

AHMEDABAD MUNICIPAL CORPORATION

(PRADHAN MANTRI AWAS YOJNA 2.0)



Tender

For

**CONSTRUCTION OF 816 EWS RESIDENTIAL INCLUDING
INTERNAL INFRASTRUCTURE & DEVELOPMENT WORK AT THE
PLOT AT TP.64 (TRAGAD) FP.131 IN AHMEDABAD CITY
LAT.LONG LOCATION : 23.127857,72.552909**

**A TURNKEY &
BUILDING MATERIAL / TECHNOLOGY NEUTRAL
PROJECT**

VOLUME I - TECHNICAL BID

Municipal Commissioner

**Ahmedabad Municipal Corporation. Sardar Patel Bhavan, Danapith,
AHMEDABAD – 380001**

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Part -1

Instructions to Bidders

AHMEDABAD MUNICIPAL CORPORATION

"Sardar Patel Bhavan", Danapith, Ahmedabad - 380 001.

Tender Notice

Information and instructions for contractors for e-tendering Forming part of NIT and to be posted on website.

Municipal Commissioner invites online tenders from the reputed, experienced firms / contractors / developers for the work mentioned below

1	Name of Work	Construction Of 816 EWS Residential Including Internal Infrastructure & Development Work At three different locations at the Plot at TP.64 (Tragad) FP.131 In Ahmedabad City
2	Estimated cost put to tender	Rs. 86,99,47,800/- (Excluding GST)
3	Eligibility criteria	<p>Contractor registered in "AA" class with A.M.C or registered in "AA" class with Special Category-I Buildings" or equivalent with the Government of Gujarat, other State Governments, semi Government bodies, Central P.W.D. & who have a certificate of registration with Employees Provident Fund Organization and having experience of construction of Residential Building & who have a minimum 5 years of experience in Building construction works and who have completed at least one similar work costing not less than the 40% of the estimated cost.</p> <p style="text-align: center;">OR</p> <p>The developer connected with housing activity satisfying all eligibility criteria except registration certificate can also bid, provided the successful bidders shall apply / produce his registration certificate at the time of agreement.</p>
4	Tender fee	Rs. 18,000/- (D.D. in favour of Municipal Commissioner, Ahmedabad)
5	Earnest money Deposit	Rs. 86,99,478/-
6	Period of completion	24 (Twenty Four) Months
7	Last date & Time of online Submission of tender	Dt.03/07/2026 Up to 18:00 hrs
8	Date of Pre-Bid meeting & Venue	Dt.19/06/2026 at 16:00 hrs. in O/o Additional City Engineer (Housing Project), C-Block, 5 th floor, Sardar Patel Bhavan, Danapith, Ahmedabad Municipal Corporation

9	Online submission of bid documents	Shall be submitted online on or before Dt.03/07/2026 till 18:00 hrs Bidder shall have to submit DD for Tender Fee, DD/BG against EMD and all necessary PQ Documents mentioned in Technical Bid in Electronic format only through online (by Scanning) while uploading the Bid. Any document in supporting of Bid shall be submitted in electronic format only through online by (Scanning etc.) and hard copy will not be accepted separately. (As per Govt. of Gujarat, R&B Dept. G'nagar Circular No.: PRCH-102008-5-S (Part file) dt. 27-11- 2008) After successful selection of Bidder, Technical Bid & Financial Bid shall be submitted in Hard copy by them duly signed by Authorized Signatory affixed with seal upon intimation from AMC.
10	Physical Submission of EMD & Tender fee	Shall be submitted on or before Dt.04/07/2026 till 16:00 hrs. Bidder should submit the Tender Fee & EMD in original at the office of "Assistant Manager (Project), PWA Office, 2nd Floor,C Wing Old Building, Ahmedabad Municipal Corporation, Sardar Patel Bhavan, Danapith, Ahmedabad – 380001 through RPAD or Speed Post or Courier or by Hand Delivery only, in sealed cover duly super scribed with the name of work and tender notice no.
11	Time & date of online opening of technical bid	Dt.06/07/2026 upto 12:00 hrs
12	Time & date of online opening of Price bid.	Will be intimated later on.
13	Amount to be deducted from each bill for labour welfare fund (non-refundable) Welfare cess act 1996	Amount to deducted @ 1% from each RA bill
14	Retention money	Retention money @ 5% of the value of work done will be deducted from Each R.A. Bill. It will be released along with release of payment of final bill.
15	Price Variation	Municipal Commissioner Circular No. 9, Dt. 18/05/12, Clause No. 15 will be applicable. Price Variation bills shall be Stamped and Notarized

1. Third Party Inspection / Project Management Consultant the Client at their Discretion may appoint Third Party Inspectors (TPI) and / Project Management Consultants (PMC) for Betterment of the Project. The Bidders / Bidders are Hereby Informed that they shall be Responsible for following the Instruction given by this Agency / Agencies throughout the Project. If any Discrepancy in the Testing Methodology arises, the Method /Practices Suggested by these Agencies shall be Abiding to the Bidders.
2. Conditional tenders will not be accepted. Municipal Commissioner reserves the rights to reject any or all the tenders in Parts or Full without assigning any reasons whatsoever or to

Split the Tender & Award the Work to One or More than One Technically Qualified Tenderer at L1 Bidder's Rate in the Interest of Public. The Tenderer shall have no Cause of Action or Claim Against.

3. Tenders which do not fulfil all or any of the conditions or are submitted incomplete in any respect will be rejected. The Municipal Commissioner reserves the right to reduce the scope of work and contract without assigning any reason thereof.
4. No advances such as machinery advance, mobilization advance, or materials advance will be given.
5. In case of any dispute or clarification in technical specification or Item Unit of any tender items the decision Taken by Add. City Engineer shall be final.
6. The authorized signatory holding Power of Attorney shall only be the Digital Signatory. In case authorized signatory holding Power of Attorney and Digital Signatory are not the same, the bid shall be considered non-responsive.

➤ **G.S.T. on Materials**

All charge on account of G.S.T. etc. on material procurement or any other component for the works from any source shall be borne by the contractors.

G.S.T. payable by the Contractor under the Contract, or for any other cause as of the date 28 days prior to the deadline for submission of the bids, shall be included in the rates and prices and the total bid price submitted by the bidder and the evaluation and comparison of bids by the Employer shall be made accordingly.

- As per Standing Committee's Resolution, 0.5% testing charges shall be deducted from each R.A. Bill and the Amount of Actual Testing Charges shall be Adjusted in the Final Bill. Even if the Testing Expenses Exceed 0.5% of the Project Cost, the Excess Amount shall be borne by the Bidders, and no Payment shall be made in this Regards.
- The rates to be quoted by the Bidder must be exclusive of GST but inclusive of all other taxes. GST shall be payable extra on the admissible payment as per the approved tender rates; GST shall be payable as per the prevailing rates at the time of payment. (As per Circular No. 38, Dt. 21-11-2022)
- Joint venture and Subcontracting shall not be allowed under this tender.
- **Conditional tenders will not be accepted. Municipal Commissioner reserves the rights to reject any or all the tenders without assigning any reasons thereof.**
- **Tender for Monolithic RCC technology shall not be accepted and contractors are requested not to quote for RCC monolithic technology.**

❖ **The tender may further be disqualified if,**

- i. The Price variation is proposed by the tenderer on any principal other than those

provided in the tender documents.

- ii. The Completion schedule offered is not consistent with the completion schedule defined and specified in tender document.
- iii. The validity of tender is less than what is stated in the tender.
- iv. Any of the page or pages of tender is/are removed or replaced.
- v. All corrections or posted slips are not initialled by tenderer.
- vi. Any erasure is made in the tender.
- vii. Any condition which affects the cost.
- viii. Any statement is missing mentioned in tender.

2. General Information to Tenderers

Name of Work: Construction Of 816 EWS Residential Including Internal Infrastructure & Development Work Within the Plot at TP.64 (Tragad) FP.131 In Ahmedabad City

APPROXIMATE AREA OF SCHEME : 11166.00 m²

ESTIMATED PROJECT COST : Rs.86,99,47,800/-

EARNEST MONEY : Rs.86,99,478/-

TIME LIMIT : 24 (Twenty Four) Months

List of Plots:-

Sr. No.	ZONE	T.P. No.	F.P. No.	Nos. of Story	Plot Area In sqmt.	Total Nos. of Dus	Total Nos. of Shops
1	North West Zone	64(Tragad)	131	P+13 & 14	11166	816	0

1. Estimated cost put up to : Rs. 86,99,47,800/-
tender

2. Tender fee : Rs. 18,000.00 (D.D. in favour of Municipal Commissioner, Ahmedabad) (to be enclosed with the tender documents of part-A)

2. Earnest Money Deposit : Rs. 86,99,478/- to be submitted in the form of Bank Guarantee of Approved Bank valid for 180 days. (to be enclosed with the tender documents of part-A)

3. (A) Security Deposit : Contractor shall furnish a Security Deposit @ 5% (five percent) of the contract value, in form of bank guarantee of approved bank at the time of signing the contract.

(to be submitted on award of work)

(B) Performance Bond : Performance Guarantee @ 5% of actual work done amount in form of Bank Guarantee of approved bank. (To be submitted on completion of work & before final bill payment) Bank guarantee will be released as below

Signature of Contractor

- After 3 years of completion - 2.5 %
 - After 5 years of completion - 2.0 %
 - After 10 years of completion - 0.5 %
- provided that there is no defect detected within the said periods

- (C) Retention Money : Retention @ 5% of the value of work done will be deducted from Each R.A. Bill. It will be released along with release of payment of final bill.
4. Mode of sending the tenders. : Online submission of required minimum documents for qualification criteria.
5. Tender validity period : 180 days
6. Time of completion : 24 (Twenty Four) Months Time limit starts from the date of work order given / actual possession of plot/Environmental Clearance Certificate/Commencement Letter Received whichever is later.
7. Defect liability period : **10 (Ten)** years after receipt of Building Use Permission.
- 7 (A) Building Insurance : **5 (Five)** Years Building Insurance (Standard Insurance Company) taken by Bidders
8. Compensation for delay : After completion of original/extended time limit 10 % of the amount of remaining works shall be charged as liquidated damages (penalty) or the amount as decided by Municipal Commissioner.
9. Date of receipt of tender in physical (ie; Tender Fee & EMD) by RPAD /speed post /courier/ hand delivery. : Dt. 04/07/2026 upto 17.00 hrs
10. Place of receiving Tender Copies : Asst. Manager (Project) / PWA Office, 2nd floor, C-wing old Building, Ahmedabad Municipal Corporation, Sardar Patel Bhavan, Danapith, Ahmedabad, 380001 .
11. Water, Electricity : Contractor shall have to make his own arrangements for water and electricity for the purpose of construction work at site at his own expense.
12. Tenders which do not fulfill all or any of conditions or are submitted incomplete in any respect will be rejected. Municipal Commissioner Reserves the rights to increase / decrease the scope of work and contract without assigning any reason thereof. No claim to that effect shall be entertained.
13. No advance such as machinery advance, mobilization advance or materials advance will be given.
14. Conditional tenders will not be accepted and will be rejected outright.
15. The contractor shall get the electrical works executed through the authorized Government approved / licensed electrical person or firm in appropriate category in accordance to contractual provisions.

16. The Civil & Electrical works shall be carried out strictly in accordance to the directives issued by the Engineer in charge.
17. The quantity of carpet area in BOQ may vary and also, the plot/location of the proposed site may change in accordance with the circumstances. If plot in tender changes, new plot of similar topography shall be given & if in new plot any extra quantity in development / earth filling is to be executed, same shall be paid at the current SOR rate with prior sanction by Municipal Commissioner.
18. The tenderer shall not without the consent in writing of the Addl. City Engineer assign or sublet the contract nor make any subcontract with any person or persons for the execution of the any portion of the work other than for raw materials or for any part of the work of which the manufacturers are named on his contract.
19. In case of any dispute or clarification in specification of any tender items the decision of Addl. City Engineer shall be final.
20. All the bidders are requested to visit all the sites. The rates of tenders should be quoted such that expenditure to be done for leveling, removing debris and demolition of existing structure if any, should included in the quoted rate. No extra payment should be given for such items.
21. **Project Vehicle:-** One four wheel vehicle preferably having model 2023 or later, with A.C. shall be provided to the employee of AMC for site supervision of the work. The cost of running, maintenance, fuel, driver salary, insurance with sole responsibility etc. complete will be borne by the contractor. The vehicle shall be required at anywhere and at site of Housing Project for the use of project implementing Unit / Housing Project department. The vehicle will run throughout the period of contract including Sundays / holidays. The vehicle must be handed over to AMC with prior approval of engineer in charge within 15 days from the work order is issued till the completion period of the work. Penalty of Rs. 1200.00 per day will be deducted for not providing vehicle. If vehicle is not demanded by department, Rs.40,000.00 per month will be deducted from RA bills. The vehicle will be required for travel to and fro between any places in Ahmedabad to any place in Ahmedabad or as required by AMC.
22. ALL Charges for obtaining electrical services for DUs, shops, common services, shall be borne by contractor and all procedure & liaison work have to be carried out by the contractor. If as required by Torrent Power, electrical substation & transformer station is to be constructed, the payment for construction of electrical substation will be given on carpet area constructed.
23. All Charges for obtaining PNG (Gas) services for DUs, shall be borne by contractor and procure & liaison work have to be carried out by the contractor.
24. The contractor shall install roof top solar system as per prevailing provision of CGDCR and as per Environment NOC. The system should be installed such that generated solar energy is to be used in common amenities of society like (common light, street light, lift, bore for water supply, UGT pump for lifting water to OHT& other pumps). Roof top solar system shall be installed with automatic solar panel cleaning system.

25. At least 50 % of the campus lights should have solar LED lights. Contractor has to take care for O & M of solar system for 3 years. And all expense for Torrent/GEB, solar panels its Installation charges borne by contractor and O & M will be borne by association of beneficiary from their monthly share (society association).
26. If more than 20,000 sq.meter builtup area in plots, The contractor should construct/Install waste converter (OWC) of sufficient capacity. The system should be fast, efficient, easy to install and requires minimal training for operation. The process should be simple and the raw compost is free from bad odor upon treatment. The contractor should be calculate at least 700 to 750 gms. organic waste per dwelling units and organic waste converter will has to installed. Contractor has to take care for O & M of OWC system for 3 Years and expense for this O &M (including Electric charges) will be borne by association of beneficiary from their monthly share (society association). And If More than 25 meter height of the building, The contractor should Install D.G.set in plots of sufficient capacity or as per CGDCR Norms.
27. After completion of the work and handing over the DUs to beneficiaries, contractor shall have to register Co-Operative Housing Society of the beneficiaries per Max. 300 DUs; all the process of Society Registration shall be done by contractor and all charges shall be borne by the Contractor. After providing Registration Certificates Performance Bond will be released as per the norms.

IMPORTANT INFORMATION FOR TENDERERS

1. Contractors who fulfill eligibility criteria & the following requirements shall be eligible to apply.
2. The tender documents consisting of general specifications to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen at the website www.tender.nprocure.com free of cost. Those contractors not registered with the website www.tender.nprocure.com are required to get registered before submitting the tender online. If needed they can be imparted training on tendering process as per details available on the website www.tender.nprocure.com
3. Tender fee of RS. 18,000/- In form of D. D. In favour of Municipal Commissioner, Ahmedabad and **Earnest Money Deposit of Rs. 86,99,478/-** in form of bank guarantee from Approved Bank valid for 180 days.
4. (i) Tender fee and Bank Guarantee shall be placed in single sealed envelope superscripted as "Earnest Money Deposit, Tender fee with name of work and on due date of opening of the bid" mentioned there on and will submit to tender opening authority on stipulated date and time.
(ii) Bidder shall have to submit all necessary PQ Documents mentioned in Technical Bid in Electronic format only through online (by Scanning) while uploading the Bid. Any document in supporting of Bid shall be submitted in electronic format only through online by (Scanning etc.) and hard copy will not be accepted separately. (As per Govt. of Gujarat, R&B Dept. G'nagar Circular No.: PRCH-102008-5-S (Part file) dt. 27-11- 2008) After successful selection of Bidder, Technical Bid & Financial Bid shall be submitted in Hard copy by them duly signed by Authorized Signatory affixed with seal upon intimation from AMC.

5. The technical bid shall be opened first on due date and time as mentioned above. The time and date of opening of financial bid of contractors qualifying the technical bid shall be communicated to them later on.
6. Pre-Bid tender conference shall be held in the Office of the Additional City Engineer (Housing project / SNP) Ahmedabad Municipal Corporation, Sardar Patel Bhavan, Danapith, Ahmedabad, 380001, at date and time mentioned above to clear the doubt of intending tenderers.
7. The Municipal Commissioner reserves the right to reject or accept any or all tenders without assigning any reason whatsoever.
8. **Part-“A”** shall be opened online on the date of opening of technical bid i.e. on a specified time and date as per schedule in the office of The Assistant Manager (Project) / PWA Office, 2nd floor, C-Wing Old Building, Ahmedabad Municipal Corporation, Sardar Patel Bhavan, Danapith, Ahmedabad - 380001 in the presence of intending tenderers or their authorized representatives.
9. **Part-“B”** containing technical bid of tenders who satisfied eligibility criteria shall then be opened online on a specified time and date as per schedule.
10. **Volume-II - CONTAINING FINANCIAL BID:-**
Financial Bid to be submitted online only.
11. Financial Bid of only those contractors whose technical bids as in Part B are found acceptable by the department shall be opened online.
12. The time and date of opening of financial bid of contractors qualifying the technical bid shall be communicated to them later on.
13. After opening of technical bid, if certain clarity required, it will be intimated to the contractor and it should be clarified by contractor within 48 hours, if not department will take appropriate decision.
14. Consignee and Buyer shall be same for the material procured for the construction of this work.

3.LIST OF DOCUMENTS REQUIRED TO BE SUBMITTED

PART-A

1. The Demand Draft of Tender fee & EMD in form of Bank Guarantee of Approved Bank
2. Bank solvency certificate (20% of project cost not older than six months).
3. Full audited financial statements for FY 2021-22, FY 2022-23, FY 2023-24, FY 2024-25 & 2025-26 are required for verification.
4. The average net worth should not be less than 12% of the estimated project cost during last 3 Consecutive financial years ,ending 31st March of the previous financial year.
5. CA certificate showing turnover from construction works for FY 2021-22 to FY 2025-26 are required.
6. Statement of “Projects under execution “ is required for verification.
7. Work order for all the works mentioned in “Projects under execution “clearly specifying the tender amount is required.
8. Latest RA bills or Form-3A for all the works mentioned in Form D “Projects under execution” are required for verification.
9. Form-3 filed for RERA registration of the private projects mentioned under “Projects under Execution” is required. Also, recent quarterly returns filed on the RERA portal to support the amount of work executed in these private works are required.

PART-B (TECHNICAL BID)

1. Specifically for this work list of technical persons proposed to be deployed on the work should be submitted with their name, experience & qualifications.
2. Any other relevant documents as desired by the tenderer.
3. Quality Assurance plan.
4. Method statement-indicating the methodology proposed to be used for construction of houses.
5. Proposed program (BAR CHART) schedule for execution of work.
6. Centering and shuttering to be used for high rise building should be specified.
7. Audited balance sheet of last five financial years.
8. Financial information including annual turnover & net worth.
9. Certificate of work experience (duly authenticated by client)
10. Documents of eligibility criteria (including Form A-H).
11. All the additional certifications related to alternative building materials/technology.

4. ELIGIBILITY CRITERIA

Prior to detailed evaluation of Bids, the Employer will determine whether each bid :-

- a. meets the eligibility criteria defined in Clauses 3,
 - b. has been properly signed by an authorised signatory (accredited representative) holding Power of Attorney in his favour. The Power of Attorney shall inter alia include a provision,
 - c. is accompanied by required Bid securities and,
 - d. is substantially responsive to the requirements of the Bidding Documents.
- i. The firms/ contractors/developer, as aforesaid shall be eligible to apply who will be able to meet the following eligibility criteria. (Turnover and net worth will be considered for bidders entity only)
- a) The average annual financial turnover during the last 3 years ending 31st March 2026 should not be less than 30% of the estimated amount put to tender
 - B).The average net worth should not be less than 12% of the estimated project cost during last 3 Consecutive financial years ,ending 31st March of the previous financial year.
- Experience of having successfully completed similar nature of works as a prime contractor ending last day of the month previous to the one in which bids are invited should have completed one similar work of aggregate cost not less than the amount equal to 40% of estimated cost put to tender.
- Substantially completed works means those works which are at least 90 % completed as on the date of submission (i.e. gross value of work done up to the last date of submission is 90% or more of the original contract price) and continuing satisfactorily. For these, a certificate from the employers shall be submitted along with the application incorporating clearly the name of the work, contract value, billing amount, date of commencement of works, satisfactory performance of the contractor and any other relevant information.
- (NOTE: Similar works means should have at least constructed Residential building/ Institutional Buildings/ Commercial Buildings works of at least G+5 or P+5 storied or 18.00 mt height having RCC Columns, beams, slab in immediate last 5 consecutive years as main contractor (work executed as a sub-contractors and the work executed through any other contractor will not be considered).
- ii. Should have a bank solvency of the amount equal to 20% of the estimated cost of composite work issued by the Bank as per attached list. The solvency should not be more than six month old. Bank Solvency certificate should have been issued within 6 months from the last date of the online submission of the bid.
 - iii. Following enhancement factors will be applied to annual turnover and completion cost of works to bring them to the base year. The current financial year in which bid is invited shall be considered as the base year.

Year	Financial Year	Enhancement factor
Base year	2026-27	1.0
1	2025-26	1.1
2	2024-25	1.21
3	2023-24	1.33
4	2022-23	1.46
5	2021-22	1.60

- iv. The bidding capacity of the contractor should be equal to or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula: Bidding Capacity = $[A \times N \times 2] - B$ Where,

A = Maximum value of construction works executed in any one year during the last five years taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of work for which bids has been invited.

B = Value of existing commitments and ongoing works and LOI issued to be completed during the period of completion of work for which bids have been invited.

The initial criteria prescribed above in respect of experience of similar class of work completed, bidding capacity and financial turnover etc. will first be scrutinized and the bidder's eligibility for the work to be determined.

- v. Contractor registered in "AA" class with A.M.C or registered in "AA" class with Special Category-I Buildings" or equivalent with the Government of Gujarat, other State Governments, semi Government bodies, Central P.W.D. & who have a certificate of registration with Employees Provident Fund Organization and having experience of construction of Multi Storied Residential Building & who have a minimum 5 years of experience in Building construction works and who have completed at least one similar work costing not less than the 40% of the estimated cost with good quality and workmanship in the last 5 years and who have an average annual turnover in the last three financial years should be more than 30% of the estimated cost.
- vi. The developer connected with housing activity satisfying all eligibility criteria except registration certificate can also bid, provided the successful bidders shall apply / produce his registration certificate at the time of agreement.
- vii. Only one type of JV is allowed for the contractor, which is between the technology provider and the contractor himself. In this case, the contractor should submit all the documents regarding the technical & financial eligibility (Form A to I), whereas the technology provider should submit all the certificates related to the construction technology.

The bidders qualifying the initial criteria as set out above will be evaluated for the following criteria by scoring method on the basis of details furnished by them.

The said details to be submitted on prescribed forms appended with tender documents, detailed as under:

(i) Financial information	Form A
(ii) Solvency certificate from scheduled bank	Form B
(iii)Details of multistory building work completed during last 5 consecutive years	Form C-I
(iv) Details of multistoried building works completed with prefab/any other approved Technology during last 5 consecutive years	Form C-II
(v)Details of work awarded or under execution	Form D
(vi)Performance report of works referred in form C-I,C-II&D should be duly authenticated/certified by an officer not below the rank of EE or equivalent (In case of Developer for private work, certified by client / developer / self certified) should be furnished separately for each work completed or in progress.	Form E
(vii)Details of structure and organization	Form F
(viii)Details of technical & administrative personal to be employed for the work	Form G
(ix)Details of construction Plants, equipment etc. likely to be used in carrying out this work.	Form H

The department, however, reserves the right to restrict the list of such qualified contractors to any number deemed suitable by it.

Even though the bidders meet the qualifying criteria, they are subject to be disqualified if they (Applicant or any of its constituent partner/s, directors) have:

- a. Made misleading or false representations in the forms, statements, affidavits, and attachments submitted in proof of the qualification requirements; and/or been debarred or terminated or blacklisted by Central Govt. organization /State Govt. organization/AMC/Any Municipal Corporation / ULBs etc.
- b. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc. and/or
- c. Participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the employer.
- d. Colluded with other prospective bidders for this work to arrive at quoted prices for the purpose of restricting competition; and/or
- e. Indulged in inducement of any official of AMC and/or their consulting engineer and other advisors in any manner whatsoever; and/or
- f. Not submitted anti-black listing affidavit as per Annexure-III.
- g. Not submitted tender documents volume-1 and 2 in original and duplicate copy physically.
- h. If, any of the directors, partners or the proprietor has a criminal history or has been convicted by any court of law for any of the offenses under any Indian laws.

- i. If, any criminal proceeding is pending in any court of law in India against any of the directors, partners, or a proprietor and if any such proceeding culminates into conviction.

Note: All aforesaid form must bear the signature of firm/contractor.

- viii. The firm/contractor must be legally entitled for carrying out construction of building works.
- ix. Tenderer must ensure giving complete information on form's mentioned above along with their digital signatures wherever required on form of submission of tender. In case, any deficiency noticed after opening of tender then no opportunity will be provided to tenderer to make good the same and the firm/contractor shall be considered ineligible.

The agency who has executed housing with Technology / any other approved technology other than traditional fulfilling the above criteria is also eligible. No extra mark shall be allowed for Technology / any other approved technology over traditional Technology. In any case the technology proposed by bidder must be in conformity with the approved Codes, Standards and Specification in India.

Tender for Monolithic RCC technology shall not be accepted and contractors are requested not to quote for RCC monolithic technology.

If any information furnished by the tenderer is found incorrect at a later stage, he shall be liable to be debarred from further tendering and taking works in AMC. The Department reserves the right to verify the contents /particulars furnished by the tenderer independently including out inspection of works completed by them.

Municipal Commissioner reserves the right to issue / not issue work of more than two packages to any single bidder even if bidder is lowest and with adequate bidding capacity.

Municipal Commissioner also reserves the right to reject any application/tender without assigning any reasons.

5. METHOD OF SUBMISSION OF TENDER

Name of Work: Construction of 816 EWS Residential Including Internal Infrastructure & Development Work Within the Plot at TP.64 (Tragad) FP.131 In Ahmedabad City

The contractor is to submit the tender in the following separate sealed covers:

Volume-I Part- A:

- i. The Demand Draft for Tender fee.
- ii. Earnest Money in the form of irrevocable Bank Guarantee which will remain in force upto and including the date 180 days after the dead line for submission of tenders.
- iii. Bank solvency certificate (20% of project cost not older than six months).

Volume-I Part- B:

Technical Bid containing all the documents information as detailed at page No-12, 13 Technical proposal shall be submitted by the tenderer in Part- “B”.

Volume-II : Financial Bid to be submitted online only.

The contractor should ensure that the rate/ cost quoted should appear only in the financial bid and nowhere else.

The Volume-I Part- ‘A’ containing the documents and earnest money deposit shall be opened online on a specified date and time as per schedule in the office of The Assistant Manager (Project) / PWA Office, 2nd floor, C-Wing Old Building, Ahmedabad Municipal Corporation, Sardar Patel Bhavan, Danapith, Ahmedabad – 380001 in the presence of intending tenderer or their authorized representatives.

Volume-I Part- ‘B’ containing technical bid of tenderers whose documents (Tender fees and EMD) as listed in **Part A** are found acceptable shall then be opened online on a specified time and date as per schedule.

The Volume-II Financial Bid of only those contractors whose technical bids are found acceptable by the department shall be opened online. The time and date of opening of financial bid of contractors qualifying the technical bid shall be communicated to them later on.

CERTIFICATE

The following certificates are to be submitted along with the building plans:

1. It is certified that structural design including safety from natural hazards like seismic, wind, fire etc., as per N.B.C./B.I.S. has been prepared by duly qualified structural Engineer.

i) Signature of the contractor/developer with date _____
Name in Block Letters _____

iii) Signature of the structural engineer with date _____
Name in Block Letters _____
Address _____
Regn. No. _____

6.SCOPE OF WORK

Following details are provided to the bidder with tender documents

- a. Unit plan
- b. Typical floor plan, parking and terrace plan
- c. Lay out plan with development
- d. Elevation and Sections
- e. Cluster plan
- f. Soil investigation data of plot

The work shall be executed on Turnkey basis from conception to commissioning services including all necessary engineering survey, soil investigation data, construction, structural designing, and method of erection in accordance with layout plan and detailed structural drawings will be approved by AMC. (Architectural design and soil investigation data will be provided by AMC)

1. Scope of work contained in the paragraphs mentioned below is only indicative and not exhaustive. In addition the contractor shall be responsible for executing all items required for completing the houses in all respect to make the dwelling units habitable and ready for occupation including all services, environment-fit for habitation with electrical, landscaping works complete as per direction of Engineer-in-charge.
2. The contractor will have to construct according to the layout plan and detailed architectural drawings of AMC.
3. Successful contractor will have to mandatorily get the detailed soil investigation as per relevant IS code, NBC 2005 etc. as applicable through any approved lab. The department may verify the results submitted by the contractor, if needed.
4. Prepare complete structural design, structural drawing for foundation, super structure and for other related structures in the housing pocket i.e. UGRs, pump houses etc. to be provided in this housing scheme as per provision contained in IS code/ relevant codes. It is advisable to get verification of soil exploration data attached herewith the tender documents.
5. Provision of protection against seismic forces as per relevant IS codes for structure in Gujarat.
6. The structural drawing shall be approved by AMC. If any modification in design/ drawing as per R & B guideline is needed, due to site conditions, the agency shall do/ redo itself without any extra cost. The decision of the Municipal Commissioner shall be final and binding. No claim what so ever will be entertained in this regard.
7. Construction includes construction and finishing of the flats complete as well as related structure in this housing pocket as per specifications provided by AMC.
8. Planning, preparing drawing for internal services and execution of the same i.e. internal sanitary work, water supply work, drainage system etc. complete for the building including all pipes, its fittings, testing etc. complete.
9. **Water supply:** water supply lines will be laid as per scheme prepared, submitted by the contractor and approved as specified by AMC.

- A) UGR of the required capacity/ of the quantity approved by AMC.
- B) construction/ installation of underground reservoirs, water gallery pump houses for water supply, for fire-fighting tank including installing of pumps, standby pumps, etc. as per approved drawings/ specifications or as directed by Engineer-in-charge.
- C) Pumping arrangement from UGR to OHT of each block shall have to provide by contractor.
- D) External water supply infrastructure arrangement within the premises (including water pipeline from UG tank to AMC's supply line on TP road) shall have to be provided by the contractor. One or more bore of sufficient capacity to fill UG tank within 8 hours shall be provided by contractor for domestic water supply in every plot as per concern with department. Also if the bore well used during construction work by the contractor, all the pump sets/pipes/cables etc. will have to replaced with new by the contractor and warranty shall be start from the date of handover/possession of the houses. Nothing extra shall be payable.

SEWERAGE:

- 10. Refuse area will be constructed in the plot as per instructed by AMC.
- 11. Internal storm water drains to be designed and constructed with Rain water harvesting system as per approved norms. Responsibility of getting storm water drain approved is included in the scope of work/tender.
- 12. Planning, designing and execution of all services like water supply, rain water harvesting system, sewerage, drainage system, roads, paths and all connected sub structures and super structures within the premises, as per bye laws and norms of the AMC including making connections with the peripheral services after getting the services design approved from the AMC. In case of water supply and sewerage, the responsibility of getting the scheme approved from service provider (Municipal Corporation/ULB) is included in the scope of work/ tender apart from internal and external water supply/ sewerage & drainage lines to be laid to make the system of water supply and sewerage and drainage functional/ complete. Infrastructure outside the plot shall be provided by AMC. It is also clarified that scope of work/ tender includes cost of getting the services approved from the services provider as aforesaid and the services charges including supervision charges, if any, payable to the service provider. The cost of deficiency charges and rectifications of any defect at the end of the job is also to be borne by the contractor. Planning designing and execution of the roof top rain water harvesting system for recharge the sub soil water including laying of pipe lines and construction of substructure/ super structures.
- 13. The broad scope of work for Tertiary Sewage Treatment Plant for reuse of treated sewage for Toilet Flushing Water and Gardening shall consists of;
 - a. Detailed engineering design of all plan areas, section, mechanical, electrical and piping systems according to the current and applicable BIS codes as applicable. The proposed plans of the TSTP shall be subject to the approval of the Consultant.
 - b. The execution of the Civil & Structural Works shall be done by contractor as per approved plan, section & details submitted by contractor.
 - c. Design, manufacture, assembly, installation, testing and commissioning of the main treatment units like tanks, mechanical equipment for the Tertiary Sewage Treatment Plant (TSTP) of capacity and design parameters given in this tender elsewhere.
 - d. The tenderer may propose Packaged Containerized TSTP in the tender with proven technology, subject to approval by AMC.

- e. The maximum plot area provided for TSTP shall be 400 sq.mt. only.
 - f. Drain channel, sump with a drainage submersible pump with pipe work, valves and discharge pipe up to nearest collection tank in plant area shall be provided.
 - g. The work also includes:
 - a) Mechanical & Electrical works
 - b) Piping as specified.
 - c) Testing, commissioning and operation of plant with water and under load conditions.
 - h. NOC (No Objection Certificate) from State Pollution Control Board and any other statutory authority whose approval is required. The all the correspondence shall have to be carried out by contractor at its own. Only necessary legal fees shall be borne by AMC.
15. All equipment and the entire installation shall be guaranteed against defective materials and workmanship for a period of 36 months reckoned after successful commissioning of system along with the documentation. Rectification or repair may be permitted in case the defect is of minor nature.
 16. Contractors have to provide / construct the recycling biodegradable waste using composting technique plant of sufficient capacity at every plot. The design of that plant shall be done by contractor and approved by authority. All equipment and the entire installation shall be guaranteed against defective materials and workmanship for a period of 36 months reckoned after successful commissioning of system along with the documentation. Rectification or repair may be permitted in case the defect is of minor nature.
 17. Landscaping: Preparation of landscaping plan including parks, plantation and execution of the same with following:
 - i) The development of park: - water hydrants, grassing creeper planting trees etc. complete as per Municipal Corporation norms as per specification and drawing approved by the competent authority of AMC.
 - ii) Complete leveling/ dressing including filling of earth, its supply, disposal of surplus earth, (if any) shall be the property of AMC & will be disposed to the approved disposal point or at the place as directed by engineer in charge. No extra payment for disposal shall be allowed.
 18. Planning, designing and construction of boundary wall for the whole scheme area, MS gate, According to MRF (Material Recovery Facility) contractor have to provide dustbin for dry & green waste separately for each block also, sign boards, guide map, location board, direction boards, numbering of housing etc. all complete as per drawing approved by AMC.
 19. Setting of testing laboratory at site, equipped with apparatus needed for testing during construction as per the list of laboratory equipments annexed with the NIT. 70% of the material shall be tested on site ,20% shall be tested in private govt. approved lab, and rest 10% shall be tested in Government lab
 20. Taking all precautionary measure to safeguard against any accident for the contractors employees, general public, supervisory staff of AMC by providing necessary safety equipments, helmets and MS sheet barricading etc. at work site. The site has to be kept clean all the time of all debris, rubbish, dirt & surplus/waste material.
 21. De-silting will also be done by the agency before handing over the completed housing pocket to AMC. All machine, equipment and labour for this purpose will be arranged by

contractor.

22. The Contractor will submit the model for layout of the project specifying details provided in layout along with in the tender documents in one month from stipulated date of start. He will also submit a model of modules of houses specifying all floors and its adjoining area. The scale of module shall be in appropriate scale with reference to size of plot.
23. Contractor will erect batch mix plant (minimum 18 cum/hr) fully automatic, computerized for preparation of Design mix concrete as per IS code at his own cost and will prepare all concrete accordingly. If site situation and site condition will not permit space for batch Mix Plant then contractor may allow to use one grade higher concrete with prior concern to AMC Authority for construction work.
24. Internal & external electrification work as per specification given in the tender document & directions of AMC as per scope of work & specifications appended with the NIT which includes L T supply, water supply arrangement, fire-fighting, lifts and DG sets, for both the interior and exterior of buildings.
25. Agency has to obtain labour license from Gujarat labour welfare board.
26. Defect liability period would be uniformly ten years from the date of completion of the project in all respect & fit for occupation. However maintenance of other building activities, such as cleaning, sweeping of pocket & de-silting of sewer lines, S.W. Drain shall be done only once prior to handing over the respective pocket. The maintenance will be only limited to removal of defects noticed in the works carried out by the agency during defect liability period. Repair and maintenance of lift and all the pump sets of bore well, underground sump & Fire tank shall be the responsibility of developer for at least 1 year after handing over possession of houses. Thereafter beneficiaries association will maintain the lift service. Nothing extra shall be payable.
27. The final ground level will be decided soon after actual start of work to avoid water logging at site. Plinth level of the houses shall be **minimum (+) 650 mm above** the nearby highest finished road level. Changes, if any, would not affect the agreed rates and no claim on this account shall be entertained.
28. The scope as described above is only indicative and not exhaustive. In additions to the above the contractor shall be responsible for executing all the items required for completing the houses in all respect to make the dwelling units habitable and ready for occupation and also all services, make the environment fit for habitation with electrical, horticultural, rain water harvesting works complete as per direction of Engineer-in-Charge.

The above scope of work includes cost of all materials, manpower, equipments, T&P fixtures, accessories, royalties, taxes, watch & ward, and all other essential elements for completion and maintenance of works as aforesaid whatsoever the approval accorded by AMC before acceptance of tender is only for tender evaluation. Any change, modification, revision etc. required to be done by AMC, proof consultants etc. in accordance with applicable standards and tender document will have to be done at contractor's cost and nothing extra shall be payable.
29. Stipulated time limit, to complete the entire work fit for habitation is as per Tender notice. Time limit starts from Date of clear possession of site and after obtaining Commencement Letter from authority.

7. DEVELOPMENT DETAILS.

All development details related to site, planning and Architectural drawings are hereby provided in attachment. Also plot information is attached therein.

Other planning Norms as per the chapter on “affordable housing” in the GDCR of DP 2021 notified by AUDA.

*****Carpet area** means net usable area of each individual unit and bidder has to quote the rate per sqm. of carpet area.

The *****built up area** includes carpet area + walls + stair portion + lift + passage area only. (Not includes parking slab, stair cabin, security cabin, water pumping station, fire station, electric substation etc. to be executed as per requirement).

General planning and finishing should be such that enhances overall salability and livability. Initial municipal/Local authority charges except development fees will not be charged. All other fees and charges except deposit will be borne by the bidder. Fire safety norms shall be followed as per GDCR.

The developer/contractor should also maintain the following components (to be scrutinized by the competent authority) in the design as per the GDCR, town planning norms & benchmarking standards set by the competent authority.

8.ABBREVIATION USED IN THIS SPECIFICATION (CIVIL) WORKS.

Sr. No.	Abbreviation	Details
1.	A.M.C.	Ahmedabad Municipal Corporation
2.	G.W.S.S.B	Gujarat Water Supply & Sewerage Board
3.	Specification	Government of Gujarat R & B department General Technical Specifications for Building Works, and CPWD specification 2009 Vol.I & II with up to date correction slips.
4.	B.S.N.L.	Bharat Sanchar Nigam limited.
5.	C.D.O.	Central Design organization.
6.	I.I.T.	Indian institute of Technology.
7.	E.I.L.	Engineers India limited.
8.	N.B.C.C.	National Building construction Corporation Limited.
9.	LIG	Lower Income Group
10.	W.C.	Water Closet
11.	G.I.	Galvanized iron.
12.	S.C.I.	Sand Cast iron.
13.	U.G.T/R	Underground Storage Tank/Reservoir
14.	C.C.1:1.5:3	Cement concrete 1:1.5:3 i.e. 1 cement:1.5 coarse sand:3 graded stone aggregate of approve nominal size.
15.	C.C.1:2:4	Cement concrete 1:2:4 i.e. 1 cement:2coarse sand:4 graded s tone aggregate of approved nominal size.
16.	C.C.1:3:6	Cement concrete 1:3:6 i.e. 1 cement:3 coarse sand:6 graded stone aggregate of approved nominal size.
17.	C.C.1:4:8	Cement concrete 1:4:8 i.e. 1 cement:4 coarse sand:8 graded stone aggregate of approved nominal size.
18.	C.C.1:5:10	Cement concrete 1:5:10 i.e. 1 cement:5 coarse sand:10 graded stone aggregate of approved nominal size.
19.	B.W.1:3	Brick work in cement mortar 1:3 i.e. 1 Cement : 3coarse sand.
20.	B.W.1:4	Brick work in cement mortar 1:4 i.e. 1 Cement : 4 coarse sand.
21.	B.W.1:6	Brick work in cement mortar 1:6 i.e. 1 cement:6 coarse sand.
22.	R.C.C.	Reinforced cement concrete
23.	ISI	Indian Standard Institution.
18.	M.S.	Mild steel.
25.	M	Meter.
26.	Cm.	Centimeter.
27.	mm	Millimeter
28.	Kg.	Kilogram
29.	Sq. m.	Square Meter
30.	A.C.	Asbestos Cement.

31.	C.P.	Chromium Plated.
32.	HDPE	High Density polyethylene
33.	S.F.R.C.	Steel Fiber Reinforced concrete.
34.	S.W.	Stone Ware.
35.	B.I.S.	Bureau of Indian standard.
36.	F.D.A.	Food Drug administration.
37.	C.B.R.I.	Central building Research institute.
38.	i/c	Including.
39.	S/S	Socketed & spigot
40.	NP-2	Non Pressure Class 2.
41.	NP-3	Non Pressure class-3
42.	C.M.1:2	Cement mortar (1 cement:2 coarse sand.)
43.	I.L.	Invert level.
44.	w.r.t.	With respect to
45.	P.O.L.	Petrol Oil and lubricants.
46.	GEB	Gujarat Electricity Board
47.	M-35	Design Mix Concrete of strength-M-35(As per IS:456)
48.	M-30	Design Mix Concrete of strength- M-30-do-
49.	M-25	Design Mix Concrete of strength-M-25 do--
50.	M-20	Design Mix Concrete of strength-M-20 do--
51.	M-15	Design Mix Concrete of strength-M-15 -do-
52.	Cum	Cubic meter
53.	CM 1:3	Cement mortar 1:3 (1Cement:3 coarse sand)
54.	CM 1:4	Cement mortar 1:4 (1Cement:4 coarse sand)
55.	CM 1:6	Cement mortar 1:6 (1Cement: 6 coarse sand)
56.	CGHS	Co-operative Group Housing Society
57.	DUs	Dwelling Units
58.	DP	Development Plan
59.	Hect.	Hectare
60.	BBL	Building Bye-Laws
61.	FAR	Floor Area Ratio
62.	ESS	Electric Sub-Station
63.	n.s.	Nominal Size
64.	CPWD	Central Public Works Department
65.	PWD	Public Works Department
66.	ECS	Equivalent Car Space
67.	CSC	Convenient Shopping Centre
68.	JV	Joint Venture
69.	LIG	Lower Income Group
70.	CGPCB	Central Govt. Pollution Control Board.
71.	St.PCB	State Pollution Control Board.

72.	PP-R	Poly propylene-Random-Co – Polymer
73.	CPVC	Chlorinated Polyvinyl-Chloride
74.	RTGS	Real Time Gross Settlement
75.	NEFT	National Electronic Fund Transfer
76.	UTR	Unique Transaction Reference
77.	SEAC	State Expert Appraisal Committee
78.	SEIAA	State Environment Impact Assessment Authority
79.	INTACH	Indian National Trust For Art and Cultural Heritage
80.	GFS	Gujarat Fire Service
81.	ISO	International Organization for Standardization
82.	IEC	International Electrotechnical Commission

AHMEDABAD MUNICIPAL CORPORATION

9. NOTICE INVITING TENDER

Tenders in the prescribed form are hereby invited on behalf of Ahmedabad Municipal Corporation: -

Construction of 816 EWS Residential Including Internal Infrastructure & Development Work
Within the Plot at TP.64 (Tragad) FP.131 In Ahmedabad City

Sr. No.	ZONE	T.P. No.	F.P. No.	Nos. of Story	Plot Area In sqmt.	Total Nos. of Flats	Total Nos. of Shops
1	North West Zone	64 (Tragad)	131	P+13 & 14	11166.00	816	0

(A) TURNKEY AND BUILDING MATERIAL / TECHNOLOGY NEUTRAL PROJECT)

The tendered documents can be downloaded from website www.tender.nprocure.com

The time allowed for carrying out the work will be **24 (Twenty-Four)** Months from the day after the date of written orders to commence the work. (If site is not clear, time limit starts from clear possession of site)

- a) The site for the work is as per attached detail.
- b) Bidder shall have to submit all necessary PQ Documents mentioned in Technical Bid in Electronic format only through online (by Scanning) while uploading the Bid. Any document in supporting of Bid shall be submitted in electronic format only through online by (Scanning etc.) and hard copy will not be accepted separately. (As per Govt. of Gujarat, R&B Dept. G'nagar Circular No.: PRCH-102008-5-S (Part file) dt. 27-11- 2008) After successful selection of Bidder, Technical Bid & Financial Bid shall be submitted in Hard copy by them duly signed by Authorized Signatory affixed with seal upon intimation from AMC.
- c) Bidder shall have to submit DD for Tender Fee, DD/BG against EMD physically as per details mentioned in tender Notice.

1. The Tender Fee & EMD submitted physically will be opened first specific time and date as per schedule by the concerned Assistant Manager (Project) / PWA Office, 2nd floor, C-Wing Old Building, Ahmedabad Municipal Corporation, Sardar Patel Bhavan, Danapith, Ahmedabad – 380001 and Technical Bid of those bidder whose Tender fees and earnest money has been found in order shall only be opened online by the Assistant Manager (Project) on a specific time and date as per schedule. Financial Bid of only those contractors whose technical bids are found eligible by the department shall be opened online. The time and date of opening of financial bid of contractors qualifying the technical bid shall be communicated to them later on.

The tenderer or one of their authorized representatives having proper authority on letter head of the tenderer will be allowed into the premises where tenders will be opened online.

2. The Technical Bid will first be scrutinized and approved by the department. Technical Bid of a tenderer, if not found within the specified parameters of the tender document, the Financial Bid of the said tenderer shall not be opened and his offer for this work shall stand rejected. Decision of the Municipal commissioner in this respect shall be final and conclusive.

3. Labour law to be complied by the contractor.

The contractor shall obtain a valid license under the Contract Labour (R&A) Act 1970, and the Contract Labour (Regulation and Abolition) Central Rules 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act 1986.

The contractor shall also comply with the provisions of the building and other construction workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other construction workers Welfare Cess Act 1996.

The contractor shall ensure the registration of all eligible workers (inclusive of those of sub-contractors and petty contractors) with construction workers welfare board.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

4. The uploading of the tender form will be stopped as per schedule. The Pre-Bid conference will be held as per schedule and the last date of receipt of tenders will be as per schedule.
5. The total amount tendered for the work should be submitted online only.
6. Earnest Money Deposit of Amount in INR as shown in **e-Tender** notice in the form of Bank guarantee will remain in force up to and including the date 180 days after the dead line for submission of tender in prescribe format along with documents relating to eligibility criteria along with Envelope.
7. The acceptance of the tender will rest with the Municipal Commissioner, who reserve themselves the authority to reject any or all of the tenders without assigning any reason. Tenders in which any of the prescribed conditions are not fulfilled, or are incomplete in any respect, are liable to be rejected.
8. Canvassing in connection with the tender is strictly prohibited, and such canvassed tenders submitted by the contractor will be liable to be rejected and his earnest money shall be absolutely forfeited.
9. The amount shall be quoted online only.
10. Payment to the contractor will be made stage wise as per schedule attached with the tendered documents.
11. On acceptance of the tender, the name of the accredited representative of the contractor who will be responsible for taking instructions from the Additional City Engineer shall be communicated to the Additional City Engineer in writing.
12. The contractor must also place in envelope "A" the valid GST registration certificate along with GSTN No. with Works Contract Cell of GST Department of Gujarat and the Tax Clearance Certificate issued by the said Cell.
13. Details of technical and administrative personnel to be employed for the work in

accordance with the format E to I is to be submitted online in Part-B.

14. A contractor shall not be permitted to tender for works in the organization (responsible for award and supervision of contract) in which any of his near relative is posted as divisional accountant or as an officer in any capacity between the Grades of City Engineer and Assistant Engineer (both inclusive). He shall intimate the names of such persons/relatives, if any, who are working as Gr. 'A','B' and 'C' Officer in AMC. He shall also intimate the names of the persons who are working with him in any capacity or subsequently employed by him who are near relative of any Class-I or Class-II Officer in AMC. Any breach of this condition by the contractor would render him liable to action under Clause 40 of the agreement. In addition he would also be liable to be debarred from tendering in future. The contractor shall also give a list of AMC employees related to him.
15. No engineer of Gazetted Rank or other Gazetted officer employed in engineering or administrative duties in an engineering department of the Govt. of Gujarat or Gujarat Housing Board/ AMC is allowed to work as contractor for a period of two years after his retirement from Govt. service/AMC. This contract is liable to be cancelled if either the contractor or any of his employees are found to be such person who had not obtained the permission of Govt. of Gujarat/ Gujarat Housing Board/AMC as a aforesaid before submission of the tender or engagement in the contractor's services.
16. The Technical and Financial Bid for the work shall remain open for acceptance for a period of 180 days from the date of opening of the tender. If any tenderer withdraws his tender before the said period or issue of letter of acceptance whichever is earlier, or makes any modifications in terms and conditions of the tender which are not acceptable to the department, then the AMC shall, without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money deposit.
17. The tender for the above work includes preparation and approval of all structural drawing required for execution and completion of project including necessary design of the, internal as well as external water supply and drainage system, within the pocket, electrification, roads and path, landscaping including plantation and development of plot/park, rain water harvesting within the area and other works as mentioned in the tender documents. The approval of different internal services such as water supply, sewerage and drainage system from different concerned authority also included in the tender.
18. The tenderer shall inspect the site of work and study the tender documents and other conditions before submitting the tender.
19. All the material required for completion of the project is to be arranged by the contractor and no material shall be supplied by the AMC.
20. The Contractor, whose tender is accepted, shall be required to furnish by way of Security Deposit for due fulfillment of his contract at the following rate:-
 - a) Contractor shall furnish a Security Deposit @ 5% (five percent) of the contract value, in form of bank guarantee of approved bank at the time of signing the contract.

21. The performance guarantee of 5% of the value of actual work done shall be delivered to the AMC at the time of completion of work under contract or as instructed by the Engineer-in-charge. The contractor may at his option convert security deposit in to performance guarantee.

50% of the performance guarantees (2.5% value of work done) shall become refundable after 3 years of the final completion certificate is issued. Another 2% of performance guarantee will be released after another 2 years (i. e. after 5 years of completion) remaining 0.5 % of bank guarantee will be released after another five years i.e. total 10 years of defect liability period, provided that there is no defect detected within the said periods

Earnest money deposit will be released immediately after the signing of contract.

22. Document related to eligibility criteria to be submitted on prescribed Performa as annexed at page 13.

23. It will be obligatory on part of the tenderer/each Joint partner to sign the tender document for all components. (The schedule of quantities, conditions and special conditions etc.)

24. Prevailing GST will be paid extra.

(B) BIDDING PROCESS

1.0 Content of Bidding Documents

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

Volume 1: Condition of Contract, Technical Information and Tender Drawings.

Volume 2: Documents to be furnished by bidder for Qualification.

Volume 3: Financial bid. (to be submitted online only).

Unpriced BOQ duly signed and stamped by the bidder in hard copy (original + duplicate) to be submitted along with volume 1 & 2.

The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, technical specifications, Schedule B, Annexes, and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Bids which are not substantially responsive to the requirements of the Bid Documents shall be rejected.

2.0 Clarification of Bidding Documents

A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by letter or by E-mail to ceamc@ahmedabadcity.gov.in prior to pre-bid meeting time. The Employer's response if any will be uploaded to the website www.tender.nprocure.com.

3.0 Pre-bid meeting

1. The bidder or his official representative is invited to attend a pre-bid meeting which will take place at the address, venue, time, and date as indicated in the Bid Information.
2. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
3. The bidder is requested to submit any questions in writing or by cable to reach the Employer not later than two working days before the meeting.
4. Minutes of the meeting, including the text of the questions that are raised during the meeting (without identifying the source of enquiry) and if any addendum or Amendments is required will be uploaded on website of www.tender.nprocure.com. Any modification of the bidding documents which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to clause 10 and not through the minutes of the pre-bid meeting.
5. Non-attendance at the pre-bid meeting will not be cause for disqualification of a bidder.

4.0 Amendment of Bidding Documents

1. Before the deadline for online submission of bids, the Employer may modify the bidding documents by issuing addenda.
2. Any addendum thus issued shall be part of the bidding documents and shall be placed on website www.tender.nprocure.com. The prospective bidders shall refer to the website to check any addendum before 48 hours of online submission of bids. AMC will not give any advertisement for the same.
3. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at his discretion, extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.
4. All bidders are requested to see the website www.tender.nprocure.com for amendment or corrigendum for the Bid.

5.0 Modification and Withdrawal of Bids

1. After submitting online, no modification shall be done by the bidder. However, bidder may withdraw their bids by giving notice in writing before the deadline date of submission of hard copy.
2. Each Bidder's withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with Clause 18 & 19, with the outer and inner envelopes additionally marked "WITHDRAWAL" as appropriate.
3. No bid may be modified after the on-line submission of Bids.
4. Withdrawal of a Bid between the deadline for submission of hard copy of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 shall result in the forfeiture of the Bid security pursuant to Clause 16.5.

10. MEMORANDUM

Construction Of 816 EWS Residential Including Internal Infrastructure & Development Work Within the Plot at TP.64 (Tragad) FP.131 In Ahmedabad City

(A) TURNKEY AND BUILDING MATERIAL / TECHNOLOGY NEUTRAL PROJECT)

I.	To be submitted online up to 18:00 HRS- on dt.03/07/2026
II.	To be opened online in presence of tenderers who may be present at 12:00 HRS. on 05/07/2026 in the office of the Assistant Manager (Project) / PWA Office, 2nd floor, C-Wing Old Building, Ahmedabad Municipal Corporation, Sardar Patel Bhavan, Danapith, Ahmedabad – 380001.
III.	Earnest Money Rs. 86,99,478/-
IV.	Security Deposit @ 5% of tender amount.
V.	Performance Guarantee @ 5% of work amount in form of Bank Guarantee of approved bank. (To be submitted on completion of work & before final bill payment) Bank guarantee will be released as below <ul style="list-style-type: none">• After 3 years of completion -2.5 %• After 5 years of completion -2.0 %• After 10 years of completion -0.5 % provided that there is no defect detected within the said periods
VI.	Time limit for completion of the work is 24 (Twenty Four) Months which will be reckoned from the date of issue of work order.

Issued to M/s*_____

(Contractor)

Signature of the Officer uploading the documents.

Name in full _____

Designation _____

Date of upload _____

TENDER DECLARATION FORM

I/we hereby tender to the Additional City Engineer (Housing Project) Ahmedabad Municipal Corporation for the execution of the work specified in the underwritten memorandum. We undertake to execute the work within the specified time, and we further undertake that the work shall be executed entirely and in all respects in accordance with the specifications, drawings to be approved at later stage and instructions in writing which may be issued by the Engineer-in-charge from time to time for the proper and timely execution/completion of the work.

We further undertake, to adhere to all the conditions of the tender as well as of the agreements and we shall be responsible for any violation thereof for which we shall be liable to pay necessary compensation and/ or damages, as may be determined by the Municipal Commissioner, Ahmedabad Municipal Corporation in his sole discretion.

I/we have read and examined the Notice Inviting Tender, Specifications applicable, General Rules & directions, conditions of contract, special conditions and other documents and rules referred to in the conditions of contract and all other referred to in the conditions of contract, and all other contents in the tender documents for the referred work.

I/we agree to keep the tender open for 180 days from the due date of submission thereof and not to make any modification in its terms and conditions.

1. Tender fee of Rs. 18,000/- i D.D. in favor of Municipal Commissioner, Ahmedabad and Earnest Money Deposit of Rs. 86,99,478/- in form of bank guarantee from Approved Bank valid for 180 days.
2. (i) Tender fee and Bank Guarantee shall be placed in single sealed envelope superscripted as "Earnest Money Deposit, Tender fee with name of work and on due date of opening of the bid" mentioned there on and will submit to tender opening authority on date and time shown in e-Tender Notice on page-5.

An EMD is hereby forwarded in the form Bank Guarantee, issued by a approved bank. If I/we, fail to furnish the prescribed security deposit within prescribed period, I/we agree that the said AMC or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/we fail to commence work as specified, I/we agree that AMC or its successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the security deposit absolutely.

Further, I/we agree that in case of forfeiture of earnest money or both earnest money and security deposit as aforesaid, I/we shall be debarred for participation in the re-tendering process of the work.

I/we hereby declare that I/we shall treat the tender documents and other records connected with the work as secret/confidential documents and shall not communicate information or derive there from to any person to whom I/we may authorize to communicate the same or use the information in any manner prejudicial to the safety of the interests of Ahmedabad Municipal Corporation.

I am bound to execute the work by maintaining all Quality aspects/parameters mentioned in the & Approved Drawings, tender terms and conditions. I am also bound to submit all supporting Genuine Original documents as and when asked and if any discrepancy found in such documents as well as in the executed Work with respect to Quality/Quantity at any stage of work or even after completion of work, it will be solely my Responsibility. I am bound to prove originality of all documents submitted by me and if any Documents found false/fake then Municipal Commissioner/AMC has right to take any action/penalty/punishment against me.

I am also bound that if I/we, indulged into any malpractice and/or used any inferior quality and/or the construction of Building is found to be of an inferior quality under this contract than in such case Municipal Commissioner/AMC has right to debar/blacklist permanently.

Dated : _____

Witness _____

Address _____ Seal & Sign of the Bidder

Occupation _____ Postal Address

ACCEPTANCE

The above tender (as modified by you, as provided in the letter mentioned herein under) is accepted by me for and on behalf of AMC for * a ____ * sum ____ * of INR ____ * (Rupees ____ *).

The letters referred to below shall form part of this contract/Agreement.

a) _____ *

—

b) _____ *

—

c) _____ *

—

_____* (to be filled by Additional City Engineer).

For & on behalf of the Municipal Commissioner, AMC.

Signature _____

Designation _____

Dated _____

11. GENERAL RULES AND DIRECTIONS

1. All work proposed for execution by contract will be notified in a form of invitation to tender pasted in public place & signed by the officer inviting tender or by publication in Newspaper as the case may be.

This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited along with tender, the Security Deposit to be deposited by the successful agency/ contractor and the amount of security deposit to be deducted from bills. Copies of the specifications, designs and drawing and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by contractor at the office of officer inviting tender during office hours.

2. In the event of the tender being submitted by a firm, other than property firm it must be signed by separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the relevant Indian Act.
3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.
4. In case the lowest tendered amount of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer. The lowest tender shall be decided on the basis of revised offers.

If the revised tendered amount of two or more contractors received in revised offer is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Dy. Municipal Commissioner in –Charge.

In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled.

Contractor(s) whose earnest money is forfeited because of non-submission of revised offer shall not be allowed to participate in the retendering process of the work.

5. The Municipal Commissioner, Ahmedabad shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
6. The tenderers shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents, drawings or other records connected with the work given to them. The unsuccessful tenderer(s) shall return all the drawings given to them.
7. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be

communicated in writing to the Engineer-in-Charge.

8. GST, labour welfare cess and other government statutory taxes or any other tax on the materials in respect of this contract shall be payable by the Contractor and AMC will not entertain any claim what so ever in respect of the same.
9. The contractor shall give a list of both gazette and non- gazetted AMC employees related to him.
10. The tender for the work shall not be witnessed by a contractor or contractors who himself/themselves has/have tendered or who may has/have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.
11. The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the AMC may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.
12. Any Bidders wish to visit site location, joint site visit may be arranged under guidance of concern officer.

12.1 Site Visit

The Bidder, at the Bidder's own responsibility and risk is deemed to have inspected and examined the site and its surroundings after visit to site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense. Particular attention of bidders, besides other aspects, is invited to:

- The form and nature of work and subsurface conditions
 - The climatic conditions
- The extent and nature of work and materials necessary for the execution and completion of the Works
- The means of access to the site and the accommodation he may require and
 - All other information as to risks, contingencies and circumstances which may influence or affect his bid.
- Structures to be dismantled.
 - Existing utilities, and constraints of working.
 - Traffic movement, and possibilities of safe diversion.
 - Time frame, and working space availability.
 - Space for casting of Precast girders, and their launching.
 - Location for establishing Ready Mix plant.

DECLARATION:

I/We hereby declare that I/We shall treat the tender documents, drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any persons other than a person to whom, I/We authorized to communicate the same or use the information in any manner prejudicial to the safety for AMC.

Signature of the Contractor

ADDRESS:

.....

12. SCHEDULE OF PAYMENT AT STAGES-APPLICABLE FOR CONSTRUCTION OF DUs

Name of work: - Construction Of 816 EWS Residential Including Internal Infrastructure & Development Work Within the Plot at TP.64 (Tragad) FP.131 In Ahmedabad City.

Sr. No	Description	Individual in %age	Total Individual in %age	Cumulative
1	Submission and approval of foundation designs and complete structural drawings for superstructure, UG Tank complete and other works to be executed at site for its completion.	0.25	0.25	0.25
2	Submission and approval of all services plans from AMC	0.25	0.25	0.5
3	Completion of R.C.C. frame structure/erection up to Ground level	8	8	8.5
4	Completion of R.C.C. frame structure /erection in super structure		33	41.5
	i) up to slab over 2 nd Floor level	4.3		
	ii) up to slab over 4 th Floor level	4.3		
	iii) up to slab over 6 th Floor level	4.3		
	iv) up to slab over 8 th Floor level	4.3		
	v) up to slab over 10 th Floor level	4.3		
	vi) up to slab over 12 th Floor level	4.3		
	vii) up to slab over 14 th Floor level & above floor level	4.3		
	viii) Terrace parapet and over head tank	2.9		
5	Completion of masonry, lintel, chajja etc.		11	52.5
	i) up to slab over 2 st floor level	1.5		
	ii) up to slab over 4 th Floor level	1.5		
	iii) up to slab over 6 th Floor level	1.5		
	iv) up to slab over 8 th Floor level	1.5		
	v) up to slab over 10 th Floor level	1.5		
	vi) up to slab over 12 th Floor level	1.5		
	vii) up to slab over 14 th Floor level & above floor level	2		
6	Internal Plaster		5	57.5
	i) up to slab over 2 st floor level	0.75		
	ii) up to slab over 4 th Floor level	0.75		
	iii) up to slab over 6 th Floor level	0.75		
	iv) up to slab over 8 th Floor level	0.75		
	v) up to slab over 10 th Floor level	0.75		
	vi) up to slab over 12 th Floor level	0.75		
	vii) up to slab over 14 th Floor level & above floor level	0.50		
7	External Plaster	3	3	60.5
8	All types of flooring in Unit including Staircase, Passage, Foyer, W.C., Bathroom, Kitchen platform, Kitchen, W.C., Bathroom, and Wash area dado and Granite sill over parapet. i/c skirting.		5	65.5
	i) up to slab over 2 st floor level	0.75		
	ii) up to slab over 4 th Floor level	0.75		
	iii) up to slab over 6 th Floor level	0.75		
	iv) up to slab over 8 th Floor level	0.75		

Sr. No	Description	Individual in %age	Total Individual in %age	Cumulative
	v) up to slab over 10 th Floor level	0.75		
	vi) up to slab over 12 th Floor level	0.75		
	vii) up to slab over 14 th Floor level & above floor level	0.50		
9	Providing & Fixing All Doors: - Frame and Shutters With Necessary fittings and fixtures Including Paint Work		2	67.5
	i) up to slab over 2 st floor level	0.3		
	ii) up to slab over 4 th Floor level	0.3		
	iii) up to slab over 6 th Floor level	0.3		
	iv) up to slab over 8 th Floor level	0.3		
	v) up to slab over 10 th Floor level	0.3		
	vi) up to slab over 12 th Floor level	0.3		
	vii) up to slab over 14 th Floor level & above floor level	0.2		
10	Providing & Fixing Windows with Frame Windows fittings and fixtures i/c glass panes..		1	68.5
	i) up to slab over 2 st Floor level	0.15		
	ii) up to slab over 4 th Floor level	0.15		
	iii) up to slab over 6 th Floor level	0.15		
	iv) up to slab over 8 th Floor level	0.15		
	v) up to slab over 10 th Floor level	0.15		
	vi) up to slab over 12 th Floor level	0.15		
	vii) up to slab over 14 th Floor level & above floor level	0.1		
11	Providing & Fixing Balcony railing, S/C railing window grills and other steel work		2	70.5
	i) up to slab over 2 st Floor level	0.3		
	ii) up to slab over 4 th Floor level	0.3		
	iii) up to slab over 6 th Floor level	0.3		
	iv) up to slab over 8 th Floor level	0.3		
	v) up to slab over 10 th Floor level	0.3		
	vi) up to slab over 12 th Floor level	0.3		
	vii) up to slab over 14 th Floor level & above floor level	0.2		
12	Water supply & Sanitary Work		3	73.5
	i)Internal	0.75		
	ii)External	0.75		
	iii)Sanitary ware fittings	0.75		
	iv)Accessories	0.75		
13	Internal electrification i.e; conduit duct, wire, switch board etc. and providing electrical fixtures in all common amenities, passages, staircase, lobby ,parking area etc.	3	3	76.5
14	Internal painting including putty work and colour work	2	2	78.5
15	External painting including primer and colour work	1	1	79.5
16	supply and Erection of Lift	3	3	82.5
17	commissioning testing of lift and getting licence	0.3	0.3	82.8
18	External infrastructure including: -		3	85.8
	i) RCC Road, Paver block	1.5		
	ii) External UG Drainage Network, External SWD Network, Percolation Well, External Water distribution	1.5		

Sr. No	Description	Individual in %age	Total Individual in %age	Cumulative
	Network			
19	Buildings for:- Tube well for clear water supply UG Tank pump House building for clear water supply pump House for firefighting system	2	2	87.8
20	Supply, Installation, Testing and Commissioning of Mini Sewage Treatment Plant (STP) for Toilet Flushing Water and Gardening within campus.	2	2	89.8
21	Operation and Maintenance of STP, Lift and all types of pump sets for 12 months after commissioning.	1	1	90.8
22	Construction of Boundary wall surrounded by plot area with necessary gate at entrance etc.	1	1	91.8
23	Solar Roof top system	1	1	92.8
24	Fire fighting system including Fire NOC	1	1	93.8
25	Horticulture work i/c plantation and landscaping and Development of Common Plot	0.2	0.2	94
26	Completion of all remaining items of work i/c handing over of flats defect free in all respects and testing of all services to the satisfaction of engineer-in-charge and handing over of services to AMC.	2	2	96
27	External Electrification, street light, including power procurement and Meter fixing.	1	1	97
28	Modifications/alterations (as per the monitoring agency)	1	1	98
29	After handing over the DUs to AMC	2	2	100

- NOTE:** (1) The work will proceed broadly as per the stages indicated above. However, for work between two consecutive stages, the payment will be released for the lower stage. If some work is not executed as per the above sequence and later sequence is executed first, then the payment for that stage will be released at the discretion of the Engineer-in-charge and his decision in this regard shall be final and binding.
- (2) The above provisions are only to release stage payments. This may not be quoted anywhere else.
- (3) Payment will be considered block wise and stage wise progress of each block.
- (4) Monthly payment will be made on pro rata base for each stage on submission of running account bill by developers/bidder after scrutinized/certified by AMC. This schedule is for specified storied, if bidder proposes other than specified, individual %age of payment of that stage will be distributed evenly.
- (5) In case of other type of building like commercial building, shops, anganwadi, electric substation, community hall etc. payment shall not be released floor wise in sr. no. 4 to 8 in payment schedule table above, but released whole stage when respected work is completed and % of payment will be decided by Addl. City Engineer.

13.TABLE OF MILESTONE(S)

Sr. No.	Financial Progress.	Time allowed (From date of start)	Amount to be withheld in case of non-Achievement of Milestone.
1.	1/8 th (of the whole work)	1/4 th (of the whole work)	In the event of not achieving the necessary Progress as assessed from the running payment, 1% of the tendered value of work will be with held for failure of each milestone.
2.	3/8 th (of the whole work)	1/2 nd (of the Whole work)	-do-
3.	3/4 th (of the whole work)	3/4 th (of the whole work)	-do-
4.	Full / (physically work completed)	Full	-do-

Note- Subject to site clearance

If site possession is not clear in time, above condition will not be applicable for whole work but it will applicable for individual site / plot.

14. MODEL FORM OF BANK GUARANTEE FOR EARNEST MONEY DEPOSIT

Annexure 1

Whereas _____(hereinafter called the bidder) has submitted his bid date_____ for the _____(hereinafter called "the bid") Know all Men by these presents that we _____

_____(hereinafter called "the Bank") are bound into Municipal Commissioner, AMC (hereinafter called "the Employer") in the sum of Rs._____

For which payment will and truly to be made to the said Employer the bank himself, his success and assigns by these presents.

SEALED with the common seal of the said Bank this _____day of _____20

THE CONDONED of these obligations are:

(1)If the bidder withdraws his Bid during the period of bid validity specified in the Tender or

1. If the Bidder does not accept the correction of arithmetical errors of the Bid prices, or
2. If the Bidder having been notified of the acceptance of his Bid by the Employee/ during the period of bid validity.
3. Fails or refused to execute the form of Agreement in accordance with the Tender conditions, if required, or
4. Fails or refuse to furnish the Security Deposit, on accordance with the Tender conditions.

We undertake to pay the Employer up to the above amount upon receipt of his, first written demand, without the Employer having to sustain his demand, provided that in his demand the employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the conditions, specifying the occurred condition or conditions,

The Guaranteed will remain in force up to and including the date of 180 (one hundred eighty) days after the deadline for submission of bids as such deadline is stated in the tender documents . Any demand in respect of this Guarantee should reach the Bank not later than the above dated.

NOT WITHSTANDING anything contained herein above:

1. Our liability under the Guarantee shall not excess its -----

2.The Bank Guarantee shall be valid up to and including -----

3.We shall be liable to pay the guarantee amount or any part thereof under this \bar
Guarantee only and only if you serve upon us a written claim or demand on before -

DATE -----

SIGNATURE OF THE BANK -----

SEAL OF THE BANK -----

SIGNATURE OF THE WITNESS -----

Name and Address of the witness -----

INTEGRITY PACT

Ahmedabad Municipal Corporation (AMC) hereinafter referred to as “The Principal” And

_____ hereinafter referred to as “The Bidder/
Contractor Preamble

The principal intends in award, under laid down organizational procedures, contact for

_____. The principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and / or contractor(s) In order to achieve, these goals the principal will appoint an Independent External Monitor (IEM), who will monitor the tender process and the execution of the contract for compliance with the principals mentioned above.

Section1- Commitments of the principal

The principal commits itself to take all measures necessary to prevent corruption and to observe the following principals:-

- I. No employee of the principal, person or through family members, will in connection with the tender for, or the execution of a contract, demand, false promise for or accept, for sell or third person, any material or materials benefit.
- II. The principal will, during the tender process treat all Bidder(s) with equity and reason. The principal will in particular, before and during the tender process provide to all |Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
- III. The principal will exclude from the process all known prejudiced persons.
- IV. If the principal obtains information on the conduct of any of its employees which is a criminal offence under the IPX/PC, Act or if there be a substance suspicion in this regard, the principal will inform the Chief Vigilance Officer and in addition can initiate Disciplinary actions.

Section2- Commitments of the Bidder(s)/Contractor(s)

- i) The Bidder(s)/ contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during the participation in the tender process and during the contract executions.
- ii) The Bidder(s)/Contractor(s) will not enter with other bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary, contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce castellation in the bidding process.

The Bidder(s)/contractor(s) will commit any offence under the relevant IPC/PC Act, further Bidder(s)/contractor(s) will not use Improperly, for purpose of completion or personal gain, or pass on to others, any information of document provided by the principal as part of the business relationship regarding plans, technical proposals and business details,

including information contained or transmitted electronically.

The Bidder(s)/contractor(s) of foreign origin shall disclose the name and address of the Agents/ representatives in India, if any. Similarly the Bidder(s)/contractor(s) of Indian Nationality shall furnish the name and address of the foreign principles, if any. Further details as mentioned in the “Guidelines of Indian Agents of Foreign Suppliers” shall be disclosed by the Bidder(s)/contractor(s). Further as mentioned in the Guidelines all the payments made to the Indian Agent /representatives have to be in Indian Rupees only) Copy cite “Guidelines on Indian Agents of Foreign Suppliers”

The Bidder(s)/contractor(s) will when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

- iii) The Bidder(s)/ contractor(s) will not instigate third persons to commit offenses outlined above or be an accessory to such offenses.

Section 3- Disqualification from tender process and execution from future contracts.

If the Bidder(s)/contractor(s) before award or during execution has committed a transgression through a violation of Section2, above or if any other form such as to put his reliability or credibility in question, the principal is entitled to disqualify the Bidder(s)/ contract(s) from the tender process or take action as per procedure mentioned in the guidelines on Banning of business dealings.

Section4-Compensation for Damage

- I. If the principal has disqualified the Bidder(s) from the tender process prior to the award according to section3, the principal is entitled to demand and recover the damages equivalent to Earnest money Deposit/ Bid Security.
- II. If the principal has terminated the contract according to section 3 or if the principal is entitled to terminate the contract according to section 3, the principal I shall be entitled to demand and recover from the contractor liquidated damages of the contract value or the amount equivalent to security deposit Bank Guarantee. ‘

Section 5- Previous transgression

- I. The Bidder declares that no previous transgression occurred in the last 3 years with any other company in any country confirming to the anti-corruption approach or with any other public sector Enterprises in India that could justify his exclusion from the tender process.
- II. If the Bidder make incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in “Guidelines on Banning of business dealings”

Section6- Equal treatment of All Bidders/ contractors/ sub-contractors.

- I. The Bidder(s)/ contractor(s) undertake(s) to demand from all sub contract commitment in conformity with this integrity pact and to submit it to the prime before contract signing.
- II. The principal will enter, into agreements with identical conditions as this one Bidders, contractors and sub-contractors.

- III. The principal will disqualify from the tender process all bidders, who do not sign Bidders, Contractors and sub-contractors.

Section 7- Criminal charges against violating Bidder(s)/contractor(s)/ Sub contractors If the principal obtains knowledge or conduct of a Bidder, contractor or subcontractor an employee or a representatives or an associate of a Bidder, contractor or sub-contractor which constitutes corruption, or if the principal has substantive suspicion in this regarding principal will inform the same to the Chief vigilance officer.

Section 8-Independent External Monitor/Monitors

- I. The principal appoints competent and credible independent External Monitor impact. The task of the Monitor is to review independently and objectively, whether to what extent the parties comply with the obligations under this agreement.
- II. The monitor is not subject to instructions by the representatives of the party performs his functions neutrally and independently. He reports to the chairman.
- III. The Bidder(s)/Contractor(s) accept that the Monitor has the right part restriction to all project documentation of the principal including that provided . The contractor will also grant the Monitor upon his request demonstration of a valid interest, unrestricted and unconditional access to his documentations. The same is applicable to subcontractors. The monitor contractual obligation to treat the information and documents of the Bidder|(s)/contractor(s) sub-contractor(s) with confidentiality.
- IV. This agreement is subject to Indian Law. Place of performance and jurisdiction the Registered Office of the principal i.e. Ahmedabad.
- V. Changes and supplements as well as termination not less need to be made writing. Side agreements have not been made.
- VI. If the contractor is a partnership or a consortium, this agreement must be signed by all partners of consortium members.
- VII. Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid in this case, the parties will strive to come to an agreement to their original intentions.

For & on behalf of the
Principal (office seal)

For& on behalf of Bidder/contractor

(office seal)

Place : _____

Date : _____

Witness:1 (Name & Address) _____

Witness:2 (Name & Address) _____

LETTER OF TRANSMITTAL

From:

To

Additional City Engineer

Ahmedabad Municipal Corporation.

Subject: Submission of Technical bid

Name of Work: - Construction Of 816 EWS Residential Including Internal Infrastructure & Development Work Within the Plot at TP.64 (Tragad) FP.131 In Ahmedabad City.

SH: C/o _____

Sir,

Having examined the details given in pre-qualification press notice and pre-qualification document for the above work/we hereby submit the pre-qualification application and relevant documents.

1. I/we hereby certify that all the statements made and information supplied in the enclosed from "A" to "F" and accompanying statements are true and correct.
2. I/we have furnished all information and details necessary for pre-qualification and have no further pertinent information to supply.
3. I/we submit the requisite certified solvency certificate and authorize the Additional City Engineer AMC to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/we also authorize Additional City Engineer AMC to approach individual employers, firms and corporation to verify our competency and general reputation.
4. I/we submit the following certificate in support of our suitability technical knowhow and capability for having successfully completed the following works.

Name of work:

Certificate from:

Enclosures:

Date of Submission:

SEAL

SIGNATURE OF APPLICANT(S)

FORM 'A'
FINANCIAL INFORMATION

Financial analysis, Details to be furnished duly supported by figures in balance sheet / profit and loss account for the last five years duly certified by the Chartered accountant, as submitted by the applicant to the income Tax Department copies to be attached.

Sr.No.		2025-26	2024-25	2023-24	2022-23	2021-22
i.	Gross annual turnover on Construction work.					
ii.	Annual Net worth					
iii.	Profit/loss					
iv	Financial arrangements for carrying out the proposed work.					
v	Solvency certificate from bankers of applicant. Form 'B'					
vi.	Tax clearance certificate under the relevant act					

Sign.of Chartered Accountant

with seal.

Signature of
applicant(s).

FORM 'B'

FORM OF BANKERS CERTIFICATE FROM AN APPROVED BANK

(Solvency certificate from a Approved bank)

This is to certify that the best of our knowledge and information that M/S /Sh._____ having marginally noted address, a customer of our bank are/is respectable and can be treated as good for any engagements up to a limit of INR _____(INR_____)

This certificate is issued without any guarantee or responsibility on the bank or any of its officers.

(Signature) For the Bank

NOTE:

1. Bankers certificates should be on letter head of the Bank, sealed in cover addressed to tendering authority.
2. In case of partnership firm, certificate should include names of all partners as recorded with the Bank.

FORM C-I

DETAILS OF ALL WORKS SIMILAR CLASS COMPLETED (not less than **G+5 / P+5 storied or 18.00 mt** height) DURING THE LAST FIVE YEARS ENDING LAST DAY OF THE MONTH

Sl. No.	Name of Work/Project & Location	Owner or sponsoring Organization	Cost of works in crores	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Litigation/ arbitration pending/ in progress with details*	Name of address/ telephone of officer to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10

*indicate gross amount claimed and amount awarded by the Arbitrator

Signature of applicant(s)

Signature of Contractor

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Additional City Engineer, A.M.C

FORM C-II

DETAILS OF MULTISTORIED BUILDING (**not less than G+5 / P+5 storied or 18.00 mt height**) WORKS COMPLETED WITH ANY OTHER APPROVED TECHNOLOGY AS MAIN CONTRACTOR DURING THE LAST FIVE CONSECUTIVE YEARS ENDING LAST DAY OF THE MONTH

Sr. No.	Name of work/project and location i/c number of stories and height of building.	Owner of sponsoring organization	Cost of works in crore	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Built up area In sq. meter.	Litigation/ arbitration pending/ in progress with details	Name & address/ telephone number of officer whom to reference may be made	Remarks (Mention prefab technology used in construction.
1	2	3	4	5	6	7	8	9	10	11

Indicate gross amount claimed and amount awarded by the Arbitrator.'

Signature of Contractor

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Additional City Engineer, A.M.C

FORM 'D'
PROJECTS UNDER EXECUTION OR AWARDED/LOI ISSUED.

Sr. No.	Name of work/ Project. And location.	Owner or sponsoring organization	Cost of work in Crores.	Date of commencement As per contract	Stipulated date of completion.	Up to date amount of the work executed (INR)	Slow progress if any & reason thereof.	Name & address/ telephone of officer to whom reference may be made.	Remarks
1	2	3	4	5	6	7	8	9	10

Certified that above list of works are complete and no work has been left out and the information given is correct to my/our knowledge and belief

Signature of Applicant(s)

Signature of Contractor

Additional City Engineer, A.M.C

Form 'E'

PERFORMANCE REPORT OF WORKS REFERRED TO IN FOR "C-I, C-II & D"

1. Sr No.
2. Name of work/Project and Location
3. For Building works:
 - i) Nature of building
 - (a) Load bearing
 - (b) RCC Framed Structure
 - ii) Height of building & numbers of floor.
4. Agreement No.
5. Client name:
6. Amount of Work:
7. Date of Starting of project:
8. Stipulated date of completion:
9. Actual date of completion:
10. Completion cost:
11. Justification for Delay, if any:
12. Amount of compensation
 - a. Levied for delayed completion if any
 - b. Amount of reduced rate items, if any
13. Litigation tendency:
14. Feedback from client:

(i) Quality of work	<input type="checkbox"/>	Very good	<input type="checkbox"/>	Good	<input type="checkbox"/>	Fair	<input type="checkbox"/>	Poor
(ii) Finance Soundness	<input type="checkbox"/>	Very good	<input type="checkbox"/>	Good	<input type="checkbox"/>	Fair	<input type="checkbox"/>	Poor
(iii) Technical Proficiency	<input type="checkbox"/>	Very good	<input type="checkbox"/>	Good	<input type="checkbox"/>	Fair	<input type="checkbox"/>	Poor
(iv) Resourcefulness	<input type="checkbox"/>	Very good	<input type="checkbox"/>	Good	<input type="checkbox"/>	Fair	<input type="checkbox"/>	Poor
(v) General behavior	<input type="checkbox"/>	Very good	<input type="checkbox"/>	Good	<input type="checkbox"/>	Fair	<input type="checkbox"/>	Poor

Third party feedback, if any:

Signature of applicant

Signature & stamp of client

Note: This Form shall be submitted notarized and scan copy of each work entered in C1, C2, D shall be uploaded.

FORM 'F'
DETAILS OF STRUCTURE & ORGANISATION

1.	Name & address of the applicant.	
2.	Telephone No./Telex No./Fax no.	
3.	Legal status of the applicant(attach copies of original document defining the legal status(s). (a) an individual. (b) A proprietary firm (c) A firm in partnership (d) A limited company or corporation.	
4.	Particulars of Registration with various Government bodies (attach attested photocopy). (a) Registration number. (b) Organization/Place of Registration 1. 2. 3. 4.	
5.	Name and titles of Directors & officers with designation to be concerned with this work.	
6.	Designation of individuals authorized to act for the organization.	
7.	Was the applicant ever required to suspend construction for a period of more than six months continuously after you commenced the construction? If so give the name of the project and reason of suspension of work.	
8.	Has the applicant or any constituent partner in case of partnership firm ever abandoned the awarded work before its completion? If so, give name of the project and reason for abandonment.	
9.	Has the applicant or any partnership firm, ever been debarred/black listed for tendering in any organization at any time? If so, give details.	
10.	Has the applicant or any constituent partner in case of partnership firm ever been convicted by court of law? If so, give details	
11.	In which field of Civil engineering construction you claim specialization and interest.	
12.	Any other information considered necessary but not included above.	

Sign of the applicant

Signature of Contractor

FORM 'G'

DETAILS OF TECHNICAL AND ADMINISTRATIVE PERSONNEL TO BE EMPLOYED FOR THE WORK

Sr. No.	Designation	Total number	Number available for this work.	Name.	Qualification.	Professional experience of details of work carried out.	How these would be involved in this work.	Remarks.
1.	2.	3.	4.	5.	6.	7	8.	9.

Sign of applicant (s).

Signature of Contractor

Additional City Engineer, A.M.C

Form H-
Detail of Construction, Plant & Equipment Likely to be used in Carrying out the Work

Sr. No.	Name of equipment	Nos	Capacity of type.	Age	Condition.	Ownership status			Current location.	Remarks
						Presently owned.	Leased	To be purchased		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	EARTH MOVING EQUIPMENT.									
	Excavators (Various sizes.)									
2.	EQUIPMENT FOR HOISTING & LIFTING									
	1. Tower Crane									
	2. Building hoist									
	3. Lift									
3.	EQUIPMENT FOR CONCRETE WORK.									
	1. Concrete batching plant (Fully automatic of min 18 M3/hr capacity Age: Not more than 5 years).									
	3. Concrete pump.									
	3. a) Concrete transit mixer. b) Other equipment for transportation of concrete mix.									
	4. Needle Vibrator (Electrical)									
	5. Needle Vibrator (Petrol).									
	4. Table Vibrator (Electrical/Petrol).									
	7. Shutter Vibrator (Electrical/Petrol).									
	8. Concrete Mixer (Electrical/Diesel).									
	9. Pump (Electrical).									
4	Power equipment.									
	1. Diesel Generators.									

Signature of Contractor

Additional City Engineer, A.M.C

5	Any other plant/equipment.									
6	Steel centering & shuttering/form work/H-frame centering (ii) steel plate (at least 60% of plot area)									

Form 'I'

LITIGATION DETAILS

Name of applicant / or parties:

Applicant should provide information on any History of litigation or arbitration resulting from contracts executed in last five years or currently under execution:

Sr. No.	Year	Award for/against applicant	Name of cline, cause of litigation & matter of dispute	Disputed Amount in INR

NOTE:-

1. The above information shall be supported with necessary documents otherwise the same shall be treated as null & void.
2. If the information to be furnished in this schedule will not be given & come to the notice subsequently will result in disqualification of bidder.

Sign of Applicant

Part 2

General & Special Condition of Contract

15. CONDITIONS OF CONTRACT

Definitions:

1. The Contract means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the AMC and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:
 - i. The expression works or work shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
 - ii. The Site shall mean the land/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work, is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
 - iii. The Contractor shall mean the individual, firm or company, whether incorporated or not, under taking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company or the permitted assignees of such individual, firm or company.
 - iv. The Engineer-in-Charge means the Divisional Officer who shall supervise and be in charge of the work.
 - v. Accepting Authority shall mean the authority mentioned in schedule 'B'.
 - vi. Expected Risk are risk due to riots (other than those on account of contractor's employees), war(whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power any acts of Government, damages from aircraft, acts of god, such as earthquake, lightening and unprecedented flood, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government's faulty design of works.
 - vii. Market Rate shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'B' to cover, all overheads and profits.
 - viii. Schedule(s) referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the government mentioned in Schedule 'B' hereunder, with the amendments there to issue up to the date of receipt of the

tender.

- ix. Tendered value means the value of the entire work as stipulated in the letter of award.
- x. Date of commencement of work: the date of commencement of work shall be the date of start as specified in schedule 'B' or the first date of handing over of the site; whichever is later, in accordance with phasing if any, as indicated in tender document.
- xi. The Authority or AMC means the Ahmedabad Municipal Corporation.
- xii. Commissioner means the Commissioner, Ahmedabad Municipal Corporation.
- xiii. The Addl. C. E. means the Additional City Engineer of Ahmedabad Municipal Corporation.

3. Scope and Performance:

Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.

- 4. Heading and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or taken into consideration in the interpretation or construction thereof or of the contract.
- 5. The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.

6. Sufficiency of Tender

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters for the proper completion and maintenance of the works.

8. Discrepancies and Adjustment of Errors

The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.

8.1 In the case of discrepancy between the Schedule of Quantities, Specifications, and/or the Drawings, the following order of preference shall be observed:

- (i) Description of schedule of quantities.
- (ii) Particular specification and Special Condition, if any.
- (iii) Drawing.
- (iv) Detailed Specifications.
- (v) Indian Standard Specifications of B.I.S

8.2 If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.

8.3 Any error in description, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any

part of the works comprised therein according to drawing and specifications or from any of his obligations under the contract.

9. Signing of Contract:

The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall, within 7 days from the stipulated date of start of work sign the contract consisting of:

- (i) The letter inviting tender, all the documents including drawing, if any, forms the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
- (ii) Standard tender document as mentioned in Schedule 'B' consisting of:
 - a) Various Standard clauses with corrections up to the date stipulated in Schedule 'B' along with annexure thereto.
 - b) Safety Code
 - c) Model Rules for the protection of health, sanitary arrangements for Contractors employed by AMC or its contractors.
 - d) Contractors labour regulations.
 - e) List of Acts and omissions for which fines can be imposed.
- (iii) No payment for work done will be made unless contract is signed by the contractor.

10. The contractor (s) is/are to provide everything of every sort and kind which may be necessary and requisite for the due and proper execution of the several works included in the contract. Whether original or altered according to the true intent and meaning of the drawings and specifications taken together, which are to be signed by the Additional City and the Contractor(s), whether the same may or may not particularly be described in the specifications or shown on the drawings, provided that the same are reasonably to be inferred in reform and in case of any discrepancy between the drawings and the specifications the Additional City Engineer is to decide which shall be followed.
11. The contractor(s) is / are to set out the whole of the works in conjunction with an officer to be deputed by the Engineer-in-charge, and during the progress of the works to amend on the requisition of the Engineer-in-charge, any errors, which may arise therein and provide all the necessary labour and materials for doing so. The contractor(s) is / are to provide all plants, labour and materials which may be necessary and requisite for the works. All materials and workmanship are to be the best of their respective kinds. The contractor(s) is/are to leave the works in all respects clean and perfect after the completion thereof.
12. The copies of all architectural drawing and structural drawings duly approved by as suggested by AMC etc. and specifications contained in the tender documents shall be kept by the contractors on the site of the work.
13. All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Additional City Engineer, Deputy City Engineer, ACE / AE of AMC, or by the officer of Vigilance of the authority and Addl. City Engineer, (Elect.) & their subordinate including any government or reputed private institution appointed by

Engineer-in-Charge as third party quality assurance and the contractor shall at all times during the usual working hours and at all other times at which reasonable notice of the intention of the Additional City Engineer or his Subordinate to visit the works shall be given to the contractor(s), either himself / themselves be present to receive orders and instructions or have a responsible agent duly accredited in writing present for that purpose. Orders given to the contractor(s) agent shall be considered to have the same force as if they had been given to the contractor(s) himself / themselves. The Executive Engineer may require the contractor(s) to dismiss any person in the contractor(s) employment upon the works who may be incompetent or misconduct himself, and the contractor(s) is/are forthwith to comply with such requirements.

14. The contractor(s) is/are not to vary or deviate from the approved drawings, specifications or instructions to execute any extra work of any kind whatsoever unless the authority of the Additional City Engineer to be sufficiently shown by an order in writing or by any plan or drawing expressly given and signed by him as an extra, or variation, or by any subsequent written approval signed by him. If compliance with the Additional City Engineer's aforesaid order, plan or drawing, or approval involves extra work, and / or expense beyond that involved in the execution of the contract works, then unless the same were issued in consequence of some breach of this contract on the part of the contractor(s), the later shall be paid the price of the said work (to be valued as hereinafter provided) and / or the expense aforesaid.
15. The contractor (s) shall give not less than five working days' notice in writing to the Additional City Engineer before covering up, or otherwise placing, beyond the reach of measurement any work, in order that additions, omissions and alternations not covered by the original contract may be measured and correct dimensions thereof be taken before the same are so covered up or placed beyond the reach of measurement any work without the consent in writing of the Additional City Engineer, and if any work shall be covered up or placed beyond the reach of measurement without such notice been given or consent obtained, the same shall be uncovered at the contractor (s) expenses, or in default thereof, no payment or allowance shall be made for such work or materials with which the same was executed.
16. All work and materials brought by the contractor(s) or by his/their order(s) for the purpose of forming part of the works are to be considered to be the property of the AMC and the same are not be removed or taken away by the contractor(s) or any other person without the consent in writing of the Additional City Engineer, but the AMC is not to be in anyway answerable for any loss or damage that may happen to, or in respect of any such work or materials either by the same being lost or stolen or injured by weather, mishap, or otherwise.
17. The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the Specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the Contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full power to require other proper material to be substituted thereof and in case of default the Engineer-in-Charge may cause the same to be supplied and all costs which may arise due to such

removal and substitution shall be borne by the Contractor.

18. Any defects (including structural defects), shrinkage or other faults which may appear within 10 (ten) year from the recorded date of completion of the building arising out of defective or improper materials or workmanship are upon the direction of the Additional City Engineer to be amended and make good by the contractor(s) at his / their own cost, and in case of a default, the Additional City Engineer may recover from the contractor(s) the cost of making good the works (of which the certificate of the Additional City Engineer shall be final) from any sum that may be then, or at any time thereafter may become, due to the contractor(s) by AMC under the contract or otherwise, or from his/their security deposit or proceeds thereof, of a sufficient portion thereof.
19. From the commencement of the work to the completion of the same they are to be under the contractor(s) charge. The contractor(s) is / are to be held responsible for and to make good all injuries, damages, and repairs occasioned or rendered necessary to the same by fire, rains, storms, traffic, flood or other cause and to hold AMC harmless from any claims for injuries to persons, or to structural damage to property, happening from any neglect, default, want of proper care or misconduct on the part of the contractor(s) or of anyone in his/their employment during the execution of the works.
20. The Additional City Engineer to has full powers to send workmen upon the premises to execute fittings / fixtures and other works not included in the contract for whose operation the contractor(s) is /are to afford reasonable facility during ordinary working hours, provided that such operations shall be carried out on in such a manner so as not to impede the progress of the work included in the contract but the contractor(s) is/are not to be held responsible for any damage which may happen to be occasioned by any such fittings / fixtures or other works.

16. SPECIAL CONDITIONS OF CONTRACT.

1.0 Condition for Cement:

- 1.1 Cement required for the work shall be procured by the contractor.

The contractor shall procure, only Ordinary Portland Cement (conforming to IS: 8112) This procurement shall be from reputed manufacturers of cement having a production capacity of one million tons per annum or more as approved by Ministry of Industry, Government of India and holding license to use IS certification make for their product whose name shall be got approved from Engineer-in-charge. Supply of cement shall be taken in 50 Kg. bags bearing manufacturer's name or his registered trademark, if any and grade and type of cement as well as IS marking.

If contractor has installed concrete batch mix plant with silo, contractor may procure cement in form of bulk or loose and consumption of cement may be recorded in MT of cement.

- 1.2 The account of daily receipt and issue of cement shall be maintained in a register in the prescribed Performa and signed daily by the contractor or his authorized agent in token of its correctness.
- 1.3 Samples of cement arranged by the contractor shall be taken by the Engineer-in-charge and got tested in accordance with provisions of relevant BIS Code. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-charge.
- 1.4 The contractor shall supply free of charge the cement required for testing. The cost of testing charges shall be borne by the contractor.
- 1.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 40.
- 1.6 For non-scheduled items, the decision of the Additional City Engineer regarding theoretical quantity of cement which should have been actually used shall be final and binding on the contractor.
- 1.7 Cement brought to site and remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge.
- 1.8 In case quantity of cement used is less than quantity ascertained under clause 40(after allowing variation on the minus side as per clause) the quantity of less cement used shall be recovered at prevailing market rate at the time of execution+ 15% contractor's profit.

2.0 Conditions of Steel:

- (a) The contractor shall procure steel reinforcement of Thermo Mechanically Treated Bars Fe-500 conforming to IS-1786:1985(reaffirmed 2004). The contractor shall have to submit documentary proof to the satisfaction of the Engineer-in-charge of having procured the steel reinforcement. The contractor shall have to obtain and furnish test certificates to the

Engineer-in-charge and get tested in accordance with provision of relevant specifications. In case, test results indicate that the steel arranged by the contractor does not confirm to the specifications, the same shall stand rejected and shall be removed from the site of work by the contractor at his own cost within 7 days of written order from the Engineer-in-charge to do so.

- (b) The steel reinforcement bars shall be brought to the site in bulk supply of 10 tons or more or as directed by the Engineer-in-charge.
- (c) The steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- (d) For checking nominal mass tensile strength, bend test, rebound test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:-

Size of Bar.	For consignment below 100 tons.	For consignment above 100 Tons.
Under 10mm dia bars	One sample for each 25 tons or part thereof.	One sample for each 40 tons or part thereof.
10mm to 16mm dia. Bars	One sample for each 35 tons or part thereof.	One sample for each 45 tons or part thereof.
Over 16mm dia bars	One sample for each 45 tons or part thereof.	One sample for each 50 tons or part thereof.

The contractor shall supply free of charge the steel required for testing. The cost of tests shall be borne by the contractor.

- (e) Steel brought to site and steel remaining unused shall not be removed from site without the written permission of Engineer-in-charge.

2.1 Every care should be taken to avoid mixing different types of grades of bars in the same structural members as main reinforcement to satisfy relevant clause of IS: 456. In case of buildings wherever the situation necessitates the changeover shall be made only from any one level onwards. In case of foundation, all foundation elements (footing and grade beams) shall have the same kind of steel. In case of columns all structural elements up to the level of change where the changeover is taking place should have the same kind of steel as those in columns,

2.3 The reinforcing steel brought to site of work, shall be stored on brick / timber platform of 30/40cm. height. Nothing extra shall be paid on this account.

3.0 CONDITION FOR WATER:

3.1 The contractor shall make his own arrangement for providing water for construction and drinking purpose. Contractor shall get the water tested from any approved laboratory of AMC as per direction of Engineer-in-Charge at regular interval All expenses towards collection of

- samples, packing, transportation and testing charges etc. shall be borne by the contractors.
- 3.2 The contractor shall arrange at his own cost and nothing extra shall be paid to the contractor on this account. The water shall be got tested at AMC laboratory.
- 3.3 In the event of any difference of opinion among site representatives in carrying out the item of work in accordance with the agreement the Engineer-in-charge shall decide the issue and his decision shall be final and binding on the contractor and the contractor shall be bound to carry out the instruction to complete work in time. At no point of time the contractor shall stop execution of the work on any ground whatsoever.

4.0 CONDITION FOR BITUMEN:

- (i) The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used.
- (ii) The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula before the process of painting is started and shall hypothecate it to the Engineer-in-charge. If any bitumen or tar remains unused on completion of work on accounts of the work less use of material in execution lesser for reason other than authorized changes of specification and abandonment of portion of work, corresponding deduction equivalent to the cost or unused material determined by the Engineer-in-charge shall be made and materials returned to the contractor. Although the materials are hypothecated to AMC the contractor undertake the responsibility for the proper watch, safe custody and protection against all risk. The materials shall not be removed from site of work without the consent of the Engineer-in-charge in writing.
- (iii) The contractor shall be responsible for rectifying defects noticed within ten years from the date of completion of work and portion of the security deposit relating to asphaltic work shall be refunded after the expiry of this period.

5.0 Submission of structural drawings/design:

(a) Submission of structural design:

The structural; drawing in order of priority and chronological order as mentioned below should be submitted for approval of the Engineer-in-charge.

Sr. No.	Description.	Duration.
1.	Foundation drawings (Structural).	Within 6 week from the date of issuing L.O.I. (Within 1 week from the date of issuing L.O.I., contractor has to start soil investigation work and report should be submitted within 3 weeks from the date of issuing L.O.I.)
2.	Services drawings such as water supply sewer line SW drains including UGR, water Gallery PUMP Houses, GPCB, GFO & St.	3 months from the date stipulated date of start

	PCB etc.	
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Above period shall be reckoned from the 15th day of issue of award letter i.e. stipulated date of start.

Structural drawings will be submitted by the agency as per schedule given above, which will be got approved from the institutions stated in the tender documents. It will be submitted through Additional City Engineer. It has to be ensured by the agency that the drawings are got approved from the institution referred above with in months' time from the date of its submission. All service plans should be got approved from the concern Authority/department within 6 months from the stipulated date of start . It is entirely the responsibility of the contractor to get the above designs approved and finalized within aforesaid period. Any delay on this account will attract compensation as per clause 2.

The contractor(s) shall supply 5 copies of / laminated approved structural drawings/architectural drawings to the Engineer-in-charge for the use of the AMC after having approved from the competent authority within 7 days from the receipt of approval.

In addition to above sets of drawings, contractor shall keep necessary sets of drawings required at site for its execution as directed by the Engineer-in-charge.

6.0 Handing over of Flats/Houses:

Three months before the likely date of completion of flats in all respects, contractor shall intimate to the Engineer-in-charge the following.

The contractors/agency shall lay the services as per approved plan by concern department. On completion of services the contractor /agency will submit the required number of completion plan to various authorities for handing over. The AMC also reserves the right to withhold the amount which is likely to be payable to these agencies as deficiency charges. The decision of the Engineer-in-charge in this regard shall be final and binding on the contractor(s)/agency(s).

7.0 Testing of materials:

When required by the Engineer-in-charge the contractor(s) shall supply for the purpose of testing samples of all materials proposed to be used in the works. Samples submitted either to govern bulk supplies or required for testing before use shall be in suitable packages to contain them and shall be provided free of charge by the contractor. The cost of testing shall be borne by the contractor even if the result of the sample confirm or do not confirm to the relevant BIS code and specifications.

- (i) All expenditure required to be incurred for taking the samples conveyance, packing shall be borne by the contractor himself.
- (ii) The failed material shall be removed from the site by the contractor at his own cost within a week time of written order of the Engineer-in-charge.

8.0 Setting of site Laboratories:

The contractor shall install testing equipment as per Annexure III at site. The contractor shall

ensure and certify the calibration of the equipment so installed and shall maintain the same in working order throughout the period of construction. The contractor shall also provide necessary trained staff for carrying out such tests for using such equipment. The tests shall be carried out under the supervision of the Engineer-in-charge.

9.0 Instructions for Composite Contract:

(a) It will be obligatory on the part of the tenderer to sign the tender documents for all the components. (The schedule of quantities, conditions and specials conditions etc.).

10.0 (a) The contractor shall construct/provide site office at the housing project consisting of 5 rooms & 1 toilet block having area not less 100 Sqm. The location and plan shall be got approved from Engineer-in-charge. Specification for the site office shall be portable type. In addition to above, a conference room of minimum sitting capacity of 15 persons shall be constructed at site office. Nothing extra for the construction of site office/ conference Hall i/c furniture etc. shall be payable. Site offices and Conference Hall shall be maintained till all the services are handed over to the statutory body. The Agency shall provide a typical plan of site office & Conference room with specification at the time of submission of tender.

(b) The contractor will provide air-conditioned office space with laptop & printer and other required furniture for use of site office:

After the completion of the work, site office/conference hall including furniture shall be taken back by the agency on 'As is where basis.

11.0 AQI Indicator

The contractor shall install and maintain an Air Quality Indicator display/monitoring system as specified and as and when asked by the AMC for real time monitoring of Ambient Air quality at site.

17. CLAUSES OF CONTRACT

CLAUSE 1:

Security Deposit

- i. The Contractor shall submit an security deposit in form of irrevocable Bank Guarantee of 5% (five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/ or without prejudice to any other provisions in the contract) within 15 days period from the date of issue of letter of acceptance. This guarantee shall be in the form of Guarantee Bonds of any Approved Bank by AMC in accordance with the form annexed hereto.
- ii. The Security Deposit shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of bank Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the security deposit shall be returned to the contractor, without any interest.
- iii. The Engineer-in-Charge shall not make a claim under the Security Deposit except for amounts to which the AMC is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
 - a) Failure by the contractor to extend the validity of the S D bank Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
 - b) Failure by the contractor to pay AMC any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
 - c) In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the AMC.
 - d) A letter of intent shall be issued in the first instance informing the successful tender by the competent Authority to accept his tender and the award letter shall be issued only after the Security Deposit in any of the prescribed form is received. In case of failure by the Contractor to furnish the Security Deposit within the specified period, AMC shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the Earnest Money absolutely.
 - e) **Performance Guarantee**

The performance guarantee of 5% of the value of actual work done shall be delivered to the AMC at the time of completion of work under contract or as instructed by the Engineer - in-charge. The contractor may at his option convert security deposit in to performance guarantee.

CLAUSE 1A:**Recovery of Performance Guarantee**

Out of 5% of the performance guarantees, 2.5% shall become refundable after 3 years of the final completion certificate is issued. Another 2% of performance guarantee will be released after another 2 years (i. e. after 5 years of completion) and remaining 0.5 % of performance guarantee will be released after another five years i.e. total 10 years of defect liability period, provided that there is no defect detected within the said periods

CLAUSE 2:**Compensation for Delay**

If the contractor fails to maintain the required progress in terms of clause 5 or to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the AMC on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Authority specified (whose decision in writing shall be final & binding) may decide on the amount of tendered value of the work for every completed day/month (as applicable) that the progress remains below that specified in clause 5 or that the work remains incomplete.

This will also apply to items or group of items for which a separate period of completion has been specified.

- i) (After completion of original/extended time limit 10 % of the amount of remaining works shall be charged as liquidated damages (penalty) or the amount as decided by Municipal Commissioner.)

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tendered Value of work or of the tendered Value of the item or group of items of work for which a separate period of completion is originally given.

The amount of compensation may be adjusted or set-off against any sum payable to the contractor under this or any other contract with the AMC. In case, the contractor does not achieve a particular milestone mentioned in table of milestones (page 45), or the re-scheduled milestone(s) in terms of clause 5.4, the amount shown against the milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. With holding of amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s) the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

CLAUSE 3:

When contract can be terminated:

Subject to other provisions contained in this clause, the Engineer-in-charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/ or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely terminated the contract in any of the following cases::

- i) If the contractor having been given by the Engineer-in-charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- ii) If the contractor has, without reasonable cause, suspended that progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-charge.
- iii) If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date (s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-charge.
- iv) If the contractor persistently neglects to carry out his obligations under the contract and / or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him on behalf of AMC by the Engineer-in-charge.
- v) If the contractor shall offer or give or agree to give to any person in AMC service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or for bearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for AMC.
- vi) If the contractor shall enter into a contract with AMC in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-charge.
- vii) If the contractor shall obtain a contract with AMC as a result of wrong tendering or other non-bonafide methods of competitive tendering.
- viii) If the contractor being an individual or if a firm, any partner thereof shall at any time be adjusted insolvent or have a receiving order or order for administration of his estate made adjust him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or

arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.

- ix) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
- xi) If the contractor assigns, transfers, sublets (engagement of labour on a piece work basis or of labour with materials not to be incorporated in the work, shall not be deemed to the subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-charge.

When the contractor has made himself liable under any of the case aforesaid, the engineer in charge on behalf of AMC shall have powers.

- a. To determine the contractor as aforesaid (of which termination notice in writing to the contractor under the hand of the Engineer - in charge shall be conclusive evidence) Upon such determination, the Earnest Money deposit, Security Deposit already recovered and performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the AMC.
- b. After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un- executed out of his hands and to give it to another contractor to complete the work. The contractor whose contract is determine as above, shall not be allowed to participate in the tendering process for the balance work.

In the event of above courses being adopted by the Engineer-in-charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchases or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

CLAUSE 3A:

In case, the work cannot be started due to reasons not within the control of the contractor within 1/4th of the stipulated time for completion of work, either party may close the contract. In such eventuality, the Earnest Money Deposit and the performance Guarantee of the contractor

shall be refunded, but no payment on account of interest, loss of profit or damages etc. shall be payable at all.

CLAUSE 4:

Contractor liable to pay compensation even if action not taken under clause-3. In any case in which any of the powers conferred upon the Engineer-in-charge by clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer- in-charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/ or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises(within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

CLAUSE 5:

Time and Extension for Delay:

The time allowed for execution of the works as specified or the extended time in accordance with these conditions shall be the essence of the contract. The execution of the works shall commence from such time period as mentioned in letter of acceptance or from the date of handing over of the site whichever is later. If the contractor commits default in commencing the execution of the work as aforesaid, AMC shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.

1. As soon as possible after the contract is concluded the contractor shall submit a Time and Progress Chart for each milestone and get it approved by the Engineer-in-charge. The chart shall be prepared in direct relation to the time stated in the contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement

and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-charge and the contractor within the limitations of time imposed in the contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceed one month (save for special jobs for which a separate program has been agreed upon) complete the work as per milestones.

2. If the work(s) be delayed by:

- i) Force Measure, or
- ii) Abnormally bad weather, or
- iii) Serious loss or damage by fire, or
- iv) Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- v) Delay on the part of other contractors or tradesmen engaged by Engineer-in-charge in Executing work not forming part of the contractor, or
- vi) Non availability of stores, which are the responsibility of AMC to supply or
- vii) Non availability or break down of tools and plant to be supplied or supplied by AMC, or
- viii) Any other cause, which in the absolute discretion of the authority is beyond the contractor's control.

Then upon the happening of any such event causing delay, the contractor shall immediately, give notice thereof in writing to the Authority but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-charge to proceed with the works.

5.3 Request for rescheduling of Milestones and extension of time, to be eligible for consideration, shall be made by the contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form to the Authority. The contractor may also, if practice able, indicate in such a request the period for which extension is desired.

5.4 In any such case the authority may give a fair and reasonable extension of time and reschedule the milestones for completion of work. Such extension shall be communicated to the contractor by the authority in writing, within 3 months of the date of receipt of such request. Non application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the authority and this shall be binding on the contractor.

CLAUSE 6:

Record of work done:

Though the contract is on turnkey basis, and payment will not be on item rate, but for maintaining the records of work done.

All measurements of all the items shall be entered by the contractor and compiled in the shape of the computerized Measurement sheet having pages of A-4 size as per format of the department so that a complete record is obtained of all the items of works performed under the

contract.

CLAUSE 7:

Payment on Intermediate Certificate to be regarded as Advances:

No payment shall be made for work of INR 50.00 lacs or 1% of the tendered amount or less as an interim bill. The interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by Engineer-in-charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payments/ adjustment of advances for the material collected, if any, in which case the interim bill shall be prepared on the appointment date of the month after the requisite progress is achieved. Engineer-in-charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, Engineer-in-charge shall prepare or cause to be prepared such bills, in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer in-charge. The amount admissible shall be paid by 10th working day after the day of presentation of bill by the contractor to Engineer-in-charge or his Assistant Engineer together with the account of the material issued by the department, or dismantled materials, if any. In case of works outside the headquarters of Engineer-in-charge, the period of 10 working days will be extended to fifteen working days.

All such interim payments shall be regarded as payment by way of advance against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in anyway powers of the Engineer-in-charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein-provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completions is not granted by the competent authority.

The Engineer-in-charge in his sole discretion on the basis of a certificate from to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundation, items to be covered

under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by taking detailed measurements thereof.

CLAUSE 8:

Completion Certificate and completion plans:

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-charge and within thirty days of the receipts of such notice the Engineer-in-charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and / or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be completed until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/ their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, door, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution thereof, and not until the work shall have been measured by the Engineer-in-charge. If the contractor shall fail to comply with the requirements of this clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning of dirt on or before the date fixed for the completion of work, the Engineer-in-charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc, and dispose off the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

CLAUSE 8A:

Contractor to keep site clean:

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, color washing, painting etc. on walls, floors, windows, etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-charge shall have the right to get this work done at the cost of the contractor weather departmentally or through any other agency. Before taking such action, the Engineer-in-charge shall give ten days' notice in writing to the contractor.

CLAUSE 9:

Payment of Final Bill

The final bill shall be submitted by the contractor in the same manner as specified in interim bills

within three months of physical completion of work or within one month of the date of the final certificate of completion furnished by the Engineer-in-charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-charge, will as far as possible be made within three month, the period being reckoned from the date of receipt of the bill by the Engineer-in-charge or his authorized Assistant Engineer, complete with account of materials issued by the department and dismantled material.

CLAUSE 9A:

Payment of contractor's Bill to Banks

Payment due to the contractor may, if so desired by him, be made to his bank, registered financial, co-operative or thrift societies or recognized financial institutions instead of direct to him provided that the contractor furnishes to the Engineer-in-charge (1) an authorization in the form of a legally valid document such as a power of attorney conferring authority on the bank : registered financial, cooperative or thrift societies or recognized financial institutions to receive payments and (2) his own acceptance of the correctness of the amount made out as being due to him by AMC or his signature on the bill or other claim preferred against AMC before settlement by the Engineer-in-charge of the account or claim by payment to the bank, registered financial , co-operative or thrift societies or recognized financial institutions. While the receipt given by such banks; registered financial, co-operative or thrift societies or recognized financial institutions shall constitute a full and sufficient discharge for the payment, the contractors shall whenever possible present his bills duly receipted and discharged through his bank, registered financial co-operative or thrift societies or recognized financial institutions.

Nothing herein contained shall operate to create in favour of the bank; registered financial, co-operative or thrift societies or recognized financial institutions any right or equities vis-a-vis the AMC.

CLAUSE 10:

Materials to be provided by the contractor:

The contractor shall, at his own expense, provide all materials, required for the work.

The contractor shall, at his own expense and without delay; supply to the Engineer-in-charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-charge furnish proof, to the satisfaction of the Engineer-in-charge that the materials so comply. The Engineer-in-charge shall within thirty days of supply of samples or within such further period as he may require intimate to the contractor in writing whether samples are approved by him or not. If samples are not approved, the contractor shall forthwith arrange to supply to the Engineer-in-charge for his approval fresh samples complying with the specifications laid down in

the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-charge shall be issued after the test results are received.

The contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-charge. The contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost make all arrangements and shall provide all facilities as the Engineer-in-charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared for from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-charge shall have full powers to remove from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the contractor.

The contractor shall, at his own expense, provide a materials testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipments.

CLAUSE 10.A:

Dismantled Material a AMC Property:

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as AMC property and such materials shall be disposed off to the best advantage of AMC according to the instructions in writing issued by the Engineer-in-Charge.

CLAUSE 11:

Work to be executed in Accordance with Specifications, Drawings, Orders etc.:

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract

documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified with up to date Correction Slips, or in any Bureau of Indian Standard or any other, published Standard or Code or, schedule of rates or any printed publications, or General Specification 2002 referred to elsewhere in the Contract with up to date Correction Slip, or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plants and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

CLAUSE 12:

Deviations/Variations Extent and Pricing:

The Engineer-in-Charge shall have power (i) to make alternation in, omissions from, additions to, or substitutions for the original specifications, drawings, design and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alternations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

12.1 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered be extended, if requested by the contractor, as follow:

- i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus
- ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.
- iii) Power to extend the contract rest with Additional City Engineer.

12.2 The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration and reply received from him within fifteen days of the receipt of

the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

- 12.3 The contractor shall send to the Engineer-in-Charge once every three months an up to date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by Engineer-in-Charge which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Engineer-in-Charge may authorize consideration of such claims on merits.
- 12.4 For the purpose of operation, the following works shall be treated as works relating to foundation unless and otherwise defined in the contract:
- a. For building: All works up to 1.2 meters above ground level or up to floor 1 level which is lower.
 - b. For abutments, piers and well staining: All works up to 1.2 m above the bed level.
 - c. For retaining walls, wing walls, compound wall, chimneys, overhead reservoirs/tanks and other elevated structures: All works up to 1.2 meters above the ground level.
 - d. For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2 meters above the ground level.
 - e. for basement: All works up to 1.2 m above ground level or up to floor 1 level which is lower.
 - f. For roads, all items of excavation and filling including treatment of sub base.
 - g. For water supply lines, sewer lines, underground storm water drains and similar works all items of work below ground level except items of pipe work and masonry work.
 - h. For open storm water drains, all items of work except lining of drains.
- 12.5 Any operation incidental to or necessarily has to be in contemplation of tenderer while filling tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said of rate, as the case may be. Nothing extra shall be admissible for such operations.

CLAUSE 13:

Foreclosure of Contract due to Abandonment or Reduction in Scope of work:

If at any time after acceptance of the tender, AMC shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the Contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the work.

The contractor shall be paid at contract rated full amount for works executed at site and, in

addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure:

- i. Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.
 - ii. AMC shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however, AMC shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by AMC, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.
 - iii. If any materials supplied by AMC are rendered surplus, the same except normal wastage shall be returned by the contractor to AMC at rates not exceeding those at which these were originally issued less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to AMC stores, if so required by AMC, shall be paid.
 - iv. Reasonable compensation for transfer of T& P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.
30. Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary. The contractor shall, if required by the Engineer-in-Charge furnished to him books of account, wage books, time sheets and other relevant documents and evidence or may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the AMC as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the recover for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the AMC from the contractor under the terms of the contract.

CLAUSE 14:

Carrying out part work at risk & cost of contractor:

If Contractor:

- (i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do even after a notice in writing of 7 days in this respect

from the Engineer-in-Charge: or

- (ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or
- (iii) Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specific in the notice given in writing in that behalf by Engineer-in-Charge.

The Engineer-in-Charge without invoking action under Clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Government, by a notice in writing to take the part work/ part incomplete work of any item(s) out of his hands and shall have powers to:

- (a) Take possession of the site and any materials, constructional plant, implements, stores etc., thereon; and /or
- (b) Carry out the part work/part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by AMC because of action under this clause shall not exceed 10% of the tendered value of the work.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by AMC in completing the part work/part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by AMC as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to Government in law or as per agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all the contractor's unused materials constructional plant, implements, temporary building at site etc. and adjust the

proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of work or the performance of the contract.

CLAUSE 15:

Suspension of Work:

- (i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof any of the following reasons:

- (a) On account of any default on the part of the contractor or;
- (b) For proper execution of the works or part thereof for reasons other than the default of the contractor; or
- (c) For safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge

- (ii) If the suspension is ordered for reasons (b) and (c) in sub-Para (i) above:

- (a) The contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
- (b) If the total period of all such suspensions in respect of an item or group of item or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.
- (iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-Para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days

from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by AMC or where it affects whole of the works, as an abandonment of the works by AMC, shall within ten days of expiry of such period of 15 days given notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by AMC, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

Provided, further, that the contractor shall not be entitled to claim any compensation from AMC for the loss suffered by him on account of delay by AMC in the supply of materials in schedule 'B' where such delay is covered by difficulties relating to the supply of wagons, force Measure including non-allotment of such materials by controlling authorities, acts of God, acts of enemies of the state/country or any reasonable cause beyond the control of the AMC.

CLAUSE 16:

Action in case Work not done as per Specifications:

All works under or in course of execution or executed in pursuance of the contract shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorized subordinates in charge of the work and all the superior officers, Officers from Quality Assurance Cell of AMC or any organization engaged by the AMC for Quality assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-Charge or his authorized subordinates in-charge of the work or to the Addl. City Engineer in charge of Quality Assurance or his subordinate officers or the officers of organization engaged by the department for Quality Assurance or to Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the

execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract the contractor shall, on demand in writing which shall be made within twelve months(six months in case of work costing INR 10 Lakh and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified,

In whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time)for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same shall be final and binding on the contractor.

CLAUSE17:

Contractor Liable for Damages, defects during maintenance period:

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cable, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months(six months in the case of work costing INR Ten lakhs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expenses or in default, the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expenses from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof.

In case of Maintenance and Operation works of E&M service, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier.

CLAUSE 18:**Contractor to Supply Tools & Plants etc:**

The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores), machinery tools and plants as specified. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied or which he is entitled to require together with carriage there for to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expenses of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or a sufficient portion thereof.

CLAUSE 18A:**Recovery of Compensation paid to Workmen:**

In every case in which by virtue of the provisions sub-section(1) of Section 12, of the Workmen's Compensation Act, 1923, AMC is obliged to pay compensation to a workman employed by the contractor, in execution of the works, AMC will recover from the contractor, the amount of the compensations so paid; and, without prejudice to the rights of the AMC under sub-section(2) of Section 12, of the said Act, AMC shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by AMC to the contractor whether under this contract or otherwise. AMC shall not be bound to contest any

claim made against it under sub-section (1) Section 12, of the said Act, except on the written request of the contractor and upon his giving to AMC full security for all costs for which AMC might become liable in consequence of contesting such claim.

CLAUSE 18B:**Ensuring Payment and Amenities to Workers if Contractor fails:**

In every case in which by virtue of the provisions of the Contractor Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, AMC is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19 H or under the Contractor's Labour Regulations, or under the Rules framed by Govt. from time for the

protection of health and sanitary arrangements for workers employed by AMC & its Contractors. AMC will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the AMC under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, AMC shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by AMC to the contractor whether under this contract or otherwise AMC shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the AMC full security for all costs for which AMC might become liable in contesting such claim.

CLAUSE 19:

Labour Laws to be complied by the Contractor.

The contractor shall obtain a valid license under the Contractor Labour (R &A) Act 1970, and the Contract Labour (Regulation and Abolition) Central Rules 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

The contractor shall also comply with the provisions of (A) Payment of gratuity Act 1972, (B) Employees P.F. and miscellaneous Provision Act 1952 (C) Maternity Benefit Act 1951, (D) Equal remunerations Act 1979, (E) Payments of Bonus Act 1965, (F) Industrial employment (standing orders) Act 1946 ,(G) Trade Unions Act 1926 ,(H) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979 and (I) The occupational safety, health and working conditions code-2020 .

The contractor shall ensure the registration of all eligible workers (inclusive of those of sub-contractors and petty contractors) with construction workers welfare board.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non- execution of the work.

CLAUSE 19A:

No labour below the age of fourteen years shall be employed on the work.

CLAUSE 19B:

Payment of Wages:

- i The contractor shall pay to labour employed by him either directly or through sub-contractors, wages not less than fair wages as defined in the Contractor's Labour Regulations or as per the provisions of the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- ii The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by

his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

- iii In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Central Public Works Department contractor's Labour Regulations made by Government from time to time in regard to payment of wages, wages period, deductions from wages recovery of wages not paid and deductions un-authorized made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- iv (a) The Engineer-in-Charge concerned shall have the right to deduct from the money due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reasons of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.
- (b) Under the provision of Minimum Wages (Central) Rules 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.

In the case of Gujarat, however, as the all-inclusive minimum daily wages fixed under Notification of the Gujarat Administration No. _____, dated _____ as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holidays would not arise.

- v. The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits the modifications thereof or any other laws relating thereto and the rules made there under from time to time.
- vi The contractor shall indemnify and keep indemnified AMC against payment to be made under and for the observance of the laws aforesaid and the Contractor's Labour Regulation without prejudice to his right to claim indemnify from his sub-contractors.
- vii The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
- viii Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the

intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.

- ix The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

CLAUSE 19C:

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.200/- for each default and in addition the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

CLAUSE 19D:

The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:

- 1) The number of labours employed by him on the work.
- 2) Their working hours
- 3) The wages paid to them
- 4) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
- 5) The number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them.

CLAUSE 19E:

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Govt. from time to time for the protection of health and sanitary arrangements for workers employed by the AMC and its contractors.

CLAUSE 19F:

Leave and pay during leave shall be regulated as follows:

1. Leave:

- i) In the case of delivery-maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,
- ii) In the case of miscarriage –up to 3 weeks from the date of miscarriage.

2. Pay:

- i) In the case of delivery- leave pay during maternity leave will be at the rate of the women's

average daily earning, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupees one only a day whichever is greater.

- ii) In the case of miscarriage – leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.

3. CONDITIONS FOR THE GRANT OF MATERNITY LEAVE:

No maternity leave benefit shall be admissible to a woman unless she has been employees for a total period of not less than six months immediately preceding the date on which she proceeds on leave.

- 4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix-I and II, and the same shall be kept at the place of work.

CLAUSE 19G:

Contractor(s) is/ are not properly observing and complying with the provisions of the Contract's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and sanitary arrangements for works people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work people as forfeited, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). the contractor(s) shall erect, make and maintain at his/ their own expenses and to approved standards all necessary huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works, and if the same shall not have been created or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodeled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

CLAUSE 19H:

The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge

- i (a) The minimum height of each hut at the eaves level shall be 2.10 m (7 ft) and the floor

area to be provided will be at the rate of 2.7 sq. m. (30 sq. ft) for each member of the worker's family staying with the labourer.

- (b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.
 - (c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labours each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
 - (d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- ii (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobi on both sides. The floor may be kutcha but plastered with mud gobi and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation the roofs remain water-tight.
- (b) The contractor(s) shall provide each hut with proper ventilation and water tight tent.

All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.

There shall be kept an open space of at least 7.2m (8 yards) between a the rows of huts which may be reduced to 6m(20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.

- iii Water supply- The contractor(S) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purpose and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of mental or masonry, shall be provided. The contractor(s) shall also at his/their own cost make arrangements for laying pipe lines for water supply to his /their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.
- iv The site selected for the camp shall be high ground, removed from jungle.
- v Disposal of Excreta- The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him

to the Municipality/authority. The contractor shall provide one sweeper for every eight seats in case of dry system.

- vi Drainage- The contractor(s) shall provide efficient arrangements for draining away sludge water so as to keep the camp neat and tidy.
- vii The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.
- viii Sanitation- The contractor(s) shall make arrangements for conservancy and sanitation in the labour camp according to the rules of the Local Public Health and Medical Authorities.
- ix Wherever electric connection from DISCOM is readily available the Contractor would provide sufficient street-lights for the labour camp as per directions of the Engineer-in-Charge.

CLAUSE 19 I:

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ on the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance /repair of renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. AE/JE will display a list of contractors working in the colony/ blocks on the notice board in the colony and also at the service center, to apprise the residents about the same.

CLAUSE 19 J:

It shall be the responsibility of the contractor to see that the building under construction is not occupied by and body un-authorized during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay a levy up to 5% of tendered value of work may be imposed by the SE whose decision shall be final both with regard to the justification and quantum and be binding on the contractor. This decision of Additional City Engineer will not be opened to any arbitration/litigation

However, the Additional City Engineer, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

CLAUSE 19 K:

Employment of skilled/semi skill worker:

The contractor shall, at all stages of work, deploy skilled/semiskilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/ National Academy of Construction, CIDC or any similar reputed and recognized Institute mangled/certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semiskilled workers required in each trade at any stage of work. The

contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Decision of Engineer in Charge as to whether particular tradesmen possess requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause shall not be applicable for works with estimated cost put to tender being less than INR 5 Crores.

CLAUSE 20:

Minimum Wages Act to be complied with:

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed there under and other labour laws affecting contract labour that may be brought into force time to time.

CLAUSE 21:

Work not to be sublet. Action in case of insolvency:

The contractor shall not assign or sublet without the written approval of the Engineer-in-Charge. And if the contractor shall assign or sublet this contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composite with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to nay public office or person in the employ of Govt. in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the AMC shall have power to adopt the course specified in Clause 3 hereof in the interest of AMC and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

CLAUSE 22:

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of AMC without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

CLAUSE 23:

Changes in firm's Constitution to be intimated:

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby

undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

CLAUSE 24:

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respect of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

CLAUSE 25:

Settlement of Disputes & Arbitration:

“In case of any dispute(s)/differences(s) arising out of this Agreement, with regard to interpretation on validity, termination, execution of works or breach of any clause(s) including determination of the rights/liabilities/obligations of the parties, then such claim/objection shall be raised in writing before the Municipal Commissioner within a period of 30 days from occurrence of such events, for its resolution.

If the disputes are not resolved, then considering the nature of work undertaken under this Agreement and AMC’s Circulars dated 24/09/2024 & 18/04.2025 issued in this regard, the matter will be referred either before the Gujarat Public Works contract disputes Arbitration Tribunal at Ahmedabad or by filling civil suit before the Civil Courts located within be Jurisdiction of Ahmedabad, as the case may be”

The settlement of disputes and arbitration arising out of or in connection with this Contract, including any question regarding its existence, validity, or termination, shall be governed by the provisions of The Gujarat Public Works Contracts Disputes Arbitration Tribunal Act, 1992 ("Act"), as amended from time to time:

1. Amicable Settlement

- a. In the event of any dispute, difference, or claim (collectively, “Dispute”) arising between the parties to this Contract, the parties shall first attempt to resolve the Dispute amicably through good faith negotiations.
- b. Either party may initiate negotiations by providing written notice to the other party, specifying the nature of the Dispute and the relief sought.
- c. The parties shall endeavour to resolve the Dispute within thirty (30) days from the date of such notice, unless mutually extended.

2. Reference to Arbitration Tribunal

- a. If the Dispute is not resolved amicably within the period specified in Clause 1(c) or such extended period, either party may refer the Dispute to the Gujarat Public Works Contracts Disputes Arbitration Tribunal (“Tribunal”) established under the Gujarat Public Works Contracts Disputes Arbitration Tribunal Act, 1992 (“Act”), for arbitration.
- b. The reference to the Tribunal shall be made within one (1) year from the date the Dispute arose, in writing, in the prescribed form, accompanied by such documents, evidence, and fees as required under the Act.

- c. The Tribunal shall have jurisdiction over Disputes valued at or exceeding fifty thousand rupees arising out of the execution or non-execution of the whole or part of this Contract.

3. Finality and Review of Award

- a. The award or interim award of the Tribunal shall be final and binding on the parties, subject to review or revision as provided under the Act.
- b. The Tribunal may, on its own motion or on application by an aggrieved party within ninety (90) days from the date of the award, review the award if there is new evidence, an error apparent on the record, or other sufficient reason, provided notice is given to the parties.
- c. An award or interim award, as confirmed or varied by review or revision, shall be deemed a decree of a principal Court of original jurisdiction and shall be executable accordingly.

(A) Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter.

I If the contractor considers any work demanded of him to be outside the requirements of the contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request the Additional City Engineer in writing for written instruction or decision. Thereupon the Additional City engineer shall give his written instructions or decision within a period of one month from the receipts of the contractor's letter.

If the Additional City Engineer fails to give his instructions or decision in writing within the aforesaid period or if the contractor is dissatisfied with the instructions or decision of the receipt of Additional City Engineer's decision appeal to the Chief Engineer who shall afford an opportunity to the contractor to be heard, if the later so desires, and to offer evidence in support of his appeal. The chief Engineer shall give his decision within 30 days of receipt of the Contractor's Appeal. If the contractor is dissatisfied with this decision, the contractor shall within a period of 30 days from receipt of the decision, give notice to the Engineer Member for appointment of Arbitrator, failing which, the said decision shall be final, binding and conclusive and not referable to adjudication by the arbitrator.

II Except where the decision has become final, binding and conclusive in terms of Sub Para (i)

above, disputes or difference shall be referred for adjudication through arbitration by a Sole-Arbitrator, who shall be a technical person having knowledge and experience of the trade, appointed by the Engineer –Member, AMC. It will be no objection to any such appointment that the arbitrator so appointed is a AMC employee that he had to deal with the matter to which the contract relates and that in the course of his duties as AMC employee, he has express his views in all or any of the matters in dispute or difference. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another sole-arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. Except where the decision has become final, binding and conclusive in terms of Sub Para (i) above disputes or difference shall be referred for adjudication through arbitration appointed as under: Matters to be arbitrated upon shall be referred to a sole Arbitrator where the total value of claims does not exceed INR 10.00 million. Beyond the claim limit of INR 10.00 million, there shall be three arbitrators. For this purpose the AMC will make out a panel of Engineers with the requisite qualifications and professional experience relevant to the field to which the contract relates. This panel will be from serving or retired Engineers of Central/State Government, AMC's or of Public sector. In case of a single arbitrator, the Panel will be of three Engineers, out of which the Contractor will choose one. In case three arbitrators are to be appointed, the AMC will make out a panel of five. The Contractor and the AMC will choose one arbitrator each and the two so chosen will choose the third arbitrator. Neither party shall be limited in the proceedings before such arbitrator(S) to the evidence nor did arguments put before the Chief Engineer for the purpose of obtaining his decision. The arbitration proceedings shall be held in Ahmedabad only. The language of proceedings that of documents and communication shall be English.

It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of arbitrator and giving reference to the rejection by the Chief Engineer of the appeal.

It is also a term of this contract that no person other than a person appointed by the Engineer Member, AMC, as aforesaid, should act as arbitrator and, if, for any reason that is not possible; the matter shall not be referred to arbitration at all. It is also a term of this contract that if the contractor does not make any demand for appointment of arbitrator in respect of any claims in writing as aforesaid within 120 days of receiving the intimation from the Engineer-in-Charge that the final bill is ready for the payment, the claim of the contractor shall be deemed to have been waived and absolutely barred and the AMC shall be discharged and released of all liabilities under the contract in respect of these claims.

The arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996) or any statutory modifications or re-

enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is also a term of this contract that the arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority to him and, in all cases, where the total amount of the claims by any party exceeds INR 100,000/-, the arbitrator shall give reasons for the award.

It is also a term of the contract that if any fees are payable to the arbitrator, these shall be paid equally by both the parties. It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issue the notice to both the parties calling them to submit their statement of claims and counter statement of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator, shall, if required, to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.

- (B) The decision of the Additional City Engineer regarding the quantum of reduction as well as justification thereof in respect of rates for substandard work which may be decided to be accepted will be final and could not be open to Arbitration.

CLAUSE 26:

Contractor to indemnify Govt. against Patent Right:

The contractor shall fully indemnify and keep indemnified the AMC against and action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against AMC in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expenses, to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the AMC if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

CLAUSE 27:

Lump sum Provisions in Tender:

When the estimate on which a tender is made includes lump sum in respect of parts of the works, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, In the opinion of the Engineer-in-Charge Payable of measurement, the Engineer-in-Charge may at his discretion pay the lump sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive

against the contractor with regard to any sum or sums payable to him under the provisions of the clause.

CLAUSE 28:

Action where no Specifications are specified:

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian standards, the work shall be carried out as per manufacturer's specifications, if not available then as per district Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

CLAUSE 29:

With- holding and lien in respect of sums due from contractor:

- i Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the AMC shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any, deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the AMC shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the AMC shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge of the government or any contracting person through the Engineer-in-Charge pending finalizations of adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or AMC will be kept withheld or retained as such by the Engineer-in-Charge or AMC till the claim arising out of or under the contract is determined by the arbitrator(if the contract is governed by the arbitrator clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the AMC shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/ limited company as the case may be, whether in his individual capacity or otherwise.

- ii AMC shall have the right to cause an audit and technical examination of the works and the

final bills of the contractor 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 any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over payment and it shall be lawful for AMC to recover the same from him in the manner prescribed in sub clause (i) if this clause or in any other manner legally permissible; and 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 AMC to the contractor, with any interest thereon whatsoever.

Provided that the AMC shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment or any sum paid short where such payment has been agreed upon between the Additional City Engineer or Executive Engineer on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Additional City Engineer.

CLAUSE 29 A:

Lien in respect of claims in other Contracts:

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the AMC any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or AMC or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the AMC or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the AMC will be kept withheld or retained as such by the Engineer-in-Charge or the AMC or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

CLAUSE 30:

Unfiltered water supply:

The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions:

- i That the water used by the contractor(s) shall be fit for construction purpose to the satisfaction of the Engineer-in-Charge.
- ii The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk

and cost of contractor(S) if the arrangements made by the contractor(s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.

CLAUSE 31:

Alternate water arrangements:

- i Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the Government, no charge shall be recovered from the contractor on the account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and wells are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.
10. The contractor shall be allowed to construct temporary wells in AMC land for taking water for construction purpose only after he has got permission of the Engineer-in-Charge in writing. No charge shall be recovered from the contractor on this account, but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent building, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

CLAUSE 32:

Hire of Plant & Machinery:

Deleted

CLAUSE 33:

Condition relating to use of asphaltting materials:

- i The Contractor undertakes to make arrangements for the supervision of the works by the firms supplying the tar or bitumen used.
- ii The Contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. if any bitumen or tar remains unused on completion of the work on account of lesser use of material in actual execution for reason other than authorized changes of specification and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer- in-Charge shall be made and material returned to the Contractors. Although the material are hypothecated to AMC the Contractors under takes the responsibility for their proper watch, safe custody and protection against all risk. The material shall not be removed from site of work without the consent of the Engineer-in-Charge in writing.
- iii The Contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work. The Security Deposit relating to an asphaltic work shall be

refunded after the expiry of this period.

CLAUSE 34:

Employment of Technical Staff and employees:

Contractors Superintendence, Supervision, Technical Staff & Employees:

- i The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of tender and before commencement of the work, intimate in writing to the Engineer-in-Charge the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other technical representative (s) who will be supervising the work. The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative(s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative(s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative(s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-Charge and shall be available at site before start of work.

All the provisions applicable to the principal technical representative under the Clause will also be applicable to other technical representative(s). The principal technical representative and other technical representative (s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required, to the Engineer-in-Charge and/or his designated representative, to take instructions. Instructions given to the principal technical representative or other technical representative(s) shall be deemed to have the same force as if these have been given to the contractor. The principal technical representative and other technical representative(s) shall be actually available at site fully during all stage of execution of work, during recording/checking /test checking of measurements of works and whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative(s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements/checked measurement/ test checked measurements. The representative(s) shall not look after any other work. Substitutes, duly approved by Engineer-in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the representative(s) by more than two days.

If the Engineer-in- charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative(s) is/are effectively appointed

or is/are effectively attending or fulfilling the provision of this clause , a recovery (non-refundable) shall be effected from the contractor as specified in Schedule 'B' and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and/or other technical representative(s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibilities satisfactory, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative(s) is/are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative(s) along with every on account bill/final bill and shall produce evidence at any time so required by the Engineer-in-Charge.

- ii The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes. The technical staff required at site as per quantum of work but minimum at each site, as per table below.

MINIMUM REQUIREMENT OF TECHNICAL REPRESENTATIVE(S)

SI No .	Designation	Minimum Qualification	Discipline	Min. Experience	Number	Remarks
1	Structural Engineer	M.E/M.Tech	Structural Engineering	15 years	1	Should have designed at least 5 similar type of completed projects
<ul style="list-style-type: none"> The above professionals can be hired by the developer/contractor as consultants/can be on payroll. The developer/contractor must furnish all the documents including qualifications, experiences, memberships, pay slip (if on payroll), consulting agreement for the above mentioned professionals. If hired, the above professional shall actively participate throughout the project. 						

2	Works Manager	B.E(Civil)	Civil Engineering (Building Construction)	10 years	1	Should have worked as work manager at least 3 similar type of projects
3	Junior Site Engineer	Diploma(Civil)	Civil Engineering (Building Construction)	5 Years	2	Should have worked as site engineer at least 3 similar type of projects
4	Junior Electrical Site Engineer	Diploma (Electrical)	Electrical Engineering	5 Years	1	Should have worked as site engineer at least 3 similar type of projects
5	Safety & Environmental Engineer	Graduate	-	5 Years	1	Should have worked as safety & Environmental engineer at least 3 similar type of projects

* no. of persons will depend on the size of the project and as per instruction of Addl. City engineer

Note: Assistant Engineer(s) retired from Govt. services that are holding diploma will be treated at par with Graduate Engineer.

CLAUSE 35:

Levy/ Taxes payable by Contractor:

1. GST, Building and other Construction Workers Welfare Cess or any other taxes or Cess in respect of this contract shall be payable by the contractor and AMC shall not entertain any claim whatsoever in this respect.
2. The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.

CLAUSE 36:

Conditions for reimbursement of levy/taxes if levied after receipt of tenders:

1. All tendered rates shall be inclusive of all taxes. However, if any further Tax or levy or Cess is imposed by statutes, after the last stipulated date for the receipt of tender including extensions if any and the Contractor thereupon necessarily and properly pays such taxes/levies/cess, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the Authority (whose decision shall be final and binding on the contractor) attributable to delay in execution of work within the contract of the contractor.
2. The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the AMC and/or the Engineer-in-Charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.

3. The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer- in-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

CLAUSE 37:

Termination of Contract on death of contractor:

Without prejudice to any of the rights or remedies under this contract if the contractor dies, if no person ready to take responsibility of contract, AMC shall have the option of terminating the contract without compensation to the contractor.

CLAUSE 38:

If Near relative working in AMC then the contractor not allowed to tender:

The contractor shall not be permitted to tender for works in the AMC circle (Division in case of contractor of Horticulture/Nursery Categories) responsible for award and execution of contract in which his near relative is posted as Divisional Accountant or as an officer of any capacity between the grades of Additional City Engineer-and Junior Engineer(both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and are near relatives to any Gazetted Officer in the AMC or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractor of this Department. If however the contractor is registered in any other department, he shall be debarred from tendering in AMC for any breach of this condition.

Note: by the term "Near relatives" is meant wife, husband, parents and grandparents, children and grand-children, brothers and sisters, uncles, aunts and cousins and their corresponding in laws.

CLAUSE 39:

NO Gazetted Engineer to work as Contractor within one year of retirement:

No engineer of gazetted rank or other gazette officer employed in engineering or administrative duties in an engineering department of the AMC shall work as contractor or employee of a contractor for a period of two years after his retirement from Government service without the previous permission of AMC in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of AMC as aforesaid, before submission of the tender of engagement in the contractor's service, as the case may be.

CLAUSE 40:

Recovery for lesser material issued/consumed.

Quantity of cement & bitumen shall be calculated on the basis of quantity of cement and bitumen required for different items or work as per standard consumption, with up to date overall consumption will be checked at the time of final bill, if any material consumed is less than standard norms, same amount shall be recovered from final bill.

CLAUSE 41:**Compensation during warlike situations:**

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected there-with shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rate in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable materials and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation up to the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but already measured and paid for, the compensation shall be assessed by the Additional City Engineer concerned. The contractor shall be paid for the damages/ destruction suffered and for the restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in-Charge regarding the quantity and quantity of materials and purpose for which they were collected shall be final and binding on all parties to this contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (s) unless the contractor had taken all such precautions against air raid as are deemed necessary by Engineer-in-Charge

In the event of the contractor having to carry out the reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Divisional Officer.

CLAUSE 42:**Apprentices Act provisions to be complied with:**

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

CLAUSE 43:**labour clearance:**

As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer. Contractor has to produce Labour clearance certificate on demand of Engineer in charge.

CLAUSE 44:

PRICE ESCALATION

44.1 Adjustments to the Contract Price for Cement

The Contract Price shall be adjusted for increase or decrease in rates and prices of cement, which is incorporated in permanent works according to the formula given below on quarterly basis.

a) When Basic rate is Less than Procurement rate: -

$$A = B \times \frac{(C_1 - C_0)}{C_0} \times D$$

Where,

B = Basic rate of cement excluding GST which is **Rs. 5,234.00 per Tonne.**

A = Difference of Amount payable or recoverable

C1 = The (Quarterly) average corresponding index of cement for the quarter under consideration (as published in monthly bulletin or Reserve Bank of India)

C0 = Wholesale Price index of cement published in monthly bulletin of Reserve Bank of India for the month in which the hard copy of bids are submitted.

D = Quantity of cement actually brought by the contractor on site of work and consumed in the work during the quarter duly supported with bill as recorded in cement consumption register. (Cement purchase bill date will be considered for calculation)

b) When Basic rate is Greater than Procurement rate:-

$$R_c = (C_b - C_p) \times D$$

Where,

CB = Basic rate of cement excluding GST which is **Rs. 5,234.00 per Tonne.**

RC = Recovery from contract price for cement on account of decrease of market rate of cement.

Cp = Procurement rate of cement excluding GST.

D = Quantity of cement actually brought by the contractor on site of work and consumed in the work during the quarter duly supported with bill as recorded in cement consumption register. (Cement purchase bill date will be considered for calculation)

44.2 Adjustments to the Contract Price for Reinforcement Steel (TMT Fe-550D bars)

The Contract Price shall be adjusted for increase or decrease in rates and prices of steel (**TMT Fe550D bars**) as per IS 1786, which is incorporated in permanent works according to the formula given below on quarterly basis.

a) When Basic rate is Less than Procurement rate:-

$$A = B \times \frac{(S_1 - S_0)}{S_0} \times T$$

Where,

B = Basic Rate of steel (**TMT Fe-550D (CRS) bars**) excluding GST which is **Rs. 62,420.00 per Tonne**

A = Difference of Amount payable or recoverable.

S1 = The (Quarterly) average wholesale price index for MS long product for the quarter under consideration (as published in monthly bulletin or Reserve Bank of India).

S0 = wholesale price index for MS long product for the month in which the bids are submitted published in monthly bulletin of Reserve Bank of India

T = Quantity of steel actually brought by the contractor on site of work and consumed in the work during the quarter duly supported with bill as recorded in register or MB (for steel). (Steel purchase bill date will be considered for calculation).

Conditions for variation in prices of cement and TMT Fe550D steel only :-

- 1.No Ceiling for escalation for difference in the cost of steel and cement will be applicable.
- 2.This clause shall be operative from the date of issue of work order and up to the expiry of original and extended time limit.
- 3.This formula shall be used individually for cement and Steel (TMT Bars) for calculating adjustment.
- 4.The cement and steel (TMT Bars) brought by the contractor on site of work shall be used only after the same is tested by the Department. If such materials are not found as per the requirement of I.S. specification, the same shall be removed by the contractor for which no claim shall be entertained.
- 5.The calculation of rate difference for TMT shall be worked out as per the indexes of "Steel Long" from RBI Bulletin.
- 6.Waste of reconciliation shall not be considered.
7. Material shall be restriction to the works being executed at site and forming part of permanent works.
8. Property rights of the material shall be continued to rest with the Employer. The contractor shall not utilize the materials or deal with them in any manner whatsoever except for use in the contract.
9. It shall be contractor's responsibility to co-ordinate and receive delivery of material in time from suppliers/manufactures.
10. Cement supplied shall be stacked by the Contractor in weather tight sheds constructed on work site away from walls and on a damp proof floor. Consignments shall be used in the order in which they are received. Adequate arrangements shall be made for keeping the shed dry during the wet weather by all means. Contractor shall have to make this arrangement at his own cost.
- 11.Steel received at site shall be stacked on firm ground with proper use of sleepers to avoid contamination with mud / soil etc. Steel shall be kept covered to avoid normal rusting. Contractor shall have to make this arrangement at his own cost.
- 12.All godowns shall be lockable and under strict control of the contractor's representative. The EIC shall have access at any time to all stores, godown, etc. His guidance and instruction in up keeping shall be followed
- 13.If the price variation as calculated above is on the plus side, payment on account of the price variation shall be allowed to the Contractor as per above formula (for Cement, TMT Fe550D) If the actual purchase cost of cement and TMT Fe550D steel is lower than the basic prices of Cement & Steel **(i.e., For Cement – Rs. 5,234.00/MT & For Steel Fe550D – Rs. 62,420.00/MT)** then the direct difference between the basic price and the amount of purchase of cement & steel as mentioned in the invoice shall be directly deducted from the Contractor and the amount shall be deductible from any amounts due and payable under the contract. In case of purchase rate for Cement and TMT Fe550D steel is equal to basic rate as mention above in that case no variation is payable or recover. Contractor shall submit the original bill/invoices of purchase of cement and TMT Fe550D. The contractor shall maintain consumption register of cement & TMT Fe550D steel on day to day basis duly checked & signed by TPI/PMC/AMC Eng. As per Performa given by AMC.
- 14.These variations shall be considered on monthly basis .

b) When Basic rate is Greater than Procurement rate:-

$$Rs = (S_b - S_p) \times T$$

Where,

SB = Basic Rate of steel (TMT Fe550D (CRS) bars) excluding GST which is **Rs. 62,420.00 per Tonne**

Rs = Recovery from contract price for steel (TMT bars) on account of decrease of market rate of steel **(TMT Fe-550D (CRS) bars).**

Sp = Procurement rate of steel **(TMT Fe-550D bars)** excluding GST.

T = Quantity of steel actually brought by the contractor on site of work and consumed in the work during the quarter duly supported with bill as recorded in register or MB (for steel). (Steel purchase bill date will be considered for calculation).

Price variation: For Materials. The amounts payable to the contractor for the work done shall be adjusted for increase or decrease in the rates of labour/ materials excepting those materials supplied by Government as per Schedule-A.

(A) Labour: Increase or decrease in the cost due to labour shall be calculated quarterly in accordance with the following formula.

$$VI = 0.75 \times \{pl/100 \times R \times i-io/io\}$$

VI = increase or decrease in the cost of work during the quarter under consideration due to change in rates for labour.

R = The value of work done in rupees during the quarter under consideration, after excluding the value of extra items and after deducting the cost of.

(i) Materials supplied from the Departmental store to the Contractor at fixed rate as specified in schedule - A and.

(ii) Value of cement, steel and asphalt brought by the contractor valued at star rate plus the increase/decrease for which price adjustment is done under **clause 47.1 to 47.4**, below: -

io = The average consumer price index for industrial workers for the quarter in which tenders were opened (as published in _____)

i = The average consumer price index for industrial workers for the quarter under consideration.

pl = Percentage of labour components (specified in Schedule **Approx 60%**) of the item.

This refers to average consumer's price index (wholesale) for industrial workers as applicable to Amdavad/ Bhavnagar as published by Government of India, Ministry of Labour Bureau.

(B) Materials other than cement, Steel and Asphalt:

The increase or decrease in cost of materials other than cement and steel shall be calculated quarterly in accordance with the following formula:

$$Vm = 0.75 \times \{Pm/100 \times R \times i-io/io\}$$

Vm = Increase or decrease in the cost of work during the quarter under consideration due to change in the rates of material

R = The value of work done in rupees during the quarter under consideration, after excluding the value of extra items and after deducting the cost of.

(i) Materials supplied from the Departmental store to the Contractor at fixed rate as specified in schedule – A and.

(ii) Value of cement, asphalt and steel brought by the contractor valued at star rate plus the increase/decrease for which price adjustment is done under clause 47 .1 to 47.4 below: -

Io = The average wholesale price index *(all commodities) for the quarter in which tenders were opened. (as published in @ _____)

I = The average wholesale price index*(all commodities) for the quarter under consideration.

Materials supplied from the Departmental store to the Contractor at fixed rate as specified in schedule – A and.

Value of cement, steel and asphalt brought by the contractor valued at star rate plus the increase/decrease for which price adjustment is done under clause 47.1 to 47.4 below:-

Pm = Percentage of material components (specified in Schedule: **Approx 35%**) of the item.

@ = For materials wholesale price index as published by Reserve Bank of India should be referred to.

(C) P.O.L : The increase or decrease in cost of petrol, diesel, oil and lubricants shall be calculated quarterly in accordance with the following formula :

$$Vd = 0.75 \times \{pd/100 \times R \times D-Do/Do\}$$

Vd = Increase or decrease in the cost of work during quarter of consideration due to change in the rates of petrol, oil and lubricants (P.O.L.)

R = The value of work done in rupees during the quarter under consideration, after excluding the value of extra items and after deducting the cost of.

Do = The average price of high speed diesel (HSD) fixed by I.O.C. for the district in which the work is to be carried out for the quarter in which the tenders were opened.

D = The average price of HSD fixed by the I.O.C. for the district in which the work is to be carried out for the quarter under consideration.

d = Percentage of P.O.L component (specified in schedule) **Approx 5%** of the item.

Conditions for variation except for Cement, Steel and Asphalt:

(1) No adjustment shall be done for the work done in the first twelve months of the time limit. Adjustment payable/ recoverable will be calculated for the remaining work done during the subsequent period.

(2) The sum total price adjustment for A, B and C will be limited to **5 %** of the estimated cost of work put to tender less the cost of Materials supplied from the Departmental store to the Contractor at fixed rate as specified in schedule - A and cement, steel and asphalt valued at input rates mentioned as under on which the sanctioned estimate is based. When clause 47.1 to 47.5 is not deleted.

QUANITIY		INPUT RATE PER MT		
Cement :	9700.00 MT	Rs. :	5,234.00	MT
Mild Steel :	----- MT	Rs. :	-----	MT
TMT (Fe550D CRS) Bars :	3883.00 MT	Rs. :	62,420.00	MT
Asphalt VG-40 :	370.40 MT	Rs. :	40,677.57	MT
Polymer Modified : Bitumen(PMB)	60.480 MT	Rs. :	-----	MT

(3) The quarter referred to in the above formula shall mean the quarter of the calendar year January to March, April to June, July to September and October to December. Even if the tenders are opened in the middle of a quarter, the average index for the calendar quarter will be considered. The same principle would apply for identifying the quarter when the work is completed in the middle of calendar quarter.

(4) The value of extra items will be excluded for working out the value of 'R' in the above formula in all these cases.

(5) Intermediate payment of escalation to be made under this clause on each occasion shall be limited in such a manner that the total up-to-date payment of escalation will not exceed the proportionate percentage of the ceiling of escalation as related to the proportionate value of the contract cost.

(6) Price adjustment shall be applicable only for the work that is carried out within the stipulated time or extensions thereof as per not attributable to the contractor. No claims for price adjustment other than those provided herein shall be entertained.

(7) This clause will be applicable in respect of works which of the estimated cost put to tender is above Rs.25.00lacs and the time limit involved is more than 12 months.

(8) VG-40 for DBM & BC and PMB work shall be given, No price variation for bitumen other than VG-40 of DBM & BC and PMB work, shall be payable. Price variation for material of Tack coat & asphalt painting work shall not be given.

(9) Contractor has to submit price variation / escalation bill as per purchase bill of respective items duly verified by PMC. i.e. Cement, Steel, Bitumen VG40 / Polymer Modified Bitumen (PMB), etc. for that all necessary documents and registers have to be maintained.

18. SAFETY CODE

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm (3ft.).
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11½") for ladder up to and including 3m. (10ft.) in length. For longer ladder, this width should be increased at least ¼" for each additional 30cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the

public from accident and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.

6. Excavation and Trenching: – All trenches 1.2m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30m. (100ft.) in length or fraction thereof Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.
7. Demolition: – Before any demolition work is commenced and also during the progress of the work.
 - i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
 - iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned: -

THE FOLLOWING SAFETY EQUIPMENT SHALL INVARIABLY BE PROVIDED.

- i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.
- iii) Those engaged in welding works shall be provided with welder's protective eye-shields.
- iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at-least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measure are adhered to :
 - a) Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer.
 - b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.

- c) Before entry presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
- d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.
- e) Safety belt with rope should be provided to the workers. While working inside the manholes such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
- f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Power warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
- g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
- h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
- i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.

Gas masks with Oxygen Cylinder should be kept at site for use in emergency.

- j) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapor proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 meters away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
- k) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing working in the manhole.
- l) The workers shall be provided with Gumboots or non-sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
- m) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
- n) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
- o) The extents to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard is an individual case will be final.
- vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken :
 - a) No paint containing lead or lead products shall be used except in the form of paste or

readymade paint.

- b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scraped.
- c) Overalls equipment shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
- (d) An additional clause (viii) (i) of Safety Code (iv) the Contractor shall not employ women and men below the age of 18 on the work of painting with product contained lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:
 - 2 White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
 - 3 Precautionary Measures shall be taken, wherever required in order to prevent danger arising from the application of paint in the form of spray.
 - 4 Precautionary Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
 - 5 Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - 6 Overall shall be worn by working painters during the whole of working period.
 - i) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
 - ii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of AMC
 - iii) AMC may require, when necessary medical examination of workers.
 - iv) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
- 10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
- 11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:
 - i) a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
 - b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
 - ii) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding which or give signals to operator.
 - iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked

with the safe working load. In case of a hoisting machine having a variable safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

- iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.
- 12. Motors, gearing transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
- 13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
- 14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
- 15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.
- 16. Notwithstanding the above clauses from 1 to 15 there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS

FOR WORKERS EMPLOYED BY AMC OR ITS CONTRACTORS

1. APPLICATION:

These rules shall apply to all buildings and construction works in charge of AMC in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION:

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES:

3.0 At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.

3.1 The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment:

a) For work places in which the number of contract labour employed does not exceed 50 each first aid box shall contain the following equipments:

1. 6 small sterilized dressings.
2. 3 medium size sterilized dressings.
3. 3 large size sterilized dressings.
4. 3 large sterilized burn dressings.
5. 1 (30 ml.) bottle containing a two percent alcoholic solution of iodine.
6. 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
7. 1 snakebites lancet.
8. 1 (30 gms.) bottle of potassium permanganate crystals.
9. 1 pair scissors.
10. 1 copy of the first aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
11. 1 bottle containing 100 tables (each of 5 gms) of aspirin.
12. Ointment for burns.

13. A bottle of suitable surgical antiseptic solution.

b) For work places in which the number of contract labour exceed 50 each first –aid box shall contain the following equipments.

1. 12 small sterilized dressings.
2. 6 small size sterilized dressings.
3. 6 large size sterilized dressings.
4. 6 large size sterilized burn dressings.
5. 6 (15 gms.) packets sterilized cotton wool.

6. 1 (60 ml.) bottle containing a two percent alcoholic solution iodine.
7. 1 (60 ml.) bottle containing Sal volatile having the dose and mode of administration indicated on the label.
8. 1 roll of adhesive plaster.
9. 1 snake bite lancet.
10. 1 (30 gms.) bottle of potassium permanganate crystals.
11. 1 pair scissors.
12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes/ Government of India.
13. A bottle containing 100 tablets (each of 5 gms.) of aspirin.
14. Ointment for burns.
15. A bottle of suitable surgical antiseptic solution.
- c) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- d) Nothing except the prescribed contents shall be kept in the First-aid box.
- e) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
- f) A person in charge of the First-aid box shall be a person trained in First-aid treatment, in the work places where the number of contract labour employed is 150 or more.
- g) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compo under. The compounder shall be on duty and shall be available at all hours when the workers are at work.
- h) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER:

- i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.
- iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.
- v) The contractor shall supply only potable water in the labour camp sample of water shall be drawn from the source of water supply in the labour camps every months and got tested from the Municipal Corporation's lab by the contractor .Wherever drinking water is supplied

to the labour camps through tankers. Samples shall be drawn from the tankers and got tested. Water storage tanks chlorine tablets shall be added from time to time as per requirement so that portability of water remains intact No extra payment shall be made on this account.

5. WASHING FACILITIES:

- (a) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed there in.
- (b) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- (c) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS:

Latrines shall be provided in every work place on the following scale namely :

- 6.1 Where female are employed there shall be at least one latrine for every 25 females.
- 6.2 Where males are employed, there shall be at least one latrine for every 25 males.
- 6.3 Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be up to the first 100, and one for every 50 thereafter.
- 6.4 Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- 6.5 Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.
- 6.6 Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be both in English and Gujarati.
- 6.7 The notice shall also bear the figure of a man or of a woman, as the case may be.
- 6.8 There shall be at least one urinal for male workers up to 50 and one for female workers up to fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females up to the first 500 and one for every 100 or part thereafter.
- 6.9 The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
- 6.10 Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- 6.11 Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- 6.12 Disposal of excreta: Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15

cm. Layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure)

6.13 The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST:

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 meters (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 Sqm (6 sq ft.) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES:

- i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a, b & c.
- ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- iv) The contractor shall provide one Ayah to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.
- v) The use of the rooms earmarked as crèches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS:

- i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more is ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- ii) The canteen shall be maintained by the contractor in an efficient manner.
- iii) The canteen shall consist of at least a dining hall, kitchen, store room, pantry and washing places separately for workers and utensils.
- iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- v) The floor shall be made of smooth and impervious materials and inside walls shall be lime-washed or colour washed at least once in each year.

Provided that the inside walls of the kitchen shall be lime-washed every four months.

- vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
 - vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
 - viii) Suitable arrangements shall be made for the collection and disposal of garbage.
 - ix) The dining hall shall accommodate at a time 30 percent of the contract labour working at a time.
 - x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square meter (10 sft.) per diner to be accommodated as prescribed in sub-Rule 9.
10. a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
- b) Washing places for women shall be separate and screened to secure privacy.
- Xii. Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.
- Xiii (1) There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment necessary for the efficient running of the canteen.
- A(2) The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
- b(1) Suitable clean clothes for the employees serving in the canteen shall be provided and maintained
- b(2) A service counter, if provided, shall have top of smooth and impervious material.
- b(3) Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
- xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No losses and shall be conspicuously displayed in the canteen.
- xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:
- a) The rent of land and building
 - b) The depreciation and maintenance charges for the building and equipments provided for the canteen.
 - c) The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils.
 - d) The water charges and other charges incurred for lighting and ventilation.
 - e) The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.
- xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

11. DENGU/ANTI-MALARIAL PRECAUTIONS:

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the

Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

12. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall from an integral part of the contracts.

13. **AMENDMENTS:**

Government may, from time to time, add to or amend these rules and issue directions – it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

CONTRACTOR'S LABOUR REGULATIONS

**** SHORT TITLE:**

These regulations may be called the Contractor Labour Regulations.

**** DEFINITIONS:**

Workman means any person employed by AMC or its contractor directly or indirectly through a sub-contractor with or without the knowledge of the AMC to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person:

Who is employed mainly in a managerial or administrative capacity: or

Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercise either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature: or.

Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principle employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

No person below the age 14 years shall be employed to act as workmen.

Fair Wages means wages whether for time or piecework fixed and notified under the provisions of the Minimum Wages Act from time to time.

Contractors shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a sub-contractor.

Wages shall have the same meaning as defined in the Payment of Wages Act.

3.(i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the

provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

Where the minimum wages prescribed by the Government under Minimum Wages Act are not inclusive of the Wages for the weekly day of rest, the workers shall be entitled to rest day wages at the rate applicable to the next preceding day provided he has worked under the same contractor for a continuous period of not less than 6 days.

Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole days on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

5. DISPLAY OF NOTICE REGARDING WAGES ETC:

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wages are earned, wages periods, dates of payments of wages and other relevant information as per Appendix 'III'

6. PAYMENT OF WAGES:

The contractor shall fix wages period in respect of which wages shall be payable.

No wages period shall exceed one month.

The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.

Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.

All payment of wages shall be made on working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wages period, final payment shall be made within 48 hours of the last working day.

Wages due to every worker shall be paid to him direct or to other person authorized by him in this behalf.

All wages shall be paid in current coin or currency or in both.

Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.

A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgement.

It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Junior Engineer or any other authorized representative of the Engineer-in-charge who will be

required to be present at the place and time of disbursement of wages by the contractor to workmen.

The contractor shall obtain from the Junior Engineer or any other authorized representative of the Engineer-in-Charge as the case may be certificate under his signature at the end of the entries in the "Register of Wages" or the "wages-cum-Muster Roll" as the case may be in the following form:

Certified that the amount shown in column No. _____ has been paid to the workman concerned in my presence on _____ at _____

7 FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES:

(e) The wages of a worker shall be paid to him without any deduction of any kind except the following

- a. Fines
- b. Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period or which he was absent.
- c. Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
- d. Deduction for recovery of advance or for adjustment of overpayment of wages, advances granted shall be entered in a register.
- e. Any other deduction which the Central Government may from time to time allow.

21 No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

Note: An approved list of Acts and Omission for which fines can be imposed is enclosed at Appendix-I.

iii. No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

iv. The total amount of fine which may imposed in any one wages period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.

v. No fine imposed on any worker shall be recovered from him by installment, or after the expiry of sixty days from the date on which it was imposed.

vi. Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

ii LABOUR RECORDS:

The contractor shall maintain a "Register of persons employed" on work on contract in Form XIII of the CL(R&A) Central Rules 1971(Appendix IV).

The contractor shall maintain a "Muster Roll register" in respect of all workmen employed by him on the work under Contract in Form XVI of the CL(A&A) Rules 1971(Appendix V).

The contractor shall maintain a "Wages Register" in respect of all workmen employed by him

on the work under contract in Form XVII of the CL(R&A) Rules 1971 (Appendix VI). Register of accident

The contractor shall maintain a register of accidents in such form as may be convenient at work place but the same shall include the following particulars:

- a Full particulars of the laborers who met with accident
- b Rate of Wages
- c Sex
- d Age
- e nature of accident and cause of accident
- f Time and date of accident
- g Date and time when admitted in Hospital
- h Date of discharge from the Hospital
- i Period of treatment and result of treatment
- j Percentage of loss of earning capacity and disability as assessed by Medical Officer
- k Claim required to be paid under Workmen's Compensation Act
- l Date of payment of compensation
- m Amount paid with details of the person to whom the same was paid
- n Authority by whom the compensations was assessed
- o Remarks.
- v. The contractor shall maintain a Register of Fines in the Form XII of the CL(R&A) rules 1971 (Appendix-XI).

The contractor shall display in good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X).

- 1 The contractor shall maintain a "Register of deductions" for damage or loss" in Form XX of the CL(R&A) rules 1971 (Appendix- XII).
- 2 The contractor shall maintain a "Register of Advance" in Form XXIII of the CL(R&A) rules 1971 (Appendix- XIII).
- 3 The contractor shall maintain a "Register of Overtime" in Form XXIII of the CL(R&A) rules 1971 (Appendix- XIV).

8. ATTENDANCE CARD-CUM WAGE SLIP:

- i. The contractor shall issue an "Attendance card-cum-wag slip" to each workman employed by him in the specimen from at (Appendix-VII).
- ii. The card shall be valid for each wage period.
- iii. The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- iv. The card shall remain in possession of the worker during the wage period under reference.
- v. The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- vi. The contractor shall obtain the signature or thumb impression of the worker on the wage slip at time of disbursement of wage and retain the card with himself.

9. EMPLOYMENT CARD:

The contractor shall an “Employment Card” in Form XIV of the CL(R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix VIII).

10. SERVICE CERTIFICATE:

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a Service certificate in Form XV of the CL(R&A) Central Rules 1971 (Appendix- IX).

11. PRERSERVATION OF LABOUR RECORDS EMPLOYMENT CARD:

All record required to be maintained under Regulation Nos. 6 &7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge of Labour Officer or any other officers authorized by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY:

The labour Officer or any person authorized by Central Government on their behalf shall have power to make enquires with a view to ascertaining and enforcing due and proper observance of Fair Wages Clause and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or sub-contractor in regard to such provision.

13. REPORT OF LABOUR OFFICER:

The Labour Officer or other persons authorized shall submit a report of result of his investigation or enquiry to the Executive Engineer concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor’s bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Executive Engineer after the Additional City Engineer has given his decision on such appeal.

- i. The Executive Engineer shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the Additional City Engineer as the case may be.

14. APPEAL AGAINST THE DECESION OF LABOUR OFFICER:

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorized may appeal against such decision to the Additional City Engineer concerned to the Executive Engineer concerned but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER:

- i. A workman shall be entitled to be represented in any investigation or enquiry under these regulations by:
 - a An officer of a registered trade union of which he is a member.
 - b An officer of a federation of trade unions to which the trade union referred to in clause (a) is affiliated.
 - c Where the employer is not a member of any registered trade upon, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.
- ii. An employer shall be entitled to be represented in any investigation or enquiry under these

regulations by:

4. An officer of an association of employers of which he is a member.
5. An officer of a federation of associations of employers to which association referred to in clause (a) is affiliated.
6. Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employers is engaged.

16. INSPECTION OF BOOKS AND SLIPS:

The contractor shall allow inspection of all the prescribed labour records to any of this workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorized by the Central Government on his behalf.

17. SUBMISSION OF RETURNS:

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS:

The Central Government may from time to time add to or amend the regulations and on any questions as to the applicable/ interpretation or effect of those regulations the decision of the Municipal Commissioner shall be final.

Insurance & Indemnities:

Following is the indicative list of Insurances, which a contractor is supposed to take: Indemnity and insurance against damage to structure or decorative work:

The Contractor shall insure in joint names of the Owner and the Contractor, against all loss or damage during the transit, storage and execution or installation and commissioning from whatever cause arising, for which he is responsible under the terms of Contract, including" CAR" POLICY.

Indemnity and insurance against injury or accident to workmen:

The Owner shall not be liable for or in respect of any damage or compensation payable at law in respect or in consequences of any accident or injury to any workmen or other person in the employment of the Contractor or any Sub-Contractor. The Contractor shall indemnify and keep indemnified the Owner against all such damages and compensations and against all claims, proceedings, costs, charges and expenses, whatsoever, in respect thereof or in relation thereto.

The Contractor shall ensure against such liability and obtain Workmen's Compensation Policy with an insurer approved by the Owner and shall continue such insurance during the whole of the time that any person employed by him as on the Works.

Indemnity and Insurance against damaged Property :

Before commencing the execution of the Works, the Contractor shall insure against his liability for any material or physical damage, loss or injury, which may occur to any property including that of the Owner, and to any person including any employee of the Owner/Consultant, by or arising out of the execution of the Works or in the carrying out of the Contract.

Insurance against Fire, Theft, Etc.:

The building works (including materials of site, temporary building, tools, plant etc.) shall be from the

commencement of the works until the time the possession of the building is taken over or given to the owner, be in the sole charge of the contractor who will be responsible for and will, with all possible speed, make good at his expense, all damage caused thereon thereto by accident , bad foundations, whether, frost, tempest, fire, theft, riot or other causes whatsoever.

Insurance Generally:

The terms of the insurance policies shall include a provision whereby, in the event of any claim in respect of which the Contractor would be entitled to receive, indemnify under the policy being brought or made against the Owner, the insurer will indemnify the Owner against such claims and any costs charges and expenses in respect thereof.

The insurance policies shall provide that they shall not be canceled till the Owner has agreed to their cancellation.

The Contractor shall provide Owner and the ARCHITECT with a copy of each of the insurance policies and documents taken out of by him in pursuance of the Contract immediately after such insurance coverage.

If the Contractor shall fail to effect and keep in force insurance, as per the terms of Contract, the Owner may effect and keep in force any such insurance and pay such premium or premiums as any be necessary for that purpose and from time to time deduct the amount so paid by the Owner as aforesaid from any monies due or which may become due to the Contractor, or recover the same as debit due from the Contractor.

The Contractor shall be responsible for preparing all claims and make good for all damage or loss by way of repairs and/or replacement of portion of any Works damaged or lost. The transfer of title shall not in any way relieve the Contractor of his responsibilities during the period of the Contract including the defects Liability period.

Appendix 'I'
REGISTER OF MATERNITY BENEFITS (Clause 19 F)

Name and address of the contractor _____

Name and location of the work-----

Name of the employee	Father's/ husband's name	Nature of	Period of actual employment	Date on which notice of confirmation given
1	2	3	4	5

Date on which maternity leave commenced and ended

Date of	In case of delivery		In case of miscarriage	
Delivery/	Commenced	Ended	Commenced	Ended
Miscarriage				
6	7	8	9	10

Leave pay paid to the employee

In case of delivery		In case of miscarriage		Remarks
Rate of leave	Amount paid	Rate of leave	Amount	
Pay		Pay	paid	
11	12	13	14	15

Appendix 'II'

SPECIMEN FORM OF THE REGISTER, REGARDING MATERNITY BENEFIT ADMISSIBLE TO THE CONTRACTOR'S LABOUR

Name and address of the contractor -----

Name and location of the work-----

1. Name of the woman and her husband's name
2. Designation
3. Date of appointment
4. Date with months and years in which she is employed
5. Date of discharge/ dismissal, if any
6. Date of production of certificates in respect of pregnancy
7. Date on which the woman informs about the expected delivery
8. Date of delivery/miscarriage/death
9. Date of production of certificate in respect of delivery/ miscarriage
10. Date with amount of subsequent payment of maternity benefit
11. Dare with amount of subsequent payment of maternity benefit
12. Name of the person nominated by the woman they receive the payment of the maternity benefit after her death
13. If the woman dies, the date of her death, the name of the person to whom maternity benefit amount was paid, the month thereof and the date of payment
14. Signature of the contractor authenticating entries in the register
15. Remarks column for the use if Inspecting Officer

Appendix 'III'

LABOUR BOARD

Name and work-----

Name of Contractor-----

Address of Contractor-----

Name and address of Division-----

Name of Labour Officer-----

Address of Labour Officer-----

Name of Labour Enforcement Officer-----

Address of Labour Enforcement Officer-----

S. No.	Category	Minimum Wages fixed	Actual wages paid	Number present	Remarks

Weekly holiday _____

Wages period _____

Date _____ of _____ payment _____ of
wages _____

Working hours _____

Rest interval _____

Appendix 'IV'
Form-XIII (See rule 75) REGISTER OF WORKMEN EMPLOYED BY CONTRACTOR

Name and address of contractor _____

Name and address of establishment under which contract is carried on _____

Nature and location of work _____

Name and address of Principal Employer _____

S. No	Name and surname of workman	Age and sex	Father' Husband' s name	Nature of employment /designation	Permanent home Address of the workman (Village and Tehsil, taluk and Districts)	Local address	Date of commencement of employment	Signature or thumb impressio n of the workman	Date of termination of employment	Reasons for terminations	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Signature of Contractor

Additional City Engineer, A.M.C

Appendix 'V'

MUSTER ROLL

Name and address of contractor _____

Name and address of establishment under which contract is carried on _____

Nature and location of work _____

Name and address of Principal Employer _____ for the Month of fortnight _____

S.No.	Name of Workman	sex	Father's/ Husband's name			Dates			Remarks
1	2	3	4			5			6
				1	2	3	4	5	

Signature of Contractor

Additional City Engineer, A.M.C

Appendix 'VI'
Form-XVII
REGISTER OF WAGES

Name and address of contractor _____

Name and address of establishment under which contract is carried on _____

Nature and location of work _____

Name and address of Principal Employer _____ wages Period: Monthly/ Fortnightly _____

Sl. No.	Name of work man	Serial no. in the register of work man	Designation /nature of work done	No. of days worked	Units of work done	Daily rate of wages/ piece rate	Basic wages	Dearness allowances	Over time	Other cash payments (indicate nature)	Total	Deductions if any, (indicate nature)	Net amount paid	Signature or thumb impression of the workman	Initial of contractor or his representative
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Signature of Contractor

Additional City Engineer, A.M.C

Appendix 'VII'
WAGE CARD

Wage Card No. -----

Sl. No.	Name of work man	Serial no. in the register of work man	Designation /nature of work done	No. of days worked	Units of work done	Daily rate of wages/ piece rate	Basic wages	Dearness allowances	Over time	Other cash payments (indicate nature)	Total	Deductions if any, (indicate nature)	Net amount paid	Signature or thumb impression of the workman	Initial of contractor or his representative
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

(Obverse)

-

Name and address of contractor-----Date of Issue-----

Name and location of work -----Designation-----

Name of workman-----Month/Fortnight-----

Rate of Wages-----

Received from -----the sum of Rs. -----on account of my wages

The Wage Card is valid for one month from the date of issue

Signature

Signature of Contractor

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Additional City Engineer, A.M.C

Appendix 'VII' (Reverse)

Form-XIX [See rule 78(2) b] WAGES SLIP

Name and address of contractor-----

Name and Father's/ Husband's name of workman-----

Nature and location of work-----

The Week/ Fortnight/Month ending-----

1. No. of days worked-----

2. No. of units worked in case of piece rate workers-----

3. Rate of daily wages/piece rate-----

4. Amount of overtime wages-----

5. Gross wages payable-----

6. Deduction, if any-----

7. Net amount of wages paid-----

Initials of the Contractor or his representative

Appendix 'VIII'

Form-XIV [See rule 76]

EMPLOYMENT CARD

Name and address of contractor-----

Name and address of establishment in/under which contract is carried on-----

Name of work and location of work-----

Name and address of Principal Employer-----

1. Name of the workman-----

2. S. No. in the register of workman employed-----

3. Name of employment/designation-----

4. Wage rate (with particulars of unit in case of piece work)-----

5. Wage period-----

6. Tenure of employment-----

7. Remarks-----

Signature of Contract

Appendix 'IX'
Form-XV (See rule 77)
SERVICE CERTIFICATE

Name and address of contractor -----

Name and location of work-----

Name and address of workman-----

Age or date of birth-----

Identification marks-----

Father's / Husband's name -----

Name and address of establishment in under which contract is carried on -----

Name and address of Principal Employer-----

Sr. No.	Total period for which employed		Nature of Work Done	Rate of Wages (with particulars of unit in case of piece work)	Remarks
	From	To			
1	2	3	4	5	6

Appendix 'X'

LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED:

In accordance with rule 7 (v) of the Contractor's Labour Regulations to be displayed prominently at the site of work both in English and local Language.

1. Willful insubordination or disobediences, whether along or in combination with order.
2. Theft fraud or dishonesty in connection with the contractors beside a business or property of AMC.
3. Taking or giving bribes or any illegal gratifications.
4. Habitual late attendance.
5. Drunkenness lighting, riotous or disorderly or indifferent behavior.
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked.
8. Habitual indiscipline.
9. Causing damage to work in the progress or to property of the AMC or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving of false information regarding name, age father's name, etc.
13. Habitual loss of wage cards supplied by the employers.
14. Unauthorized use of employer's property of manufacturing or making of unauthorized particles at the work place.
15. Bad workman ship in construction and maintenance by skilled workers which is not approved by the Department and for which the contractors are compelled to undertake rectifications.
16. Making false complaints and/ or misleading statements.
17. Engaging on trade within the premises of the establishments.
18. Any unauthorized divulgence of business affairs of the employees. Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
19. Holding meeting inside the premises without previous sanction of the employers.
20. Threatening or intimidating any workman or employer during the working hours within the premises.

Appendix 'XI'
Form-XII [See rule 78(2)(d)]
REGISTER OF FINES

Name and address of contractor

Name and address of establishment in under which contract is carried on-----

Nature and location of work-----

Name and address of Principal Employer-----

S. No	Name of workman	Father's/ Husband's name	Designation/ nature of employment	Act/ omission for which fine imposed	Date of Offence	Whether workman showed cause against fine	Name of person in whose presence employee's explanati on was heard	Wages period and wages payable	Amount of fine impose d	Date of which fine realized	Remar ks
1	2	3	4	5	6	7	8	9	10	11	12

Signature of Contractor

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Additional City Engineer, A.M.C

Appendix 'XII'
Form-XX [See rule 78(2) d]

REGISTER OF DEDUCTION FOR DAMAGE OR LOSS

Name and address of contractor-----Name and address of establishment in under which contract is carried on-----Nature and location of work-----Name and address of Principal Employer-----

Sr. No.	Name of workman	Father's /husband's name	Designation/nature of employment	Particulars of damage and loss	Date of Damage and loss	Whether workman shows cause against deduction	Name of person in whose presence employee's explanation was heard	Amount of deduction imposed	No. of instalments	Date of recovery		Remarks
										First instalment	Last instalment	
1	2	3	4	5	6	7	8	9	10	11	12	13

Signature of Contractor

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Additional City Engineer, A.M.C

Appendix 'XIII' Form-XXII [See rule 78(2) d]
REGISTER OF ADVANCES

Name and address of contractor-----

Name and address of establishment in under which contract is carried on-----

Nature and location of work-----

Name and address of Principal Employer-----

S . No	Name of workman	Father's/ Husband's name	Designation/ nature of employment	Wages period and wages payable	Date and amount of advance given	Purpose(s) for which advance made	Number of installmen ts by which advance to be repaid	Date of amount of each installmen t was repaid	Date on which last installme nt was repaid	Remar ks
1	2	3	4	5	6	7	8	9	10	11

Signature of Contractor

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Additional City Engineer, A.M.C

Appendix 'XIV'
Form-XXIII [See rule 78(2) e]
REGISTER OF OVERTIME

Name and address of contractor-----

Name and address of establishment in under which contract is carried on-----

Nature and location of work-----

Name and address of Principal Employer-----

S . No	Name of workman	Father's/ Husband's name	sex	Designat ion/natu re of employ ment	Date on which Overtim e worked	Total overtime worked or productio n in case of piece rated	Normal rate of wages	Overtim e rate of wages	Overtime rate of wages	Rate on which overtime wages paid	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Signature of Contractor

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Additional City Engineer, A.M.C

Appendix 'XV'

NOTICE FOR APPOINTMENT OF ARBITRATOR

(Refer Clause 25)

To

The Municipal commissioner,

Ahmedabad Municipal Corporation

.....

Dear Sir,

In terms of Clause 25 of the agreement, particulars of which given below, I/we hereby give notice to you to appoint arbitrator for settlement of dispute mentioned below:

- a. Name of applicant
- b. Whether applicant is individual/ Prop. Firm/O\Partnership Firm/Ltd.Co.
- c. Full address of applicant
- d. Name of the work and contract number in which arbitration sought
- e. Name of the Division which entered into contract
- f. Contract amount in the work
- g. Date of Contract
- h. Date of initiation of work
- i. Stipulated date of completion of work
- j. Actual date of completion of work (if completed)
- k. Total number of claims made
- l. Total amount claimed
- m. Date of intimation of final bill(if work is completed)
- n. Date of payment of final bill (if work is completed)
- o. Amount of final bill(if work is completed) p Date of request made to SE for decision
- p. Date of receipt of SE's decision.
- q. Date of appeal to you

Signature of Contractor

Additional City Engineer, A.M.C

r. Date of receipt of your decision. Specimen signature of the applicant

I/we certify that the information given above is true to the best of my/our knowledge and believe. I/we enclosed following documents 1. Statement of claims with amount of claims

Yours faithfully,

(Signature)

(Only the person/ authority who signed the contract should sign)

SCHEDULE – A :

19. REFERENCE TO GENERAL CONDITIONS OF CONTRACT.

Name of work: - Construction Of 816 EWS Residential Including Internal Infrastructure & Development Work Within the Plot at TP.64 (Tragad) FP.131 In Ahmedabad City.

Area of Plot : 11166.00 m²
ESTIMATED COST : Rs. 86,99,47,800/-
EARNEST MONEY : Rs. 86,99,478/-
TIME LIMIT : 24 (Twenty Four) Months

Performance Guarantee @ 5% of work amount in form of Bank Guarantee of approved bank. (To be submitted on completion of work & before final bill payment)

SECURITY DEPOSIT: 5% of tender value.

SCHEDULE – B

20. GENERAL RULES & DIRECTIONS AND CONDITIONS OF CONTRACT.

1.	Officer inviting tender.	Municipal Commissioner Ahmedabad Municipal Corporation
	Definition:-	
2.(i)	Engineer-in-charge.	Additional City Engineer AMC
2(ii)	Accepting Authority	AMC, Ahmedabad
2(iii)	Percentage on cost of materials and labour to cover all overhead and profits.	15%
2(iv)	Standard Schedule of Rates.	Government of Gujarat Road & Building Department All India Standard Schedule of Rates Building Works (Ahmedabad district) with up to date correction slips issued up to last date of issue of tender.
2.(v)	Department	Ahmedabad Municipal Corporation, Ahmedabad
2(vi)	Contract Form	Turnkey project
Clause.1.		
(i)	Time allowed for submission of performance guarantee from the date of issue of letter of acceptance, in days.	15 Days.
Clause.2.	Authority for levy compensation under clause.2.	Municipal Commissioner - Ahmedabad.
Clause 5.	Number of days after the date of issue of letter of intent for reckoning date of start.	15 days
	Table of Mile Stone(s).	See table attached.
	Time allowed for execution of work	24 (Twenty Four) Months
	Authority to decide Extension of time	Municipal Commissioner Ahmedabad.
	Authority to decide Rescheduling of milestones	Municipal Commissioner Ahmedabad.

Clause.6, 6A	Clause applicable – (6 or 6A)		6
Clause 7.	Gross work to be done together with net Payment / adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment.		-----.
Clause 10 A	List of testing of equipment to be provided by the contractor at site lab.		As per list attached. (Annexure III)
Clause 10C	Component of labour expressed as percentage of value of work		Not applicable
Clause 10CA.	Materials covered Under this clause For which all India whole sale price index to be followed.	Of all the nearest materials (other than Cement reinforced bars and structural steel).	Not applicable.
Clause 10 CC	Clause 10 CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next columns. Schedule of component of other materials, labour, POL etc. for price escalation.		Not applicable.
	Component of civil (Except materials covered under clause 10 CA). Electrical construction material expressed as percentage of total values of work.		Not applicable.
	Component of labour expressed as percentage of Total value of work		Not applicable.
	Component of POL expressed as Percentage of total value of work.		Not applicable.
Clause 11.	Specification to be followed for execution of work.		CPWD specification 2009 Vol. I&II / Government of Gujarat Road & Building Department General technical Specification for Building Works with up to date correction slips issued till last date of issue of tender and particular specifications attached (if any).
Clause 12.	Deviation limit beyond which clause 12.2 & 12.3 shall apply for building work.		Applicable
	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work.		Applicable
Clause 16.	Competent Authority for deciding reduced rates.		Additional City Engineer AMC

Clause 18.	List of mandatory machinery tools and plants to be deployed by the contractor at site.	As per Form "H"
Clause 36(i)	Requirement of Technical Representative(s) and recovery rates.	See table attached. Form "G"
Clause 40 (i)	Schedule/statement For determining theoretical quantity of cement and bitumen on the basis of Gujarat Schedule of rates 2012.	Cement consumption per cubic meter for various grades of design concrete mixes shall be followed. But minimum acceptable consumption for various grade of design mixes as per GOG R & B dept., Circular No.PRC/10/2017/Cement Consumption/16/d dated on 11.05.2017 shall be followed.
(ii)	Variation permissible on theoretical quantities.	
(ii)(a)	Cement For works which estimated cost put to tender not more than Rs.5 Lakh.	3% plus/minus
	For works with estimated cost put to tender more than Rs.5 lakh.	2% Plus/minus.
(ii)(b)	Bitumen for all works.	2.5% plus only & nil on minus side.
(ii)(c)	Steel Reinforcement and structural steel. Sections for each diameter section and category.	2% plus/minus.
(ii)(d)	All other materials. Recovery rate for quantities beyond permissible variation.	

Part 3

Specifications

21. SPECIFICATIONS

1. In the specifications "as directed" / "approved" shall be taken to mean "as directed" / "approved by the Engineer-in-Charge".
2. Wherever a reference to any Indian Standard appears in the specifications, it shall be taken to mean as a reference to the latest edition of the same in force on the date of agreement.
3. In "Mode of Measurement" in the specifications wherever a dispute arises in the absence of specific mention of a particular point of aspect the provisions on these particular points, or aspects in the relevant Indian Standards shall be referred to
4. All measurements and computations, unless otherwise specified, shall be carried out nearest to the following limits:
 - a) Length, width and depth (height) 0.01 meter
 - b) Areas 0.01 Sq.Mt.
 - c) Cubic Contents 0.01 Cu.Mt.

In recording dimensions of work the sequence of length, width and height (depth) or thickness shall be followed.

5. The distance which constitutes lead shall be determined along the shortest practical route and note necessarily the route actually taken The decision of the Engineer-in-charge in this regard shall be taken as final.
6. Where no lead is specific, it shall mean "all leads"
7. Lift shall be measured from plinth level.
8. Up to "floor two levels" means actual height of floor (Maxi 4 M) up to 3 Mt. above plinth level.
9. Definite particulars covered in the items of work, though not mentioned or elucidated in it specifications shall be deemed to be included therein.
10. Reference to specifications of materials as made in the detailed specification of the items of works is in the form of a designation containing them kuber of the specification of the material and prefix 'M' e.g. 'M-5',
11. Approval to the samples of various materials given by the Engineer-in-charge shall not absolve the contractor from the responsibility of replacing defective material brought on site or materials used in the work found defective at a later date. The contractor shall have no claim to any payment or compensation whatsoever on account of any such materials being rejected by the Engineer-in-charge.
12. The contract rate of the item of work shall be for the work completed in all aspects.

13. No collection of materials shall be made before it is got approved from the Engineer-in-charge.
14. Collection of approved materials shall be done at site of work in a systematic manner. Materials shall be stored in such a manner as to prevent damage, deterioration or intrusion of foreign matter and to ensure the preservation of their quality and fitness for the work
15. Materials, if and when rejected by the Engineer-in-charge, shall be immediately removed from the site of work.
16. No materials shall be stored prior to, during and after execution of a structure in such a way as to cause or lead to damage or overloading of the various components of the structure.
17. All works shall be carried out in a workmanlike manner as per the best techniques for the particular item.
18. All tools, templates, machinery and equipment for correct execution of the work as well as for checking lines, levels, alignment of the works during execution shall kept in sufficient numbers and in good working condition on the site of the work.
19. The mode, procedure and manner of execution shall be such that it does not cause damage or over-loading of the various components of the structure during execution or after completion of the structure.
20. Special modes of construction not adopted in general Engineering practice if proposed to be adopted by the Contractor, shall be considered only if the contractor provides satisfactory evidence that such special mode of construction is safe, sound and helps in speedy construction and Completion of work to the required strength and quality. Acceptance of the same by the Engineer-in-Charge shall not, however absolve the contractor of the responsibility of any adverse effects and consequences of adopting the same in the course of execution of completion of the work.
21. All installations pertaining to water supply and fixtures there of as well as drainage lines and sanitary fittings shall be deemed to be completed only after giving satisfactory tests by the contractor.
22. The contractor shall be responsible for observing the rules and regulations imposed under the "Minor Minerals Act", and such of the laws and rules prescribed by Government from time to time.
23. All necessary safety measures and precautions {including those laid down in the various relevant Indian Standards) shall be taken to ensure to ensure the safety of men. Materials and machinery on the works as also of the work itself.
24. The testing charges of all materials shall be borne by the Contractor.

25. Approval to any of the executed items for the work does not in any relieve the contractor of his responsibility for the correctness, soundness and strength of the structure as per the drawings and specifications.
26. This is a turnkey contract. While efforts have been made to cover the scope of the work as defined under specifications and narration etc. but there may be some ambiguities or missing items but the contractor shall be responsible for executing all the items required for completion of houses in all respects to make them habitable and ready for occupation and to make services functional and operations.
27. Progress Monitoring: Contractor shall submit monthly progress report indicating the financial as well as physical progress of the work till the works are completed. The work will be executed as per CPM/PERT chart to be submitted by contractor duly signed along with tender. The contractor will be responsible for completion of job as per CPM/PERT Milestone chart.

BUILDING WORKS SPECIFICATIONS

All the specifications to be followed for execution of work shall be as per the specifications of R & B Department, Govt. of Gujarat

Relevant IS Specification shall be followed for construction of buildings. In case, IS Specifications are not available, the decision of the AMC shall be final. The ambiguity in regards to interpretation of specification(s), the decision of the AMC shall be final and binding. Wherever, any reference to any Indian Standard specification occurs in the documents relating to this contract the same shall be inclusive of all amendments issued thereto or revisions thereof, if any, up to the date of receipt of tenders.

Samples of building materials, door and window fitting, sanitary ware and other articles required for completion of work shall be got approved from Engineer-in-charge before their use in the work.

Preference shall be given to those articles which bears IS certification mark. In case articles bearing IS certification mark are not available, the quality of the sample brought by contractor shall be judged by the standard laid down in the relevant IS specification, All materials and articles brought by the contractor(s) to the site for use shall confirm to sample approved which shall be preserved till the completion of work.

ELECTRICAL & MECHANICAL WORKS SPECIFICATIONS

All the specifications to be followed for execution of work shall be as per the specifications of R & B Department, Govt. of Gujarat & Gujarat Urja Vikas Nigam Limited (GUVNL).

INFRASTRUCTURE SPECIFICATIONS

All the specifications to be followed for execution of work shall be as per the specifications of GWS & SB (for water supply, sewerage, drainage, storm water drainage, rain water harvesting, mini sewerage treatment plant) and Ministry of Surface Transport, Govt. of Gujarat (for development of roads). and specifications of R & B Department, Govt. of Gujarat

HORTICULTURE SPECIFICATIONS

All the specifications shall be as per relevant GDCR of DIRECTORATE of HORTICULTURE.

Relevant IS Specification shall be followed for construction of buildings. In case, IS Specifications are also not available, the decision of the Executive Engineer shall be final.

22. MINIMUM ACCEPTABLE SPECIFICATIONS

Sr. No.	Description	Minimum Specifications
1	RCC WORK	
	RCC in columns, beams and slabs	<p>The detailed dimensions & mix of RCC to be adopted shall be as per approved structural design and as per IS 456.</p> <p>Cement consumption per cubic meter for various grades of design concrete mixes shall be followed. But minimum acceptable consumption for various grade of design mixes as per GOG R & B dept., Circular No.PRC/10/2017/Cement Consumption/16/c dated on 11.05.2017 shall be followed.</p> <p>RCC lintel to be provided for all masonry work in continuous length. The grade of RCC M-250 minimum for non water retaining structures and RCC M-300 for water retaining structures.</p> <p>(Only steel props shall be used for shuttering below slab)</p> <p>Slab thickness shall be minimum 115 mm (All structural members as per detail structural design)</p>
	Masonry work	<p>Masonry work shall be in C: M 1:6 proportion and partition wall shall be in C: M 1:4 proportion.</p> <p>All the joints between RCC and masonry will be bound by 200mm wide chicken wire mesh before plastering.</p> <p>The masonry work for conventional technology, unit periphery of walls should be SAND BASE AAC (Autoclaved aerated concrete) blocks.</p>
	Railing in staircase & balcony	<p>I. 1.00m high MS railing in all the houses in the staircase of the approved pattern with hand railing 40mm MS tube (medium class pipes, app railing wt 14 kg/m) and vertical bars embedded in waist slab. The height of the railing shall be 1.00 m from finished level of step as specified in drawing.</p> <p>II. 1.15 m high MS railing in balconies of approved pattern with hand railing of 40mm MS tube (medium class pipes, app railing wt 14 kg / m) above floor.</p> <p>III. Parapet on the terrace shall be 1.15 m above the finished terrace level. Parapet shall be provided of 100 mm thick RCC wall / 230 mm thick brick masonry wall.</p>
	Conduits for electrical and Telecommunication cables	To be laid as per National Building Code/ BIS standards and to be concealed mostly.
2	Door and Shutters - Main Door / External Door / Bath and WC door	

Sr. No.	Description	Minimum Specifications
		<p>WPC Door frame: factory made High density single extruded WPC (Wood Polymer Composite) solid door & other frames/Chowkhat comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate & natural fibers (wood powder/rice husk/wheat husk) and nontoxic additives (maximum toxicity index of 12 for 100 gms) fabricated with miter joints after applying PVC solvent cement and screwed with full body threaded star headed SS screws having minimum frame density of 850 kg/cum,</p> <p>WPC door Shutter: factory made High density single extruded WPC (Wood Polymer Composite) solid plain flush door of required size comprising of virgin PVC polymer of K value 58-60 (Suspension Grade), calcium carbonate & natural fibers (wood powder/rice husk/wheat husk) and nontoxic additives (maximum toxicity index of 12 for 100 gms) having minimum frame density of 650 kg/cum.</p> <p>Main Door Shutter shall be figured and shall be polished on site. Design of figure shall be selected by EIC.</p> <p>Main door frame, Internal Door Frame and internal all shutter including three coats of enamel oil pain with primer.</p> <p>Main door frame size shall be 125 mm x 63 mm and Bed Room door, & Wash Area frame shall be 100 mm x 50 mm.</p>
	Door Fittings	<p>S.S.304 Fixturesand Fastening (Min.heavy duty 125 mm Hinges- 3nos,200mmdoorhandle – 1 pair, Aldrop – 2 nos, tower bolt – 1 no, door stopper–1no, etc. per door shutter)</p>
3	Aluminum Window section	
	Window	<p>Providing and fixing window having extruded aluminum Colour Powder Coated section frame main outer size 63.50 x 38.10 x 1.95 mm, horizontal two track member size 61.85 mm x 31.75 mm x 1.20mm @ wt.of 0.695 Kg/mt, vertical member of size 61.85 mm x 31.75mm x 1.30 mm @ wt.of 0.659 Kg/mt with sliding shutters of horizontal member size 40mm x 18mm x 1.29mm @ wt.of 0.456Kg/mt, vertical member of size 40mm x 18mm x 1.29mm @ wt.of 0.456Kg/mt with all fixtures and fittings. 5 mm thick transparent glass Four sides of window opening shall be of Granite & sill shall be double Granite with M.S. Safety grill wt. 16 kg/sqmt shall be provided with paint. Silicon sealant to be used at the edge of window section for leakage prevention.</p>
	ventilator	Aluminum colour anodized section frame with adjustable glass louvers having Granite frame.

Sr. No.	Description	Minimum Specifications
4	Flooring and Skirting	<ul style="list-style-type: none"> Living/Dining/Kitchen/Bed Rooms Double Charge Vitrified tiles of 60 X 60 cm Size and including 75 mm high skirting. Toilet/Bathroom Anti-Skid Ceramic tiles flooring of 30 X 30 cm and above size. Balcony Vitrified tiled (Matt) flooring of 60 X 60 cm size with 75 mm high skirting. Lobby/Corridor/foyer Matt Finish Anti-skid Vitrified tiles of 60 X 60 cm Size and including 75 mm high skirting. Wash area 25 mm thick polished kota stone flooring.
4.1	Sill	Granite sill on the top of all parapet walls i.e. Passage parapets, balcony parapets, stair parapet walls etc.
5	Roof treatment	China mosaic Cement based waterproofing treatment with 125mm to 150mm thick brick bat coba.
	Rain water pipes	PVC rain water pipe 110 mm dia with Test Pressure 6 Kg/cm ² .
6	Bath/W.C.	All slabs of bath/WC/Wash area shall be with cement based waterproofing treatment with brick bat coba. Filling with good quality cinder (steam coal) in sunks in layers of 15 cm thickness.
7	Finishing	
	Internal Plastering on walls	Smooth mala plaster of 15 mm thick in CM (1:4) with two coats white putty and minimum two coats of emulsion distemper paint.
	External Plastering	20.0 mm thick double coat Mala (one coat 12 mm thick with CM 1:3 and another coat 8 mm thick CM 1:1) with Rustic Texture paint of 1.5 to 2.0 mm thick and One coat Primer and min. three coats of Water-based 100% Acrylic Emulsion Paint of approved by EIC.
a	Scaffolding	Use only H-Frame or Cup lock Scaffolding steel Type. Use of timber scaffolding shall not be permissible.
8	Kitchen Top/Counter	<p>25/26" wide Sandwich platform Top and Facia patti having mirror Polished Z-black Granite Stone, bottom one side polished Kota Stone and verticals both side polished Granite stone. Min. thickness of Granite shall be 18 mm & Kota Stone shall be 25 mm.</p> <p>SS 304 Sink shall be provided.</p> <p>Facia patti shall be moulded in full bull nose shape.</p>
9	Finished bottom of RCC slab	Smooth plaster in CM (1:3) with two coats white putty and minimum two coats of emulsion distemper paint.
10	Primer	As per IS specifications.
11	Painting on wood and steel work	Superior quality ready mixed paint, ISI mark for all wood and steel work except outer faces which shall be synthetic enamel paint ISI mark
12	Plinth protection	Vacuum Dewatered Decorative Trimix Concrete Floor in hollow plinth area as per detailed specification of tender documents including anti termite treatment as per specification with 5 years guarantee.
13	Wall Tiles	
	Kitchen	Glazed tiles of 18"x12" or higher size up to lintel level
	Wash basin area	Glazed tiles of 18"x12" or higher size up to lintel level from the top of the wash basin.
	W.C.	Glazed tiles of 18"x12" or higher size up to lintel level
	Bath	Glazed tiles of 18"x12" or higher size up to lintel level

Sr. No.	Description	Minimum Specifications
	Wash Area	Glazed tiles of 18"x12" up to parapet level
14	Internal Sanitary/Water Supply System	
	W.C. Pan	White/ color Indian Orissa pan with dual flush cock. water closet squatting Pan (Indian type W.C. Pan) including bed concrete, foot rest and trap. Vitreous China & Long pattern = White or coloured
	Wash Basin	White/ colour vitreous China flat back wash basin appropriate size with one CP brass pillar tap with stop cock, ISI mark of approved quality.
	PVC pipes	110/90/75mm PVC pipes of 6kg/cm ² including all PVC fittings as per approved plumbing design. Hanging PVC Drainage pipe shall be 10 kg/Rmt.
	Gully Trap	Brick Masonry Chamber with Gully trap minimum size of 30X30cm with FRC round cover
	Chamber	Brick masonry with brick work of minimum size 60 x 60 cm with FRP medium duty cover.
	Internal Machinehole	Slab type Machinehole 1.2m X 1.0m on internal sewer line with FRP medium duty cover.
	Pipe connecting GT to I.C. and I.C to machinehole and service machinehole and onwards	GT to Chamber: Foamcore uPVC Pipes as per approved MEP design confirming IS 16098 Part-1. Chamber to MH & Storm Water: Corrugated DWC HDPE Pipes (non-pressure pipes) as per approved MEP design confirming IS 16098 Part-2.
	Internal Water supply	G.I lines from OHT & terrace UPVC Line on Parapet, From Terrace downward to all floors UPVC composite pressure pipes and fittings confirming to IS code, as per approved design.
	External Water Supply	Main network and branch lines shall be of CPVC composite pressure pipes and fittings confirming to IS code, as per approved design.
	Painting of GI/SCI pipes	Ready mixed oil paint over steel primer.
	Fittings	ISI marked.
	Overhead tank	Triple layer PVC tank, To be designed as per requirement. (As per detailed specification)
15	Hook for fan.	Fan hook shall be provided as per requirement.
16	Internal Roads parking and paths	
	Sub grade	Sub grade to be prepared by excavating earth to an average depth of 22.5 cm, leveling and dressing to complete and consolidating with road roller 8-10 tone as per specification.
	Road	(Concrete road as per IRC Standard) RCC road 150 mm thick with trimix concrete finish of grade M-25 over PCC 1:3:6, 100 mm thick and with reinforcement @4.0 kg per sq. mt. and expansion joint filled with sealant.
	Surfacing	Concrete surface, For external service like water supply or cabling. Concrete paver block may be provided.
	Kerb Stone	CC 1:2:4 Precast Kerb stone 0.3m long and 0.30m x 0.15 m section complete as per CPWD specifications a per direction of Engineer-in-charge.
	Paths	60 mm thick Rubber molded paver blocks (M-35) over 50 mm thick PCC (1:5:10)

Sr. No.	Description	Minimum Specifications
17.	Electrification	Modular Type switches with Concealed copper wiring. One fan point two light point and necessary plug point in each room. Also necessary point for geyser, Fridge, TV, Computer. In common passages of all floors, at terrace and in parking area, aaganwadi, security cabin etc light fixers/bulbs/fan etc wherever applicable shall be provided by contractor.
18.	Boundary wall with gates	1.80 m high from internal finished G. L. boundary wall constructed with BB Masonry or CC block with 230 mm thick wall & RCC coping at plinth and top level with required no of MS gates of approved design with i/s finish plaster & o/s double coat plaster & colour.
19	Numbering	The numbering of size 100mm in height shall be printed on Aluminum plate above the entrance door. block numbering of size 0.6 X 0.45 Cm aluminum plate
20	Lift.	Minimum Eight-person (But not less than GDCR requirement) capacity lift shall be provided confirming to relevant BIS Code and façade and entrance shall be cladded with granite slab at GF only. Lift shall be automatic with gear mechanism & with lift cabin at terrace. Landing door, cabin door, shall be powder coated. lift shall be with Automatic Rescue Device. 3 (Three) year maintenance contract must be provided by contractor from date of B.U. permission. Waterproofing plaster up to plinth level shall carried out at inside and outside of the lift well.
21	Cement	OPC cement shall be used in concrete work and OPC/PPC can be used in plaster and other flooring work.
22	Parking flooring	Vacuum Dewatered Decorative Trimix Concrete Floor shall be provided.
23	Staircase	Riser and Tread: Min. 18 mm thick polished Granite Min. length of Granite 750 mm with front half bull nose & three grooves for antiskid with skirting 0.075m height Landing of staircase: Min. 18 mm thick polished Granite (600 mm x 450 mm min.) with skirting 0.075m height.
24	General	Efficient Rain Water harvesting network/ system to be laid / installed. Environment friendly material (green) to be used as far as possible. Good landscaped are to be provided. Necessary signage boards of required size as instructed.
25	Fire safety	As per GDCR norms
26	Rolling Shutter	Manually operated MS Rolling shutter with Hood cover of standard approved design.
27	Wall Painting	Wall painting on dead wall of the building should be done on the basis of theme given by Architect/AMC

Note:-

1. Above all are minimum acceptable specifications however developer/contractor should follow GDCR norms & guidelines over and above these minimum acceptable specifications.
2. All above Items (size & make) shall approve by concern authority.
3. UG sump capacity shall be arrived considering water requirement 500 liters per HH. (Excluding Fire safety tank).

4. Separate UG tank for fire safety is to be provided as per norms.
5. All utilities pipes shall be fitted with GI saddle clamps such that pipes should remain 50 mm away from wall.

SCHEDULE OF FIXTURES AND FASTENINGS

Sr. No.	Particulars of fixtures & fastenings	Size in mm	Da: S.1: B 900 T-32	Da: S.1: B 900 T-35	Da: S.2: B 900 T-38	Da: S.2: B 900 T-35
1.	Hold Fast	300x40x3	6	6	6	6
2.	Hold Fast	200x40x3	-	-	-	-
3.	Butt Hinges	125	-	-	-	-
4.	Butt Hinges	100	3	3	6	6
5.	Butt Hinges	75	-	-	-	-
6.	Sliding Door Bolts	250x16	1	1	1	1
7.	Tower Bolts(Barrel type)	200x10	1	1	2	2
8.	Tower Bolts (Barrel type)	100xs10	-	-	-	-
9.	Door Latch	200x16x5	1	1	1	1
10.	Handles	100	2	2	3	3
11.	Handles	75	-	-	-	-
12.	Door Stoppers	75	1	1	2	2
13.	Aluminum window	Locking mechanism in sliding window				

(If wooden door frame need to be fixed on column face as per planning then it shall be fixed by using Anchored fastening instead of hold fast.)

Though the detailed specifications and drawings have been given the contractor's rate shall include following items irrespective of whether they have been mentioned in drawings, scope of works, specifications or not.

1. EXCAVATION :

The excavation for foundation in all type of soil including black cotton soil, hard soil, murrum etc. up to stable hard strata as approved by consultant/ EIC including dewatering, rainwater, subsoil water, shoring, strutting, all leads, lifts stacking black cotton soil and yellow earth separately if necessary etc.

The scope also includes necessary disposal of debris/excess excavated earth. The excavated black cotton soil shall be disposed off as directed by E.I.C.

2. Pre-constructional anti termite treatment as per specifications is to be carried out.
3. The work shall include all chhajjas with drip mould, sills, lintels, cornices, drop pardi, staircase pardi, fins, cheek walls, etc.

4. The scope also includes construction of M25 concrete coping with waterproofing admixtures over parapet walls as per drawing.
5. Grooves and chamfers shall be done as per the pattern as shown in the drawing in plastering work.
6. The plaster grooves shall be filled with appropriate sealants so as to make it waterproof.
7. The bottom of lift pit slab shall be provided with waterproofing treatment as per specifications.
8. The kitchen platform shall have fascia patts, of granite with its edges duly rounded. The hole for gas pipe line shall be made in kitchen platform as directed by EIC (if needed).
9. Chamfering / Rounding of Stair-Steps: The tread shall be chamfered and its edges shall be rounded as per details. It shall also have three grooves running parallel to the length.
10. The fixtures, hardware etc. to doors windows and ventilators shall be provided as per the Annexure.
11. At all junctions of masonry work and R.C.C., chicken mesh 200 mm wide (hexagonal) shall be provided before plastering work and wherever offset creating between masonry & RCC members the Cement paste mixed with flow grout resin & liquid bonding admixture SB(L) mix proportion as per manufacturer by making groove between joints.
12. 12mm thick plaster over and below chajja projection including vata of 50 X 50 mm. with drip mould of 50 X 12 mm size shall be provided below chajja. The bands, pattas cornices, curved surfaces incl. any finer architectural pattern if any shall be done as per details in approved colour and pattern.
13. The scope also includes providing water proofing treatment floors and walls of w.c. bath, toilets, sunken areas, water tanks etc. after completing the plumbing work, fixing of pans, pipes, traps etc.
14. **PLINTH PROTECTION:** As per specification.
15. **RAIN WATER DOWN TAKE PIPES :**

The scope includes 110 mm / 160 mm dia P.V.C. pipes of 6 kg. / cm² pressure fixed with unplasticized P.V.C. Z-clamps at every 1.5 m distance apart. Numbers and locations of pipe shall be provided as per drawing.
16. **WATER SPOUTS :**
Providing and fixing in all balconies with 50 mm dia spouts and projecting maximum upto 300 mm length after drilling holes in balcony parapet and grouting in 1:2:4.
17. Fan hooks shall be concealed box type to be fixed while casting floor slab.

18. **Works on Terrace :**

Over and above the works on terrace the scope includes the following works.

One water supply point with bib cock.

For light points with three- 5 pin plug point on terrace.

The scope also includes providing one wheel valve at the entry of each house's toilet from the main source line supplying water to that house, which will control supply of water to that particular house.

19. **DISINFECTING MAINS :**

The scope also includes disinfecting water mains by flushing with water containing bleaching powder at 0.5 gm/liter of water and cleaning the same with fresh water.

20. **SPECIFICATION FOR OVERHEAD POLYETHYLENE WATER STORAGE TANKS**

1. **Scope**

This specification outlines the requirements for three-layer insulated polyethylene vertical water storage tanks suitable for overhead installation in government projects across India. The tanks shall comply with the Indian Standard IS 12701:1996 (with latest amendments) for rotational moulded polyethylene water storage tanks, ensuring durability, safety, and hygiene for potable water storage.

2. **Reference Standards**

- **IS 12701:1996** (with latest amendments): Rotational Moulded Polyethylene Water Storage Tanks

3. **Material Requirements**

- **Material:** Tanks shall be manufactured using 100% virgin, food-grade, BPA-free linear low-density polyethylene (LLDPE) or high-density polyethylene (HDPE) to ensure safety for potable water storage.
- **UV Stabilization:** The outer layer shall be 100% UV-stabilized to prevent degradation due to sunlight exposure and inhibit algae formation.
- **Additives:** Shall include 2-3% carbon black with satisfactory dispersion for UV protection and durability, as per IS 12701:1996.

4. **Design and Construction**

- **Configuration:** Three-layer construction with:
 - **Outer Layer:** UV-resistant white or colored layer to minimize heat absorption and enhance aesthetics.
 - **Middle Layer:** Insulated black layer to block UV radiation and maintain water temperature lower than ambient conditions.
 - **Inner Layer:** Food-grade polymer layer to prevent contamination and ensure water purity.
- **Shape:** Cylindrical vertical design for structural stability and ease of installation.

- **Capacity:** Minimum 5000 liters (gross capacity at least 5% in excess of net capacity, i.e., 5250 liters or more) as per IS 12701:1996 Table 1.
- **Minimum Weight:** 180 kg (without lid) for a 5000-liter tank, as specified in IS 12701:1996.
- **Wall Thickness:** Minimum 10.7 mm for a 5000-liter tank, as per IS 12701:1996 Table 1.
- **Man-Hole/Hand-Hole:** Minimum diameter of 450 mm with , moulded from polyolefins with a minimum thickness of 3 mm and sufficient ribs for stiffness.

5. Plumbing Fittings

- **Inlet and Outlet Connections:** Prebuilt multiple inlet and outlet facilities for ease of connection, with threaded connections conforming to IS 554:1985. For a 5000-liter tank, the nominal bore size of threaded connections shall be 50 mm.
- **Overflow Pipe:** Equipped with a non-corrodible mosquito-proof device with a maximum clearance of 1.6 mm.
- **Fittings:** Shall include GI/PVC/brass full-threaded connections (e.g., elbow, tee, coupling) conforming to IS 1879:1987, with rubber gaskets and hexagonal check nuts for secure installation.

6. Performance Requirements

- **Resistance to Deformation:** Shall comply with Annex B of IS 12701:1996.
- **Resistance to Impact:** Shall comply with Annex C of IS 12701:1996.
- **Top Load Resistance:** Shall meet the requirements of clause 7.3 of IS 12701:1996.
- **Tensile Strength and Flexural Modulus:** Shall conform to clauses 7.4 and 7.5 of IS 12701:1996.
- **Overall Migration Test:** Shall comply with clause 7.6 of IS 12701:1996 to ensure suitability for potable water storage.

7. Warranty

- **Minimum Warranty:** 10 years against manufacturing defects, covering structural integrity, UV stability, and material quality.

8. Certification

- **BIS Certification:** Mandatory ISI mark certification as per IS 12701:1996, ensuring compliance with quality standards set by the Bureau of Indian Standards (BIS). Manufacturers must adhere to the Quality Control Order issued under Section 14 of the BIS Act, 1986.
- **Testing:** Product testing for physical, chemical, and performance characteristics shall be conducted as per IS 12701:1996 to verify compliance.

9. Approved Manufacturers

Tanks shall be sourced from reputable manufacturers with a proven track record, including but not limited to:

- Sintex Industries Ltd.
- Rotex
- Fusion
- Storex
- Plasto (R C Plasto Tanks & Pipes Pvt. Ltd.)
- Polycon
- Rotomac All manufacturers must provide proof of BIS certification and compliance with IS 12701:1996.

10. Installation Requirements

- **Ease of Installation:** Tanks shall include provisions for lifting hooks to facilitate installation on elevated structures.
- **Maintenance:** Tanks shall be designed for easy cleaning to prevent mould and algae accumulation, with smooth inner surfaces and accessible man-holes.

11. Documentation

- **Manufacturer's Instructions:** Shall include detailed guidelines for installation, maintenance, and fittings.
- **Test Reports:** Manufacturers shall provide test reports for type tests and routine tests as per IS 12701:1996, conducted at least annually or when changes in material or design occur.
- **Warranty Certificate:** A warranty certificate guaranteeing 10 years of performance shall be provided.

13. Compliance and Verification

- **Inspection:** Tanks shall be subject to inspection by BIS authorities to verify compliance with IS 12701:1996.
- **Marking:** Each tank shall be marked with the ISI mark, manufacturer's name, capacity, and batch number for traceability.

21 Vacuum Dewatered Decorative Trimix Concrete Floor:

- Vacuum Dewatered Decorative Trimix Concrete Floor shall be provided in hollow plinth parking area using M-25 Grade concrete (1:1.5:3 mix, OPC 43/53 per IS 269:2015, 20 mm max aggregates per IS 383:2016, W/C ratio 0.45-0.50 pre-vacuum) as per IS 2571:1970 and IS 4971:2007. Decorative patterns (e.g., stamping, color hardeners, or exposed aggregates) shall be designed by the Architect and approved by EIC. Machineries like MS-C channels for screed strips, level machines, double-beam screed vibrators, vacuum dewatering pump (5-7.5 kW) with suction mat, power trowel-cum-floater machine, and concrete broom/stamping molds/texture brushes shall be used to construct desired quality of trimix floor. Work shall follow a sequence of leveling, vibrating, dewatering, troweling, and texturing as per EIC-approved method statement.

- **Sub-Base:**

The ground of earth filling shall be thoroughly compacted to at least 95% Modified Proctor density (IS 2720 Part 8) using rollers so that no loose pockets remain. This shall be covered with well-consolidated granular soil or moorum to a thickness of not less than 150 mm. Great care is necessary in sub-base preparation. Field density tests (IS 2720 Part 28/29) shall confirm compaction before laying the base course (PCC). Anti-termite treatment using chlorpyrifos 20% EC (IS 6313 Part 2) shall be applied by spraying post-compaction as per EIC's instructions.

- **Base Course:**

PCC of 100 mm thickness of M-10 grade concrete (1:3:6 mix, OPC 43 per IS 269, 40 mm max aggregates per IS 383) shall be laid over compacted sub-base, well-compacted using needle vibrators (IS 456:2000). A 125-micron polythene sheet (IS 2508:2016) shall be laid over PCC as a vapour barrier before trimix concrete.

- **Trimix Concrete Floor:**

Thickness of the concrete shall be 100 mm as required for parking loads (5-10 tonnes/axle). Special precautions shall ensure good bond between topping and base, including roughening PCC surface and applying bonding agent (IS 2645:2003). Concrete shall be laid as per IS 2571:1970, using M-25 strength concrete with plasticizers (IS 9103). Reinforcement shall be 10 mm dia. TMT bars at 300 mm x 300 mm spacing (placed at mid-depth with 25 mm cover per IS 456) or as per structural drawings, ensuring seismic anchorage (IS 1893:2016) for hollow plinths. The floor shall be divided into panels (≤ 4.5 m x 6 m, or ≤ 3 m x 3 m for decorative patterns) using MS-C screed strips to reduce cracking. Concrete shall be spread, leveled using screeds, and compacted with double-beam screed vibrators. Finishing shall be achieved by power trowel-cum-floater machine, followed by texturing/stamping as per EIC-approved patterns. Grooves (4-6 mm wide, 1/3 slab depth) shall be saw-cut 12-24 hours post-pour and filled with polysulphide sealant (IS 1834:1984). Instructions of EIC shall be followed.

- **Dewatering of Concrete:**

After compaction, dewatering of excess water shall be done within 20-30 minutes of placement using a concrete vacuum dewatering system (5-7.5 kW electric motor). Excess water (10-15%, reducing W/C to ≤ 0.38) shall be sucked out using a filter pad with two layers: a fine nylon cloth bottom layer as filter and a special plastic net upper layer as water duct. The suction mat shall be attached to the vacuum pump via suction hose. Vacuum rate shall be 1-2 minutes per cm thickness of concrete. Suction mats shall be inspected for blockages, and vacuum pressure (e.g., 0.6-0.8 bar) maintained as per manufacturer's specifications. Post-dewatering, troweling shall commence immediately to avoid surface hardening.

- **Curing:**

Immediately after the flooring surface is finished, it shall be protected from rapid drying by erecting barriers (e.g., plastic sheets, hessian curtains) against wind. After 4-6 hours post-finishing, the surface shall be kept continuously wet for at least 15 days using wet gunny bags or ponding method. For hollow plinth areas where ponding is impractical, a curing compound (IS 13192:1991) shall be applied by spraying at manufacturer's recommended rate, as approved by EIC.

- **Hardner:**

Extra for finishing the cement concrete/ trimix floor using Hardner NITOFLOHARDTOP (FOSROC) or approved equivalent laid as per manufacturers specifications complete,

Grid-Connected Rooftop Solar PV System:

1. Project Context & Applicability

This specification applies to the design, engineering, supply, installation, testing, commissioning, grid synchronization, and handover of grid-connected rooftop solar PV systems for Group Housing / Large Housing Clusters developed by AMC at its own cost or under Pradhan Mantri Awas Yojana – Urban (Affordable Housing in Partnership).

The works shall comply with:

- Guidelines issued by the Ministry of New and Renewable Energy (MNRE)
- Central Electricity Authority (CEA) regulations
- State of Gujarat statutory regulations
- Applicable DISCOM rules and procedures

2. Statutory & Regulatory Compliance (Mandatory)

2.1 Gujarat CGDCR Requirement

The rooftop solar PV system shall comply with Section-B (Procedure Regulations), Clause 25.6.1 and Table 25.6-2 of the Gujarat Comprehensive General Development Control Regulations 2017.

For Group Housing, the minimum solar PV capacity shall be determined based on whichever is higher of:

- 5% of the total connected electrical load, OR
- 20 W per square foot of available usable roof area

3. Solar PV System Capacity Determination

3.1 Method A – Connected Load Based

$Capacity_A = 0.05 \times \text{Total Sanctioned Connected Load (kW)}$

Connected load shall be as per DISCOM sanction / approved electrical drawings, including common services.

3.2 Method B – Roof Area Based

$Capacity_B = \text{Available Roof Area (sq.ft)} \times 20$

Available roof area shall exclude stair/lift rooms, water tanks, HVAC, firefighting systems, setbacks, and permanently shaded areas, verified jointly with the PMC.

4. Solar PV Modules – Technical Specification

- Modules shall be supplied from Indian manufacturers listed under ALMM, valid on bid submission date.
- Technology: Crystalline silicon Mono PERC / TOPCon or equivalent, monofacial or bifacial
- Minimum module efficiency: $\geq 16\%$ (mandatory)
- Preferred efficiency (for evaluation, if applicable): $\geq 18\%$
- Minimum rated power: ≥ 400 Wp

- High-capacity modules (≥ 500 – 600 Wp) permitted and encouraged, subject to roof and structural suitability
- Power tolerance: Positive only (0 to +3%)
- Maximum system voltage:
 - 1000 V DC (default for group housing)
 - 1500 V DC only with technical justification and approvals

Degradation & Warranty

- $\leq 3\%$ first-year degradation
- $\leq 0.7\%$ per annum thereafter
- Guaranteed:
 - $\geq 90\%$ at 10 years
 - $\geq 80\%$ at 25 years
- Product warranty: **minimum 5 years**

Standards (Mandatory)

- IS/IEC 61215
- IS/IEC 61730 (Part 1 & 2)
- IEC 61853
- IEC 62804 (PID resistance)
- IEC 61701 (salt mist – where applicable)

5. Inverters, BOS & Electrical Works (Summary)

- Grid-connected inverters with MPPT
- Anti-islanding, over/under voltage & frequency protection
- THD $< 3\%$, DC injection $\leq 0.5\%$, PF ≥ 0.9
- DC & AC cables: solar-grade, UV-resistant
- Voltage drop: $\leq 2\%$ (DC & AC)
- DCDB/ACDB with surge protection
- Earthing as per IS 3043
- Lightning protection as per IEC 62305

6. Roof Load & Structural Verification (Mandatory)

The Contractor shall:

- Assess dead load, live load, wind load (IS 875) and seismic effects
- Submit structural safety certification from a licensed structural engineer
- Ensure no roof is overloaded beyond verified limits
- Redistribute capacity across roofs if required to meet statutory minimum capacity

Failure to submit structural verification shall be treated as non-compliance.

7. Roof-wise Capacity Distribution (Large Housing Clusters)

For multi-building projects, the Contractor shall submit a roof-wise capacity distribution, ensuring:

- Aggregate installed capacity \geq adopted minimum capacity
- Uneven distribution permitted due to constraints
- Structural limits respected for each roof

(This forms part of **Annexure-C**, mandatory with the bid.)

8. Grid Connectivity & DISCOM Approvals

The project falls within Ahmedabad, where electricity distribution is undertaken by Torrent Power Limited and/or Uttar Gujarat Vij Company Limited, depending on location.

The **Developer / Contractor** shall, at its own cost, be fully responsible for:

- All applications, approvals, and permissions for grid connectivity
- Compliance with DISCOM technical and safety standards

- Payment of all fees, charges, deposits, metering costs
- Net/gross meter installation, testing, sealing, and commissioning
- Grid synchronization and final approval

No additional payment shall be made by the Employer for DISCOM-related works.

Delays due to DISCOM approvals shall be attributable to the Contractor.

9. Monitoring, Testing & Commissioning

- Generation meter mandatory
- Web-based monitoring for generation and faults
- Commissioning tests: polarity, IR, Voc, Isc, inverter anti-islanding
- As-built drawings and O&M manuals to be submitted

10. Annexure-C (Mandatory with Bid)

Annexure-C: Rooftop Solar PV Capacity Calculation & Distribution Statement

(includes):

- Connected-load calculation
- Roof-area calculation
- Whichever-is-higher adoption
- Roof-wise capacity table
- Structural verification
- bidder declaration

11. Temperature Coefficient:

The temperature coefficient of maximum power (P_{max}) of the solar PV module shall be equal to or better than -0.45% per $^{\circ}\text{C}$, as declared in the manufacturer's datasheet.

11.a Fill Factor:

Solar PV modules shall have a minimum fill factor of 75%, as per manufacturer's datasheet and type-test reports.

11.b Electroluminescence (EL) Testing:

Solar PV modules shall have undergone factory-level electroluminescence (EL) testing as part of the manufacturer's quality control process.

Valid EL test declarations or type-test evidence shall be submitted.

The Employer/PMC may conduct sample-based EL inspection at site, if required.

12. As-Built Documentation & Handover

Upon completion and commissioning, the Contractor shall submit as-built drawings, system layouts, single-line diagrams, equipment datasheets, test reports, and Operation & Maintenance manuals, forming part of the final handover documentation.

13. Workmanship & Safety Responsibility

All works shall be executed using good engineering practices, trained manpower, and appropriate safety measures.

The Contractor shall be solely responsible for workplace safety, compliance with statutory safety regulations, and prevention of accidents during execution and maintenance.

14. Earthing System & Liability

The Contractor shall provide a dedicated and independent earthing system for the solar PV plant, including separate earthing pits for DC equipment, AC equipment, and lightning protection, as applicable.

The earthing system shall comply with IS 3043, CEA Safety Regulations, and applicable standards.

Any damage to equipment arising due to inadequate or improper earthing shall be the sole responsibility of the Contractor and shall be rectified at no additional cost to the Employer.

15. Defect Liability Period

The Defect Liability Period (DLP) shall be twelve (12) months from the date of successful commissioning and handing over. During this period, the Contractor shall, at its own cost, rectify, repair, or replace any defect in materials, workmanship, or installation. In case of failure, the Employer may carry out rectification through other agencies and recover the cost from the

Contractor's dues, Security Deposit, or Performance Bank Guarantee.

The DLP shall be independent of manufacturer warranties.

Annual Maintenance Contract (AMC) – Comprehensive Operation & Maintenance

Scope of AMC

The Annual Maintenance Contract (AMC) shall be **comprehensive and all-inclusive**, covering complete operation and maintenance of the **entire grid-connected rooftop solar PV system** installed under this Contract. The scope shall include solar PV modules, inverters, module mounting structures, DC and AC cabling, junction boxes, DCDB/ACDB, switchgears, protection devices, earthing and lightning protection systems, monitoring systems, data loggers, and all associated mechanical and electrical components. The AMC cost shall include **all material, labour, tools, consumables, transportation, and incidental expenses** required to keep the system in proper working condition throughout the AMC period.

AMC Period

The AMC shall be valid for a period of ____ **years (minimum 5/10 years, as specified in the tender)** from the date of successful commissioning and handing over of the rooftop solar PV system.

Preventive Maintenance

The AMC Contractor shall carry out **regular preventive maintenance** to ensure safe operation, optimal performance, and compliance with OEM warranty conditions. This shall include **monthly site visits** for inspection of the entire system, periodic cleaning of solar PV modules (minimum once per month or as per site conditions), visual inspection of modules, mounting structures, cabling and connectors, inspection of inverters and protection systems, checking of earthing and lightning protection, and verification of system health through the monitoring portal.

Breakdown Maintenance, Response & Rectification

The AMC Contractor shall attend to all breakdowns and faults promptly. For **critical faults** such as inverter shutdown, zero generation, or safety-related issues, the response time shall be **within 24 hours** of fault reporting. For **non-critical faults**, the response time shall be **within 72 hours**. All faults shall be rectified or components replaced **within 7 days** of identification. Where OEM replacement is required and longer lead time is involved, the AMC Contractor shall provide interim remedial measures and inform the Employer in writing of the expected resolution timeline.

Repair and Replacement Obligations

Any component found defective, damaged, or malfunctioning during the AMC period shall be **repaired or replaced at no additional cost to the Employer**. Replacement parts shall be new and fully compliant with the original technical specifications. The AMC Contractor shall be solely responsible for **coordinating with OEMs/manufacturers** for warranty claims, replacements, and repairs, and the Employer shall not be required to liaise directly with OEMs.

Performance Monitoring and Reporting

Continuous system monitoring through a web-based monitoring platform shall be maintained throughout the AMC period. The AMC Contractor shall submit **monthly inspection and solar generation reports** in an approved format, detailing energy generation, inverter uptime and downtime, faults observed, corrective actions taken, and preventive maintenance activities carried out.

System Availability and Performance

The AMC Contractor shall maintain a **minimum system availability of 95%**, excluding grid outages attributable to the DISCOM and force majeure events. Persistent underperformance or repeated failures attributable to inadequate operation and maintenance shall be treated as **AMC non-compliance**.

Statutory Liaison and Support

The AMC Contractor shall provide all necessary liaison and coordination support, at no additional cost, for OEM warranty matters, DISCOM-related requirements, power approvals, testing, and assistance related to net/gross/bidirectional meters. All statutory fees payable to DISCOMs or authorities shall be borne by the **Developer / EPC Contractor**, unless otherwise specified in the Contract.

Exclusions

The AMC shall not cover damage or losses arising due to force majeure events, theft, vandalism, third-party damage, grid failures beyond the control of the AMC Contractor, or structural defects of the building not attributable to the solar PV system, unless specifically provided otherwise in the Contract.

Non-Performance and Penalties

Failure to meet response times, rectify faults within stipulated timelines, or maintain the required service quality shall be treated as **non-performance**. In such cases, the Employer shall be entitled to impose penalties as per the Contract and/or engage a third party for maintenance at the **risk and cost of the AMC Contractor**, after due notice.

Compliance

This AMC clause shall be read in conjunction with the MNRE guidelines, Gujarat CGDCR 2017, applicable DISCOM regulations (Torrent Power Limited / UGVCL), and the main EPC Contract. Any deviation without prior written approval shall be treated as a **contractual breach**.

22. Heatwave Safety and Worker Protection Compliance

22.1. Statutory Basis and Applicability

22.1.1 The Contractor shall strictly comply with all obligations relating to worker health, safety, and welfare under the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996, the Rules framed thereunder, the Contract Labour (Regulation and Abolition) Act, 1970, the Occupational Safety, Health and Working Conditions Code, 2020, and all other applicable Central and State labour laws, as amended from time to time.

22.1.2 In addition to statutory compliance, the Contractor shall mandatorily comply with the Ahmedabad Heat Action Plan (HAP) issued by AMC and any Heat Alerts declared by AMC based on IMD forecasts.

22.1.3 These provisions shall apply to all categories of workers including direct employees, contract labour, migrant workers, daily wage workers, supervisory staff, and any person deployed at the worksite.

22.2. Heat Alert Classification

22.2.1 Heat Alerts shall be governed by AMC notification in accordance with the Ahmedabad Heat Action Plan thresholds.

ahmedabad-heat-action-plan-2018:

- Yellow Alert: 41.1°C to 43°C
- Orange Alert: 43.1°C to 44.9°C
- Red Alert: 45°C and above

22.2.2 The Contractor shall monitor official AMC communications daily during the heat season (March to July) and shall implement the required measures immediately upon issuance of an alert.

22.3. Mandatory Worksite Welfare and Heat Protection Measures

22.3.1 The Contractor shall provide, at all worksites and at his own cost, an adequate supply of safe and potable drinking water in sufficient quantity proportionate to the number of workers deployed, as mandated under the BOCW Act and consistent with the Heat Action Plan directives.

22.3.2 The Contractor shall establish shaded rest areas or temporary shelters at worksites sufficient to accommodate workers during rest intervals, particularly at outdoor construction and roadwork sites, in order to reduce direct solar exposure.

22.3.3 The Contractor shall provide electrolyte solutions, ORS packets, or buttermilk during Orange and Red Alerts.

22.3.4 The Contractor shall maintain functional first aid facilities at site and ensure that at least one trained first-aid responder is present during working hours as required under labour safety regulations.

22.4. Regulation of Working Hours During Heat Alerts

22.4.1 During Yellow Alert conditions, the Contractor shall intensify hydration breaks and sensitize workers regarding heat risks, while ensuring compliance with maximum working hour provisions under labour laws.

22.4.2 During Orange Alert conditions, the Contractor shall modify work schedules to minimize exposure during peak afternoon hours and may shift work to early morning or late evening wherever operationally feasible, while maintaining statutory rest intervals.

22.4.3 During Red Alert conditions (45°C and above), the Contractor shall mandatorily suspend all outdoor work between noon hours, and shall reschedule work to non-peak hours, as specifically directed in AMC's departmental Red Alert guidelines.

22.4.4 If ambient temperature exceeds 46°C or if specific AMC instructions mandate closure, the Contractor shall immediately stop work in the affected zones until conditions normalize or further instructions are issued

22.4.5 No worker shall be compelled, directly or indirectly, to continue heavy manual work in direct sun exposure during restricted hours, and violation shall constitute a material breach of contract.

22.5. Emergency Response and Medical Management

22.5.1 If any worker exhibits symptoms of heat exhaustion or heat stroke, the Contractor shall immediately remove such worker from heat exposure, initiate cooling measures including shaded rest and application of cold compresses or ice packs, and arrange urgent medical attention through the nearest health facility or by contacting 108 Emergency Services, consistent with the Heat Action Plan treatment protocol.

22.6. No Compensation or Extension Claim

22.6.1 The Contractor shall not be entitled to claim compensation, idle charges, price escalation, or damages on account of work suspension or reduced productivity arising from compliance with declared Heat Alerts, as such measures constitute mandatory statutory and public health compliance.

22.6.2 Time extensions, if any, shall be considered strictly at AMC's discretion under standard contract provisions and shall not be automatic.

22.7 Price Variation bills shall be Stamped and Notarized.

22.8. Penalty

Non-compliance of these conditions shall attract the penalty without prejudice to statutory prosecution under labour laws.

23 Intradomestic and Peridomestic Antilarval Activities for Mosquito Control

23.1. Statutory Basis and Compliance Framework

23.1.1 The Contractor shall execute the work strictly in accordance with the provisions of the Gujarat Provincial Municipal Corporations Act, applicable public health regulations, and all guidelines, circulars, and operational instructions issued by the Ahmedabad Municipal Corporation (AMC) Health Department from time to time.

23.1.2 The Contractor shall ensure that all antimosquito and vector control activities are conducted in compliance with applicable environmental safety regulations, public health standards, and any directions issued by competent health authorities.

23.1.3 The Contractor shall be solely responsible for ensuring that all chemicals, equipment, manpower, and operational methods deployed under this contract comply with AMC-approved specifications and WHO-recommended standards for vector control.

23.2. Activities to do

23.2.1 The Contractor shall undertake comprehensive **Intradomestic and Peridomestic Antilarval Activities** within the boundary of site for the purpose of eliminating mosquito breeding sources and reducing vector density.

23.2.2 Intradomestic activities shall include inspection and treatment of water storage containers, toilet sunks, overhead tanks, underground tanks, and any other water-holding structures within site premises.

23.2.3 Peridomestic activities shall include inspection and treatment of open plots, construction sites, drains, roadside depressions, other outdoor locations where stagnant water accumulation is observed.

23.2.4 The Contractor shall identify, document, and eliminate mosquito breeding sites and shall ensure that no potential larval habitat remains untreated within the assigned operational area.

23.2.5 The Contractor shall coordinate daily with designated AMC Health Officers, Malaria Inspectors, and Ward-level authorities and shall execute activities as per micro-planning approved by AMC.

23.3. Application Methodology

23.3.1 Application of larvicides shall be carried out through manual spraying, measured pouring, drip application, or other approved techniques suitable to the specific breeding habitat, ensuring full coverage and environmental safety.

23.3.2 The Contractor shall implement environmental management techniques including source reduction, removal of stagnant water, covering of containers, and community awareness interventions wherever feasible to prevent recurrence of breeding.

23.4. No Claim Clause

The Contractor shall not claim additional payment for compliance with technical, environmental, reporting, or supervisory requirements specified under this contract, as such obligations form part of the agreed scope of work.

SIGNAGE :

To prepare and fix sign boards within the buildings and providing on ground floor indicating the list of occupants of house with their house no floor wise. Scope also includes one board providing and fixing one board of size 3.00mt x 3.00 mt size on site with details of project as directed by EIC.

The scope also includes providing letter boxes of approved size and make as approved by EIC for receiving mail of each of the house as per the requirement of postal department. The scope also includes providing energy meter box of approved size at each floor per house and for common amenities.

	Letter Box	Energy Meter Box or as per Torrent specification
Size of Box (Exterior)	300 x 450 x 150 mm	450 x 450 x 250 mm
Size of vision panel	--	250 x 250 mm
Size of letter drop	250 x 75 mm	--

SPECIFICATION FOR ELECTRICAL INSTALLATION WORK

1.0 GENERAL COMMERCIAL/ TECHNICAL

Work has its own particular requirements. Therefore, in addition to the General Specifications, governing BIS, I.E. Rules, Standard Contract Conditions etc. there would be necessity of additional conditions/ specifications for a particular work. In case of any discrepancy such additional conditions/ specifications will override these General Specifications.

1.1 Works to be done by the Contractor

Unless and otherwise mentioned in the tender documents, the following works shall be done by the contractor, and therefore their cost shall be deemed to be included in their tendered cost: -

- (i) Foundations for equipments and components where required, including foundation bolts.
- (ii) Cutting and making good all damages caused during installation and restoring the same to their original finish.
- (iii) Sealing of all floor openings provided by him for pipes and cables, from fire safety point of view, after laying of the same.
- (iv) Painting at site of all exposed metal surfaces of the installation other than pre-painted items like fittings, fans, switchgear/ distribution gear items, cubicle

switchboard etc. Damages to finished surfaces of these items while handling and erection, shall however be rectified to the satisfaction of the Engineer-in-charge.

(v) Testing and commissioning of completed installation.

1.1 Electric Power Supply and Water Supply

Unless and otherwise specified, power supply and water supply will be arranged by the contractor at the site for installation purpose.

Contractor will take due care to ensure safety of electrical installation during execution of work.

1.2 Tools for Handling and Erection

All tools and tackles required for handling of equipments and materials at site of work as well as for their assembly and erection and also necessary test instruments shall be the responsibility of the contractor.

1.3 Co-ordination with Other Agencies

The contractor shall co-ordinate with all other agencies involved in the building work so that the building work is not hampered due to delay in his work. Recessed conduit and other works, which directly affect the progress of building work, should be given priority.

1.4 Structural Alterations to Buildings

- (i) No structural member in the building shall be damaged / altered.
- (ii) Structural provisions like openings, cutouts, if any, provided by the department for the work, shall be used. Where these require modifications, or where fresh provisions are required to be made, such contingent works shall be carried out by the contractor at his cost.
- (iii) All such openings in floors provided by the Department shall be closed by the contractor after installing the cables/ conduits/ rising mains etc. as the case may be, by any suitable means as approved by the Engineer-in-charge without any extra payment.
- (iv) All chases required in connection with the electrical works shall be provided and filled by the contractor at his own cost to the original architectural finish of the buildings.

1.5 Drawings

- (i) The work shall be carried out in accordance with the drawings and also in accordance with modification thereto from time to time as approved by the Engineer-in-charge.
- (ii) All wiring diagrams shall indicate the main switch board, the distribution boards (with circuit numbers controlled by them), the runs of various mains and sub-mains and the position of all points with their controls.
- (iii) All circuits shall be indicated and numbered in the wiring diagram and the points shall be given the same number as the circuit to which they are electrically connected.

1.6 Conformity to IE Act, IE Rules, and Standards

All Electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 2003 and Indian Electricity Rules, 1956 amended up to date (Date of call of tender unless specified otherwise). List of Rules of particular importance to Electrical Installations under these General Specifications is given in Appendix C for reference.

2.0 PLANNING OF ELECTRICAL INSTALLATION

2.1 Planning of Electrical Installation

The design and planning of an electrical installation involve consideration of all prevailing conditions and is usually guided by the requirement of the consumer. A competent Electrical Engineer should take the responsibility of detailed designing and planning to meet the requirement of various functional needs, efficiency, economy, energy conservation, aesthetics, appropriate technology, safety and avoidance of possible fire hazards.

2.2 Coordination

- 2.2.1 Before planning is started, coordination and collaboration is needed amongst the following:

Client/ / Civil contractor / Structural Engineer/ Architect / PMC / Electrical Designer

- 2.2.2 Based on the specific requirement and projected use of the building, conceptual coordinated detailed planning for the entire building will be finalized. The electrical portion has to fit into such integrated concept of the building.

2.3.4 ***Co-ordination with Local Supply Authority***

The power requirement should be assessed, in consultation with the owner/ users, and discussion should be held with the Electricity supply authority to decide on location/ space required for Electricity supply equipment/ meter and tariff involved.

3.0 Technical Specifications for Electric-Powered Street Lights.

Scope of Work / General Requirements

The Contractor shall supply, install, test, and commission grid-connected electric street light lamp posts to provide uniform illumination across the entire residential building compound, covering pathways, open spaces, perimeters, and entrances. The system must ensure no dark spots or unlit corners. A minimum 3-year warranty on key components is required.

Technical Specifications for Illumination Coverage

To eliminate dark corners and ensure adequate lighting for safety, the system shall meet the following simplified requirements, aligned with National Lighting Code (SP 72:2010) for low-risk residential areas:

- **Minimum Illuminance Levels:**
 - All areas (compound, open spaces, perimeters): Minimum 5 lux at ground level.
 - Pathways and building entrances: Minimum 10 lux.
- **Average Illuminance Levels:** Average maintained illuminance of 8-12 lux across the compound, sufficient for basic residential safety.
- **Uniformity:** Minimum-to-average illuminance ratio ($E_{min}/E_{avg} \geq 0.2$ (or $max:min \leq 5:1$) to prevent dark spots, per SP 72:2010 for low-risk zones.
- **Coverage and Placement:** Lamp posts shall ensure 100% coverage, eliminating shadows from structures or vegetation. Poles shall be 4-5 meters high, with spacing ≤ 25 -30 meters, optimized for cost-effective LED output.
- **Operation:** Dusk-to-dawn operation (10-12 hours nightly) controlled by a photocell sensor or centralized timer to ensure consistent illumination.
- **Power Supply:** Connected to the local 230V AC grid supply (single-phase), with provisions for a backup power source (e.g., local generator or UPS) to handle power outages, if required by the local authority.

Technical Specifications for System Components

Components shall be basic, robust, and cost-effective, prioritizing minimal maintenance and vandal resistance, compliant with BIS standards:

- **Luminaire (Light Source):** White LED, 10-15W power rating (slightly higher than solar to account for grid reliability), luminous efficacy >90 lm/W, producing ≥5 lux at 4m height. IP65 rated for dust and water resistance. Comply with BIS IS 16102 (Part 1) for LED luminaires. Housing: Polycarbonate or die-cast aluminum, vandal-resistant with anti-corrosive coating suitable for Ahmedabad's climate.
- **Electrical Components:**
 - **Driver:** Constant-current LED driver, 230V AC input, with overvoltage and surge protection (comply with BIS IS 15885). Power factor >0.9, efficiency >85%.
 - **Photocell Sensor:** Integrated or external dusk-to-dawn sensor for automatic operation.
 - **Wiring:** Insulated copper cables (minimum 1.5 mm²) compliant with BIS IS 694, routed through weatherproof conduits or underground cabling to prevent damage.
- **Pole and Mounting:** Mild steel tubular pole, 4-5m height, hot-dip galvanized (minimum 70 microns, BIS IS 2629) for corrosion resistance. Concrete foundation for stability and vandal resistance. Simple arm bracket for luminaire mounting. Provision for secure cable entry to prevent theft or tampering.
- **Overall System:** Operating temperature: -5°C to 50°C. System designed for minimal maintenance with robust, locally available components.

Submission Requirements for Bidders

- Bidders shall submit:
 - Basic site layout showing lamp post locations, spacing, and electrical connection points to the grid.
 - Simplified photometric calculations (manual or software-based) confirming 5-10 lux coverage and no dark corners.
 - Specifications for LED luminaire, driver, and pole, with BIS test certificates.
- Non-compliance with coverage requirements may lead to disqualification.

Testing and Verification

- Post-installation, the Contractor shall measure illuminance using a calibrated lux meter at key points (every 10-15m, including corners and edges) at night.
- Results shall be documented in a report per SP 72:2010. Areas below 5 lux must be rectified at the Contractor's expense.
- System shall comply with BIS IS 1944 (lighting practice) and local electrical safety standards (e.g., Indian Electricity Rules).

4.0 ELECTRIC POWER DISTRIBUTION AND WIRING

Point Wiring (Modular Type for LIG housing Project)

4.1 Definition

A point (other than socket outlet point) shall include all work necessary in complete wiring to the following outlets from the controlling switch or MCB.

- (a) Ceiling rose or connector (in the case of points for ceiling/exhaust fan points, prewired light fittings, and call bells).
- (b) Ceiling rose (in case of pendants except stiff pendants).
- (c) Back plate (in the case of stiff pendants).
- (d) Lamp holder (in the case of goose neck type wall brackets, batten holders and fittings which are not prewired).

4.2 Scope

Following shall be deemed to be included in point wiring:

- (a) 20/25 mm Medium Duty PVC Conduit as the case may be, accessories for the same and wiring cables between the switch box and the point outlet, loop protective earthing of each fan/ light fixture.
- (b) All fixing accessories such as clips, screws, Phil plug, rawl plug etc. as required.
- (c) Metal or PVC switch boxes for control switches, regulators, sockets etc, recessed or surface type, and phenolic laminated sheet covers over the same.
- (d) Outlet boxes, junction boxes, pull-through boxes etc. but excluding metal boxes if any, provided with switchboards for loose wires/conduit terminations.
- (e) Control switch or MCB, as specified.
 - (f) 3 pin or 6 pin socket, ceiling rose or connector as required. (2 pin and 5 pin socket outlet shall not be permitted.)
 - (g) Connections to ceiling rose, connector, socket outlet, lamp holder, switch etc.
 - (i) Interconnecting wiring between switches within the switch box on the same circuit.

4.3 Wiring System

- (i) Wiring shall be done only by the looping system. Phase/live conductors shall be looped at the switch box. For point wiring, neutral wire/earth wire looping for the

1st point shall be done in the switch box; and neutral/earth looping of subsequent points will be made from point outlets.

- (ii) In wiring, no joints in wiring will be permitted anywhere, except in switch box or point outlets, where jointing of wires will be allowed with use of suitable connector.
- (iii) The wiring throughout the installation shall be such that there is no break in the neutral wire except in the form of linked switchgear.
- (iv) Light, fans and call bells shall be wired in the 'lighting' circuits. 15A/16A socket outlets and other power outlets shall be wired in the 'power' circuits. 5A/6A socket outlets shall also be wired in the 'power' circuit both in residential as well as non- residential buildings.

4.4 Joints in Wiring

- (i) No bare conductor in phase and/or neutral or twisted joints in phase, neutral, and/or protective conductors in wiring shall be permitted.
- (ii) There shall be no joints in the through-runs of cables. If the length of final circuit or sub main is more than the length of a standard coil, thus necessitating a through joint, such joints shall be made by means of approved mechanical connectors in suitable junction boxes.
- (iii) Termination of multistranded conductors shall be done using suitable crimping type thimbles.

4.5 Capacity of Circuits

- (ii) Power circuit in non-residential building will have only one outlet per circuit.
- (iv) Load more than 1 KW shall be controlled by suitably rated MCB and cable size shall be decided as per calculations.

4.6 Socket Outlets

- i. Socket outlets shall be 6A 3 pin, 16 Amp 3 pin or 16/6 Amp 6 pin. 5 pin socket outlets will not be permitted.
The third pin shall be connected to earth through protective (loop earthing) conductor. 2 pin or 5 pin sockets shall not be permitted to be used.
- ii. Conductors connecting electrical appliances with socket outlets shall be of flexible type with an earthing conductor for connection to the earth terminal of plug and the metallic body of the electrical appliance.
- iii. Every socket outlet shall be controlled by a switch or MCB, as specified. The control switch/MCB shall be connected on the 'live' side of the line.
- iv. 5A/6A and 15A/16A socket outlets shall be installed at the following positions, unless otherwise specified.
 - (b) *Kitchen* – 150mm above working platform and away from the likely positions of stove and sink.

- (c) *Bathroom* – No socket outlet is permitted for connecting a portable appliance thereto. MCB switch may be provided above 2 m for fixed appliances, and at least 1 m away from shower.
- (d) *Rooms in residences* – 1000 mm above floor level, or any other level in special cases as desired by the Engineer-in-charge.
- (vii) Unless and otherwise specified, the control switches for the 6A and 16A socket outlets shall be kept along with the socket outlets.

4.7 Providing Electrical Planning in Residential Areas in each Flat as mentioned below details:

(I) Drawing Room :	EWS
Double door type Distribution Board	1 Nos.
(8 Way SPN DB Having Incomer: 25 A DP ELCB (30 mA)	1 Nos.
Outgoing: 6-32 Amp , 10 kA SP MCB	6 Nos
Light Points (all points are Wall bracket points)	2 Nos
Bell points with Bell Buzzer	1 Nos
Fan points with Step type Regulator	1 Nos
5 Amp socket On board	1 Nos
Television Points with TV socket	1 Nos
2 Nos. 5 Amp Socket with Switch near TV points	2 Nos
(II) Kitchen with Wash area	
Light Points (all points are Wall bracket points)	2 Nos. (1 for kitchen + 1 for wash)
Fan points with Step type Regulator	1 Nos
5 Amp socket on board	1 Nos
15 Amp Power Socket with Switch for Freeze	1 Nos
5 Amp Socket on kitchen platform for Water filter	1 Nos
(III) Bedroom	
Light Points (all points are Wall bracket points)	2 Nos
Fan points with Step type Regulator	1 Nos
5 Amp socket on board	1 Nos
(IV) Bathroom	
Light Points (all points are Wall bracket points)	2 Nos. (1 for bathroom & 1 for Wash basin area)
15 Amp Power Socket with Switch for geyser	1 Nos
(V) Toilet	
Light Points (all points are Wall bracket points)	

4.8 Main Board of Each Quarter

It shall be MCB type with provision of ELCB with the incoming MCB. It shall be located in a niche with ventilated door cover, in the room connecting to the entry of the quarter. MCB DB shall be pre-wired type, for trouble free service.

4.9 Following to be minimum requirement for electrification for each site

Receiving power from State Electricity Board/GEB/Torrent/UGVCL	<p>To receive power from SEB/GEB/Torrent power, as per the load requirement of site.</p> <p>Location of Substation Transformer and 11Kv HT breaker, on each site in line with requirement of SEB/GEB/TORRENT/UGVCL.</p> <p>Electrical load sheet to be submitted specifying the connected and demand loads. Sizing for the transformer to be done as per the same.</p> <p>The output of transformer i.e. LT at 433V, 3-phase+Neutral, 50 Hz will be further distributed through FSP.</p> <p>Requirement of power whichever H.T. or L.T. suggested by SEB/GEB/Torrent/UGVCL will be applied for Load Calculation.</p>
Cabling for different voltage– 11kv and 415v	<p>LT Cable shall be 1.1KV, XLPE Armoured cable as per IS 7098 (P-1), 1988 and IEC rules.</p> <p>Laying of cable shall be Minimum 1200mm deep for 11kv, HT cable and 750mm deep for LT cable.</p> <p>LT cable from mains connection to panel is as per tender or any special condition suggested by SEB/GEB/Torrent/UGVCL will be applied.</p>
Receiving power to Feeder Section Pillar (FSP)	<p>LT power (433Volts) to be received at Feeder Section Pillar.</p> <p>Underground cabling to be done with proper size chambers for cabling pulling. Spare cabling to be done as per the requirement of GEB or Torrent.</p>
Metering	<p>Power from FSP shall be received on Bus bar chambers to LT meters.</p> <p>Meters to be provided on hollow plinth and ground floor. Proper arrangement of all switchgears, meters to be done as per requirement of GEB/Torrent/UGVCL.</p>
Electrical Shaft	<p>Electrical shaft of proper size to be provided. The mains from electrical meter to each unit shall be routed through electrical shaft. 25/32 mm PVC MMS conduits to be used for mains connecting from meter to unit in concealed or open as per required.</p> <p>1 No of 25/32mm PVC MMS conduit to be provided for mains for each of the unit.</p>
LT Cabling and wiring for mains	<p>LT Cable to be sized for full load current and Voltage drop.</p> <p>From Transformer to FSP : 0.5%</p> <p>From FSP to Meter : 1.5 %</p> <p>From Meter to Unit (DB within house) : 1.5 %</p> <p>From DB to end point : 1.5 % (Total drop 5%)</p>
Common Area LT meter and distribution	<p>Separate LT meter for common service for each block to cater lift, common lighting of foyer and stair case area.</p> <p>Separate LT meter for metering of street lighting and for utility load for the site.</p>
Common Area Lighting and distribution	<p>Common Area distribution Board to be planned for common area Lighting, external area lighting bracket points, Lifts. Power to common area distribution board to be supplied from common area meter.</p>

External area lighting	<p>The external area lighting to be done using power efficient light fixtures to achieve LUX of 10 – 12 LUX for internal streets.</p> <p>External Lighting to be designed using wall bracket mounted lights on periphery of each building or using GI poles.</p> <p>Illumination for hollow plinth or ground floor to be done to achieve lux of 40 – 50LUX.</p> <p>Foyer Min. Of 100 LUX.</p> <p>Circuit distribution to be done in 2 to 4 circuits to achieve LUX level in ratios of 33% to 50% to 100% to achieve energy saving.</p>
Wiring for mains	<p>Power from LT meter to be received to Distribution Board.</p> <p>Minimum wire sizes for mains</p> <p>2 nos. 1 core 4.0 sq. mm copper flexible FR wire (Phase + Neutral) & 1 nos. 1 core 2.5 sq. mm copper flexible FR wire (Earth)</p> <p>In case of High rise and as per voltage drop calculation the sizes of mains shall increase 2 nos. 1 core 6.0 sq. mm copper flexible FR wire (Phase + Neutral) & 1 nos. 1 core 4.0 sq. mm copper flexible FR wire (Earth).</p> <p>Voltage drop shall be as per mentioned above.</p> <p>No wires less than 1.5 sq mm² to be used. Cables, if necessary, shall also be used.</p>
Internal electrification and wiring	<ul style="list-style-type: none"> In case of Single-phase power distribution, suitable ampere rated DP MCB + ELCB as incomer to be provided in distribution board to provide safety to the human beings as per safe practice. Each outgoing circuit shall be SP MCB. <p><u>Wire sizes:</u></p> <ul style="list-style-type: none"> For Lighting circuits: Mains wiring : 2 No. 2.5 sqmm Cu (FRLS) flexible wire (P&N) + 1 No. 1.5 sqmm Cu (FRLS) flexible wire (E) OFF Wiring: 1 No. 1.5 sqmm Cu (FRLS) flexible wire. For Power circuits: (Refrigerators, kitchen etc.) Mains wiring : 2 No. 2.5 sqmm Cu (FRLS) flexible wire (P&N) + 1 No. 1.5 sqmm Cu (FRLS) flexible wire (E) For Geyser circuits: Mains wiring : 2 No.4.0 sqmm Cu (FRLS) flexible wire (P&N) + 1 No. 2.5 sqmm Cu (FRLS) flexible wire (E)
Switches and Accessories	Modular type switches and accessories to be installed compulsorily.
TV and Telephone systems	<p>Conduit provision will be provided for landline telephone system.</p> <p>1 No of PVC, MMS conduit of 20mm for each unit for ELV system.</p> <p>Conduit provision will be done from ground floor terminal box to each floor junction box.</p>
Earthing and protection	<p>3Mtr Deep GI pipe earthing to be provided for Body earthing of panels, electrical devices, pump rooms, lifts etc.</p> <p>Plate earthing to be provided for neutral earthing like Transformer and DG sets.</p> <p>Lightening protection system to be provided as required.</p>

Annexure- I

23. FORM OF PERFORMANCE SECURITY BANK GUARANTEE BOND

1. In consideration of the Ahmedabad Municipal Corporation (hereinafter called "the AMC") having agreed under the terms and conditions of Agreement no. _____ dated _____ made between _____ and _____ {hereinafter called the said Contractor(s)} For the work _____
_____ {hereinafter called the said Agreement} Having agreed to production of a irrecoverable Bank guarantee for INR _____ only) as a Security/Guarantee from the Contractor (s) for compliance of his obligations in accordance with the Terms & Conditions in the said Agreement, We _____ {hereinafter referred to as "the Bank"} (Indicate the name of the Bank) hereby undertake to pay to the AMC an amount not exceeding INR. _____ (INR _____ only) on demand by the AMC.
2. We _____ hereby undertake to pay the amounts due and (Indicate the name of the Bank) payable under this Guarantee without any demure, merely on a demand from the AMC stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee; however, our liability under this guarantee shall be restricted to an amount not exceeding INR _____ only.
3. We, the said bank further undertake to pay to the AMC any money so demanded not withstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding, pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor (s) shall have no claim against us for making such payment.
4. We _____ (Indicate the name of the bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the AMC under or by virtue of said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the AMC certified that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor (s) and accordingly discharge this Guarantee.
5. We _____ (Indicate the name of the bank) further agree with the AMC that, the AMC shall have the fullest liberty without our consent and without affecting in any manner or obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractors(s) from time to time or to postpone for any time or from time to time any of the power exercisable by the AMC against the said Contractor(s) and to for bear or enforce
6. any of the terms & conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor or for any forbearance, act of omission on the part of the AMC or any indulgence by the AMC to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provisions, have effect of so reliving us.
7. This guarantee will not be discharged due to the change in the constitution of the bank or the

contractor(s).

8. We _____ (Indicate the name of the Bank lastly undertake not to revoke this Guarantee except with the previous consent of the AMC in writing.
9. This Guarantee shall be valid up to _____ unless extended on demand by AMC, Not-with-standing anything mentioned above, our liability against this Guarantee is restricted to INR _____ (INR _____ only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guaranteed all our liabilities under this guarantee shall stand discharged.

Dated the _____ day of _____ 20

For _____

(Indicate the name of the Bank) with Bank seal.

Annexure- II

GUARANTEE BOND TO BE EXECUTED BY CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS.

The Agreement made thisday of.....Two thousandand

.....between.....son

of(here in after called the Guarantor of the one part) and the Ahmedabad Municipal Corporation(here in after called the AMC of the other part)WHEREAS THIS Agreement is supplementary to a Contract (Hereinafter called the Contract) dated..... And made between the GUARANTOR OF THE ONE part and the AMC of the other part, whereby the Contractor, inter-alia, undertook to render the buildings and structures in the said Contract recited completely water and leak- proof.

AND WHEREAS THE GUARANTOR agreed to give a Guarantee to the effect that the said structures will remain water and leak- proof for Ten years to be reckoned from the date after the Maintenance Period prescribed in the Contract.

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak- proof and the minimum life of such water proofing treatment shall be Ten years to be reckoned from the date after the maintenance period prescribed in the Contract.

Provided that the Guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

1. Misuse of roof shall mean any operation which will damage water proofing treatment, like chopping of firewood and things of the same nature, which might cause damage to the roof;
2. Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby water proofing treatment is removed in parts;
3. The decision of the Engineer-in-charge with regard to cause of leakage shall be final. During this period of guarantee, the Guarantor shall make good all defects and in case of any defects being found, render the building water proof to the satisfaction of the Engineer-in-Charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from Engineer-in-Charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other Contractor at the GUARANTOR'S risk and cost. The decision of the Engineer-in-Charge as to the cost, payable by the Guarantor shall be final and binding.

That if, Guarantor fails to execute the water proofing or commits breach there under

then the Guarantor will indemnify the Principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by his by reason of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and/or damage and/or cost incurred by the AMC, the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligor _____ and by _____ and for an on behalf of the Ahmedabad Municipal Corporation, on the day, month and year first above written. SIGNED, SEALED AND DELIVERED BY OBLIGATOR IN THE PRESENCE OF –

A) _____

B) _____

SIGNED FOR AN ON BEHALF OF THE AHMEDABAD MUNICIPAL COTPORATION BY _____ in the presence of -

i _____

ii _____

Annexure- III

Site of work shall have a Laboratory equipped with the following equipment

1. Balances:
 - i) 7 kg. to 10 Kg. capacity, semi-self-indicating type, accurate to 10gm.
 - ii) 500 gm. Capacity, semi-self-indicating type, accurate to 10gm.
 - iii) Pan Balance Type –5 Kg., accurate to 10gm.
2. Ovens:- Electrically operated, thermostatically controlled upto 110C - sensitivity 1C
3. Sieves: as per IS: 460
 - a) IS Sieve – 450mm internal dia. of sizes – 100mm, 80mm, 63mm, 50mm, 40mm, 25mm, 20mm, 10mm, 6.3mm, 4.75mm completed with lid and pan.
 - b) IS Sieves – 200mm internal dia. (brass frame) consisting of 2.36mm, 1.18mm, 504 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns, with lid and pan.
4. Sieve shaker capable of 200mm and 300mm dia. Sieves, manual operation with timing switch assembly.
5. Equipment for slump test – slump cone, steel plate, tamping rod, steel scale, scoop.
6. Dial gauges – 25mm travel – 0.01mm / division least count – 2 Nos.
7. 100 tonnes compression testing machine, electrical-cum-manually operated.
8. Graduated measuring cylinders, 200ml capacity – 3 Nos. broken one, if any to be replaced by the contractor at his own cost.
9. Enamel Trays (For efflorescence test) of bricks:- 300mm x 250mm x 40mm – 2Nos. Circular plate of 250mm dia. –4 Nos.
10. 15cm moulds for concrete cubes – adequate numbers.
 - a. (i) Other instruments like steel tapes – 3m & 30m, Vernier Callipers, a good quality plumb bob, spirit level minimum 30cm long with 3 bubbles for horizontal, vertical, wire gauge (circular type) disc, foot rule, long nylon thread, magnifying glass, screw driver 30 cms long, ball pin hammer 100 gms, plastic bags for taking samples etc:
 - Micrometer screw 25mm guage.
 - Rebound hammer for testing concrete dynamic penetrometer.
 - Moisture meter for timber.
 - (ii) Any other testing equipment/ machine required for testing of various other materials shall also be provided installed at the site lab with the technical staff. Well trained to operate such equipment/ machine.

To be notarized by Notary

ANNEXURE-IV

AFFIDAVIT

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. **I /We certify that our firm is not black listed or debarred by any Central, railway, state and any other Local Government** Authority from participation in tenders/contract on the date of opening of tender.
3. The undersigned also hereby certifies that neither our firm M/s _____ has abandoned any work in India nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
4. The undersigned hereby authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
5. I /We hereby declare that I / We understand and agree that further qualifying information may be requested, and I / We also agree to furnish any such information at the request of the AMC within the prescribed time.
6. I / We further declare that my / our near relatives are not working in AMC as City Engineer, an Additional City Engineer, Deputy City Engineer, Assistant City Engineer, Assistant Engineer and technical supervisor as on today.
7. I / We M/s _____ hereby declared that the bid submitted by us will remain valid for a period of **180 days** after last date submission of hard copy.
8. I / We M/s _____ hereby certifies that in case of all the disputes, decision of the Municipal Commissioner, Amdavad shall be final and binding to us. Municipal Commissioner shall be the sole Arbitrator.

(Signed by an Authorised Officer of the Firm)

Title of Officer/Bidder

Name of Firm

Place & Date

24. HORTICULTURE WORKS.

SPECIFICATION FOR HORTICULTURE WORKS

1. The work will be carried out as per Government of Gujarat R & B department General Technical Specifications for Building Works specification with up to date correction slips.
2. The all liabilities of the labour is the responsibilities of the contractor and that of not AMC
3. 250 Nos. of trees, 1000 Nos. of shrubs, 2500 ground cover, 2500 nos. of hedge plants, creeper etc. will be planted / hectare. List enclosed.
4. At least 225mm good earth will be provided by the contractor for lawn area and 25mm cow dung manure.
5. At least one tube well required with pump houses with irrigation system for lawn area and planters etc. the maximum distance of the hydrant of 20mm size will be 25mtr.
6. Green area will be bounded by 60cm. high boundary wall from adjoining path/Road and 1 mtr. Height railing over this wall.
7. The contractor shall arrange his own T&P required for development as well as maintenance.
8. Tree plants will be protected by the tree guard.
9. Tree/shrub/creeper/hedge plant will be approved by the Engineer-in-charge from the enclosed list.
10. The quantity can be increased or decreased by 20% as per sole discretion of Engineer-in-charge.
11. Trenching in ordinary soil up to a depth of 30cm. including removal and stacking of serviceable materials and then disposing of spreading an neatly leveling with an a lead of 50m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and manure before and after flooding trench with water.
12. Supplying and stacking of good earth at site including royalty and carriage up to all leads and lifts.
13. Supplying and stacking cow dung at site including royalty and carriage up to all leads and lifts.
14. Fine dressing the ground to levels specified.
15. Spreading of cow dung manure or/and good earth in require thickness.

16. Grassing with 'doob' grass including watering and maintenance of the lawn for till the grass forms a thick lawn free from weeds and fit for moving including supplying good earth if needed. Grass to be planted in rows 5cm. apart in either direction.
17. Preparation of beds for heading and shrubbery by excavating 60cm. deep and trenching the excavated based to a further depth of 30cm, refilling the excavated earth after breaking clods and mixing with cow dung manure in the ratio of 8:1(8part of stacked volume of earth after reduction by 20%:1 part of stacked volume of cow dung manure after reduction by 8%) flooding with water, filling with earth if necessary, watering and finally dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed within lead of 50m, lift upto 1.5m complete.
18. Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure of sludge in the ratio 2:1 by volume (2 part of stacked volume of earth after reduction by 20%:1 part of stacked volume of cow dung manure after reduction by 8%) flooding with water dressing including removal of rubbish and surplus earth, if any with all leads and lift (cost of manure sludge or extra good earth, if needed is to be provided without any extra cost).
 - I. Holes 0.90m dia and 0.90m deep.
 - II. Holes 60cm. dia and 60cm. deep.
19. Supplying best quality grown healthy trees in pot of 90-120cm height, species as specified. All trees to be approved before planting.
20. Supplying best quality, pots grown healthy climber plants with minimum 90cm Stem length of species specified, inclusive of preparation and cultivation. All plants to be approved before planting by Dir. (Hort).
21. Supplying best quality pot grown healthy climber plants with minimum 60cm. tail of species specified inclusive of preparation and cultivation of shrub beds as specified. All plants to be approved before planting by Dir. (Hort).
22. Supplying and applying chemical emulsion of approved quality in sealed container for terminators 50ml. per sq. m. Including delivery as specified.
23. Providing and fixing of M.S. circular tree guard 40cm. internal dia. With over all height of 1.82m. Frames at 3 nos. of vertical angle iron size 25x25x3mm with 75mm slatted bottom ends, welded full in length at meeting point with 3 nos. MS flat rings made of 25mmx3mm including welding and fixing steel wire mesh fabric of 1.30m high and 10 SW guage of 5.0x7.5cm size wire mesh including painting with ready mixed paint of approved brand and manufacture and require shade over a priming coat of ready mixed zinc chromate yellow primer complete in all respects, as per drawing and direction of Engineer-in-Charge.

GENERAL SCOPE

1. All plant materials shall be healthy sound vigorous free from plant diseases insect, pests, or their eggs and shall have healthy, well-developed root system. All plants shall be hard under climatic conditions, similar to those in the locality of the project. Plants supplied shall conform to the names listed on both the plants and the plant list. No plant material will be accepted if branches are damaged or broken. All material must be protected from the sun and weather until planted.

All necessary stock shall be inspected and approved by the Director, landscape Architect/Engineering-in-charge/Director. All plants shall conform to the requirements specified in the plant list, except that plants larger than specified may be used, if approved but use of such plant shall not increase the contract price.

If the use of such the large plant is approved, the spread of roots or ball of earth shall be increased in proportion to the size of the plant. Plants to be delivered with legible identification labels.

2. Topsoil: (Good earth PH. Range from 6.5 to 7.5).

Top soil or good earth shall be a friable loam typical. It shall be free of subsoil stones earth clods, sticks roots or other objectionable extraneous matter or debris. It shall contain no toxic material. No topsoil shall be delivered in a muddy condition. The PH value of the soil in between 6.5 to 7.5.

3. Fertilizer:

Dry farm yard manure shall be used. Measurement shall be in stacks with 8% reduction for payment. It shall be free from extraneous material harmful bacteria insects or chemicals.

4. Root system:

The root system shall be conducive to successful transplantation. Where necessary the root ball shall be preserved by support with hessian or other suitable material. On soils where retention of a good ball is not possible the roots should be suitable/protected in some other way which should not cause any damages to roots.

5. Marking:

Each specimen of tree and shrub, or each bundle, shall be legibly labeled with the essential particulars.

6. Tree planting:

Trees should be supplied with adequate protection as approved. After delivery, if planting is not to be carried out immediately, balled plants should be placed check to check and the ball covered with sand to prevent drying out. Bare rooted plants can be heeled in, by placing the roots in a prepared trench and covering them with the earth which should be watered

in, to avoid air pockets around the roots.

7. Planting:

No tree pits shall be dug until final tree positions have been pegged out for approval. Care shall be taken that the plant sapling when planted is not buried deeper than in the nursery, or in the pot/ polythene bag. Planting should not be carried out in water logged soil.

Plants/ trees at the original soil depth, the soil marks on the stem is an indication of this, and it should be maintained on the finished level allowing for setting on the soil after planting. All plastic and other imperishable containers should be removed before planting. Any broken or damaged roots should be cut back to sound growth.

8. Fertilizing:

- Fertilizing shall be carried out by application of chemical (NPK) fertilizers @ 1 quintal per acre per year in the end of winter.
Organic well-rooted dry farmyard manure 0.05 cum. Or 1 (one) 'tassla' Urea 25 gm Or Potassium Sulphate 25gm.
- All shrubs which are supplied pot grown shall be well soaked prior to planting.
- Watering in and subsequent frequent watering of summer planted container grown plants is essential.

9. In the absence of rain, in the Monsoon, the lawn shall be watered with sprinklers every three days, soaking the soil through to a depth of at least 20cm.

Damage failure or dying back of grass due to heat etc. Shall be the responsibility of the contractor.

10. The contractor is to exercise care in the use of rotary cultivator and mowing machines to reduce to a minimum, hazards of flying stones and brickbats. All rotary mowing machines are to be fitted with safety guards.

11. Nursery stock:

Planting should be carried out as soon as possible after the plant material has arrived at the site. Where planting is delayed, care should be taken to protect the plants from pilfering or damage from people or animals. Plants with bare roots should be heeled-in, as soon as received or otherwise protected from drying out, and others set closely together and protected from the wind and frost. If planting is to be delayed for more than a week packaged plants should be unpacked, the bundles opened up and each group of plants separately and clearly labeled. If for any reason, the surface of the roots becomes dry, the roots should be thoroughly soaked before planting.

12. A "NO Claim Certificate" in the prescribed form or a list of claims not included in the final bill with full details.

The Engineer-in-charge shall examine and certify the final bill for payment after satisfying

that the works have been satisfactorily completed and that all properties, works and things removed or disturbed or damaged in consequences of the works, have been properly replaced and made good, and all expenses and demands incurred or made by one company or in respect of any damage or loss by/ from or consequences of the works have been satisfied, all materials have been returned and the site cleared.

13. Completion Certificate:

The works shall be deemed to have been completed in all respects, on the day the Engineer-in-charge certifies that the work have been so completed in accordance with this contract, take over the completed works and issues a certificate to that effect. The defect liability period will start from the said date of completion/handling over of the work.

14. Contractor's Co-ordination:

If during the course of the contractor's work, other works of the department or of the other contractors are also in progress within the same site, the contractor is to use his best efforts to work in harmony with all the others and in the best overall interest of the Project/Work.

- 2.1 The payment of all the horticulture works/items as mentioned above will be made of actual work done and will deemed to have been including in the quoted tendered amount.

LIST OF TREES:

- a) Saptparni
- b) Neem
- c) Sisam
- d) Jambu
- e) Gulmohar
- f) Garmalo
- g) Sevan
- h) Kadam
- i) Desi Asopalav
- j) Pipal
- k) Badam

LIST OF SHRUB:

- l) Bougainvillea (Varieties)
- m) Hibiscus rosasinensis
- n) Indian oleander

LIST OF CREEPERS:

- o) Indian Vernonia

LIST OF GROUND COVER:

- i) Altermanthera (Red)
- ii) Alternanthera (Green)
- iii) Asparagus sprengeri
- iv) Lantana depreessa.

SPECIFICATION FOR WORK

i. Maintenance for work of lawns doob Grass (Cynodon Dectylon).

The grass in lawns shall regularly cut with garden swords and moved with lawn mowers. The thickness of the grass shall not be allowed to increase beyond 60mm. The minimum thickness of grass shall be maintained as 50mm. The thickness shall be measured from top of the soil surface. The grass shall also be kept free from all kinds of weeds.

The grass lawns shall be kept constantly rolled to give cushioning effect to the grass. Manuring of the grass lawns shall also be done regularly so as to keep the grass green. The manuring of the lawn shall be spread in the months of December and January or as directed by the Engineer-in-charge.

ii. For maintenance of curbing for the fire control measure:

2.1 The grass in area shall regularly be cut with garden swords and mowed with lawn mowers. The thickness of the grass shall not be allowed to increase beyond 60mm. The minimum thickness of grass shall be maintained as 50mm. Thickness shall be measured from top of the soil surface. The grass shall also kept free from all kind of the wild grass/bushes.

2.2 The existing grass shall be scrapped, if required or as directed by the Engineer-in-charge. The scrapped materials shall be disposed off at convenient point to be decided by the Engineer-in-charge. Thereafter, the area will be suitably flooded with water and left for a fortnight for new grass to come up.

2.3 Maturing of the grass area shall also be spread in the month of December/January or as directed by the Engineer-in-charge.

3. for work of Tree Plants and Trees:

3.1 The area around the tree plants up to a minimum of two feet around, from trunk of the tree plants shall be kept free from grass and all kinds of weeds. Hoeing of this area around the trees shall be done regularly. The plants shall also be watered regularly as required and as directed by the Engineer-in-charge. Hoeing shall also be done after every watering as per the direction of Engineer-in-charge. For proper upkeeps of the tree, unwanted branches of the trees/tree plants shall be removed at regular intervals as required and as directed by the Engineer-in-charge. The tree plants/trees shall also be kept free of any diseases, insects or pest by regularly spraying insecticides as required and as directed by the Engineer-in-charge.

a) The complete area where the tree plants/trees are planted in open field shall be kept free from grass and all kinds of weeds throughout the year.

4. For work of hedges :

4.1 The area around hedges plants shall be kept free from all kids of grass and weeds.

Hoeing of the area around hedge plants shall be done regularly as required and as directed by the Engineer-in-charge. The hedge plants shall be watered regularly as required and as directed by the Engineer-in-Charge.

- 4.2 Pruning and trimming are the most important items for proper shaping of hedges, therefore, special care and attention shall be paid to prune and cut the hedge as required and as directed by the Engineer-in-charge.

5. For work of flower beds:

5.1. The contractor will maintain seasonal flower beds and rose beds including preparation of bed, supply of seeds and seeding chemicals, cow dung manure, watering, inter-culturing etc. as per direction of the Engineer-in-charge so that maximum healthy flowers/plants are available throughout the year for flowerbeds as per the requirement. In case any casualty flower due to negligence or poor maintenance by the contractor occurs the same will be replaced by a healthy and acceptable plant, as per the direction of Engineer-in-charge.

OTHER SPECIFICATION

The following yardstick should be followed to maintenance of horticulture works.

1. Minimum one Mali for one acre on lawn.
2. Minimum one Mali for 250 nos. of road side trees/plants.
3. Minimum one Mali for 3000 running meters of hedges.

25. IS CODES

IS Code No.	Subject
GENERAL	
IS 4082	Stacking & storage of construction materials and components at site – Recommendations
IS 1200	Method of measurement of building and civil engineering work.(All Parts)
IS 1141	Seasoning of Timber – Code of practice
EARTH WORK	
IS 3674	Safety code for excavation work
IS 1498	Classification and identification of soils for general engineering purposes.
IS 1200 (Pt-1)	Method of measurement of earth work
IS 1200 (Pt-27)	Method of measurement of earth work (by Mechanical Appliances)
IS 4081	Safety code for Blasting and related drilling operation
IS 4988 (Part-IV)	Excavators
IS 6313 (Pt-II)	Anti Termite measures in buildings (pre-constructional)
IS 6313 (Pt-III)	Anti Termite measures in buildings for existing buildings
IS 6940	Methods of test for pesticides and their formulations
IS 8944	Chlorpyrifos emulsifiable concentrates
IS 8963	Chlorpyrifos – Technical specifications
IS 12138	Earth moving equipments
MORTARS	
IS 269	Specification for 33 grade ordinary Portland cement
IS 455	Specification for Portland slag cement
IS 650	Specification for standard sand for testing of cement
IS 1269	Specification for 53 grade ordinary Portland cement
IS 1542	Specification for sand for plaster
IS 2116	Specification for sand for masonry mortar
IS 2250	Code of practice for preparation and use of masonry Mortar
IS 3025	Method of sampling and test for water
IS 3406	Specification for masonry cement
IS 3812 (Part-I)	Specification for flyash for use as pozzolana in cement mortar and concrete
IS 3812 (Part-II)	Specification for flyash for use as admixture in cement mortar and concrete
IS 8041	Rapid hardening Portland cement
IS 8042	Specification for white cement

IS 8112	Specification for 43 grade ordinary Portland cement
IS 1298	Methods of test for determination of free lime in portland cement
IS 6452	High alumina cement for structural use
IS 1489	Portland Pazzolana Cement
CONCRETE WORK	
IS 383	Specification for coarse and fine aggregate from natural source for concrete
IS 303	Coarse and fine aggregates from natural sources for concrete
IS 1830	Methods for sampling of aggregates for concrete
IS 2386	Method of test for aggregates for concrete
(a) Part-I : Particle size and shape	
(b) Part-II : Estimation of deleterious materials and organic impurities	
(c) Part-III : Specific gravity, density, voids absorption and bulking	
(d) Part-IV : Mechanical properties	
(e) Part-V : Soundness	
IS 2505	General requirements for concrete vibrators – immersion type
IS 2506	General requirements for concrete vibrators – screed board concrete vibrators
IS 2645	Specification for integral water proofing compounds for cement mortar and concrete
IS 761 (Part-I)	Code of practice for extreme weather concreting (Part-I) recommended practice for hot weather concreting
IS 7861 (Part-II)	Code of practice for extreme weather concreting (Part-II) recommended
IS 9103	Specification for concrete admixtures
IS 460	Test sieves
IS 1607	Methods for dry sieving
IS 1834	Hot applied sealing compounds for jointing concrete
REINFORCED CEMENT CONCRETE WORK	
IS 1904	Structural safety of buildings, shallow foundation
IS 1893	Criteria for earthquake resistant design of structures
IS 432 (Part-I)	Specification for mild steel and medium tensile steel bars and hard drawn steel wire for concrete reinforcement part-I mild steel and medium tensile steel bars
IS 432 (part-II)	Specification for mild steel and medium tensile steel

	bars and hard drawn steel wire for concrete reinforcement part-II hard drawn steel wire
IS 456	Code of practice for plain and reinforced concrete
IS 516	Method of test for strength of concrete
IS 1199	Method of sampling and analysis of concrete
IS 1200 (Part-II)	Method of measurement of building and civil engineering work – concrete work
IS 1200 (Part-V)	Method of measurement of building and civil engineering work – concrete work (Part 5 – Form work)
IS 1566	Specification for hard drawn steel wire fabric for concrete requirement
IS 1599	Method of bend test
IS 1343	Code of practice for Prestressed Concrete
IS 1786	Specification for high strength deformed steel and wires for concrete reinforcement
IS 1791	Specification for batch type concrete mixes
IS 2502	Code of practice for bending and fixing of bars for concrete reinforcement
IS 2751	Recommended practice for welding of mild steel plain and deformed bars for reinforced construction
IS 4925	Batch plants specification for concrete batching and mixing plant
IS 4926	Ready – Mixed Concrete
IS 6523	Specification for precast reinforced concrete door, window frames
IS 10262	Recommended guidelines for concrete mix design
IS 13311 (Part-I)	Indian standard for non-destructive testing of concrete. Method of test for ultrasonic pulse velocity
IS 13311 (Part-II)	Indian standard for non-destructive testing of concrete. Method of testing by rebound hammer.
IS 3370	Concrete structures for storage of liquids
IS 1568	Wire gauge for general purposes
IS 1139	Hot rolled mild steel and medium tensile steel deformed bars for concrete reinforcements
IS 2502	Code of practice for bending and fixing of bars for concrete reinforcement
IS 2751	Code of practice for welding of mild steel bars used for reinforced concrete work
STEEL WORK	
IS 226	Structural steel
IS 2062	Steel for general structural purpose
IS 800	Code of practice for use of structural steel in general in

	steel construction
IS 806	Code of practice for use of steel Tubes in general building construction
IS 816	Code of practice for use of metal arc welding for general construction in mild steel
IS 818	Code of practice for safety and healthy requirements in electric and gas welding and cutting operations
IS 822	Code of procedure for inspection of welds
IS 1038	Steel doors, windows and ventilators
IS 1081	Code of practice for fixing and glazing of metal (Steel and aluminium) doors, windows and ventilators
IS 1161	Steel tubes for structural purposes
IS 1200 (Pt. VIII)	Method of measurements of steel work and iron works
IS 1367	Technical supply conditions for threaded steel fasteners
IS 1821	Dimensions for clearances holes for bolts and screws
IS 2074	Ready mixed paint, air drying redoxide zinc chrome priming
IS 4736	Hot – dip zinc coating on mild steel tubes
IS 4923	Hollow steel sections for structural use – specification
IS 6188	Metal rolling shutters and rolling grills
IS 7452	Specification for hot rolled steel sections for doors, windows and ventilators
BRICK WORK	
IS 712	Specification for building limes
IS 1077	Common burnt clay building bricks
IS 1200 (Part 3)	Method of measurements of brick works
IS 2212	Code of practice for brick work (1 st Revision)
IS 3495	Method of test for burnt clay building bricks
IS 5454	Methods of sampling of clay building bricks
IS 13757	Specification of burnt clay fly ash bricks
IS 2691	Burnt clay facing bricks
IS 2185 (part-III)	Specifications of concrete masonry (e.g. AAC Block)
IS 6441 (Part-I,II,III,IV, V etc)	Method of test of AAC block
MARBLE WORK	
IS 1122	Method of test for determination of true specific gravity of natural building stones
IS 1118	Method of test for determination of water absorption, apparent specific gravity and porosity of natural building stones
IS 1130	Marble (blocks, slabs and tiles)
IS 4101 (Part-I)	Code of practice for external facing and veneers: Stone facing

IS 14223 (Part-I)	Polished Building Stones (Part-I) Granite
WOOD WORK AND P.V.C. WORK	
IS 204 (Part-I)	Specification for tower bolts (ferrous bolt)
IS 208	Specification for door handles
IS 287	Recommendations for maximum permissible moisture contents of timber used for different purpose
IS 303	Specification for plywood for general purposes
IS 401	Code of practice for preservation of timber
IS 453	Specification for double acting spring hinge
IS 710	Specifications for Marine Plywood
IS 1003 (Part-I)	Specification for timber paneled and glazed shutter Part-I (Door shutters)
IS 1003 (Part-II)	Specification for timber paneled and glazed shutter Part-II (Window and ventilator shutters)
IS 1200 Part-XIV	Method of measurement of building and civil engg. Work glazing
IS 1200 Part-XII	Wood work and joinery
IS 1328	Specification for veneered decorative plywood
IS 1341	Specification for steel butt hinges
IS 1659	Specification for block boards
IS 1823	Specification for floor door stopper
IS 1868	Specification for anodic coating on aluminium and its alloy
IS 2046	-do- Decorative thermosetting synthetic resin bonded laminated sheet
IS 2095	Specification for gypsum plaster board
IS 2202 (Pt I)	Specification for wooden flush door shutter, solid core type (plywood face panels)
IS 2209	Specification for mortice lock (Vertical Type)
IS 2547	Specification for gypsum plaster
IS 3097	Specification for veneered particle board
IS 3564	Specification for door closer (hydraulically regulated)
IS 3847	Specification for mortice night latch
IS 5930	Specification for mortice latch
IS 7196	Specification for hold fast
IS 8756	Specification for mortice ball catch for use in wooden almirah
IS 9308 (Part-II)	Specification for mechanically extracted coir fibres (Mattress coir fibres)
IS 12817	Specification for stainless steel butt hinges
IS 12823	Specification for wood products – Prelaminated particle Boards

IS 14900	Specifications for transparent float glass
IS 4021	Timber door, windows and ventilator frames.
IS 2191	Wooden flush door shutters (cellular and hollow core type)
FLOORING	
IS 1200 (Part-XI)	Method of measurement of Building and Civil Engineering work (Part 11) paving, floor finishes, dado and skirting
IS 1237-Edition 2.3	Specification for cement concrete flooring tiles
IS 1443	Code of practice for laying and finishing of cement concrete flooring tiles
IS 2114	Code of practice for laying in-situ terrazzo floor finish
IS 3622	Specification for sand stone (Slab & Tiles)
IS 4457	Acid and / or alkali Resistant tiles
IS 5318	Code of practice for laying of hard wood parquet and wood block floors
IS 5766	Code of practice for laying of burnt clay brick floor
IS 13630 (Part-1 to 15)	Methods of Testing for ceramic tiles
IS 13712	Specification for ceramic tiles, definition, classification characteristic and marking
IS 15622	Specification for pressed ceramic tile.
ROOFING	
IS 277	Galvanised steel sheets (Plain and corrugated)
IS 651	Glazed stoneware pipes and fittings
IS 1200 (Pt IX)	Method of measurements of building and civil engineering work : Part-9 Roof covering (including cladding)
IS 1200 (Pt X)	Method of measurements of building and civil engineering work : Part-10 ceiling and lining
IS 2095 (Pt-1)	Gypsum plaster boards (Pt. 1) plain Gypsum plaster boards
IS 2935	Specification for flat transparent sheet glass
IS 459	Corrugated and semi corrugated asbestos cement sheet
FINISHING WORKS	
IS 1542	Sand for plaster
IS 1661	Code of practice for cement and cement-lime plaster finishes on walls and Ceilings
IS 1625	Code of practice for preparation and use of lime mortar in buildings
IS 2250	Code of practice for preparation and use of masonry mortars
IS 712	Building limes

IS 1635	Code of practice for field slacking of lime and preparation of putty.
IS 427	Distemper, dry colour as required
IS 428	Distemper, oil emulsion, colour as required
IS 6278	Code of practice for white washing and colour washing
IS 106	Ready mixed paint, brushing, priming for enamels for use on wood.
IS 102	Ready mixed paint, brushing, red lead, non- setting, priming
IS 123	Ready mixed paint, brushing, finishing, semi-gloss, for general purposes
IS 1477	Code of practice for painting of ferrous metals in buildings
IS 2074	Ready mixed paint, red oxide-zinc chrome priming
IS 2339	Aluminium paint for general purposes in dual container
IS 2932	Enamel, synthetic, exterior, type 1
	(a) under coating,
	(b) finishing, colour as required
IS 137	Specification for ready mixed paint, brushing, matt or eggshell flat finishing interior to Indian Standard colour as required
IS 1131	Specification for enamel, interior
	(a) under coating
	(b) finishing.
IS 129	Specification for ready mixed paint, brushing, grey filler for enamel for use over primers
IS 533	Specification for gum spirit of turpentine (oil of turpentine)
IS 101	Methods of tests for ready, mixed paint, & enamels
IS 118	Specification for ready mixed paint, brushing finishing semi glossy for
(Part I) general purposes	
IS 2933	Enamel, Exterior
(a) Under Coating	
(b) Finishing	
IS 5410	Cement Paint
IS 5411	Plastic emulsion, Paint Part- I for interior use
IS 419	Specifications for putty for use in window frames
ROAD WORK	
IS 164	Ready mixed paint for road marking
IS 278	Specification for galvanized steel barbed wire for fencing

IS 1838 (Pt.1)	Specification for performed filters for expansion joint in concrete pavements and structures (non extruding and resilient type / bitumen impregnated fibre)
IS 73	Paving bitumen with bitumen felts
IS 73-1992	Specification for paving bitumen
IS 1203	Method of testing tar and bituminous material Determination of penetration
WATER SUPPLY, SANITARY INSTALLATIONS & DRAINAGE	
IS 771 (Pt.1)	Specification for glazed fire clay sanitary appliances : part 1: General requirements
IS 1703	Water fittings – copper alloy float valves (horizontal plunger type) – Specification
IS 1729	Cast iron / Ductile iron Drainage Pipes and pipe fittings for Over ground non-pressure pipe line Socket and Spigot Series
IS 1795	Specification for pillar taps for water supply purposes
IS 2326	Specification for Automatic Flushing Cisterns for Urinals (Other than plastic cisterns)
IS 2548 (Part-1)	Plastic seats and covers for water closets Part 1 : Thermo set seats and covers – Specifications
IS 2548 (Part-2)	Plastic seats and covers for water closets Part 2 : Thermoplastic seats and covers specification
S 2556	Vitreous sanitary appliances (vitreous chine) – Specifications
IS 2556 (Part-1)	Part-1: General requirements
IS 2556 (Part-2)	Paart-2 : Specific requirements of wash-down water closets
IS 2556 (Part-4)	Part-4 : Specific requirements of wash basins
IS 2556 (Part-6)	Part-6 : Specific requirements of Urinals & Partitions plates
IS 2556 (Part-7)	Part-7 : Specific requirements of accessories for sanitary appliances
IS 2963	Specification for copper alloy waste fittings for wash basins and sinks
IS 3076	Specification for low density polyethylene pipes for potable water supplies
IS 4827	Specification for electroplated coating of nickel and chromium on copper and copper alloys
IS 4984	Specification for high density polyethylene pipes for potable water supplies
IS 4985	Unplasticised PVC pipes for potable water supply – Specifications
IS 7231	Plastic flushing cisterns for water closets and urinals – Specifications
IS 13983	Stainless steel sinks for domestic purposes – Specifications
IS 774	Specification for flushing cistern for water closets and urinals

IS 775	Specification for cast iron brackets and supports for wash basins and sink.
IS 778	Specification for cast copper alloy gate and check valves for water works.
IS 651	Specification for salt glazed stoneware pipes and fittings.
IS 3597	Method of test for concrete pipes
IS 1239	Mild steel tubes and tubulars
IS 1711	Self closing taps
IS 1726	Cast iron manhole covers and frames intended for use in drainage works
IS 1742	Code of practice for building drainage
IS 2065	Code of practice for water supply in buildings
IS 1870	Code of practice for design and construction of septic tank
IS 2693	Non-ferrous waste fittings for wash basins and sink
IS 4127	Code of practice for laying of glazed stoneware pipes
IS 4346	Washers for water taps for cold water services
IS 778	Gun metal gate, globe and check valves for water services
IS 7634	Laying and jointing for polythene pipes and PVC pipes (Part I to III)
IS 8008 Part I	Specification for injection Moulded HDPE fittings for potable to IV) water supplies
IS 3844	Code of practice for installation of internal fire hydrants in multi storey buildings
IS 780	Specification for sluice valves for water works purposes (50 to 300 mm size)
IS 781	Specification for cast copper alloy screw down bib taps and stop valves for water services
IS 782	Specification for caulking lead
IS 909	Underground fire hydrant, sluice valve type – Specification
IS 2692	Ferrules for water services – Specification
IS 15450	PE-AL-PE Pipes for hot and cold water supplies – Specifications
IS 15778	Chlorinated Polyvinyl Chloride (CPVC) pipes for potable hot and cold water distribution supplies – Specifications
IS 1230	Cast iron rain water pipes and fittings
IS 1626	Asbestos cement building pipes, gutters and fittings (Spigot and socket type)
IS 2527	Code of practice for fixing rainwater gutters and downpipes for roof drainage
IS 458	Pre-cast concrete pipes (with and without reinforcement)
IS 783	Code of practice for laying concrete pipes
IS 1728	Specification for Cast Iron Manhole Covers and Frames
IS 4127	Code of practice for Laying of Glazed Stone Ware Pipes

IS 12592	Pre-cast Concrete Manhole Covers and Frames-Specifications
IS 5382	Specification for rubber sealing rings for gas mains, water mains and sewers
IS 13592	Unplasticised polyvinyl chloride (UPVC) pipes for soil and Waste discharge system for inside and outside building
ALUMINIUM WORK	
IS 733	Wrought Aluminium Alloys, Bars, Rods and Sections (For General Engineering Purposes) – Specification
IS 737	Wrought Aluminium and aluminium alloy sheet
IS 1285	Wrought Aluminium and Aluminum Alloy, Extruded Round Tube and Hollow sections (for General Engineering Purposes) – Specification
IS 1868	Anodic coating on Aluminium and its alloy – Specification
IS 1948	Specification for Aluminium Doors, Windows and Ventilators
IS 5523	Method of testing anodic coating on aluminum and its alloys
IS 6012	Measurement of coating thickness by Eddy Current Method
IS 6315	Floor springs (Hydraulic regulated) for heavy doors – Specifications
IS 6477	Dimensions of extruded hollow section and tolerances
IS 14900	Transparent Float Glass – Specifications
WATR PROOFING TREATMENT	
IS 3370 (Part 1)	Code of practice for concrete structures for the storage of liquid : Part-1 General Requirements

SCHEDULE OF APPROVED MAKES / MANUFACTURER'S OF MATERIALS

The following guidelines are to be noted with regard to use of materials in the work:

1.00 As far as possible, materials bearing "Standard Mark (ISI)" from Bureau of Indian Standard (BIS) shall be used in the work.

2.00 Wherever, materials bearing Standard Mark (ISI) are used in the work, the following shall be ensured:

2.1 The supplier has a valid license form BIS during the period the material is being used in the work.

3.00 Due to non-availability of materials, bearing ISI Mark as detailed in Para-2 above, the materials as per the list of approved makes of materials shall be used in the work and the Contractor shall be free to use any of makes given in the attached Annexure.

4.00 In case, it is established that standard material (bearing ISI Mark) as well as the materials indicated in the list (as mentioned in the above para) are not available in the market then approved equivalent materials may be used in the work subject to approval from the consultant and Engineer-in-Charge.

5.00 Mandatory Tests shall be conducted at the specified frequency specified in the Contract. In case, frequency of testing is not stipulated in the contract then standard specification (R&B, CPWD, ISI etc.) may be considered for frequency at which materials are to be tested.

6.00 Before bulk purchase of quantities of materials, it is the responsibility of the Contractor to get the samples of materials approved from consultant and EIC.

7.00 All cost towards the testing shall be borne by the contractor.

26. . LIST OF MAKES FOR

CERTAIN MATRERIALS ACCORDING TO WHICH THE MATERIALS TO BE PROVIDED

1.	Ordinary Portland Cement	Ambuja, Ultratech, Sanghi, ACC, Kamal, Hathi, JK, Nirmax, Vikram, Birla Cement, Binani , JK Laxmi, Siddhi, Jaypee, Lafarge 53grade
2.	White Cement / Putty	J.K. White, Birla White, Nihon White
3.	Reinforcement Bar	TMT Bars Fe-500 , Fe-550D conforming to IS-1786:1985 (reaffirmed 2004)
4.	Structural Steel	SAIL,TISCO, ISCO, Vizag, Asian confirming to relevant IS codes
5.	Teak Wood	Bulsar/ C.P Teak (Second Class specified)
6.	Sal Wood	Sal wood [Indian or Imported] First class
7.	Kota Stone / Marble / Granite / Jaisalmer Stone	As per approved sample
8.	Ceramic Tiles (White, Colored, Anti Skid)	Orient Bell, Somani, Kajaria, Nitco, Cera, Johnson, Asian, Euro, Swastik, Dakshinamurti, Varmora, RAK, Restile, Oreva,Kadship or Equivalent
9.	Vitrified Tiles (White, Colored, Anti Skid)	Orient Bell, Somani, Kajaria, Nitco, Cera, Johnson, Asian, Euro, , Swastik, oreva, Dakshinamurti, Varmora, RAK, Oreva, Sunheart, Restile, Kadship or Equivalent
10.	Chequered Cement Tiles / parking Tiles / Decorative Tiles	Orient Bell, Somani, Kajaria, Nitco, Cera, Johnson, Asian, Euro, NTC, Vyara, Alcock, Basany, Excel Batten, Kadship or Equivalent
11.	White/ coloured Glazed Tiles	'H & R Johnson', 'Somani, Pilkington', Nitco, Cera, Orient Bell, Kajaria, Asian, Euro, Swastik, Asian(AGL), Dakshinamurti, Varmora, Kadship or Equivalent
12.	Interlocking paver blocks	As per approved sample.
13.	Plywood Products Commercial Block Board Commercial Ply Teak Ply	Greenply, Novopan,/Sitapur Plywood/ Kitply /Century, Anchor, Duro, National wood craft, Alpro, Neolux Laminated, Formica, Decoboard, Sunmica Board/Bhutan, Green Ply, Western India plywood (WIP). M.P., Mysore marine, Sitapur . . or Equivalent
14.	Laminates / Decorative laminates	Decolam, Greenlam Merinolam Formica, National laminate, Neoluxe, Decolite, Delta, Royal touch, Veer, Optus Laminates . . or Equivalent
15.	Pre laminated board	Bhutan, Novapan, Eco board, Bakelite Hylem Nepal board, Green board . . or Equivalent
16.	Impregnated Fibre Board	Shalitex by Shalimar Tar Product .
17.	Teak Veneer	Anchor, Kitply, Greenply . . or Equivalent
18.	Flush Doors	Century, 'Sitapur plywood', 'Mysoboard', Sudarshan W & P Industries - Bajwa- Baroda, Goyal, industrial corp, Wood craft, Jain wood industries, Alpro, Genda-

		Northern Doors, Greenply, Kitply, Bhutan, spark, xover, Titan Gold, Prince, Imagine, sun wood, spice or Equivalent
19.	Aluminium Section	Hindal, Jindal, Ajit, Banco, Gujarat Extrusion, Hindalco, Domal.
20.	All Aluminium Hardware, Fittings	Everite, Garnish, Arches, Kausal, Nulite Alif, Shalimar (Bombay) Singla, Opel, Bolt, Arhish.
21.	Aluminium Doors, Windows, Partitions Fabricators	As approved by EIC/Consultant
22.	Stainless Steel Hardwares Fittings	As approved by Engineer in charge/Consultant
23.	Glass/Float/Sheet	Saint Gobain, Modi, Hindustan Pilkington, Hindustan, Tata, Asahi, Triveni, Shree Vallabh.
24.	Door Closer / Floor Spring	Godrej / Everite, Opel, Doorking/ Hardwin, Nulite, Hyper, Ezech, Chase .
25.	Locks	Godrej, Harrison, Plaza, Golden, Doorset, Euro, Chase .
26.	Friction Hinges	Imax, EBCO, Chase.
27.	Rolling Shutters	As approved by Engineer in charge/Consultant.
28.	Polysulphide Sealant For Expansion Joints All Windows	Chokesy Chemical, Structure Proofing Co Pidilite, GESilicon, Tuffseal, Fairmate .
29.	Synthetic Enamel Paints / Oil bound distemper	Shalimar', ICI', 'Goodlass Nerolac', Berger, Johnson & Nicholson, Asian Paint, Dulux, Dura shield .
30.	Water Proof Acrylic Paints / Weather proof Acrylic Paints	'Super Snowcem', Supercem, Asian, Nerolac, Berger, Dulux, Johnson & Nicholson .
31.	Plastic Emulsion paint	J & N, ICI, Asian, Berger, Dulux, Nerolac .
32.	Dry Distemper / Oil Bound Distemper	Dura shield , Shalimar', ICI', 'Goodlass Nerolac', , Berger, Johnson & Nicholson, Asian Paint, Dulux
33.	Duco Spray Paint	Dura shield , Shalimar', ICI', 'Goodlass Nerolac', , Berger, Johnson & Nicholson, Asian Paint, Dulux
34.	Polyurethane Paint	MRF .
35.	Water Proofing Compound	' CICO' , Fosroc, GE silicon Pidilite, MC-Bauchmie, Sika, Ultratech, Fairmate .
36.	Weather Sealent / Silicon sealent / Poly isobutylene sealent	Fosroc, Pidilite, MC-Bauchmie, Wecker 789, Dow corning 789, Fairmate .
37.	Hardeners	'Ironite', 'Ferrok', 'Hardonate', Fairmate .
38.	Wire Mesh	Sterling Enterprises, Trimurti, Welded Mesh .
39.	Anti-Termite Treatment	Thyodin by Hoechst, Lyntric by Bayer India, Durmet by Cynamid India, Nocil Pyramid .
40.	Polycarbonate Sheets	Lexan, GE .
41.	M.S. Tubes	TATA, SAIL, Vizag, Jindal, Asian.

42.	Aluminium Composite Panel	Flexibond-Umiya Flexifoam Pvt. Ltd., Aludecor Lamination Pvt. Ltd., Indobond-ACP Marketing Pvt. Ltd., Eurobond, Ultrabond, Durabuild, Ultra panel .
43.	Pre coated Sheets	Tata Blue scope, Multicolor steels, Interarch, Kirby, Tiger steel.
44.	Lift	OTIS, Orbis, Mitsubishi, Hitachi, Schindler, Omega, Johnson, Trio.
45.	Polyester Fibre	Recron 3S, Formate .
46.	Welding Rod	Advani, Philips, Sunarc, Eshab
47.	Fly ash Bricks	As approved by EIC / Consultant .
48.	Construction Chemicals	Fosroc, MC-Bauchmie, Sika, Pidilite. Ultratech, Fairmate, Superplast SNF 40, BASF, Vardhman/Yahska .
49.	AAC Block and jointing mortar	Ecogreen, Suryashree, Brixo, N J Eco, Accurate, Float, Aerocon, Wonder, Pravin, Satyam buildtech, Iolite, Ultratech, J K Smart, Fairmate . or or Equivalent

All above brands are suggested for use, however bidder can use equivalent material subjected to confirmation on the basis of testing as per relevant IS Code. Such equivalent material shall be approved by architect and engineer in charge.

LIST OF MATERIALS OF

APPROVED BRAND / MANUFACTURER

(ONLY FIRST QUALITY TO BE USED (WATER SUPPLY & SANITARY WORKS))

1	Cast Iron Pipes and Fittings (LA Class)	TISCO / ISCO/ KESHO SPUN Co. - Calcutta E.L.C. Standard approved manufacturers of any other brand of fittings having ISI marking.
2	R.C.C. Pipes	Indian Hume Pipe Co., Alcock Cement Products, Patel Spun (Surat).
3	G.I. Pipes	Jindal, Prakash, Surya, Gujarat Steel Tube, Tata, Bharat Steel Tube, Bombay, Zenith, G.S.T.Unik., Asian, Swastik . or Equivalent
4	G.I. Fittings	“RV” & “R “ Mark, Unik, or Equivalent
5	Gun Metal Valves	Leader Engineering Works, Jalandhar, Crown / prince - Surat Bombay Metal Co Annapurna Metal Work, Calcutta'Sant' brand, Jalandhar, L&K, Bombay metal & Alloy man. co. Bomaby, Premier, Aatco,Atlas, BR,BS,NN, Somany, DRP, Zoloto
6	Brass fittings	Leader Engineering Works, Calcutta L & K Mathura, Crown / Prince -Surat Annapurna Metal Works, Calcutta, Perko, Kingstone Ark, Enclss Willians, Chilly, Aquva Plus, Nova, Kingstone, Driple, Ranutrol Hansa .
7	C.P. Fittings	Ego Metal Works, Ballabgarh,; GEM, New Delhi; Soma Calcutta; Bilmet, Bombay 'ESSCO' Delhi, Rajka Metal Works, Delhi Eng. Co. Metal Works, Calcutta Everite, NU-Lite Navbhart Shalimar Crown, Corronet, Prayag, Prince, Chase, Parryware ,Plumber.
8	Flushing Cistern - Cast iron	Overhead - 'Nomos' 'ELCO' 'A-1'AUTOMATIC-EID Hindustan Sanitary ware, Calcutta, Nelson flush valve, SRIF(Agara), Parryware, VIEGA, Johnson .
9	E.W.C. Seats (solid)	Parryware, Johnson, Hindware, CERA, Neycer, Hindustan .
10	Stainless Steel Sinks	Nirali, Diamond, Nilkanth, Cobra, AMC, Jayna, Navkar, Prayag, Parryware,Chase .
11	Mirrors	Atul Glass Works , Haryana Sheet Glass Vallabh Glass Works, Modi Float glass, Asahi, Saint Gobin .
12	Plumbing / Sanitary Fixtures / Accessories	Jaquar continental , CERA, Hindustan Sanitaryware / Parryware, plumber, Ess Ess, Hindware, Lauvet, Kohlar, Rak, Jaqua, Somany, Prayag, L & K, Banellow, Crown, Coronet, RV Brand .
13	C.I. Sluice valve, Check valves	Kirloskar, IVC,Burn,William Jacks, Indian Valve(IVC), Advance, Leader .
14	HDPE pipes	Duraline , Pennwalt Agru , Nocil, Jain, Supreme .

15	Fibre reinforced R.C.C. Manhole Cover	Pratibha, CIDCO.
16	C.I. Manhole cover with frame	ISI approved make
17	P.V.C. Pipes & Fittings	Astral, Supreme, Prince, Finolex, Ashirvad, Kisan/KSR, Laxmi, Dutron, Prakash, Jain.
18	P.V.C. / H.D.P.E Water Tanks	Sintex, Reno, National- Purvi, Reno
19	Ball Cock	GPA Brand by Govardhan Das Jullunder, L & K Brand by L. K. Industries Mathura, Sant Brand by Sant Press Metal Works Jullundhar, Zoloto.
20	UPVC Pipes (Solvent Welded Joints)	Astral, Supreme, Prince, Finolex, Ashirvad, Kisan, Precison, Jain, Dutron .
21	C.P.V.C. Pipes & Fittings	Astral, Supreme, Prince, Finolex, Ashirvad, Kisan, Precison, Jain, Dutron .
22	Water meter	Kapstan Bombay, Voltas Kent, Calcutta .
23	SWR pipe	Astral, Supreme, Prince, Finolex, Ashirvad, Kisan, Precison, Jain
24	Fire Hydrant Valve & Air Valve, Scour Valve	ISI approved make .

All above brands are suggested for use, however bidder can use equivalent material subjected to confirmation on the basis of testing as per relevant IS Code. Such equivalent material shall be approved by architect and engineer in charge.

LIST OF MAKES OF MATERIAL FOR ELECTRICAL WORK

All electrical items used shall be as per list of approved makes in latest S. O. R., R & B Department (Electrical Wing), Government of Gujarat and should be of Category-III (wherever specified). . or Equivalent /approve by HOD
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Notes:

- a)** The contractor shall produce samples of the materials for approval of the EIC/PMC/Architect. The materials of the makes out of the above as approved by the EIC/PMC/Architect shall be used on the work.
- b)** In respect of materials for which approved makes are not specified above, these will be of makes to be decided by the EIC.

27. List of the Approved Banks for Tender Fee /EMD/SD.

A. Guarantees issued by following banks will be accepted as SD/EMD on permanent basis.

• All nationalized Banks

Guarantees issued by following banks will be accepted as SD/EMD for the period up to March 31, 2026. The validity cut-off date in the GR is with respect to the date of issue of Bank Guarantee irrespective of the date of termination of Bank Guarantee.

• **Commercial Banks :-**

1. Axis Bank
2. A U Small Finance Bank
3. Bandhan Bank
4. Barclays Bank
5. City Union Bank
6. CSB Bank
7. DBS Bank India Limited
8. DCB Bank
9. Equitas Small Finance Bank
10. ESAF Small Finance Bank
11. Federal Bank
12. HDFC Bank
13. HSBC Bank
14. ICICI Bank
15. IDBI Bank
16. IDFC First Bank
17. Jammu and Kashmir Bank
18. Jana Small Finance Bank
19. Karnataka Bank
20. Karur Vysya Bank
21. Kotak Mahindra Bank
22. South Indian Bank
23. Standard Chartered Bank
24. Tamilnadu Mercantile Bank
25. Utkarsh Small Finance Bank
26. YES Bank

• **Co-operative and Rural Banks Of Gujarat :-**

1. The Ahmedabad Mercantile Co-operative Bank Limited
2. Nutan nagrik Sahakari Bank Limited
3. Rajkot Nagarik Sahakari Bank Limited
4. Saraswat Co-operative Bank
5. SBPP Co-operative Bank
6. SVC Co-operative Bank
7. The Cosmos co-opretive Bank
8. The Gujarat State Co-Operative Bank
9. The Mehsana Urban Co-operative Bank Limited
10. The Surat District Co-operative Bank

11. The Surat Peoples Co-operative Bank
12. The Kalupur Commerical Co-operative Bank Limited
13. The Panchmahal District Co-operative Bank
14. The Baroda District Co-operative Bank
15. Baroda Gujarat Gramin Bank
16. Saurashtra Gramin Bank

(Bank Guarantee of only Ahmedabad branch shall be accepted)

(Please refer circular no.6 dt.12.05.2025 issued by Finance Dept. Of AMC)

28. SPECIFICATION FOR TERTIARY SEWAGE TREATMENT PLANT FOR REUSE

IN TOILET FLUSHING AND GARDENING

1. Basis of Design

- 1.1. The process design, capacity/ rating of pumps and equipment etc. shall hold good for the capacity of 0.25 KLD/LIG Unit and shall be good for meeting the treated parameters as provided in the tender elsewhere. The various acts and guidelines provided hereunder shall be followed strictly as applicable.
- a. Permissible limit as prescribed in IS: 2490 (Part-I)-1974 and environment (Protection) Rules 1986.
 - b. Water (Prevention and Control of Pollution) Act, 1977 & 1978.
 - c. Environment (Protection) Act, 1986.
 - d. Environment (Protection) Rules, 1986.
 - e. Hazardous Wastes (Management & Handling) Rules, 1989.
 - f. Manufacturer, Storage and Import of Hazardous Chemicals Rules, 1989.
 - g. Manufacturer, use import and storage and hazardous Micro-Organizers, Genetically Engineered organizations or Cell Rules, 1989.
 - h. Manual on sewage & sewage treatment - CPHEEO
 - i. The Public Liability Insurance Act, 1991.
 - j. All standards as laid down by Central Pollution Control Board and any other relevant statutory authority.
 - k. 100% recycle of waste water and removal of sludge in cake form, no water to be discharged outside the premises.

2. Design Consideration

- 2.1. Net Output Capacity : 0.25 KLD/LIG Unit
- 2.2. Peak Factor : 3.0
- 2.3. Area Available : Within premises of LIG Housing
- 2.4. Operation : Round the clock

2.5. Influent Sewage Characteristics

The influent wastewater characteristics to be used as the basis of design are provided below:

Influent Wastewater Characteristics*		
Param	Units	90%tile Values
pH		6.5-7.5
BOD ₅ at 20 ^o C	mg/L	< 250
COD	mg/L	< 500
TSS	mg/L	< 350
TKN	mg/L	< 50
Total Phosphorus	mg/l	< 10
Total coliform	MPN/100 mL	10 ⁷ – 10 ⁸

* Please note that above values are indicative. The Tenderers are advising to obtain the actual data from site. Moreover, the inlet parameters other than mentioned in the tender, shall have to be measured and verified by the bidder at its own. No arguments / objection shall be entertained later on for any parameters. It shall be solely contractor's responsibility to take care of it to achieve the desired treatment standards as mentioned in the tender.

2.6. Final Treated Effluent Characteristics

Treated Effluent Quality Requirements (at final outlet of TSTP)		
Parameter	Units	Values
pH - instantaneous range		6.5 - 8.0
BOD (3 days at 27 deg C)	mg/L	≤ 5
TSS	mg/L	≤ 5
Total Nitrogen	mg/L	≤ 10
Total Phosphorus	mg/L	≤ 2
Turbidity	NTU	≤ 2
Oil & Grease		NIL
Total coliform	MPN/100 mL	≤ 25
E-coli		NIL
Odor	-	Odorless

Note: All other parameters as per present CPCB/GPCB norms for on land for irrigation or whichever is stringent.

The dewatered sludge shall have minimum sludge TSS as dry solids as 20% w/w.

3. Salient Features

- 3.1. The plant should be suitable for low/peak flow in line with usage.
- 3.2. The plant should not create any noise, with no nuisance on fly or mosquito and no foul odors.
- 3.3. The plant should work without the use of in-organic chemical additives (except for P removal and sludge dewatering)
- 3.4. The plant should be provided with territory treatment to provide zero bacteriological standard for reuse on:
 - a) Gardening
 - b) Irrigation system

4. Treatment Objectives:

Considering the raw sewage quality and the required treated effluent quality, the Contractor shall furnish a process train to achieve the following objectives –

- To achieve guaranteed treated effluent quality to reuse it in gardening / irrigation / farming, as defined in the tender elsewhere.

- To ensure that the offered treatment process is the most appropriate and state of the art in terms of both efficiency of treatment and cost (the Tenderer shall have to produce the performance records with the same treatment systems applied elsewhere.)
- To ensure that the process is cost effective from both capital and O&M costs consideration.
- To ensure that the sludge produced is dewatered to a “spade able” or “open body truck able” consistency – so that it can be easily disposed off.
- The process preferably should be free from utilization of chemical/any organic chemicals except for sludge removal process. No toxic chemical shall be used by the Contractor. He shall submit the toxicity test report from any govt. recognized laboratory at his own cost before using such chemical.
- Oils/lubes/fuels/media/chemicals etc. to be used will be defined by Tenderer.

5. Treatment Technologies:

The treatment process proposed by Tenderer should be well-established and proven process for treatment of sewage in Indian Environmental condition.

The following processes shall not be accepted by the AMC.

- Oxidation pond (facultative/anaerobic/aerobic)
- Aerated Lagoons
- Trickling filters
- Rotating Biological Rotators (RBC)
- Anaerobic Treatment

Tenderer must provide all information necessary for a complete evaluation of his technology by the AMC, including drawings, design calculations, technical specifications, datasheets proposed construction/installation methodology and other relevant details. Any bid without above information will be considered as nonresponsive and summarily rejected. Bid must satisfy the AMC's performance requirements as set out in the Bid documents. Tenderer shall include with their Bid evidence acceptable to the AMC of satisfactory past performance of same technology based plant designs and the associated equipment and processes offered and full details of similar plant capacities called for to enable proper evaluation of design.

6. Treatment Process

The treatment process for TSTP under this contract is open. Tenderer is free to adopt and use appropriate treatment process/technology for this project: However the technology selected should be such that the treatment parameters should meet the effluent standards as stipulated in the tender document and shall have proven track record of the same technology for the desired treatment parameters for at least 5 years in India or abroad. The treatment technology should also include sludge treatment, as required and its safe disposal. Contractor shall provide a complete, fully functional facility designed for proper, easy, operation and to meet the stated performance requirements. This shall include any and all additional, ancillary, supporting, or other processes, components, equipment, or other items necessary to achieve these objectives, regardless of whether such items are explicitly listed in these bid documents or not. **As the reuse of treated sewage shall be for toilet flushing and gardening purpose, no in-organic chemicals shall be allowed to use for sewage treatment.**

7. Project Components / Units

The total units covered under scope of work are:

- Sewage Intake arrangement from nearby sewerage network. The Intake arrangement shall consist of Intake sewer line, sump and pumps (2 working + 1 stand by).
- Sewage treatment: any proven open technology. It shall include preliminary, primary Biological, Tertiary including PSF, ACF, MF, UF etc. as required, disinfection and Sludge Treatment as the technology chosen by tenderer.
- The final treated effluent is to be disinfected compulsorily with UV before its further use.
- The contractor shall have to make sure that there shall not be any formation of odor or foul gases during the treatment. The contractor may make use of deodorant to control the odour.
- Treated effluent line up to Collection tank for reuse in Garden/toilet flushing etc.
- The entire water distribution network from TSTP to all respective locations along with all electrical/mechanical/pumping arrangement shall be in the scope of contractor.
- Sludge shall be dewatered through mechanical dewatering system only, as applicable and disposal shall be done in safe and hygienic manner. The dewatered sludge shall be disposed off within the limits of Ahmedabad Municipal Corporation, as directed by engineer-in-charge.
- Ground Water harvesting through injection well – 2 nos. per building for balance treated sewage, i.e. after use of toilet flushing, gardening and other purposes. The tentative depth of bore well shall be 75 meters. However, the depth of bore well shall be finalised after only geo-physical survey and resistivity survey. This investigation is also in the scope of contractor.
- Execution of plumbing system for Toilet Flushing and wash water shall be of HDPE or UPVC material of suitable grade as approved by engineer-in-charge.
- All the necessary civil, mechanical, electrical, instrumentation, interconnecting piping works etc. as required to complete the job to achieve the desired objective of the project as mentioned elsewhere in the tender shall be part of this tender.
- Barricading / Compound wall all along the boundary of TSTP campus (i.e. around 400 sq.mt. area)

8. Design Criteria

The tenderer shall have to strictly follow the design criteria / norms as specified in the CPHEEO manual on Sewerage and Sewage Treatment. The design criteria considered other than CPHEEO manual shall not be considered valid and tender shall be rejected. The tenderer shall have to submit the design sheet along with the references considered for the design.

9. Power :

Power required for the construction, erection and other allied job shall be arranged by the contractor at his own cost.

The Contractor shall have to make his own arrangement for getting electric power for construction and trial run of the TSTP. The AMC will issue only recommendation letter to the contractor if required. No compensation shall be paid for delay in getting power supply. All the rest formalities for getting the power supply, connection charges, deposits etc. shall be done and borne by the contractor. The necessary electrical connection for commissioning and operation of the STP shall be taken by contractor.

SPECIFICATIONS FOR CIVIL AND STRUCTURAL WORKS

A. GENERAL

I Scope :

- a. This specification gives the general design requirements and manners of construction of all civil and structural works, the scope of which is given separately.
- b. Placing in position and fixing of all mechanical items, insert plates, sleeves, anchor bolts are also part of work covered by this specification.
- c. Contractor shall be responsible for the designs and construction of all RCC works, structural steel and other relevant civil works.
- d. The contractor shall submit to the SMSS all the design calculations and drawings for substructure, superstructure and all other connected works for approval. However the approval of the drawings by the SMSS does not absolve the contractor of his responsibilities regarding the soundness of the structure.
- e. The contractor shall submit a schedule of drawings proposes to make in line with the time schedule included elsewhere in these specification. The contractor shall submit necessary prints at the time of submissions for approvals and final records.

II Design :

- a. The design shall generally be on the basis of structural design specifications enclosed herewith.
- b. All structures/part of structures in contract with water shall be designed as water retaining structures as per IS 3370 parts I to IV [latest revision].
- c. Soil data to be used for the design of the structures shall be as per the enclosed recommendations.

III Construction :

- a. The construction shall be done as per latest relevant Indian standards.

DESIGN SPECIFICATIONS :

Scope :

The design criteria given herein establish the minimum basic requirements for design of reinforced concrete, structures and structural steel works.

IV Codes and Standards :

- a. Design loads in building : IS : 875.
- b. Concrete Structures :
 - General Purpose : IS : 456
 - Raft foundations : IS : 2950
 - Machine foundations : IS : 2974
 - Water retaining Structures. : IS : 3370
- c. Steel Structures :
 - Structural steel in General building constn : IS : 800
 - Steel tubes in general building construction : IS : 806
 - Metal arc welding for general building constn : IS : 816
- d. All other relevant codes specified or referred in the above codes and wherever the reference is made it shall be with latest revisions.
- e. Any exceptions or additions to these specifications, including any mandatory rules or regulations which are to apply, will be indicated on the design drawings/calculations.

V. Soil and Foundation Data :

The soil investigation data is enclosed in tender.

B. GENERAL TECHNICAL SPECIFICATIONS :

3.0.1 GENERAL :

All the items occurring in the work and as found necessary during actual execution shall be carried out in the best workman-like manner as per specifications and the written orders of the Engineer-in-charge.

The contractor shall engage a qualified Engineer for the Execution of work who will remain present for all the time on site and will receive instructions and orders from the Engineer-in-charge or his authorised representative. The instructions and orders given to the Contractor's representative on site shall be considered as if given to the contractor himself.

Contractor shall be responsible to take regular level on the approved alignment before actually starting the work. The levels shall be connected to the G.T.S. levels and shall be got approved from the Engineer-in-charge.

If the arrangement for temporary drainage is required to be made during any work of this contract. The same shall be made by the contractor without claiming any extra cost.

3.0.2 DESCRIPTION OF WORK :

The work under the contract consists of providing and executing civil, mechanical, electrical, instrumentation, PLC works. Services to be executed for sewage treatment plant which includes the necessary items to be executed. The work also includes providing necessary inserts, brackets supports in walls are required for installing any other facilities to be provided by other agencies.

Painting and colouring operating platforms, leaders, hand railing, rungs etc. with one coat of red oxide primer and two coats of approved enamel.

1.15 m high from FFL or as per GDCR whichever is more, MS railing in the staircase of the approved design (Min. 40 mm NB MS tube hand rail, Min. wt. of railing above floor shall be 14 kg/m. using medium class steel. Vertical members shall be embedded in waist slab. MS railings shall be painted with zinc chromate primer and 3 coats of synthetic enamel paint of approved make.

It is not the intention of this tender to give detailed description and specifications of each and every item. The successful tenderer shall execute each item so as to ensure smooth and efficient working of the total system of which a item is a part. The successful tenderer shall not refuse to carry out any additional items of construction if the same are required for smooth and efficient working of the total system in the opinion of the AMC or the Engineer-in-charge.

All the items specified in the tender shall be carried out by the successful tenderer as per the practices set out in the relevant latest editions of Indian Standard specifications and IRC specifications.

3.0.4 WATER SUPPLY FOR WORK ;

The contractor shall make his own arrangement for supply of proper quantity and quality of water required for construction work and also for consumption of his employees unless otherwise charged as per prevailing AMC Rules and Regulation.

4.0 Water Harvesting Injection System

Before fixing the location, the contractor shall have to carry out the geophysical survey. Geophysical survey work is to be carried out to understand subsurface geology and feasibility at various locations by identifying the Zones which are favourable for water harvesting for recharge purpose. It is required to ascertain water bearing zones of shallow, deep horizons and salinity levels. In geophysical survey, electrical resistivity method is the best and reliable for ground water prospecting and hence shall have to be adopted.

Bore well of 250 mm dia. clear shall be drilled including fixing of casing pipes collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicles crew charges and cost of consumables etc.

Providing and installing of minimum 160mm PVC ISI Pipe with 8 mm spirally perforated holes / Slotted casing at necessary level.

Installation of 'Wedge' V-WIRE SCREEN-0.75mm slots, LCG based, 1.0 mtr length - 6" Dia and at the top of pipe SS 304 12" 1 mtr. Length & Inner SS 304 6" 1 mtr. Screen Installation of the 'Wedge' Wire Screen by skilled – ISI Approved technicians only.

Earth work -digging the well 1500 mm dia- upto 2.35 mtrs deep

Reinforced concrete cement rings of minimum 1500 mm dia and minimum 50 mm thick to construct recharging well and to hold the excess treated sewage.

Before letting the water into the recharge well, proper filtration media is used. Filtration Media Installation for Injection well Unit 40-50 mm crushed stones / Gravel, & Sand Media. Reinforced perforated slab is used before filtration media.

Providing and fixing 160 mm PVC end cap with Air Ventilated pipe.

4.0 Plumbing system for toilet flushing and wash water

Plumbing system of UPVC(schedule 40) material as per relevant IS shall have to be executed.

10. MECHANICAL SPECIFICATIONS

PART I - GENERAL

GENERAL MECHANICAL REQUIREMENTS

The following clauses specify general mechanical requirements and standards of workmanship for equipment and installation and must be read in conjunction with the particular requirements for Contract. These general specification clauses shall apply where appropriate except where redefined in the particular required sections of the Specification which shall be applicable.

List of Standards

Titles of various standards referred to in the specifications are indicated below. This list does not necessarily cover all the standards referred to:

BS 5135	Specification for are welding of carbon manganese steels
BS 5316 Part-2	Specification for acceptance test for centrifugal, mixed flow and axial pumps – Test for performance and efficiency
BS 6072	Method for magnetic particle flow detection
BS 6405	Specification for non-calibrated short link steel chain (Grade 30) for general engineering purposes : Class 1 & 2
BS 6443	Method for penetrate flow detection
ASTM A-36	Specification for Structural Steel
ASTM A-216	Specification for Steel Castings, Carbon suitable for fusion welding for high temperature service

ASTM A-276	Specification or stainless steel and heat resisting steel bars and shapes
ASTM A-351	Specification for castings, Austenitic – Ferric (Duplex), for Pressure containing parts
ASTM A-743	Specification for castings, Iron – Chromium, Iron – Chromium – Nickel and Nickel Base Corrosion Resistant for general Application
ASTM A-744	Specification for castings, Iron Chromium – Nickel, Corrosion – Resistant
IEC – 189 Part 1 & 2	Low frequency cables and wires with PVC insulation and PVC Sheath
AWWA C 501	Cast Iron Sluice Gates
IS 5	Colours for ready mixed paints and enamels
IS 210	Grey Iron Castings
IS 318	Leaded Tin Bronze Ingots and Castings
IS 325	Three Phase Induction Motors
IS 807	Code of Practice for Design, manufacture, erection and testing (Structural Portion) of cranes and hoists
IS 1239	Mild Steel tubes, tubular and other wrought steel fittings
IS 1536	Centrifugally Cast (Spun) iron pressure pipe for water gas and sewage
IS 1537	Vertically cast iron pressure pipes for water, gas and sewage
IS 1538	Specification for cast iron fittings for pressure pipes for water, gas and sewage
IS 1554	PVC insulated (Heavy duty) electric cables
IS 2062	Steel for general structural purposes
IS 2147	Degrees of protection provided by enclosures for low voltage switch gear and control gear
IS 3177	Code of practice of electric overhead traveling cranes and gantry cranes other than steel work cranes
IS 3624	Vacuum and Pressure gauges
IS 3815	Point hooks with shank for general engineering purposes
BS 2910	Methods for radiographic examination of fusion welded circumferential butt joints in steel pipes
BS 3017	Specification for mild steel forged ram shorn hooks
BS 3100	Specification for steel castings for general engineering purposes
BS 3923	Methods for ultrasonic examination of welds
BS 4360	Specification for weldable structural steels
BS 4772	Specification for ductile iron pipes and fittings
BS 4870	Specification for approval testing of welding procedures
BS 4871	Specification for approval the sting of welders working to approved welding procedures
BS 4942	Short chain link for lifting purposes
IS 5120	Technical requirements of roto dynamic special purpose pumps
IS 5600	Horizontal / vertical non clog type centrifugal pump for sludge handling

IS 7090	Guide lines for rapid mixing devices
IS 7208	Guide lines for flocculator devices
IS 10261	Requirements for clarifier equipment for waste water treatment
IS 8413	Requirements for biological treatment and equipment
Part-II	Activated sludge process and its modifications
IS 10037	Requirements for sludge dewatering equipment, sludge
Part-I	Drying beds, sand, gravel and under drains
IS 6280	Specification for Sewage Screens
IS 3938	Electric Wire rope hoists

Materials

All materials incorporated in the works shall be the most suitable for the duty concerned and shall be new and of first class commercial quality, free from imperfection and selected for long life and minimum maintenance.

Design and Construction

- a. The plant design, workmanship and general finish shall be of sound quality in accordance with good engineering practice, Design shall be robust and rated for continuous service, at the specified duties, under the prevailing operational site conditions.
- b. The general design of mechanical and electrical Plant, particularly which of wearing parts, shall be governed by the need for long periods of service without frequent attention but shall afford ready access for any necessary maintenance.
- c. Similarly items of Plant and their component parts shall be completely interchangeable. Spare parts shall be manufactured from the same material specification as the originals.
- d. No welding, filling or plugging of defective work will be permitted without the written permission of the Engineer. All welding spatter shall be removed.
- e. It shall be the responsibility of the contractor to ensure that all the equipment selected is fully compatible, mechanically, electrically and also with respect to instrumentation, control and automation.
- f. It shall be the responsibility of the contractor to ensure his equipment interfaces with other equipment correctly. Any interfaces must not affect the integrity of the equipment, or invalidate any warranties or guarantees.
- g. Each component or assembly shall have been proven in service in a similar application and under conditions no less than those specified therein.
- h. The equipment shall be compatible with the civil structure, when installed, with sufficient space for operator access and maintenance procedures.

- i. All materials shall be of the best commercial quality and free from any flaws, defects or imperfections.
- j. Materials shall be selected to eradicate or reduce corrosion to a minimum.

DESCRIPTION

- A. The requirements of this Section are subject to the General Conditions of Contract. Other applicable sections of the Specifications shall be constructed to form a part of this Section where the context so requires. Specific characteristics, dimensions and other details applicable to any particular equipment shall be given in the Schedule to Technical data provided at the end of the relevant Section.
- B. The Contractor shall provide all the required labour, permanent equipment and materials, tools, construction plant and equipment, safety equipment, transportation and test equipment for supplying, installing, adjusting and fully testing all the mechanical work shown General Assembly Drawings, in detail included in these Schedules.

QUALITY ASSURANCE

A. STANDARDS

All mechanical equipment and the materials used therewith shall comply with the relevant Indian Standards unless a more rigorous requirement is specifically stipulated. If no applicable Indian Standard is available for any item of equipment or materials, the corresponding British Standards laid down by the regulating Authority in the United States dealing with the subject in question shall be adopted. In every situation the latest specifications, standards etc. shall apply unless otherwise stated. In instances where there is a conflict between two codes (the Indian Standards excepted), the more restrictive of the two shall apply.

B. EXTRA WORK

Any item of equipment or materials not shown in the Drawings or specified elsewhere, but is clearly essential to make the system operable, shall be supplied and installed by the Contractor

C. QUALITY STANDARDS

Where the name of one or more manufacturers has been shown on the drawings or mentioned in these specifications, it has been so done to indicate type and quality required and acceptable. No restrictive choice is either implied or intended, and tenderers are free to offer other makes of equipment or materials provided they comply with these specifications and the requirements shown on the Drawings.

DRAWINGS

A. PROJECT DRAWINGS

The mechanical drawings are diagrammatic and indicate the general layout of the complete construction work.

1. Locations of equipment, inserts, anchors, motors, panels, conduits, stub-ups, fittings, fixtures, air, water and process inlets, unless specifically dimensioned on the drawings, shall be determined to suit site conditions encountered and the Contractor shall be responsible for ensuring clearances between pipes, equipment and similar appurtenances, without extra cost to the AMC.
2. The contractor shall review the Drawings and specifications of other trades and shall include the mechanical work shown thereon that shall be required for the installations.
3. Should there be a need to deviate from the Mechanical Drawings and Specifications, the Contractor shall submit written details and reasons for all changes to the Engineer-in-charge for approval before making such changes, Any extra cost to make such changes must be borne by the Contractor unless such changes are discussed, negotiated and finalized at the tender stage and included in the letter of Award of the Contract.
4. In the event of conflicting interpretations of the construction drawings, the Engineer-in-charge interpretation shall prevail.

B. SHOP DRAWINGS

1. Prior to fabrication of custom-made equipment or placing orders for available manufactured equipment, the Contractor shall obtain from the manufacturer and submit to the Consultation for his approval five copies of shop drawings for showing details of fabrication, assembly, foundation drawings, installations and data covering materials used, power drive assembly, parts, devices and other accessories forming a part of the equipment to be furnished. Unless otherwise specified, these shall constitute data covering materials used, power drive assembly, parts, devices and other accessories forming a part of the equipment to be furnished. Unless otherwise specified, these shall constitute the initial submittals.
2. The Contractor will submit six (6) copies of certified performance or certified test curves as specified for all pumps, blowers or com-pressers furnished, unless otherwise specified with the tender. The Contractor shall notify the Engineer-in-charge three (3) weeks prior to any testing, should the Engineer-in-charge elect to witness the tests or have the tests witness by an authorized representative on his behalf.

C. RECORD DRAWINGS

1. The Contractor shall maintain a complete and accurate record set of drawings for the mechanical installation and construction work.
2. Record all work that is installed differently than shown on the project drawings.
3. Upon completion of the work, the contractor shall submit to the Engineer-in-charge in triplicate complete set of "Record Drawings". These shall be a clean, legible

and unambiguous set of drawings with all changes from the approved project drawings distinctly shown in these two descriptions shall be used throughout the Contract.

4. All underground piping shall be located by the dimensions, baseline stationing, approximate elevation and other pertinent data required to facilitate the relocation of the pipes or fittings when later necessary.

ADAPTATION OF EQUIPMENT

Should the equipment selected require any revision to the structure, piping, electrical or other shown on the drawings, the Contractor shall include the cost of such revisions in his bid for the equipment and no extra payment shall be made for such revision. All such revisions shall be subject to the approval of the Engineer-in-charge. It should however be noted that no equipment will be accepted which require any major structural, piping electrical or other changes.

UTILITY SERVICE INTERRUPTION

All utility service interruptions initiated by the Contractor in the course of execution of his work shall be scheduled in advance and approved by the Utility Authority and the Engineer-in-charge.

MANUALS

A. QUANTITY AND PROCEDURE

The Contractor shall obtain from the manufacturer and hand over to the Engineer-in-charge three sets of Instruction and Maintenance Manual's for the equipment furnished under these Specifications, to provide adequate information for proper installation, operation and maintenance of the equipment. This requirement shall cover all equipment furnished. The Engineer-in-charge shall approve the manuals for the adequacy of the contents and the format and return one (1) set to the contractor for his use in the start-up of the equipment.

If any errors or inadequacies discovered are of minor nature, extra sheets or addenda shall be supplied by the contractor in consultation with the Engineer-in-charge. If gross inadequacies are detected, the Engineer-in-charge shall point these out, together with brief comments on the short comings, to the Contractor who shall then have the manuals recast and improved to a general level of acceptance.

The extra sheets, addenda or revised manuals shall all be resubmitted to the Engineer-in-charge for recruiting and approval within fourteen (14) days of date on which the Engineer-in-charge's comments are conveyed to him.

B. SCHEDULE

Manuals for approval shall be submitted to the Engineer-in-charge not later than the date of dispatch from factory.

C. CONTENTS

The Instruction Manuals shall contain, but not limited, to at least the following information, where applicable.

1. General introduction and over all equipment description, purpose, functions, simplified theory of operations etc.
2. Specifications.
3. Installation, instruction and precautions
4. Start-up procedures
5. Operation procedures
6. Shut down procedures
7. Short and long term inactivation procedures
8. Maintenance, calibration and repair instructions
9. Parts lists and spare parts recommendations
10. Name and address of critical spare parts and repair facility.
11. Preventive and predictive maintenance schedule of each items as per the manufacturer standard.

D. FORMAT

The Instruction and Maintenance information shall be assembled into binders of not more than 100 mm th. and shall be arranged and indexed in the order as in these specifications. The first sheet shall contain the booklet index and be of laminated plastics. Each volume shall have the project name and volume embossed into the cover in gold colour. The format and designs shall be shown to and the approval obtained from the Engineer-in-charge before the binders are finalised.

Each different section shall be headed with a laminated plastic page containing the following information.

1. Manufacturer's name
2. Local address and telephone number
3. The year of purchase
4. Equipment model and serial number of all such items as motors, pumps, variable speed drives etc.

A master table of contents should be given in Volume Drawings and pictorials shall illustrate the text sufficiently to ensure a clear brief presentation. In the event that a manual covers a family of similar equipment, the inapplicable information shall be struck off neatly or

the relevant sections emphasized by use of thick arrows, circles or boxes, whichever is cleanest and neatest.

E. BINDERS

Binders shall be of type approved, after an inspection of samples, by the Engineer-in-charge. In general they have an expanding back and be of simulated blue leather. The information on the cover shall be as described in sub-division and approved by the Engineer-in-charge.

F. EQUIPMENT GUARANTEE

This requirement shall conform to the General Conditions of Contract. Unless specified otherwise elsewhere, the Contractor shall furnish and replace, at no cost to the AMC any component of the equipment that is defective or shows undue wear within one (1) year from the date of acceptance of the work by the Engineer-in-charge. In addition to performance guarantees, processes or systems shall comply with the requirements stipulated in the relevant sections of the Specifications.

PART 2 - PRODUCTS

MATERIALS AND WORKMANSHIP

All equipments furnished under this or allied sections shall be new guaranteed free from defects in materials, design and workmanship. In inadequate information is provided in the specifications, it shall be the manufacturer's responsibility to ascertain the conditions shall be successful. All parts of the equipment shall be adequately proportioned to safely withstand all stresses that may occur or be induced in them during fabrication, erection and intermittent or continuous operation.

All equipment shall be designed, fabricated and assembled in accordance with the best current engineering and workshop practice. Individual parts shall be manufactured to standard sizes and gauges so that spares, furnished at any time, can be installed the field. Corresponding parts of duplicate units shall be fully interchangeable. Equipment shall not have been in service at any time prior to delivery, except as required for tests. All materials used shall be appropriate for the service conditions. Iron casting shall be tough, close-grained gray iron free blow-holes, flaws or excessive shrinkage and shall comply with the requirements of I.S. 210.

Except where otherwise specified structural and miscellaneous fabricated steel used in items of equipment shall conform to the relevant Indian Standards. All structural members shall be considered as subject to shock or vibratory loads. Unless otherwise specified all steel which will be submerged, in part or fully, during normal operation of the equipment shall have a minimum nominal thickness of 6.0 mm. The location of the fabricator and his shop schedule shall be furnished to the Engineer-in-charge prior to commencement of fabrication to enable him to schedule shop inspections if he so decides.

SAFETY GUARDS

All belt or chain drives, fan blades, couplings, exposed shafts, and other moving or rotating parts shall be covered on all sides by safety guards which shall be free of sharp edges and corners.

Each guard shall be designed for easy installation and removal. All necessary supports and accessories shall be provided for each guard. Supports and accessories, including bolts, shall be hot-dipped galvanised. All safety guards in out-door locations shall be designed to prevent the entry of rain and dripping water.

The canopy of 14 SWG Galvanised sheet be provided over and around the motor & gear boxes with proper louvers ventilation in order to protect from direct rain fall and the cost of the same shall be included in the cost of the equipment. All the canopy shall be painted with epoxy paint.

Above all safety guards should be supplied and fitted free of cost.

EQUIPMENT BASES AND BEDPLATES

A heavy cast iron or welded steel base shall be provided for each item of equipment which is to be installed on a concrete foundation. Equipment assemblies, unless otherwise specified or shown on the drawings, shall be mounted on a single, heavy cast iron or welded steel bedplate. Bases or bedplates shall be provided with machined support pads, tapered dowels for alignment or making adjustments, adequate opening to facilitate grouting and openings for electrical conduits. All seams and contact edges between steel plate and shapes shall be continuously welded and ground smooth.

JACKING SCREWS AND ANCHOR BOLTS

Jacking screws shall be provided in the equipment bases and bedplates to aid in leveling prior to grouting.

Equipment suppliers shall provide anchor bolts, nuts, washers and sleeves of adequate design as required for proper anchorage of the bases and bedplates to the concrete bases. Sleeves shall be minimum of one and a half times the diameter of the anchor bolts. Unless otherwise shown or specified, anchor bolts for items of equipment mounted on base-plates shall be long enough to permit 38 mm of grout beneath the base plates and to provide adequate anchorage into structural concrete. Anchor bolts shall be 316 stainless steel and no bolts of other material shall be permitted except with the written permission of the Engineer-in-charge.

Anchor bolts, together with template or setting drawings, shall be delivered sufficiently early to permit setting the bolts accurately in place when the structural concrete is placed.

11. SPECIFICATION OF ELECTRICAL WORKS – ELECTRICAL DESIGN CRITERIA

PART - 1

1.0 GENERAL

1.1 Provisions

1.1.1 Other applicable sections including the General and part of electrical requirements as if repeated in this Section.

1.2 Work included

1.2.1 The Contractor shall provide all the required labour, project equipment and materials, tools, construction equipment, safety equipment, transportation, test equipment and satisfactorily complete all the electrical work included in these Specifications. Provide and install wiring for equipment that will be furnished and installed by other Sections of these Specifications.

1.2.2 All works shall be executed strictly in accordance with the latest National Electrical Code.

1.3 Regulations

1.3.1 All the electrical equipments and materials including their installation shall conform to the following applicable latest codes and standards.

- i Indian Electricity Rules 1956.
- ii The Indian Electricity Act 1910.
- iii Fire Insurance Regulations.
- iv Regulations laid down by the Electrical Inspector of the Government of Gujarat,
- v Regulations laid down by Factory Inspector of Gujarat.
- vi Indian Standards Institution's Specifications.
- vii Factory Act.
- viii Any other Rules & regulations and Condition of Supply laid down by the Local Electric Supply Company viz. Dakshin Gujarat Vij Company Limited (DGVCL) or Torrent Power-Ahmedabad Electricity Co. (TPSECo.)

1.4 Variances

1.4.1 In instances where two codes are at variance, the more restrictive requirements shall apply.

1.5 Contractor's Expense

1.5.1 The contractors shall obtain and pay for the required bonds, insurance, licenses, permits and inspections, and pay all taxes, fees and utility charges that shall be required for the electrical construction work. The contractor shall obtain at his own expenses the necessary certificate for the approval of the total work carried out from the Electrical Inspector. Charges for obtaining electrical services for STP shall be borne by contractor and all procedure and liaison work have to be carried out by contractor.

1.6 Contractor responsible for supply of Equipment and Materials

1.8.1 If during the period of erection, the contractor or his workmen damage or destroy any part of the building structure or materials, the Contractor shall be

completely responsible for the damages and he will have to make rectification / replacement at his own cost. The decision of the Engineer-in-charge will be final.

1.8.2 Final options to select any particular make shall rest with AMC No disputes in this regards shall be entertained at later date.

1.9 Record Drawings

1.11.1 The contractor shall maintain a complete and accurate record set of drawings for the electrical construction work.

1.11.2 Records all work that is installed differently than shown on the Drawings.

1.11.3 Upon completion of the work, transfer all marked changes to a clean set of drawings with red ink.

Mark the drawings "Record" and submit them to the Engineer-in-charge when the electrical work is completed in 7 sets.

1.12 Service Manuals

Service manuals shall be furnished with the equipment. One (1) shall be given with the equipment, and a minimum of seven (7) copies given to the Engineer separately.

Additional copies shall be provided where so stated in the purchases order. Service manuals shall contain all necessary data for operation and maintenance of the equipment. A recommended spare parts list shall be furnished with the manual. A complete set of shop drawings shall be folded and inserted in each manual.

PART -2

2.0 The materials supplied and installed shall be genuine only and as per the specifications. If the same are not found satisfactory the same shall have to be replaced "Free of Cost". Manufacturer's certificate towards genuineness of material shall have to be supplied (if required by the department) otherwise the material shall be rejected. In case of doubt/dispute the Corporation shall ask the contractor to send the material/equipment to the manufacturer's work for testing genuineness. The decision/report received from the manufacturer shall be conclusive and binding on both the parties i.e. the Corporation and the contractor. If the material / equipment sent for testing is not found to be genuine then the whole expenses for testing shall be borne by the contractor and the contractor shall replace the whole lot of materials/ equipments supplied by him free of cost.

2.1 The entire installation shall be got approved by the Government Electrical Inspector prior to commissioning. All formalities including preparation and submission of all drawings, getting approval, arranging visits of Electrical Inspector and obtaining permission to energize the installation, etc. shall be done by the Contractor for which no extra payment shall be claimed by the contractor.

2.2 The responsible authorised person of the contractor should be available at site daily when work is in progress. The Corporation shall not be responsible for any accident or

damage done to the workman/staff of the contractor. No compensation of any kind shall be paid by the Corporation. The contractor shall observe Govt. Rules regarding labour, etc.

2.3 L.T. switch gear shall be painted with final coat of paint using spray machine at site before commissioning without any extra cost, if required.

2.4 All the equipments shall be tested for tests as per latest relevant IS in presence of Corporation's representative prior to dispatch and certificate thereof shall be supplied.

If required by the Corporation, the equipment shall be sent to recognized test lab for ascertaining the guaranteed parameters. The Contractor should agree to the same. The test results so obtained shall be binding to the Corporation and to the Contractor.

2.5 All motors should be with duty S1, Totally Enclosed Fan Cooled type only. Unless otherwise specified, motors shall be provided with class 'F' insulation as a minimum. In case of motors with class 'F' insulation the permissible temperature rise above the specified ambient temperature shall be limited to class 'B'.

However, for motors operating with Variable Frequency Drive, winding shall be vacuum impregnated and Class H insulation only and with forced cooling arrangement.

2.6 Efficiency of equipment and energy saving is one of the important aspect of consideration of tender. Hence, AMC hereby reserves its right to decide final selection of make upon the energy saving aspect. In this regard the decision of Additional City Engineer will be final and no dispute of the contractors will be entertained at a later date for the same.

2.7 The successful Tenderer shall have to submit CPRI test certificate for minimum 2000 Amp. busbar with 50 KA short circuit capacity for 1 sec. from the L.T. panel contractor selected by him. Otherwise L.T. panel shall not be accepted.

2.8 All power cables shall be Copper Armoured Cables only.

12. GENERAL CONDITIONS FOR EQUIPMENT ERECTION AND COMMISSIONING

12.1 In accordance with the specific installation structions, as shown on manufacturer's drawings or as directed by the Corporation's Representative, the Contractor shall unload, erect, install, site test and place into commercial use all the electrical equipment included in the contract. Equipment shall be installed in a neat, workman like manner so that it is level, plumb, square and properly aligned and oriented. Tolerances shall be as established in manufacturer's drawings or as stipulated by the Corporation. No equipment shall be permanently bolted down to the foundation or structure until the alignment has been checked and found acceptable to the Corporation.

12.2 The Contractor shall furnish all supervision, labour, tools, equipment, rigging materials and incidental materials, such as bolts, wedges, anchors, concrete inserts etc. required to completely install, test and adjust the equipment.

12.3 Manufacturer's drawings, instructions and recommendations shall be correctly followed in handling, setting, testing and commissioning of all equipment.

- 12.4 The Engineer may engage the manufacturer's erection Engineers to supervise the erection of the relevant equipment referred to in the Technical Specification. The Contractor shall erect and commission the equipment as per the instructions of the Erection Engineer(s) and shall extend full co-operation to him.
- 12.5 In case of any doubt / misunderstanding as to correct interpretation of a manufacturer's drawings of instruction, necessary clarifications shall be obtained from the Corporation. The Contractor shall be held responsible for any damage to the equipment consequent to not following a manufacturer's instructions correctly.
- 12.6 The Contractor shall move all equipment into the respective building through the regular doors or floor opening provided specifically for the equipment. The Contractor shall move the equipment from the storage site to the crane, attach to the crane hook and install in final location. The Contractor shall make his own arrangements for the lifting of equipment.
- 12.7 Where assemblies are supplied in more than one section, the Contractor shall make all the necessary mechanical and electrical connections between sections including the connections between busbars/ wires. The Contractor shall also carry out the necessary adjustments /alignments isolators and their operating mechanisms. All insulators and bushings shall be protected against damage during installation. Insulators or bushings chipped, cracked or damaged due to negligence or carelessness shall be replaced by the Contractor at his own expense.
- 12.8 The Contractor shall take utmost care in handling instruments, relays and other delicate machanisms. Wherever the instruments and relays are supplied separately, they shall be mounted only after the associated control panels/desks have been erected and aligned. The blocking materials/mechanism employed for the safe transit of the instruments and relays shall be removed after ensuring that the panels/desks have been completely installed and no further move-ments of the same would be necessary. Any damage to relays and instruments shall be immediately reported to the Corporation.

13. SPECIFICATION FOR ERECTION, TESTING & COMMISSIONING OF ELECTRICAL EQUIPMENTS AND ACCESSORIES

13.1.1 Scope :

This specification is intended to cover complete instalation, testing and commissioning of electrical equipments i.e. motor control centres, control panels/ switchgears, motors, push button stations out door sub -station etc. complete.

13.1.2 Codes and Standards :

i. The installation, testing and commissioning of all electrical equipments shall comply with all currently applicable statutory regulations, fire insurance and safety codes in the locality where the work will be carried out. Nothing in this specification shall be construed to relieve the Contractor of his responsibility.

ii. Unless otherwise specified, the work, material and accessories shall conform to the latest applicable Indian, British or IEC Standards, some of which are listed below :

IS : 3072 Installation and maintenance of switchgear.

IS : 900 Installation and maintenance of Induction motors.

IS : 3106 Selection, installation and maintenance of fuses.

IS : 1886 Installation & maintenance of transformers.

IS : 1180 Distribution Transformers.

IS : 4029 Guide for testing three phase induction motors.

IS : 335 Insulating oil for transformers & Switch-gears.

IS : 5124 Installation & maintenance of A.C. Induction Motor starters upto 1.1 KW.

IS : 226 Specification for structural steel.

IS : 5216 Guide for safety procedure and practices in electric work.

IS : 3202 Climate proofing of electrical equipment.

IS : 2274 Code of practice for electrical wiring installations.

IS : 6665 Code of practice for industrial lighting.

IS : 1866 Code of practice for maintenance of insulating oil.

IS : 1653 Rigid steel conduits for electrical wiring.

IS : 2667 Fittings for rigid steel conduits for electrical wiring.

13.1.3 Good workmanship shall be in accordance with best engineering practice to ensure satisfactory performance and service life.

13.1.4 Detailed Requirement of Installations :

a. Switchgear, Control Panel etc.

All alignment, levelling, grouting, anchoring adjustments shall be carried out in accordance with manufacturers instructions and/or as directed by the purchaser.

All modules shall be taken out and internals shall be cleaned preferably with vacuum cleaner.

All connections and fixing of equipments in switch-gear.

In some cases, minor modifications may have to be carried out at site in the wiring and mounting of the equipment to meet the requirements of the desired control scheme and the contractor shall have to do the same at no extra cost.

b. Motors :

The installation of Motors shall be carried out in accordance with manufacturer's instructions and/or as directed by the purchaser.

Checking and cleaning of bearings and charging/filling of lubricants, wherever necessary.

Cleaning of core the winding, varnishing out the windings and measurement of air gap for motor assembly at site if demanded.

Motors shall be run on un-coupled condition for few hours before coupling them with the drive equipment.

Motors shall be coupled with drive,adjusted and shall be tested on load.

c. Miscellaneous Items :

The contractor shall install miscellaneous items such as motor starters, local start/stop push button stations etc.

The equipment will be generally wall,column or stand mounted.

The exact location will be as shown in the final drawings.

All supports or brackets needed for installation shall be fabricated and painted by the Contractor.

All welding,cutting,chipping and grinding as & when necessary shall be carried out by the Contractor.

d. Installation of Cables :

Cables shall be laid in accordance with layout drawings and cable schedule etc. to be supplied by Contractor and approved by the SMSS High voltage,medium voltage and control cables shall be separated from each other by adequate spacing or running through independent pipes.

and instructions issued by the Corporation's representative. Cables shall be laid directly buried in earth, on cable racks, on cable trays, in conduits, on walls etc. as per the requirements.

All cables routes shall be carefully measured and cables cut to required lengths, leaving sufficient length for the final connection of the cable to the terminals of the equipment.

The various cable lengths cut from the cable reels shall be carefully selected to prevent undue wastage of cables.

Cables shall be laid in trenches at requisite depths. Before cables are placed, the trench bottom shall be filled with a layer of sand. This sand shall be covered with 150 mm of sand, on top of the largest diameter cables, the sand shall be lightly pressed. A protective covering of approved type of brick shall be laid. The remainder of the trench shall then be back filled with soil, rammed and levelled.

As each row of cables is laid in place and before covering with sand every cable shall be given an insulation test in the presence of Engineer-in-charge. Any cable which proves defective shall be marked and replaced with a new cable and the end of defective cable sealed to avoid leakage of water, if it is not feasible to remove the defective cable altogether.

When cable rises from trenches to motor, push button, lighting panels etc. it shall be taken in GI pipes for mechanical protection upto a minimum of 150 mm above grade etc. The top of the pipe shall be filled with PUTTI after pulling of cable for sealing purpose.

Straight through joints if required shall be made by using epoxy resin type torpplain or M-seal.

Cables shall be neatly arranged and dressed in the trenches in such a manner so that criss-crossing is avoided and final take off to the motor/switchgear is facilitated.

All cables will be identified close to their termination points by cable numbers as per cable schedule. Cable numbers will be punched on AL strips [2 mm thick] securely fastened to the cable wrapped round it.

Each underground cable shall be provided with identifying tags of lead securely fastened every 20 m of its underground length with atleast one tag at each end before the cable enters the ground, at each bend or turning and the road crossing.

In unpaved area, cable trenches shall be identified by means of cable marker. These posts shall be placed at location changes, in the direction of cables and at interval of not more than 50 m.

A minimum clearance of 300 mm shall be maintained between cable trench and parallel runs of underground piping. Cables which enter building below ground level shall pass through the building foundation in G.I. pipes. Space between the cable and pipe shall be sealed so as to be liquid tight. Sealing compound used shall be impervious to liquids that may be in the ground.

Following guide shall be used for sizing the pipe size :

- a. 1 cable in pipe 53% full
- b. 2 cable in pipe 31% full
- c. 3 or more cables 43% full
- d. Multiple cable 40% full

At road crossing and other places where cables enter pipe sleeves adequate bed of sand shall be given so that the cables do not slack and get damaged by pipe ends. All cable entry places to the buildings shall be suitably sealed as instructed by the Engineer-in-charge.

Drum number of each cable from which it is taken shall be recorded along with the cable number in the cable schedules. As proper register to indicate the drum No., type of cables, size of cable, length cut and laid, the points between which the lengths are laid and corresponding dates etc. shall be prepared and maintained in consultation with the Engineer-in -charge.

A similar register for cable termination and jointing work shall also be prepared and maintained.

e. Tray and Supports for Cables :

Signature of Contractor

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Additional City Engineer, A.M.C

Armoured cables which run exposed above ground shall generally be run in cable racks or cables trays except individual cables or groups of upto two or three running along structures may be attached directly to the structures. In the cable trenches below the switchgears, cable racks and trays shall be used for supporting cables. Cable trays shall be ladder type of steel construction with ladder runs of 450 mm centres or the trays may be perforated type. Lengths shall preferably be 6 meters [approx. depending on fabrication facilities] in widths of 150, 300 and 450 mm as per design requirements for greater width, trays may be bolted together. Side heights shall be sufficient to provide mechanical protection for the cables.

Cable trays shall be supported at every 300 mm or less longitudinal run [based on maximum uniform loading of 35 kg. per meter length for 3 meter span] shall be so fouted that there is no danger of mechanical damage.

They shall be kept separate as far as possible from major piping and where practicable at elevation above the top level. Routings shall follow the major structure axes.

Where more than one level of cable trays is required, levels shall have a minimum of 450 mm clear space between top of cable layer and bottom of next higher load tray. Top level shall also have 450 mm clearance to any overhead construction running immediately over and parallel to it. This is to allow adequate access to all cables. A 300 mm clearance is satisfactory for short obstruction of 300 mm or less.

Cable trays and inaccessible portion of supporting steel shall be painted if necessary, before laying of cables. The painting shall be done with one coat of red lead paint and two coats of aluminium white paint.

Cable laid in horizontal trays shall be fixed to the tray at intervals not exceeding 1 meter where cables are run individually or structures strapping intervals shall not exceed 600 mm. Vertical runs shall have strapping at intervals.

Outdoor cable trays shall be galvanised and the cable fixing straps, bolts, nuts, washers etc. shall also be galvanised.

- f. Cable Termination :
- Cable termination shall include the following :
- a. Making necessary holes in the bottom/top plates for fixing cable gland/box.
 - b. Fixing double compress cable gland/box, connecting armour clamp to cable armour.
 - c. Dressing of cables, pouring compound etc. wherever necessary to make termination complete.
 - d. Putting cable lugs, crimping them on to cores of cables, taping bare conductors upto lugs, wherever necessary.
 - e. Terminating to equipment terminals.
 - f. Supply and fixing of cable and core identification ferrules.

Wherever purchaser has not provided M.S. plates for fixing cable tray supports, contractor shall install approved concrete fasteners for fixing cable tray supports.

g. Conduits & Pipes :

Contractor shall supply and install conduits, pipes as specified and as shown in drawings prepared by him and approved by purchaser. All accessories/fittings required for making installation complete shall be supplied by contractor.

Flexible metallic conduits shall be used for termination to equipment which are likely to be disconnected at periodic intervals.

Conduits or pipes shall run along walls, floors and ceilings on steel supports embedded in soil, floor, wall or foundation, in accordance with relevant layout drawings. Under ground position of conduit installation to be embedded in the foundation or structural concrete shall be installed in close coordination with co-lateral work. Exposed conduit shall be neatly run and evenly spaced.

Exposed conduit shall be adequately supported by racks, clamps, straps or by other approved means. These fittings shall be of same material as conduits.

Each conduit run shall be marked with its designation as indicated on the drawings. Identification shall be made where possible

When one or more cables are drawn through a conduit, cables shall fill not more than 50% of the internal cross sectional area of the conduit.

The entire system of conduit after installation shall be tested for mechanical and electrical continuity throughout and permanently connected to earth by means of earthing clamp efficiently fastened to the conduit.

For jointing purpose, contractor shall have available at site, dies for threading, pipe or conduit. All such threaded ends shall be cleaned after threading and anticorrosive paint applied.

13.2 Specification for Erection, Testing and Commissioning Illumination System :

13.2.1 Scope :

This specification covers complete installation, testing and commissioning of indoor and outdoor illumination system.

13.2.2 Code and Standards :

The wiring, installation and commissioning of complete illumination system shall comply with all currently applicable statutory regulations, fire insurance and safety codes in the locality where the work will be carried out. Nothing in this specification shall be construed to relieve contractor of his responsibility.

13.2.3. Unless otherwise specified, the work, material and accessories shall conform to the latest applicable Indian, British or IEC standards, some of which are listed below :

IS : 2274 & 732	Electrical Wiring installation
IS : 1653	Specification for conduits

IS : 694	PVC insulated [light duty]electric cables for working upto 1100 V
IS : 3961 Part V	Recommended current ratings for PVC insulated [light duty] cables
IS : 2208	HRC cartridge fuse links
IS : 1293	3 pin plugs and socket outlets
IS : 3854	Switches for domestic and similar purpose
IS : 5133	part I Steel & cast Iron boxes for the enclosure of electrical accessories.
IS : 5216	Guide for safety procedures and practices in electrical work
IS : 6665	Code of practice for industrial lighting
IS : 1913	General safety requirements for electric light fittings.
IS : 3202	Climate proofing of electrical equipments
IS : 3387	Accessories for rigid steel conduits
IS : 3480	Flexible steel conduit for electrical wiring.
IS : 2509	Rigid non-metallic conduits
IS : 3419	Fittings for rigid non-metallic conducts.
IS : 2667-1964	Fittings for rigid steel conduits for electrical wiring.

13.2.4 Good workmanship will be in accordance with best engineering practices to ensure satisfactory performance and service life.

13.2.5 General Requirements :

Except as specifically approved by the site office, installation of conduits and lighting fixtures shall be taken only after all major services such as piping, structural work etc. in that particular area have been completed.

Location of lighting fixtures, switches and receptacles shown on the drawing are indicative and shall be relocated to suit site condition.

Except as noted mounting height of various lighting equipment from finish floor level shall be as follows :

- i] Lighting Panels 1200 mm
- ii] Lighting control switches 1000 mm
- iii] Receptacle with switch
 - a] For indoor 500 mm
 - b] For outdoor 1000 mm

All cables and conduits from lighting panel upto first lighting fixture shall be identified with aluminium tags giving circuit reference number.

Lighting panel number shall be indicated when more than one panel for an area is to be provided.

A number of lighting panels shall be marked separately for supplying power to the space heaters mounted in the various switchgear panels and motors.

Steel surfaces exposed to weather shall be thoroughly cleaned for removal of rust and shall be given a primary coat of zinc chromate and two finishing coats of paint.

All metal parts not accessible for painting shall be made of corrosion resistant material.

Cable/Conduit separators shall be provided at an interval of 500 mm for horizontal runs and 750 mm for vertical runs.

Cable/Conduits shall be kept, wherever possible atleast 300 mm away from pipes, heating devices and other equipments.

For the purpose of calculating connected loads of various circuits a multiplying factor of 1.25 will be assured to account the losses in the control gear.

Contractor shall supply junction boxes, pull boxes, terminal blocks, glands, conduits and accessories [elbows, tees, bends etc.] and supporting anchoring, materials to make the installation complete.

Contractor shall work in co-ordination with the civil contractor when opening sleeves are required in walls and floors. Holes made by contractor shall necessarily be patched in a good and approved manner.

All types of wiring concealed or unconcealed shall be capable of easy inspection. In all types of wiring due consideration shall be given for neatness and good appearance.

In hazardous areas, the grounding wire shall run along the conduits throughout the installation and all conduits and fixtures shall be effectively grounded. Conduits shall be grounded at the ends adjacent to switch at which they originate.

Wherever specified, Delighting system shall be installed to provided necessary illumination in case of an emergency. Emergency lighting cables shall run in a separate conduit system.

A street lighting, steel tubular poles conforming to I.S. complete with fixing brackets shall be used. These poles shall be coated with bituminous preservative paint on the inside surface as well as embedded on outside surface.

Exposed outside surface shall be painted as with red lead primer and two coats of Aluminium paint.

Before a complete installation is put into service, installation tests stipulated in I.S.2274 and other codes of practices shall be carried out by contractor in the presence of corporation's representative.

13.2.6 Working in Conduits :

Individual lighting circuits inside building shall be wired with 250/440 V grade copper/aluminium conductor of approved make PVC insulated flexible wires/cables. The circuit wire shall be colour coded as follows :

White - Phase or DC positive wire

Black - Neutral or DC negative wire.

Full wires in a conduit shall be drawn simultaneously. No subsequent drawings are permissible. Necessary pull wires shall be provided by the Contractor.

Wires shall not be pulled through more than two equivalent 90 deg.bends in a single conduit run.

Wiring shall not be spliced at any place other than junctions boxes with approved type connectors of terminal strips and for lighting fixtures, connections shall be Tee off through suitable roundconduit or junction box.

For vertical run of wires in conduit, wires shall be suitably supported by means of wooden plays at each pull junction boxes.

13.2.7 Outdoor Lighting :

Lighting for all outlying areas shall be carried out using 1.1 KV grade aluminium conductor, PVC insulated steel wire armoured cables between lighting panel and junction box near the lighting fixture.

All lighting poles shall be stopped tubular steel poles type ITSTP as per IS;2713 and shall be painted.

Cables for road and out-door lighting shall be directly buried in ground at a depth of 900 mm or routed in available cable trenches.

13.2.8 Earthing :

For outdoor earthing of lighting poles, masts etc. cut G.I. wire shall be used. The wire shall be run buried in ground at a depth of 900 mm.

Lighting fixtures, receptacles, junction boxes, switches, conduits and hand rails shall be earthed using G.I.wire of minimum size 12 SWG.

The earthing wire shall run over the entire length.

13.2.9 Testing and Commissioning :

After completion of the work, complete illumination system shall be thoroughly checked and tested by contractor in presence of the Corporation's representative as per check list.

The contractor shall provide all tools, materials, labour and supervising personnel for carrying out the test.

The contractor shall carry out all rectifications, repairs or adjustment work, found necessary during testing and commissioning.

The contractor shall record the test results on approved proforms and furnish test reports/results [4 copies] for approval.

On successful commissioning of the system and carrying out necessary rectification work, the purchaser will take over the installation either wholly or in parts as the case may be.

14. SPECIFICATION FOR INTERCONNECTING PIPING

14.1 General :

All pipe work shall be in conformity with the requirements of the applicable drawings and this specification. Velocities shall be adopted as per standard practice and shall be approved by Engineer-in-charge.

All the pipeline shall be as defined in the tender elsewhere and as per the latest IS, except specified hereunder.

All chemical dosing pipes shall be of HDPE material of class III. All water supply and distribution piping to various utility services shall be GI-Class C. The relevant applicable standards to be adopted for supply, laying, jointing of various type of pipes, notation and description are as under:-

S.No.	Notation	Description	Relevant IS code
	C.I.	Centrifugally cast [spun] iron pipes & fittings for water, gas and sewage	IS-1537 & IS-153
	C.I.	Code of practice for laying Cast Iron Pipes.	IS-3114
	C.I.	Cast-iron Sluice Valves	IS-780
	G.I.	Galvanized iron pipes and fittings	IS-1239
	H.D.P.E	High Density Poly Ethylene Pipes.	IS-4984
	H.D.P.E	HDPE Fittings	IS-8008
	H.D.P.E	Code of Practice for laying HDPE pipes	IS-7634
	H.D.P.E	Testing of HDPE Pipes	IS-7634
	M.S.	Mild Steel hexagonal bolts and nuts.	IS-1367
	M.S.	Steel pipe flanges	IS-6392
	M.S.	M.S. Pipes - Steel for manufacture	IS:2062:1992
	R.C.C.	Supply of Reinforced Cement Concrete NP3 Class pipes.	IS-458
		Code of practice for RCC Pipe	IS-783
		Rubber for flanged joints.	IS-638
	G.R.P.	Glass Reinforced Plastic Pipe	IS 14402: 1996 IS 13916 : 1994
	UPVC	Unplasticised PVC Pipe	IS 13592 IS 4985

15. SPECIFICATIONS FOR PLC AND INSTRUMENTATION

This section outlines the Instrumentation System. The Scope of Instrumentation, Control and Automation works for TSTP under this contract shall comprise of design, manufacture, programming, configuration, supply, installation and erection, testing and commissioning of the entire system as per the scope of work. The scope of work also includes the 3 years of O&M of Instrumentation System.

SCOPE OF WORK FOR INSTRUMENTATION:

General

A complete instrumentation and control system shall be provided for semi automatic operation of the Sewage treatment plant as specified. The Tenderer shall take into consideration the following aspects:

- 1) Complete System Integration including Design, Supply and Installation of all field instruments, PLC system for the complete Process control of the Sewage Treatment Plant shall be done by one agency. The Tenderers shall identify this agency and provide their credentials in advance.
- 2) Wherever Civil, Electrical or Mechanical inputs are required, the same can be provided by the respective disciplines as per the Automation system integrator's requirement.
- 3) The Equipment Cabinets, system Cabinets, Panels, Power distribution Cabinets, etc. in the complete Project shall be sourced from One Approved Enclosure Supplier and shall be assembled & wired by one Approved Control Panel Contractor thus providing uniform documentation and uniform Look & Feel for Operation and Maintenance.
- 4) The Tenderer to provide documentary evidence of undertaking given by their identified Automation system integrator for comprehensive support (Warranty) including all services, spares and consumables for a period of 120 months after taking over the system.

Reference Standards:

Unless otherwise approved, instrumentation shall comply with relevant quality standards test procedures and codes of practice collectively referred to as Reference Standards including those listed below in accordance with the requirements detailed elsewhere in this specification.

IEC -1:1982	Analogue signals for process control systems. Specification for direct current signals.
IEC 60947-4-1:2000	Specification for low-voltage switchgear and control gear. Contactors and motor starters. Electromechanical contactors and motor starters.
IEC 60947-4-2:1999	Specification for low-voltage switchgear and control gear. Contactors and motor-starters. AC semiconductor motor controllers and starters.
IEC 60947-4-3:1999	Specification for low-voltage switchgear and control gear. Contactors and motor-starters. AC semiconductor controllers and contactors for non-motor loads.
IEC 60770-1:1999	Transmitters for use in industrial process control system. Methods for performance evaluation.
IEO 6817:1997	Measurement of conductive liquid flow in closed conduits. Method using electromagnetic flow meters.
BS EN 837-1:1998	Pressure gauges. Bourdon tube pressure gauges. Dimensions, metrology, requirements and testing.
BS EN 60529:1992	Specification for degrees of protection provided by enclosures (IP code).
BS EN 60546-1:1993	Controllers with analogue signals for use in industrial-process control system. Methods for evaluating performance.

BS EN 60584-2:1993	Thermocouples. Tolerances.
BS EN 60654 : 1998	Operating conditions for industrial –process measurement and control equipment. All relevant parts.
BS EN 61000-6:2001	Electromagnetic compatibility (EMC). Generic standards. Emission standard for industrial environments.
BS 89:1990	Direct acting indicating analogue electrical measuring instruments and their accessories. All parts.
BS 90:1975	Specification for direct-acting electrical recording instruments and their accessories.
BS 1042-1.4:1992	Measurement of fluid flow in closed conduits. Pressure differential devices. Guide to the use of devices specified in sections 1.1 and 1.2.
BS 1041-2.1 :1985	Code for temperature measurement. Expansion thermometers. Guide to selection and use of liquid-in-glass thermometers.
BS 1041-2.2 :1989	Code for temperature measurement. Expansion thermometers. Guide to selection and use of dial-type expansion thermometers.
BS 1041-3 :1989	Temperature measurement. Guide to selection and use of industrial resistance thermometers.
BS 1042-1.4 :1992	Measurement of fluid flow in closed conduits. Pressure differential devices. Guide to the use of devices specified in sections 1.1 and 1.2.
BS 1553-1:1977	Specification for graphical symbols for general engineering. Piping systems and plant.
BS 1646-1 :1979	Symbolic representation for process measurement control function and instrumentation. Basic requirements.
BS 1646-2:1983	Symbolic representation for process measurement control functions and instrumentation. Specification for additional basis requirements.
BS 1646-3 :1984	Symbolic representation for process measurement control functions and instrumentation. Specification for detailed symbols for instrument interconnection diagrams.
BS 1646-4:1984	Symbolic representation for process measurement control functions and instrumentation. Specification for basis symbols for process computer, interface and shared display/control functions.
BS 2765:1969	Specification for dimensions of temperature detecting elements and corresponding pockets.
BS 3680	Measurement of liquid flow in open channels. All relevant parts.
BS 3693:1992	Recommendations for design of scales and indexes on analogue indicating instruments.
BS 4675-2:1978	Mechanical vibration in rotating machinery. Requirements for instruments for measuring vibration severity.
BS 4999-142:1987	General requirements for rotating electrical machines. Specification for mechanical performance vibration.
BS 6739:1986	Code of practice for instrumentation in process control systems installation design and practice.

Instrument Society of American Standards and Recommended Practices:

S 5.1	Instrumentation symbols and identification.
S 5.4	Instrumentation loop diagrams.
S 7.3	Quality standard for instrument air.
RP 16.1	Terminology, dimensions and safety practices for indicating variable 2, 3 area meters.
RP 16.4	Nomenclature and terminology for extension type variable area meters (Rota meters)
RP 16.5	Installation, operation, maintenance instructions for glass tube variable area meters (Rota meters)
RP 16.6	Methods and equipment for calibration of variable area meters (Rota meters)
RP 18.1	Specifications and guides for the use of general purpose annunciators.
S 26	Dynamic response testing of process control instrumentation.
S 37.1	Electrical transducer nomenclature and terminology.
S 37.3	Specifications and test for strain gauge pressure transducers.
S 50.1	Compatibility of analog signals for electronic industrial process instruments.
S 51.1	Process instrumentation terminology.
RP 60.08	Electrical Guide for Control Centers.

16. OPERATION & MAINTANANCE (O&M) OF TSTP

Operation and maintenance of the treatment plant is very much essential for sustainability of the treatment plant and to achieve discharge standards. The operational aspects include regular checking of the performance of the units including the electrical and mechanical equipment, to identify any non-functionality of the units to evolve the strategic measures to be taken to make the plant fully functional to meet the stipulated standards. Plant shall be operated as per design criteria. Variance in input value of design criteria should recorded.

The O&M Contract shall comprise all expenses for operation and maintaining the Facilities, as provided in this tender document. In addition to the cost of material/equipment spares, repair/replacement of equipment and labor, all other expenses such as expenses for patrolling, administration and management, permanent & temporary staff, running office, maintenance of all structures, updating of operation and maintenance manual, etc. and all other incidental and indirect expenses for the works detailed in this tender document or for works otherwise required as per good engineering practices for Operation and Maintenance of the entire system including Electricity cost are included in the quoted rates.

- The contract includes operation and maintenance of entire Tertiary Sewage Treatment Plant on round the clock basis for a period of 12 Calendar Months (One Year) on terms and conditions described under this tender. However, the same contract may be extended for another 36 Calendar Months (3 Years) on mutually agreed upon basis between Association of beneficiaries and the Contractor.**
- The Tertiary Sewage Treatment Plant set up on turnkey basis shall be operated and maintained by the contractor including all Electrical and Mechanical works. Contractor has to incur all the costs, taxes, vat, duties, transportation, labour, machining, welding, repairing, replacing and making good any and all parts/plant equipment, consumables, motors, pumps, aerators, gear unit, capacitor, HT/LT switchgear, PLC panel, lighting system, cables, battery charger, battery, instruments, meters, chemicals for laboratory etc.

3. Average power factor of 0.96 shall be maintained in electrical bill by the Contractor. Penalty on account of poor power factor (i.e. less than 0.9) will be recovered from the contractor from his monthly O&M bill.
4. The Contractor will be held responsible for O & M and satisfactory performance of the TSTP by all means. Major components and works shall include the following but not limited to:
 - a) Operate the plant efficiently for one year, including all consumables, parts or components, labour transportation and other charges, but excluding the cost of power. Power cost of O & M of plant shall be borne by the association. The difference in power cost would be borne by AMC, as defined in the tender elsewhere. Raw sewage shall be collected by contractor from nearby sewerage network.
 - b) The contractor shall have to submit analysis report for Raw & treated sewage samples daily. The Contractor is responsible for submission of daily and monthly O & M report.
 - c) Contractor shall submit six copies of the O & M Manual for approval of AMC, which may be modified, if required by AMC, and two copies would be returned by AMC duly approved and signed.
 - d) The contractor shall carryout cement paint/ enamel paint/ white wash for exterior finish of civil units once before the end of second year of O & M of the plant and shall also carry out painting on mechanical equipments/ above ground pipe lines/ hand railing before the end of second year of O & M of the plant.
 - e) The contractor shall hand over the plant back to AMC on expiry of his contract in fully working condition satisfying the requirement of treated sewage. All the electrical, mechanical and instrumentation including standby shall be in perfect working condition.
 - f) Contractor shall provide manpower as per requirement.
 - g) Insurance Certificates
Within 14 days of the acceptance of this tender the Contractor shall produce to the AMC a certificate or certificates signed by the Contractor's insurers or their duly authorised agents covering all the persons with accidental policy of sufficient amount as per their grade (30 times monthly salary)
5. The Contractor will comply with all safety rules and regulations and all inter-disciplinary measures as followed by the AMC. The AMC will not be responsible for any accident / injury to the staff or any person of the Contractor or loss or damage to any property.
6. All Central / State Government / Semi-Government / Local Body's rules and regulation pertaining to this contract, all legal formalities pertaining to provident fund, factory act, all legal formalities shall be followed and observed by the Contractor without any extra cost to the AMC. Please note that failure in complying so, all liabilities arising as per laws will be to the Contractor's account.
7. The quoted rate shall remain firm and valid for throughout O&M contract period.
8. The payment of O&M charges will be made as stipulated under chapter on "Schedule of Payments". All security deposits/retention money shall be released on successful completion of O&M period of one year.
9. First Aid Box
The Contractor shall at his own cost provide and maintain at the Site of Works standard first aid boxes as directed and approved by the AMC for the use of his own as well as the AMC's staff on Site as stipulated by local regulations. Contractor shall arrange to train all their staff in first aid treatment within 3 months.

10. Measurement And Analysis The AMC has the right to perform any analysis or inspection he deems necessary. The Contractor shall be responsible for the security and protection of flow meters at the designed point. If there is any malfunctioning of the meters, action will be initiated.

29. INSTRUCTION FOR BIDDING FOR ALTERNATIVE BUILDING MATERIAL / TECHNOLOGY

Apart from conventional technology, any contractor can use alternative construction material / technology for construction and development of the project **except Monolithic RCC technology**.

Traditional building technology is defined as “building construction with load bearing walls or framed structure of RCC beam-columns with BB masonry, fly ash bricks or CC blocks”.

The contractor can have a Joint Venture with the technology provider and form a joint venture, as mentioned in the eligibility criteria. However, bidders engaging such technologies/materials shall have to fulfill the following additional technical criteria:

Eligibility Criteria

The following additional certificates should be submitted in part B:

A. Certification:

1. The alternate technology / materials must have the following certification:
 - a) It should be certified by any of the following institutions: Building Materials and Technology Promotion Council/ Housing and Urban Development Corporation/ Central Building Research Institute/ Indian Institute of Technology.
 - b) For the purpose of testing and quality assurance, either (i) Building materials used in technology should have IS codes or (ii) the institutions specified 1(a) must have also certified construction manual and quality assurances plan including material testing.
 - c) The contractor/technology provider should produce all the certificates relevant to the above clauses.
2. The above clarification should include the following critical quality aspects:
 - Structural strength, serviceability, durability and stability
 - Structural life of minimum 50 years.
 - Thermal and energy performance and/ or efficiency
 - Water penetration
 - Behavior in fire
 - Durability
 - Behavior against other natural hazards, like earthquake, flood, cyclone.

- Construction methodology.
- Quality assurance including material testing.
- The value of the above criteria should be at least as much as provided by the traditional building technology as provided in this tender document or more.

Experience of Alternate Technology / Neutral Technology:

For all those contractors whose proposal include, alternate technology / neutral technology the necessary approval from academic institutions as specified in the tender shall be submitted. However, the contractor shall also submit following testimonials, to prove its use, utility and acceptance in the market.

For alternate / neutral technology (other than adopted in AMC BSUP Housing) to get qualified the minimum size, scale and volume of works carried out shall be minimum as follows i.e. the contractor must have carried all works consisting of:

1. Minimum 25% of proposed houses should have been constructed in (G+3 storied building for LIG category) .

OR

2. Total area of construction for houses of the entire project taken together should be minimum 25 % of the area proposed under the package.

OR

The cost of works being carried out with alternate / neutral technology should of be minimum value of 25 % of the proposed package estimated cost. Bidder will have to submit completion certificate by client and building use permission issued by local government authority.

B. Other Certifications:

The developer/contractor should produce Certification of the following by a licensed structural Engineer:

- **Structural safety:** conforming with IS Codes, resistance to static and dynamic actions, both individually and in combination, impacts, intentional and unintentional abuse, accidental actions.
- **Structural serviceability:** resistance to loss of function, damage and avoidance of user comfort.
- **Structural durability:** performance retention of the structure (a structural warranty of minimum 50 years).

C. Details to be submitted by the Contractor in Part-B

While giving proposal for alternative technology the contractor shall submit the following.

- Product description
- Detailed technical information on how all the materials of the technology (including testing of the materials) meet IS Codes OR certification in this respect given by the abovementioned institution.

- Construction methodology.
- Design assumptions, detailed calculations, references to the necessary design standards and detailed design drawings.
- Design calculations
- The structural design calculations must clearly demonstrate structural integrity and stability, including connection details
- Design calculations should have proper sketches annotated in English.
- Quality Assurance Plan

The screening committee will evaluate the technology on the basis of documents/certificates/design which will be submitted by the developer/contractor as mentioned in the details of submission.

D. Bidding Condition:

- The minimum criteria for project as per page no 13 will be applicable to the bid with alternative building material / technology which shall have to fulfill the above technical criteria in addition to all the technical eligibility criteria mentioned in page no page no 13 in order to be technically qualified.
- The minimum specification for interior and exterior finishing items can be suitably modified in accordance with alternative building material / technology such that the impact / effect of final finish is either maintained or enhanced than of conventional finish.
- Once shortlisted as technically qualified, its price bids will be opened with all other price bids. There shall not be any additional weightage for alternative building material / technology.
- For plants and equipment, the agency should provide details with respect to those items applicable to it as in page no. 61 –Form H as well as details of plants and equipment that will be required by it in addition to what is mentioned in page no page no. 61 –Form H with such capacity as required to complete the project within given time schedule. Any important omission in this regard shall render the bidder technically disqualified.
- The decision of screening committee shall be final with respect to the technical eligibility of other alternative building material / technology.

E. Scope of Work:

- The scope of work for the project is as mentioned in page 18-21.

- In addition the general scope of work, the developer/contractor opting for alternative technology should also perform the following:
- The proposals and costs must be based for plans for a specified area strictly and overall scheme.
- The contractor shall arrange necessary training for the use and maintenance of the product, if needed.
- If needed, briefing session and exhibition of the construction technology shall be arranged prior opening of price bid.
- To ensure sustainability after the house has been constructed, the contractor shall ensure that an effective maintenance team is in place and trained from day one, including the beneficiary, if needed.

Note: - Land Plan attached below is as per AMC record, Bidder has to Visit site prior to quote tender and also to carry out preliminary survey to ascertain land area and other data required for quoting tender.