations: In the contract, except where the context requires otherwise:

a. words indicating one gender include all genders;

b. words indicating the singular also include the plural and vice versa.

c. provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;

d. written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record;

2.2 Documents Forming Part of Contract:

1. NIT with all amendments.

2. Instructions to Bidders

3. Conditions of Contract:

i. Part I General Conditions of Contract and Contract Data; with all Annexures

ii. Part II Special Conditions of Contract.

4. Specifications

5. Drawings

6. Bill of Quantities

7. Technical and Financial Bid

8. Agreement

9. Any other document (s), as specified.

3. LANGUAGE AND LAW

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

4. COMMUNICATIONS

All certificates, notice or instruction to be given to the Contractor by Employer/Engineer shall be sent on the

address or contact details given by the Contractor in [Annexure H of ITB]. The address and contract details for communication with the Employer/Engineer shall be as per the details given in Contract Data Sheet. Communication between parties that are referred to in the conditions shall be in writing. The notice sent by facsimile (fax) or other electronic means (email) shall also be effective on confirmation of the transmission. The notice sent by registered post or speed post shall be effective on delivery or at the expiry of the normal delivery period as undertaken by the postal service. In case of any change in address for communication, the same shall be immediately notified to Engineer-in- Charge

5. SUBCONTRACTING

Subcontracting shall be permitted for contracts value more than amount specified in the Contract Data with following conditions.

a. The Contractor may subcontract up to 25 percent of the contract price, only with and after the approval of the Employer in writing, but will not assign the Contract. Subcontracting shall not alter the Contractor's obligations.

b. The following shall not form part of the sub-contracting:

i. hiring of labour through a labour Contractor,

ii. hiring of plant & machinery

iii. the purchase of Materials to be incorporated in the works

c. The Sub-Contractor will have to be registered in the appropriate category in the centralized registration system for Contractors of the GoMP.

6. PERSONNEL

6.1 The Contractor shall employ for the construction work and routine maintenance the technical personnel as provided in the Annexure I-3 of Bid Data sheet, if applicable. If the Contractor fails to deploy required number of technical staff, recovery as specified in the Contract Data will be made from the Contractor.

6.2 If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within three days and has no further connection with the Works in the Contract.

7. FORCE MAJEURE

7.1 The term "Force Majeure" means an exceptional event or circumstance:

a) Which is beyond a party’s control,

b) Which such party could not reasonably have provided against before entering into the contract,

c) Which, having arisen, such party could not reasonably have avoided or overcome, and

d) Which is not substantially attributed to the other Party

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

(i) War, hostilities (whether war be declared or not), invasion, act of foreign enemies),

(ii) Rebellion, terrorism, sabotage by persons other than the Contractor’s Personnel, revolution, insurrection, military or usurped power, or civil war,

(iii) Riot, commotion, disorder, strike or lockout by persons other than the Contractor’s Personnel,

(iv) Munitions of war, explosive materials, ionizing radiation or contamination by radio activity, except ass may be attributed to the Contractor’s use of such munitions, explosives, radiation or radio activity, and

(v) Natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity,

7.2 In the event of either party being rendered unable by force majeure to perform any duty or discharge any responsibility arising out of the contract, the relative obligation of the party affected by such force majeure shall upon notification to the other party be suspended for the period during which force majeure event lasts. The cost and loss sustained by either party shall be borne by respective parties.

7.3 For the period of extension granted to the Contractor due to Force Majeure the price adjustment clause shall apply but the penalty clause shall not apply. It is clarified that this sub clause shall not give eligibility for price adjustment to contracts which are otherwise not subject to the benefit of Price adjustment clause.

7.4 The time for performance of the relative obligation suspended by the force majeure shall stand extended by the period for which such cause lasts. Should the delay caused by force majeure exceed twelve months, the parties to the contract shall be at liberty to foreclose the contract after holding mutual discussions.

7.5 A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible to the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give notice of the restoration of normal conditions as soon as possible.

7.6 The Parties shall take all reasonable measures to minimise the consequences of any event of Force Majeure.

8. CONTRACTOR'S RISKS

8.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract are the responsibility of the Contractor.

8.2 All risks and consequences arising from the inaccuracies or falseness of the documents and/or information submitted by the Contractor shall be the responsibility of the Contractor alone, notwithstanding the fact that designs/drawings or other documents have been approved by the department.

9. LIABILITY FOR ACCIDENTS TO PERSON

The Contractor shall be deemed to have indemnified and saved harmless the Government and/or the employer, against all action, suits, claims, demands, costs etc. arising in connection with injuries suffered by any persons employed by the Contractor or his subcontractor for the works whether under the General law or under workman's compensation Act, or any other statute in force at the time of dealing with the question of the liability of employees for the injuries suffered by employees and to have taken steps properly to ensure against any claim there under.

10. CONTRACTOR TO CONSTRUCT THE WORKS

10.1 The Contractor shall construct, install and maintain the Works in accordance with the Specifications and Drawings as specified in the Contract Data

10.2 In the case of any class of work for which there is no such specification as is mentioned in contract Data, such work shall be carried out in accordance with the instructions and requirement of the Engineer-in-charge. In the event of any disparity between the written specifications and BIS provisions, the provisions in BIS shall prevail.

10.3 The Contractor shall supply and take upon himself the entire responsibility of the sufficiency of the scaffolding, timbering, Machinery, tools implements and generally of all means used for the fulfilment of this contract whether such means may or may not approved of or recommended by the Engineer.

11. DISCOVERIES

Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

12. DISPUTE RESOLUTION SYSTEM

12.1 No dispute can be raised except before the Competent Authority as defined in Contract data in writing giving full description and grounds of Dispute. It is clarified that merely recording protest while accepting measurement and/or payment shall not be taken as raising a dispute.

12.2 No issue of dispute can be raised after 45 days of its occurrence. Any dispute raised after expiry of 45 days of its first occurrence shall not be entertained and the Employer shall not be liable for claims arising out

of such disputes.

12.3 The Competent Authority shall decide the matter within 45 days.

12.4 Appeal against the order of the Competent Authority can be preferred within 30 days to the Appellate Authority as defined in the Contract data. The Appellate Authority shall decide the dispute within 45 days.

12.5 Appeal against the order of the Appellate Authority can be preferred before the Madhya Pradesh Arbitration Tribunal constituted under Madhya Pradesh Madhyastham Adhikaran Adhiniyam, 1983.

12.6 The Contractor shall have to continue execution of the works with due diligence notwithstanding pendency of a dispute before any authority or forum.

B. TIME CONTROL

13. PROGRAMME

13.1 Within the time stated in the Contract Data, the Contractor shall submit to the Engineer for approval a Programme showing the general methods, arrangements, order, and timing for all the activities in the Works for the construction of works.

13.2 The program shall be supported with all the details regarding key personnel, equipment and machinery proposed to be deployed on the works for its execution. The Contractor shall submit the list of equipment and machinery being brought to site, the list of key personnel being deployed, the list of machinery/equipment being placed in field laboratory and the location of field laboratory along with the Programme

13.3 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 Works, including any changes to the sequence of the activities.

13.4 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 certificate and continue to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.

13.5 The Engineer's approval of the Programme shall not alter the Contractor's obligations

14. EXTENSION OF TIME

14.1 If the Contractor desires an extension of time for completion of the work on the ground of his having been unavoidably hindered in its execution or on any other grounds, he shall apply, in writing, to the Engineer-in-charge, on account of which he desires such extension. Engineer-in-charge shall forward the aforesaid application to the competent authority as prescribed.

14.2 The competent authority shall grant such extension at each such occasion within a period of 30 days of receipt of application from Contractor and shall not wait for finality of work. Such extensions shall be granted in accordance with provisions under clause -7 and/or clause- 15 of this agreement.

14.3 In case of the work already in progress, the Contractor shall proceed with the execution of the works, including maintenance thereof, pending receipt of the decision of the competent authority as aforesaid with all due diligence.

15. COMPENSATION FOR DELAY

15.1 The time allowed for carrying out the work, as entered in the agreement, shall be strictly observed by the Contractor.

15.2 The time allowed for execution of the contract shall commence from the date of signing of the agreement. It is clarified that the need for issue of work order is dispensed with.

15.3 In the event milestones are laid down in the Contract Data for execution of the works, the Contractor shall have to ensure strict adherence to the same.

15.4 Failure of the Contractor to adhere to the timelines and/or milestones shall attract such liquidated damages as is laid down in the Contract Data

15.5 In the event of delay in execution of the works as per the timelines mentioned in the contract data the

Engineer-in- charge shall retain from the bills of the Contractor Amount equal to the liquidated damages to be levied until the Contractor makes such delays good. However, the Engineer-in-charge may accept bankable security in lieu of retaining such amount.

15.6 If the Contractor is given extension of time after liquidated damages have been paid, the engineer in charge shall correct any over payment of liquidated damages by the Contractor in the next payment certificate.

15.7 In the event the Contractor fails to make good the delay until completion of the stipulated contract period (including extension of time) the sum so retained shall be adjusted against liquidated damages levied.

C. QUALITY CONTROL

17. TESTS

17.1 The Contractor shall be responsible for:

a. Carrying out the tests prescribed in specifications, and

b. For the correctness of the test results, whether preformed in his laboratory or elsewhere.

17.2 The Contractor shall have to establish field laboratory within the time specified and having such equipment as are specified in the Contract Data.

17.3 Failure of the Contractor to establish laboratory shall attract such penalty as is specified in the Contract Data.

17.4 Ten percent of the mandatory tests prescribed under the specifications shall be got carried out through Laboratories accredited by National Accreditation Board of Laboratories (NABL) by the Engineer-In –Charge and the cost of the such testing shall be deducted from the payments due to Contractor.

18. CORRECTION OF DEFECTS NOTICED DURING THE DEFECT LIABILITY PERIOD

18.1 The defect liability period of work in the contract shall be the as per the Contract Data Sheet.

18.2 The Contractor shall promptly rectify all defects pointed out by the Engineer well before the end of the Defect Liability Period. The Defect Liability Period shall automatically stand extended until the defect is rectified.

18.3 If the Contractor has not corrected a Defect pertaining to the Defect Liability Period to the satisfaction of the Engineer, within the time specified by the Engineer, the Engineer will assess the cost of having the Defect corrected, and the cost of correction of the Defect shall be recovered from the Performance Security or any amount due or that may become due to the Contractor and other available securities.

D. COST CONTROL

19. VARIATIONS CHANGE IN ORIGINAL SPECIFICATIONS, DESIGNS, DRAWINGS ETC.

19.1 The Engineer in charge shall have power to make any alterations, omissions or additions to or substitutions for the original specifications, drawings, designs and instructions, that may appear to him to be necessary during the progress of the work and the Contractor shall carry out the work in accordance with any instructions which may be given to him in writing signed by the Employer, and such alterations, omission, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work, which the Contractor may be directed to do in the manner above specified, as part of the work, shall be carried out by the Contractor on the same conditions in all respects on which he agree to do the main work.

19.2 The time for the completion of the work shall be extended in the proportion that the altered, additional or substituted work bears to the original contract work and the certificate of the Engineer in charge shall be conclusive as to such proportion.

20. EXTRA ITEMS

20.1 All such items which are not in the priced Bills of Quantities (BOQ) shall be treated as extra items.

21. PAYMENTS FOR VARIATIONS AND/ OR EXTRA QUANTITIES

21.1 The rates for the additional (Extra Quantities), altered or substituted work/ extra items under this clause shall be worked out in accordance with the following provisions in their respective order: -

a. The Contractor is bound to carry out the additional (Extra quantity), work at the same rates as are

specified in the contract for the work. The maximum variation shall be permitted upto 20% of contract value.

b. If the item is not in the priced BOQ and is included in the Schedule of Rate (SOR) of the department, the rate shall be arrived at by applying the quoted tender percentage on the SOR rate.

c. If the rates of the altered or substituted work are not provided in applicable SOR-such rates will be derived from the rates for a similar class (type) of work as is provided in the contract (priced BOQ) for the work.

d. If the rates are for the altered, substituted work cannot be determined in the manner specified in the sub clause (c) above-then the rates for such composite work item shall be worked out on the basis of the concerned schedule of rates quoted by the Contractor.

e. If the rates of a particular part or parts of the item is not in the schedule of rates and the rates for the altered, or substituted work item cannot be determined in the manner specified in sub clause (b) to (d) above, the rate for such part or parts will be determined by the Competent Authority as defined in the Contract data on the basis of the rate analysis derived out of prevailing market rates when the work was done.

f. But under no circumstances, the Contractor shall suspend the work on the plea of non- acceptability of rates on items falling under sub clause (a) to (e). In case the Contractor does not accept the rate approved by Engineer in charge for a particular item, the Contractor shall continue to carry out the item at the rates determined by the Competent Authority. The decision on the final rates payable shall be arrived at through the dispute settlement procedure.

22. NO COMPENSATION FOR ALTERATIONS IN OR RESTRICTION OF WORK TO BE CARRIED OUT.

22.1 If at any time after the commencement of the work, the Government, for any reason whatsoever, not require the whole or any part of the work as specified in the bid to be carried out, the Engineer in charge shall give notice in writing of the fact to the Contractor and withdraw that whole or any part of the work.

22.2 The Contractor shall have no claim to any payments or compensation whatsoever, on account of any profit or advantage which he might have derived from the execution of work in full or on account of any loss incurred for idle men and machinery due to any alteration or restriction of work for whatsoever reason.

22.3 The Engineer in charge may supplement the work by engaging another agency to execute such portion of the work, without prejudice to his rights.

23. NO INTEREST PAYABLE

No interest shall be payable to the Contractor on any payment due or awarded by any authority.

24. RECOVERY FROM CONTRACTORS

Whenever any claim against the Contractor for the payment arises under the contract, the Department shall be entitled to recover such sum by:

a) Appropriating, in part or whole of the Performance Security and additional Performance Security, if any; and/or Security deposit and/or any sums payable under the contract to the Contractor.

b) If the amount recovered in accordance with (a) above is not sufficient, the balance sum may be recovered from any payment due to the Contractor under any other Contracto/agreement of the department, including the securities which become due for release.

c) The department shall, further have an additional right to effect recoveries as arrears of land revenue under the M.P. Land revenue Code.

25. TAX

25.1 The rates quoted by the Contractor shall be deemed to be inclusive of the commercial tax and other levies, duties, cess, toll, taxes of Central and State Governments, local bodies and authorities.

25.2 The liability, if any, on account of quarry fees, royalties and any other taxes and duties in respect of materials actually consumed on public work, shall be borne by the Contractor.

25.3 Any Changes in the taxes due to change in legislation or for any other reason shall not be payable to the

Contractor.

26. CHECK MEASUREMENTS

26.1 The department reserves to itself the right to prescribe a scale of check measurement of work in general or specific scale for specific works or by other special orders.

26.2 Checking of measurement by superior officer shall supersede measurements by subordinate officer(s), and the former will become the basis of the payment.

26.3 Any over/excess payments detected, as a result of such check measurement or otherwise at any stage up to the date of completion of the defect liability period specified in this contract, shall be recoverable from the Contractor, as per clause 24 above.

27. TERMINATION BY ENGINEER IN CHARGE

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

27.2 The Engineer in charge shall be entitled to terminate the contract if the Contractor

a. Abandons the works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the contract;

b. the Contractor is declared as bankrupt or goes into liquidation other than for approved reconstruction or amalgamation;

c. without reasonable excuse fails to comply with the notice to correct a particular defect within a reasonable period of time;

d. the Contractor does not maintain a valid instrument of financial Security, as prescribed;

e. the Contractor has delayed the completion of the Works by such duration for which the maximum amount of liquidated damages is recoverable;

f. If the Contractor fails to deploy machinery and equipment or personnel or set up a field laboratory as specified in the Contract Data.

g. if the Contractor, in judgment of the engineer in charge has engaged in corrupt or fraudulent practices in competing for or in executing the contract;

h. Any other fundamental breaches as specified in the Contract Data.

27.3 In any of these events or circumstances, the engineer in charge may, upon giving 14(Fourteen) days' notice to the Contractor, terminate the contract and expel the Contractor from the site. However, in the case of sub paragraph (b) or (g) of clause 27.2, the Engineer in charge may terminate the contract immediately.

27.4 Notwithstanding the above, the Engineer in charge may terminate the contract for convenience by giving notice to the Contractor.

28. PAYMENT UPON TERMINATION

28.1 If the contract is terminated under clause 27.3, the Engineer-in-Charge shall issue a certificate for value of the work accepted on final measurements, less advance payments received up to the date of issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data.

28.2 Payment on termination under clause 27.4 above, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the works, and the Contractor's costs of protecting and securing the works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

28.3 If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be recovered as per clause 24 above.

29. PERFORMANCE SECURITY

The Contractor shall have to submit performance security and additional performance security, if any, as specified in Bid data sheet at the time of signing of the contract. The Contractor shall have to ensure that such performance security and Additional performance, if any; security remains valid for the period as specified in the Contract data.

30. SECURITY DEPOSIT

30.1 Security deposit shall be deducted from each running bill at the rate as specified in the contract data. The total amount of security deposit so deducted shall not exceed the percentage of contract price specified in the Contract data.

30.2 The Security may be replaced by equivalent amount of bank guarantee or fixed deposit receipt assigned to the Employer, with validity up to 3 (three) months beyond the completion of defect Liability Period/ Extended Defect Liability Period.

30.3 The Security deposit shall be refunded on completion of defect liability period.

31. PRICE ADJUSTMENT

31.1 Applicability

1. Price adjustment shall be applicable only if provided for in the Contract Data.

2. The price adjustment clause shall apply only for the works executed from the date of signing of the agreement until the end of the initial intended completion date or extensions granted for reasons attributed to the Employer by the Engineer.

3. The Contractor shall not be entitled to any benefit arising from the price adjustment clause for extension in the contract period for reasons attributed to the Contractor.

4. In the Force Majeure event the price escalation clause shall apply.

31.2 Procedure

1. Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants in accordance with following principles and procedures and as per formula given in the contract data.

2. The price adjustable shall be determined during each quarter from the formula given in the contract data.

3. Following expression and meaning are assigned to the work done during each quarter:

R =Total value of work during the quarter. It would include the amount of secured advance granted, if any, during the quarter, less the amount of secured advance recovered, if any during the quarter, less value of material issued by the department, if any, during the quarter.

4. Weightages of various components of the work shall be as per the Contract Data.

31.3 To the extent that full compensation any rise or fall in costs to the Contractor is not covered by the provisions of this or clauses in the contact, the unit rates and prices included in the contract shall be deemed amounts to cover the contingency of such other rise or fall in costs.

31.4 The index relevant to any quarter, for which such compensation is paid, shall be the arithmetical average of the indices relevant of the calendar month.

31.5 For the purpose of clarity it is pointed out that the adjustment may be either positive or negative, i.e. if the price adjustment is in favour the same shall be recovered from the sums payable to the Contractor.

32. MOBILIZATION ADVANCE

32.1 Payment of advances shall be applicable if provided in Contract Data.

32.2 If applicable, the Engineer bearing advance payment to the Contractor of the against provision by the Contractor of an unconditional Bank in nationalized/Scheduled banks, in the name as stated in the in the advance payment. The Guarantee shall remain effective been repaid, but the amount of the guarantee shall be progressively repaid by the Contractor.

32.3 The rate of interest shall be as per Contract data.

32.4 The advance shall be recovered as stated in the Contract data by deducting proportionate amounts from payment otherwise due to the Contractor. No account shall be taken of the advance payment or its recovery in assessing valuations of work done, variations, price adjustments, compensation events, or liquidated damages.

33. SECURED AND CONSTRUCTION MACHINERY ADVANCE

33.1 Payment of secured advance shall be applicable if provided in Contract data.

33.2 If applicable, the Engineer in Charge shall make interest bearing advance payment to the Contractor of the amounts stated in the Contract Data, against provision by the Contractor of an unconditional Bank Guarantee in a form and by nationalized/ scheduled banks, in the name as stated in the Contract Data, in amounts equal to 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.

33.3 The rate of interest chargeable shall be as per Contract Data.

33.4 The construction machinery advance, if applicable, shall be limited to 80% of the cost of construction machinery and admissible only for new construction machinery.

33.5 The advance payment shall be recovered as stated in the Contract Data by deducting proportionate amounts from payment otherwise due to the Contractor. No account shall be taken of the advance payment or its recovery in assessing valuations of work done, variations, price adjustments, compensation events, or liquidated damages.

34. PAYMENT CERTIFICATES

The payment to the Contractor will be as follows for construction work:

a. The Contractor shall submit to the engineer monthly statement of the value of the work executed less the cumulative amount certified previously, supported with detailed measurement of the items of work executed.

b. The engineer shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.

c. The value of work executed shall be determined, based on the measurements approved by the Engineer/Engineer in charge.

d. The value of work executed shall comprise the value of the quantities of the items in the Bill of quantities completed.

e. The value of work executed shall also include the valuation of variations and compensation events.

f. All payments shall be adjusted for deductions for advance payment, security deposit, other recoveries in terms of contract and taxes at source as applicable under the law.

g. 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.

h. Payment of intermediate certificate shall be regarded as payments by way of advance against the final payment and not as payments for work actually done and completed.

i. Intermediate payment shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or be considered as an admission of the due performance of the Contractor any part thereof, in any respect or the occurring of any claim.

j. The payment of final bill shall be governed by the provisions of clause 36 of GCC.

E. FINISHING THE CONTRACT

35. COMPLETION CERTIFICATE

35.1 A completion certificate in the prescribed format in Contract data shall be issued by the Engineer in charge after physical completion of the work and successful handover to respective agencies owning different heads

with their respective clearance certificates.

35.2 After final payment to the Contractor, a final completion certificate in the prescribed format in the contract data shall be issued by the Engineer in charge.

36. FINAL ACCOUNT

36.1 The Contractor shall supply the Engineer with a detailed account of the total amount that the Contractor considers payable for works under the Contract within 21 days of issue of certificate of physical completion of works. The Engineer shall issue a Defects Liability Certificate and certify any payment that is due to the Contractor within 45 days of receiving the Contractor's account if it is correct and complete. If the account is not correct or complete, the Engineer shall issue within 45 days a schedule that states the scope of the corrections or additions that are necessary. If the Account is still unsatisfactory after it has been resubmitted, the matter shall be referred to the competent authority as defined in the Contract data, who shall decide on the amount payable to the Contractor after hearing the Contractor and the Engineer in Charge.

36.2 In case the account is not received within 21 days of issue of Certificate of Completion as provided in clause 35.1 above, the Engineer shall proceed to finalize the account and issue a payment certificate within 28 days.

F. OTHER CONDITIONS OF CONTRACT

37. CURRENCIES

All payments will be made in Indian Rupees.

38. LABOUR

38.1 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, housing, feeding and transport.

38.2 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 labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

39. COMPLIANCE WITH LABOUR REGULATIONS

39.1 During continuance of the Contract, the Contractor and his sub-Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given in the Contract data. 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 there under, 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 non- observance of the provisions stipulated in the notifications/byelaws/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 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 of time.

I. The Contractor or its sub-Contractors shall be solely responsible for complying with all statutory provisions relating to manpower engaged by, for, or through them. In the event of any liability on GSCDCL by virtue of its being principal employer due to failure of the Contractor or its sub-Contractors to comply with all applicable labour legislations, the Contractor and its sub-Contractors Bidder shall indemnify and/or reimburse the amount payable by GSCDCL, if any on this account.

II. If any accident, any injury or physical harm to any person is caused during operations within the contract period, the Contractor and its sub-Contractors, as the case may be the Contractor sub56 Contractors shall be solely responsible and shall bear all the cost and consequences' associated with such eventualities. The Contractor and its sub-Contractors also agrees and undertakes to indemnify and keep indemnified GSCDCL, its directors/ employees/ agents and its consultants.

39.2 Construction Safety. The Contractor should be well conversant with technical as well as administrative and legal aspects of safety and judicial pronouncement. The Contractor shall all times take all reasonable precautions and safety measures to maintain safety of personnel and property. The Contractor shall, at its own expenses and throughout the period of the contract ensure appropriate and suitable arrangements for health, safety and hygiene requirements for the surroundings. The State and Central Government prevailing all Statues in this regard must be complied in letter and spirit throughout the period of contract.

40. AUDIT AND TECHNICAL EXAMINATION

Government shall have the right to cause an audit and technical examination of the works and the final bill of the contract including all supporting vouchers, abstract etc. To be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the Contractor under the contract or nay work claimed by him to have been done under the contract and found not to, have been executed, the Contractor shall be liable to refund the amount of overpayment and it shall be lawful for government to recover the same from him in the manner prescribed in clause 24 above and if it is found that the Contractor was paid less than what was due to him, under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by government to the Contractor.

41. DEATH OR PERMANENT INVALIDITY OF CONTRACTOR

During continuance of the contract, the Contractor and his sub- Contractor s shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications, and bye laws of the state or central government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the state or the major labour laws that are applicable to construction industry are given in the contract data. 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 their under, 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 non-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 from any money due to the Contractor including his amount of performance of security. The employer/engineer shall also have 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 of time.

42. JURISDICTION

This contract has been entered into the State of Madhya Pradesh and its validity, construction, interpretation and legal effect shall be subjected to the exclusive jurisdiction of the courts in Gwalior or of the courts at the place where this contract/agreement is entered into. No other jurisdiction shall be applicable.

CONTRACT DATA SHEET

Clause Reference	Particulars	Data
1.14	Employer	Gwalior Smart City Development Corporation Limited (GSCDCL)
1.15	Engineer	Engineer as notified by employer
1.16	Engineer In Charge	Executive Engineer of GSCDCL
1.22	Stipulated period of completion	6 Months including rainy season
3	Language	English
	Law of Contract	Indian Contract Act 1872
4	Address & contact details of the Contractor	As per “Annexure – “H”
	Address & contact details of the Employer/Engineer-phone, Fax, e-mail.	-
5	Subcontracting permitted for contract value	Permitted till 25 percent of the contract price
6	Technical Personnel to be provided by the Contractor	As per 'Annexure-I' (Format I-3)
	Penalty, if required Technical personal not employed	As per Annexure – I (Format: I - 3)
10	Specifications	As per “Annexure – E”
	Drawings	As per “Annexure – N”
12	Competent authority for deciding dispute under Dispute resolution system	Chief Executive Officer, GSCDCL, Gwalior
	Appellate Authority for deciding dispute under Dispute resolution system	Executive Director, GSCDCL, Gwalior
13	Period of submission of updated construction program	15 days after signing of contract agreement and every month thereafter.
14	Competent authority for granting time permission	Executive Director, GSCDCL, Gwalior
15	Milestones laid down for the contract	Annexure O
	If yes, details of milestone	As per “Annexure O”
	Compensation (to Employer) for Delay	As per “Annexure P”
17	List of equipment for lab	As per Annexure I
	Time to establish	30 days from date of signing of the Agreement
	Penalty for not establishing lab	Rs. 50,000/- per month (or part thereof) of delay
18	Defect Liability Period for Civil Work	36 months after physical completion of the work
21	Competent authority for determining the rate	Executive Director, GSCDCL, Gwalior
27	Any other condition for breach of contract	-
28	Penalty	Penalty shall include (a) Security deposit as per clause 30 of General conditions of contract and the percentage to apply to the value of work not completed representing the Employer’s additional cost for completing the works shall be 20

		percent. (b) Liquidated damages imposed as per clause 15 or performance security (Guarantee) including additional performance security (Guarantee), if any, as per clause 29 of General conditions of contract, whichever is higher.
29	Performance guarantee (Security) shall be valid up to	Till issue of physical completion certificate as per Clause 35.1.
30	Security deposit to be deducted from each running bill	At the rate of 5%
	Maximum limit of deduction of Security Deposit	5% of final contract amount
31.1 (1)	Price adjustment shall be applicable	Yes
31.2 (4)	Weightages of Component in the work	As per Annexure R
32	32.1 Mobilization Advance applicable	No
	32.2 If yes, unconditional Bank Guarantee	
	32.3 If Yes Rate of Interest	
	32.4 If Yes, Type and Amount that can be paid	
	32.5 If Yes, Recovery of Payment	@10% of the Advance from each running bill (third running bill onwards)
33	33.1 Secured Advance Payable	No
	33.2 If Yes, Amount of Secured Advance	No
	33.3 If Yes, Conditions for Secured Advance	No
	33.4 If Yes, Recovery of Secured Advance	No
35	Completion Certificate – after physical completion of work	As per Annexure – U
	Final Completion Certificate – after final payment on completion of the work.	As per Annexure – V
39	Salient features of some of the major labour laws that are applicable	As per Annexure – W

Annexure – N

(See clause 10 of Section 3 of GCC)

DRAWINGS

Annexure-O

(See clause 13 of Section 3 of GCC)

DETAILS OF MILESTONE

The time allowed for the carrying out the work as detailed below:

6 (six) months including rainy season for construction shall be strictly observed by the Contractor and shall be deemed to be essence of the contract and shall be reckoned immediately from the date of signing of Agreement to commence the work issued to the Contractor.

The work shall, throughout the stipulated period of contract, be proceeded with all due diligence keeping in view that time is the essence of the contract. The Contractor shall be bound in all cases, to complete

- 1/8th of the whole work before 1/4th of the whole time allowed under the contract has elapsed,
- 3/8th of the work before 1/2 of such time has elapsed
- 3/4th of the work before 3/4 of such time has elapsed.

Annexure – P

(See clause 10 of Section 3 of GCC)

COMPENSATION FOR DELAY

If the contractor fails to achieve the milestones, and the delay in execution of work is attributable to the contractor/the Employer shall retain an amount from the sums payable and due to the contractor as per following scale -

i. Slippage up to 25% in financial target during the milestone under consideration - 2.5% of the work remained unexecuted in the related time span.

ii. Slippage exceeding 25% but Up to 50% in financial target during the milestone under consideration 5% of the work remained unexecuted in the related time span

iii. Slippage exceeding 50% but Up to 75% in financial target during the milestone under consideration -7.5% of the work remained unexecuted in the related time span.

iv. Slippage exceeding 75% in financial target during the milestone under consideration -10% of the work remained unexecuted in the related time span.

Note: For arriving at the dates of completion of time span related to different milestones, delays which are not attributable to the Contractor shall be considered. The slippage on any milestone is if made good in subsequent milestones or at the time of stipulated period of completion, the amount retained as above shall be refunded. In case the work is not completed within the stipulated period of completion along with all such extensions which are granted to the Contractor for either Employer's default or Force Majeure, the compensation shall be levied on the contractor at the rate of 0.05% per day of delay limited to a maximum of 10% of contract price. The decision of Executive Director, GSCDCL shall be final and binding upon both the parties.

Annexure-Q

LIST OF EQUIPMENT FOR QUALITY CONTROL LABORATORY

As per Annexure I (Form 1-4)

Annexure – R

(See clause 10 of Section 3 of GCC)

PRICE ADJUSTMENT

Weightages of components in all the works under the project are determined by the Authority, as below:

S. No.	Component	Weightage (K)
1	Materials	50% (K1)
2	POL	15% (K2)
3	Labour	35% (K3)

Adjustment for Materials Component

The source for the wholesale price index for all commodities shall be the publication of the Economic Advisor to the Govt. of India published in the Reserve Bank of India, Bulletin.

$V_m = 0.85 \times P_O \times K_1 \times [(M_2 M_1)/M_1]$

Where,

V_m = Amount of price adjustment in Rs. for the Materials Component

P_O = Value of work executed as per the bills, running or final during quarter, less the cost of materials supplied to the Contractor, at fixed rate and recovered from the particular bill. In the case of materials brought to site, for which any advance is granted in the quarter the value of materials shall be added and for which advance has been recovered during the quarter shall be deducted. Furthermore, the value of such materials as assessed by the Engineer-in-charge (and not the reduced amount for which secured advance has been paid) shall be considered for this purpose.

K_1 = The factor representing all materials to be arranged for all works ancillary/temporary works and overheads etc.

M_1 = Base cost index

M_2 = Current Cost index

Adjustment for P.O.L Component

The source for working out the price adjustment on P.O.L. the representative items for reference shall be the costs of High Speed Oil only at the nearest HSD Supply Depot.

$V_P = 0.85 \times P_O \times K_2 \times [(D_2 -$

$D_1)/D_1]$ Where,

V_P = The amount of price adjustment in

Rs. P_O = As mentioned herein before

K_2 = A factor representing the component of transportation cost connected with completion of work under the contract.

D_2 = Current price per litre of HSD D_1 = Base price per litre of HSD

Adjustment for Labour Component

The source for such indices being publication of Labour Bulletin Bureau, Govt of India published in the Reserve Bank of India Bulletin, on component representing Labour cost i/c all types of benefits and amenities etc.

$V_L = 0.85 \times P_O \times K_3 \times [(L_2 L_1)/L_1]$

Where,

P_O = As mentioned herein before
V_L = Amount of price adjustment in Rs. for the Labour Component
K_3 = A factor representing component of Labor cost i/c benefits, amenities etc. to be incurred by the Contractor for their work i/c all allied/ancillary/temporary works and overheads etc.
L_2 = Current cost index for industrial workers.
L_1 = Base Consumer cost index for industrial workers.

The following principles shall be followed while working out the adjustments:

- To the extent that full compensation for any rise or fall in the costs to the Contractor is not covered by the provision of this or other clauses 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.
- If the Contractor shall fail to complete the works within the stipulated period of completion under the contract, the adjustment of prices thereafter, until the date of completion of the works shall be made using either the indices or prices relating to the stipulated time for completion or the current indices or prices whichever is more favorable to the Engineer-in-Charge. Provided that if any extension of time is granted for reasons beyond the control of the Contractor, the above provisions shall apply only to the adjustment made after the expiry of such extension of time.
- The price adjustment shall be evaluated for each of the interim payment certificate submitted by the Contractor.
- The following items are not to be included in the price adjustment calculations:
    - Recovery of Liquidated damages.
    - Recovery of Retention money, with holding and release.

ANNEXURE – S1

(See clause 32 of Section 3 of GCC)

BANK GUARANTEE FORMAT

Deleted

ANNEXURE – S2

Deleted

Annexure- T

(See clause 33 of Section 3 of GCC)

BANK GUARANTEE FORM FOR SECURED ADVANCE

Not Applicable

Annexure - U

(See clause 35 of section 3 -GCC)

PHYSICAL COMPLETION CERTIFICATE

Name of Work: _____

Agreement No.: _____Date: _____

Amount of Contract Rs: _____

Name of Agency: _____

Used MB No.: _____

Last measurement recorded

a. Page No. & MB No.: _____

b. Date: _____

Certified that the above-mentioned work was physically completed on..... (Date) and taken over on..... (Date) and that I have satisfied myself to best of my ability that the work has been done properly.

Date of issue: _____

Engineer in Charge
Gwalior Smart City Development Corporation Limited, Gwalior

Annexure-V
(See clause 35 of section 3 -GCC)

FINAL COMPLETION CERTIFICATE

Name of Work: _____

Agreement No.: _____Date: _____

Amount of Contract Rs: _____

Name of Agency: _____

Used MB No.: _____

Last measurement recorded

a. Page No. & MB No.: _____

b. Date: _____

Certified that the above-mentioned work was physically completed on_(date) and taken over on_____(date).

Agreement amount Rs. _____

Final amount paid to Contractor Rs. _____

Incumbency of officers for the work

I have satisfied myself to best of my ability that the work has been done properly.

Date of Issue: _____

Engineer in Charge
Gwalior Smart City Development Corporation Limited, Gwalior

Annexure – W

(See clause 39 of Section 3 -GCC)

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE

(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 the prescribed minimum years (say, five years) of service or more or on death the rate of prescribed minimum days'(say, 15 days) wages for every completed year of service. The Act is applicable to all establishments employing the prescribed minimum number (say, 10) or more employees.

(c) Employees P.F. and Miscellaneous Provision Act 1952: The Act Provides for monthly contributions by the Employer plus workers at the rate prescribed (say, 10% or 8.33%). The benefits payable under the Act are:

i. Pension or family pension on retirement or death as the case may be.

ii. Deposit linked insurance on the death in harness of the worker.

iii. 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 labour 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 prescribed minimum (say 20) or more contract labour.

(f) Minimum Wages Act 1948: - The Employer is 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 buildings, roads, runways is scheduled employment.

(g) Payment 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 Remuneration 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 matters of transfers, training and promotions etc.

(i) Payment of Bonus Act 1965: - The Act is applicable to all establishments employing prescribed minimum (say, 20) or more workmen. The Act provides for payments of annual bonus 'within the prescribed range of percentage of wages to employees drawing up to the prescribed amount of wages, calculated in the prescribed manner. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. States may have different number of employment size.

(j) Industrial Disputes Act 1947: - The Act lays down the machinery and procedure for resolution 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 prescribed minimum (say, 100, or 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and gets these certified by the designated Authority.

(l) Trade Unions Act 1926: - The Act lays down the procedure for registration of trade unions of workmen and Employers. The Trade Unions registered under the Act have been 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 processes and provides for regulations o 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 prescribed minimum (say, five) 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, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as Housing, Medical-Aid, Travelling expenses from home up to 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 construction work and employs the prescribed minimum (say, 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-work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer 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 the prescribed minimum (say, 10) persons or more with aid of power or another prescribed minimum (say, 20) or more persons without the aid of power engaged in manufacturing process.

SECTION 3:

Conditions of Contract

Part II Special Conditions of Contract [SCC]

1. General

The data and information given in the Contract Document are based on the investigations, planning and designs carried out so far. The data considered for the project planning have been included in the bid documents. The Contractor shall, therefore, satisfy himself about the adequacy and accuracy of the said data/information and interpretation thereof and collect fresh data/additional data/information and carry out/conduct further investigations and studies and get the approval of same from the employer. The Employer shall not be responsible for the accuracy/adequacy of the data/information and interpretation thereof by the Contractor.

2. Sufficiency of Bid

2.1 The Contractor shall be deemed to have visited and carefully examined the Project Site and it's surrounding to have satisfied himself to the nature and conditions of the means of transport and communications, whether by land or air, as available at present and as to possible interruptions thereto including the access and regress conditions for the Site. The Contractor is also deemed to have made enquiries, examined and satisfied himself as to the sites source for obtaining sand, stones, bricks and other materials, the sites for disposal of surplus materials and accommodation for depots, colonies, workshops and other infrastructure facilities as may be necessary for executing and completing the Works, as also the sub-soil water and variations thereof, storms, prevailing winds, climatic conditions and all other similar matters affecting the works including law & order.

2.2 Any neglect or omission or failure on the part of the Contractor in obtaining necessary and reliable information upon the foregoing or any other matter affecting the Contract shall not relieve him from any risks or liabilities or the entire responsibility for the completion of the Works in accordance with the Contract.

3. Incentive for Early Completion

In the event that the Contractor completes the work ahead of scheduled completion time, a bonus @ 1% (one percent) of the contract price per month computed on per day basis, shall be payable to the Contractor, subject to a maximum limit of 5% (five per cent) of the contract price. The amount of bonus, if payable, shall be paid along with final bill after completion of work.

5. Safety, Security and Protection of the Environment

i. The Contractor shall comply with all applicable national, provincial, and local environmental laws and regulations.

ii. The Contractor shall take all measures and precautions to avoid any nuisance or disturbance arising from the execution of the Works. This shall wherever possible be achieved by suppression of the nuisance at source rather than abatement of the nuisance once generated.

iii. The Contractor shall take all the necessary precautions and abide by relevant rules and regulations of safety which are presently in force and which may come into force during the currency of the contract.

iv. The Contractor shall also take such other additional precautions and resort to such other additional safety measures as may be directed from time to time by the Engineer-in-charge. Violation of any rules, regulations and guidelines contained herein will entail immediate termination of the contract.

v. In the event of any spoil, debris, waste or any deleterious substance from the Site being deposited on any adjacent land, the Contractor shall immediately remove all such material and restore the affected area to its original state to the satisfaction of the Employer.

vi. The Contractor shall prevent any interference with the supply to or abstraction from, and prevent any pollution of, water resources (including underground percolating water) as a result of the execution of the Works.

vii. The Contractor shall at all times ensure that all existing water courses / bodies within, and adjacent to the Site are kept safe and free from any debris and materials arising from the Works.

viii. The Contractor shall devise and arrange methods of working to minimize dust, gaseous or other air-borne emissions and carry out the Works in such a manner as to minimize adverse impacts on air quality.

ix. The Contractor shall utilize effective water sprays during delivery manufacture, processing and handling of materials when dust is likely to be created, and to dampen stored materials during dry and windy weather. Stockpiles of friable materials shall be covered with clean tarpaulins, with application of sprayed water during dry and windy weather. Stockpiles of material or debris shall be dampened prior to their movement, except where this is contrary to the Specification.

x. In the event that the Contractor is permitted to use gravel or earth roads for haulage, he shall provide suitable measures for dust palliation, if these are, in the opinion of the IMC officials necessary. Such measures may include spraying the road surface with water at regular intervals.

xi. The Contractor shall take all necessary measures so that the operation of all mechanical equipment and construction processes on and off the Site shall not cause any unnecessary or excessive noise, taking into account applicable environmental requirements. The Contractor shall use all necessary measures and shall maintain all plant and silencing equipment in good condition so as to minimize the noise emission during construction works.

xii. The Contractor shall control the disposal of all forms of waste generated by the construction operations and in all associated activities. No uncontrolled deposition or dumping shall be permitted. Wastes to be controlled shall include, but shall not be limited to, all forms of fuel and engine oils, all types of bitumen, cement, surplus aggregates, gravels, bituminous mixtures, etc. The Contractor shall make specific provision for the proper disposal of these and any other waste products, conforming to local regulations and acceptable to the Project Manager.

xiii. The Contractor shall plan and provide for remedial measures to be implemented in the event of occurrence of emergencies such as spillages of oil or bitumen or chemicals.

xiv. The Contractor shall provide the Employer with a statement of the measures he intends to implement in the event of such an emergency which shall include a statement of how he intends to provide personnel adequately trained to implement such measures.

xv. Should any pollution arise from the Contractor's activities he shall clean up the affected area immediately at his own cost and to the satisfaction of the Project Manager, and shall pay full compensation to any affected party.

Note: - In addition to above Contractor shall have to follow the instruction of IS codes for security and Safety (As per Handbook on construction And Safety Practices: SP 70: 2001)

6. Protection of Trees and Vegetation

The Contractor shall ensure that no trees or shrubs or waterside vegetation are felled or harmed except for those required to be cleared for execution of the Works. The Contractor shall protect trees and vegetation from damage to the satisfaction of the Employer. No tree shall be removed without the prior approval of the Employer and any competent authorities. Should the Contractor become aware during the period of the Contract that any tree or trees designated for clearance have cultural or religious significance he shall immediately inform the Employer and await his instructions before proceeding with clearance. In the event that trees or other vegetation not designated for clearance are damaged or destroyed, they shall be repaired or replaced to the satisfaction of the Employer, who shall also impose a penalty of twice the commercial value of any timber affected, as assessed by the Employer.

7. Water Supply

The Contractor shall make his own arrangements at his own expense for water supply for construction, sectional testing if any and other purposes.

8. Relations with Local Communities and Authorities

In setting and operating his plant and facilities and in executing the Works the Contractor shall at all-time bear in mind and to the extent practicable minimize the impact of his activities on existing communities. Where communities are likely to be affected by major activities such as road widening or laying of utility lines or the establishment of a camp, large borrow pit or haul road, he shall liaise closely with the concerned communities and their representatives and if so directed, shall attend meetings arranged by the Employer to resolve issues and minimise impacts on local communities.

9. Fire Prevention

The Contractor shall take all precautions necessary to ensure that no vegetation or property/ies along the line of the road outside the area of the permanent works is affected by fires arising from the execution of the Works. The Contractor shall obtain and follow any instructions of the competent authorities with respect to fire hazard when working in the vicinity of gas installations. Should a fire occur adjacent to the project road for any reason, the Contractor shall immediately suppress it. In the event of any other fire emergency in the vicinity of the Works the Contractor shall render assistance to the civil authorities to the best of his ability. Any scrub or plantation damaged by fire considered by the Employer to have been initiated by the Contractor's staff or labour shall be replanted and otherwise restored to the satisfaction of the Employer at the Contractor's expense.

10. Interference with Traffic and Adjoining Properties

In case any operation connected with the works necessitates diversion, obstruction or closure of any road, waterway or any other right of way, the approval of respective competent authorities shall be obtained well in advance by the Contractor. In case the Contractor’s operations obstruct access to adjacent properties, the Contractor shall be responsible to provide reasonable temporary access to the affected parties. In case the Contractor fails to provide adequate temporary facilities, this shall be deemed to be an Uncorrected Defect and the Employer shall have the right to engage a third party to correct the Defect and the cost of such correction will be deducted from the Contract Price.

11. Arrangement for Traffic During Construction

10.1 General

The Contractor shall at all times, carry out work on the City/Urban road in a manner creating least interference to the flow of traffic while consistent with the satisfactory execution of the same. For all works involving improvements to the existing urban road, the Contractor shall, in accordance with the directives of the Engineer as well as the Traffic Police, provide and maintain, during execution of the work, a passage for traffic either along a part of the existing carriageway under improvement or along a alternative diversion route. Before taking up any construction, the Contractor shall prepare a Traffic Management Plan for each road and submit it to the Engineer for prior approval. This plan should include inter alia:

A qualified safety officer with support staff to serve as a site safety team
Provision of traffic safety devises as per IRC:SP 55 with the following specifications:

- Signages of retro-reflective sheet of high intensity grade
- Delineators in the form of cones/drums made of plastic/rubber having retro-reflective red and white bands, at a spacing of 5 m along with a reflective tape to be tied in between the gaps of cones/drums. A bulb preferably using solar energy is to be placed on the top of the cone/drum for delineation in the dark hours and night.
- Barricades using iron sheet with adequate iron railing/frame painted with retro-reflective paint in the alternate yellow and black & white stripes. Warning lights at 5 m spacing shall be mounted on the barricades and kept lit in dark hours and night.
- Road markings with hot applied thermoplastic paint with glass beads.
- Safety measures for the workers engaged including personal protection equipment
- First aid and emergency response arrangements

10.2 Passage of Traffic along a Part of the Existing Carriageway under improvement

- For widening/strengthening existing carriageway where part width of the existing carriageway is proposed to be used for passage of traffic, treated shoulders shall be provided on the side on which work is not in progress. The treatment to the shoulder shall consist of providing at least 300 mm moorum layer properly rolled and compacted in a width of at least 1.5 m and the surface shall be maintained throughout the period during which traffic uses the same to the satisfaction of the Engineer.
- After obtaining permission of the Engineer, the treated shoulder shall be dismantled, the debris disposed of and the area cleared as per the direction of the Engineer.

10.3 Traffic Safety and Control

The Contractor shall keep the roadway under construction open to traffic and pedestrian movement with proper drainage arrangement and smooth surface condition. Suitable ingress and egress shall be provided as necessary for all intersecting roads and for all abutting properties. Its purpose shall be to protect people from associated hazards and to prevent trespassing into the construction zone.

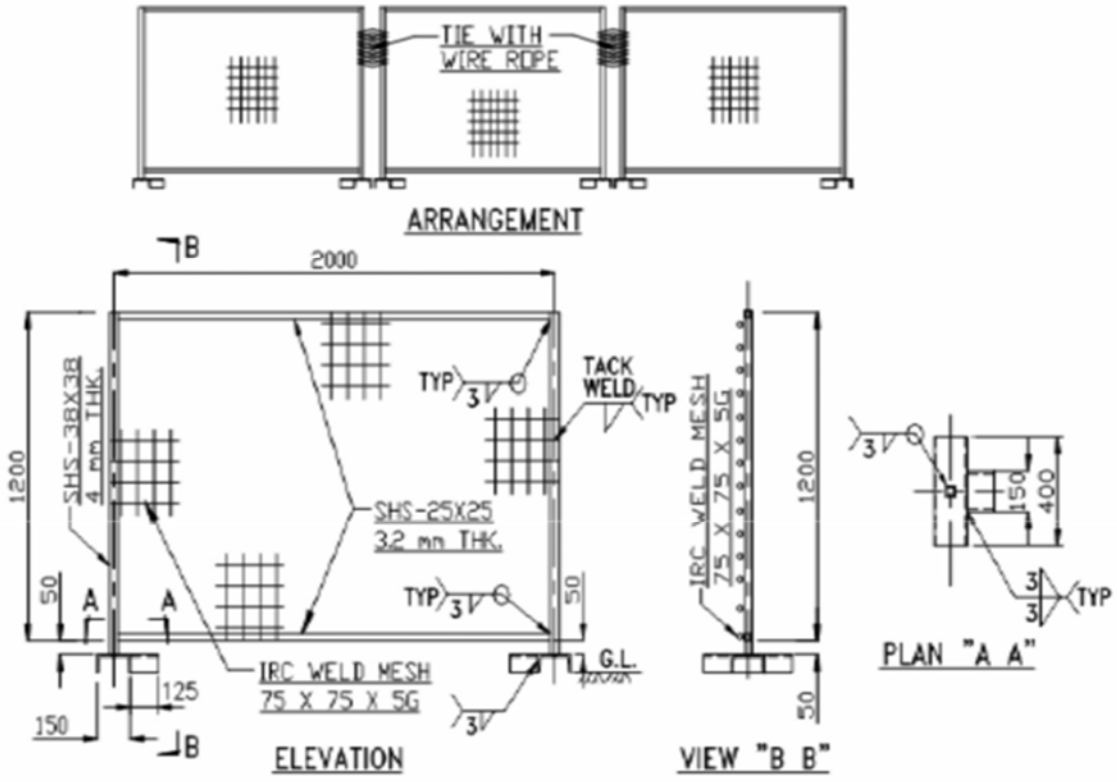
The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs, marking, flags, lights, drums, traffic cones, delineators and flagmen as per the traffic management plan submitted by the Contractor and approved by the Engineer. An agreed phased programme for the diversion of traffic on the urban road shall be drawn up in prior consultation with the Engineer and the Traffic Police.

The Contractor shall keep all signs in proper position, clean and legible at all times.

The barricades erected on either side of the carriageway/portion of the carriageway closed to traffic, shall be of strong design to resist violation, and painted with alternate black and white stripes. On each approach, at least two signs shall be put up, one close to the point where transition of carriageway begins and the other 120 m away. The signs shall be of approved design and of reflective type, as directed by the Engineer. Two persons with red / green flag and whistle to be deputed at both ends of the barricades to regulate traffic. Red lanterns or warning lights of similar type shall be mounted on the barricades at night and kept lit throughout from sunset to sunrise.

At the points where traffic is to deviate from its normal path (whether on temporary diversion or part width of the carriageway) the channel for traffic shall be clearly marked with the aid of pavement markings, painted drums or a similar device to the directions of the Engineer. At night, the passage shall be delineated with lanterns or other suitable light source.

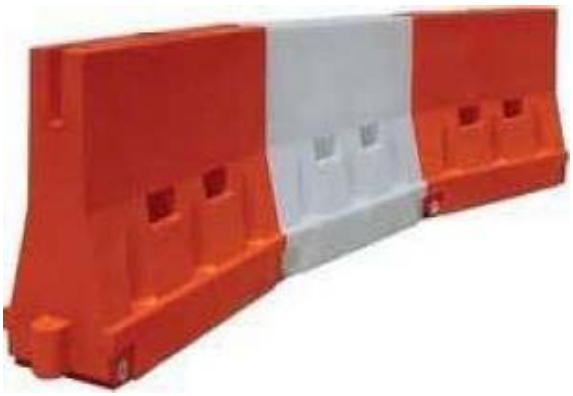
No material to project / spill beyond barricades.
This work item shall include all labour, equipment and services involved in the erection, maintenance, moving, adjusting, cleaning, relocating and storing of signs, barricades, drums, traffic cones and delineators furnished by the Contractor as well as all labour and equipment involved in the maintenance of traffic lanes and detours, for maintenance of traffic.



10.4 Maintenance of Diversions and Traffic Control Devices

Signs, lights, barriers and other traffic control devices, as well as the riding surface of diversions shall be maintained in a satisfactory condition till such time they are required and as directed by the Engineer. Such temporary ways shall be kept free of dust by frequent applications of water.

Examples of some barricading equipment are as below:



12. Transport of Contractor's Equipment or Temporary Works

Where the Contractor intends to use a particular route for the haulage of large quantities of materials he shall consult well in advance with any affected communities and submit in advance for the Employer's approval a plan including but not limited to the proposed route, the existing condition of the pavement and bridges, the estimated number and type of vehicle movements per day, a programme for monitoring the condition of the pavement and structures, and measures for limiting vehicle speeds and dust nuisance in built-up areas. The Employer reserves the right to disallow certain haul routes should these in his opinion cause or be likely to cause unreasonable nuisance or hazards to the public. The Employer's approval will not remove the Contractor's obligations under this Sub-Clause to prevent and repair damage to roads or his liability for compensation for any accidents caused by his vehicles.

13. Work in Monsoon and Dewatering

The execution of the work may entail working in the monsoon also. The contractor must maintain labour force as may be required for the job and plan and execute the construction and erection according to the prescribed schedule. No special/ extra rate will be considered for such work in monsoon. The Contractor's rate shall be considered inclusive of cost of dewatering required if any and no extra rate shall be payable on this account.

14. Site Clearance

Before handing over the work to the Authority, the Contractor shall remove all temporary structure like the site offices, cement godown, stores, labour hutments etc., scaffolding rubbish, left over materials tools and plants, equipments etc., clean and grade the site to the entire satisfaction of the Engineer-In-Charge. If this is not done the same will be got done by GSCDCL at his risk and cost.

15. Site Documents

The following site documents shall mainly be maintained by the Contractor at site:

- Copy of contract documents and drawings.
- Computerized bill format.
- Site Order Book.
- Material testing registers / Quality Inspection Reports.
- Measurement books on computerized format.
- Progress bar chart.
- Sample approval register.
- Hindrance Register.
- Work Diary.
- Deviation/variation order registers.
- Cement consumption register.
- Reinforcement registers.
- Concrete cube test register.
- Slump test register.
- Silt content and sand bulkage register.

16. Safety Guidelines

i. Proper and correct lifting methods shall be adopted.
ii. All lifting tools, tackles and wires ropes etc. shall be of tested quality for safe working loads. Wire ropes shall be of sound construction without any splaying.
iii. It is mandatory for all jobs done at a height of 2.5 M and more to use fall arrestor type safety belts & safety nets.

iv. While carrying out work in confined areas, proper ventilations and lighting arrangement should be made by the Contractor. Adequate precautions shall be taken while the work is in progress to ensure that naked light, fire, welding or any other hot work is not in progress in the vicinity of the area where painting is being carried out.

v. If the work is to be carried out at height, safety of the personnel is of utmost importance. Therefore, all necessary precautions must be taken by the Contractor and he has to obtain work permit from authorized official of GSCDCL for working at height before start the work.

vi. In addition to the above, Contractor has to adhere to the following safety checklist:

A. CIVIL WORKS

- During excavation, the excavated earth must be dumped at a safe distance from the edge of excavation. In no case, this shall be less than 1.5 meters from the top edge of the excavation.
- Safe cross walkways are to be provided at distances not more than 30 meters along a continuous trenching for pipelines etc.
- Hard hats (safety helmets), rubber boots, safety shoes, and hand gloves, etc are required to be provided for supervising as well as other working personnel by the Contractor.
- Keep a watch on buried cables and underground systems. Ladders, gangways are to be provided at convenient places for carrying out required works. Ladders shall be firmly secured to ground and rungs of the ladders shall be properly secured and safe.
- Install Barricading as per IS code with the marking “Gwalior Smart City Works”.

B. ELECTRICAL WORKS

- All temporary electrical connections should be got done to conform to statutory regulations and a certificate obtained from the authorities. The connection and the wiring to be maintained by competent and licensed supervisors and wiremen. As far as possible, the cables are to be safely buried to ensure free access to equipment and machineries movements.
- Hard hats (safety helmets) made out of insulating material to be used by personnel working in 'live' areas like substations, etc.
- Safety boots, necessary hand-gloves as required, shall be used.
- ‘Earthling’ of machineries and equipment shall be ensured. No open/ bare connections allowed. The arrangements should be checked periodically for damages to insulation and loose connections, etc and rectified so that the wiring becomes non-hazardous.
- The areas of working during nights shall be properly illuminated with floodlights and hand- lamps as per the demand of the job.
- Danger signals and safety tags in the live areas shall be demonstrated properly. All connections to be switched off after the working hours.
- Isolation switches and main switches shall be accessible easily. Necessary precautions should be taken while excavating earthing pits.

C. MECHANICAL WORKS

- Hard hats (safety helmets), safety belts, eye goggles, face shields, safety boots, hand-gloves, respirators, etc as required/ directed shall be used.
- Proper, correct and safe lifting methods shall be adopted
- All lifting tools tackle and wires ropes etc shall be of tested quality for safe working loads. Wire ropes shall be of sound construction without any splaying.
- Checks to be exercised for broken wires and core proportion in the main body of the wire ropes to be rejected. Manufacturer’s guidelines/ standards instructions are to be followed for using wire ropes and slings with broken wires. Experience and common sense is of immense help.
- Usage of hoisting belts/ safety belts is must for personnel working at higher elevations.

- Only safe gangways / walkways shall be used for movement of personnel. Short cuts shall be avoided.
- Check connections to headman anchors before hoisting.
- All live wires to be crossed during hoisting shall be made dead near the vicinity of the area during hoisting/ rigging.
- Avoid keeping the loads supported by hoisting equipments for an unreasonable length of time.
- Ropes, cables, and slings must be protected with pads or wooden blocks at sharp edges.

D. GENERAL

- Safety starts from the individual on the job. Experience and common sense shall be generously used. In case of any doubt regarding safety, Engineer–in-Charge can be consulted.
- Proper communication and alertness on the job is to be ensured.
- Manholes and openings for ducts etc shall be kept properly covered.
- Correct tools and tackles should be used for every work. Make shift tools and tackles will result in accidents.
- Fire-fighting equipment shall be placed at designated locations and kept unobstructed.
- Do not use loose clothing, neckties, and etc. while on the job.
- Safety precautions recommended by the manufacturers/ vendors shall be strictly adhered to.
- All machinery, tools and tackles shall be maintained properly, and clearly.

17. Encumbrances in Construction Area, including Trees and Utilities -

1. The Contractor shall be responsible to coordinate with service provider / concerned authorities for cutting of trees, shifting of utilities and removal of encroachments etc. and making the site unencumbered from the project construction area required for completion of work. This will include initial and frequent follow-up meetings / actions / discussions with each involved service provider / concerned authorities. The Contractor will not be entitled for any additional compensation for delay in cutting of trees, shifting of utilities and removal of encroachments by the service provider / concerned authorities. Payment for cutting of trees and shifting of utilities as required by the concerned department shall be made by the Employer. The entire cut material will be property of the Contractor and no cost of such material shall be recovered from the Contractor which shall be appropriately considered by the Contractor in his bid.
2. Drawings scheduling the affected encumbrances such as trees and services like water pipes, sewers, oil pipelines, cables, gas ducts, electricity lines, accessories, telephone poles and OFC cables etc. included in the contract document shall be verified by the Contractor for accuracy of scope.
3. The Employer will make payments to the respective service provider / authorities for cutting of trees and shifting of utilities, wherever required. The Contractor will obtain necessary approval from such Authorities after payments by the Employer and also in cases where payments are not required to be made for such shifting. The Employer will also write to all concerned departments/ service provider organization for expediting and facilitating cutting of trees, shifting of utilities and removal of encroachment etc.
4. Any services affected by the Works must be temporarily supported by the Contractor who must also take all measures reasonably required by the various bodies to protect their services and property during the progress of the Works. It shall be deemed to be part of the Contract and no extra payment shall be made for the same.
5. The Contractor may be required to carry out certain works for and on behalf of the various bodies and he shall also provide, with the prior approval of the Engineer, such assistance to the various bodies as may be authorized by the Engineer.

18. Supply of Colored Record Photographs

The Contractor shall, at his own cost, arrange to take colour photographs at various stages / facets of the work including interesting and novel features of the work as directed by the IMC officials and supply two copies of colour record photographs mounted in the albums including negatives with specification and these shall be kept by Employer.

19. Public Awareness / Information Display

The Contractor shall, at his own cost, arrange to provide, erect and maintain necessary display boards/ banners etc as directed by IMC officials at selection points of project site giving such information as considered necessary for public awareness/ information.

20. Completion Drawings

The Contractor is required to submit the completion drawings (As built Drawings) for the work done by him. However the completion drawings for works done and covered underground, it is essential to prepare the completion drawing as soon as the work is done and before backfilling.

The drawings have to be prepared in digital format in AUTO-CAD, it is therefore made mandatory that the completion drawings of the cross section of road with all utilities, Road Plan, Inspection Chambers, Rainwater Catch pit, L-section of road etc, shall be submitted along with the running account bills for all the works carried out during the period.

The completion drawing should provide adequate data to enable finding the exact location of the system in ground at a later date by any other new person. It should also provide the data related to material, class and size of the line, its depth in ground, Invert Levels and levels in the manholes. The details will be provided from Chainage-wise in details and the plan layout of the roads along with Cross section and L-section on the reference map should be updated and submitted along with the bill. Two hard copies of the drawings will also be submitted along with the soft copy.

21. Execution of work according to Time Schedule

The Bidder shall include in his bid, a detailed construction programme of executing the project, describing broadly the technology and construction methodology major components of the project including traffic diversion plan, deployment of machinery, submission of drawings and design. The programme shall be supplemented with Master Control Network. The employer reserves the right to request for change in Master Control Network after discussions with the successful bidder. Mutually agreed Master Control Network shall form part of the Contract.

The Contractor has to start construction works in the fronts available at particular road site. This shall be planned in close consultation with the Engineer-In-Charge and in coordination with the concerned authorities / departments / local groups.

The Works shall be executed and performed in accordance with the Master Control Network (Work Programme) which shall clearly indicate the interlinking / interdependencies of all the works of the Contract.

The Programme shall be reviewed jointly by the Employer/ Engineer and the Contractor, at least once in a month where-in the hold ups/delays, if any, in the progress of Works, with reference to the agreed Schedule shall be given Special Attention. Necessary modifications (updating / Revisions) of the Programme, within the overall Time for Completion, shall be carried out by mutual agreement between the Employer/ Engineer and the Contractor.

22. Working Procedure

The Contractor shall be required to adopt a Working Procedure based on the following:

- Protection of properties along the project roads and their activities / operations such that these suffer minimum (if any) adverse effects as a result of construction activities.
- Observe all local requirements related to work and traffic restrictions (for example, transportation of material during particular times of a day or week, use of manual labour / smaller vehicles for carriage of material to / from narrow lanes) as may be specified by GSCDCL from time to time.
- Avoid disruption of any public utility network and promptly restore the same in case of any unavoidable disruption at his own cost and time without causing any discomfort to people as well as businesses.
- Provide for all temporary arrangements essential to allow normal operations / living conditions for people as well as businesses.

23. Coordination of Works

Due to the peculiar nature and location of the project, and in view of the objective of proper laying of all utility services, the specialist will need to work simultaneously and ensure proper mutual coordination to avoid any hardships to the community. GSCDCL reserves the right to schedule the order of performance of Work in such a manner as will minimize interference within different works involved. As shown in the table below, three works will be needed to be taken up simultaneously.

<table>
<tr><th>Description of Work</th><th>Implementation Strategy</th></tr>
<tr><td>1. Roads widening / improvement and laying of Footpath, Central Divider, RCC Cable Duct, RCC Pipes for OFC, Telecom Lines and Gas Pipeline, Storm Water Drainage Pipe and Chambers, including appurtenances signages, road markings and adjunct structures.</td><td>Removal of old road in stretches / phases and shifting of electric poles, laying of new CC Road with central divider and storm water drainage pipes and chambers, provide for crossing of utility pipes for future demand at regular intervals, laying pipes for OFC and Gas, construction of RCC Duct, construction of foot-path after laying of utility services.</td></tr>
<tr><td>a. Water supply network (transmission / distribution) including all appurtenances and structures – upto house connections</td><td rowspan="2">Laying of utility services network including structures and appurtenances in designated widths with additional excavation if any after excavation by Contractor 1 for road, proper finishing of chamber / manhole top levels after footpath construction by Contractor 1. New user-end connections, abandonment of old connections / pipes.</td></tr>
<tr><td>b. Sewerage pipes and manholes – upto house connections</td></tr>
<tr><td>c. Power cables (HV / LV), Substations, Distribution Boxes / Feeder Pillars etc. upto house connections and Street-lighting.</td><td>Laying of HV/LV cables in RCC Ducts upto Distribution Boxes / Feeder Pillars, Installation of compact substations, street lighting poles installation. New user-end connections.</td></tr>
</table>

24. Material Storage

All materials shall be stored as per IS:4082.