TENDER DOCUMENT FOR REDEVELOPMENT OF

HIMGIRI COOPERATIVE HOUSING SOCIETY LTD.

CIDCO Colony, Sector- 03, Sanpada, Navi Mumbai-400705.
(Regd. No: NBOM/CIDCO/HSG/(O . H .)/JTR/95-96 Dt.22-11-95)

Tender Document for Proposed Re-Development

ISSUED ON:

SERIAL NO:

Urban Analysis and Solutions Consultancy Services
PROJECT MANAGEMENT CONSULTANT
A1306-A1309, Plot NO18 &19, Sector 15, CBD BELAPUR
Mail: uasconsult01@gmail.com

Existing Buildings

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TENDER NOTICE

Sealed Tenders/Offers are invited in two bids system by Himgiri Co-operative Housing Society Ltd, Sector-03, Sanpada (East), Navi Mumabi-400705 for proposed Redevelopment in lieu of rights to sell the additional Flats/Shops from eligible Builders / Developers of repute fulfilling following eligibility criteria.

1. The Developer shall have experience minimum upto the stage of obtaining Commencement Certificate of redevelopment project and experience of having completed minimum one project with minimum plot area of 6440.42 Sq.mtr. To demonstrate completion of work, bidder must submit in its technical bid, Occupancy Certificate issued by Statutory Authority.
2. The Average Annual turnover of Developer shall be minimum of Rs.50 Crores during the last three financial years.
3. The tender document can be collected from ---------- - from Date. __/__/2025 To __/__/2025 (Both dates included) between 10:30 am to 5:00 pm. On payment of Rs. 25,000/- (Twenty-Five thousand Only) payable by demand draft in favor of **HIMGIRI CO-OPERATIVE HOUSING SOCIETY LTD** (non-refundable). Sealed Tender Bids along with supporting documents shall be submitted in the manner as prescribed in the instructions to tenderers as mentioned in Tender Document between __/__/2025 To __/__/2025 by 5:00 pm in the ----------office.

The Society reserves right to reject any or all bids without assigning any reason.

Dates

For Himgiri Cooperative Housing Society Ltd.

PART 1: NOTICE OF INVITATION TO BID

Sealed lump sum BIDs are invited from experienced, financially sound and resourceful BIDDERS for Redevelopment

Nature of work	**Demolition of all existing Residential Buildings and Construction of new building admeasuring plot area 6440.42 sq.mtr, Sector 03, Sanpada, Navi Mumbai – 400705 by fully utilizing plot potential as per the provisions of UDCPR.**
Address of Work	Himgiri Cooperative Housing Society Ltd, Sector 03, Sanpada, Navi Mumbai – 400705.
Time of completion	36 Months from the date of handing over peaceful and vacant Possession of the Society premises by the members to the developer.
Validity of Offer	The offer shall remain valid for 120 days after the last date of submission of BID
Earnest Money Deposit	Rs.50,00,000/- (Rs. Fifty Lakh only) (Refundable without any interest) by Pay Order/Demand Draft drawn in favor of the Society.
Tender Cost	Rs.25,000/- (Twenty-Five thousand Only) payable by demand draft drawn on HIMGIRI COOPERATIVE HOUSING SOCIETY LTD. (non-refundable)

This is only an invitation to offer / tender and not an offer. The Society reserves right to reject any or all the BIDs/without assigning any reason whatsoever and the decision of the Society will be final and binding on all the Bidders, without any liability whatsoever attributable to the Society, its Managing Committee, its Redevelopment Committee, any of its members or its PMC.

SD/s

Himgiri Cooperative Housing Society Ltd

PART 2: APPENDIX TO THE BID DOCUMENT

- **The BIDDER may be**

  (i) An individual/Proprietor

  (ii) A Registered partnership firm, or

  (iii) A Company incorporated under the Companies Act, 1956 or

  (iv) A body corporate.

- Joint venture is not allowed.
- The Bidder should have his office in Mumbai or Navi Mumbai.
- The Developer shall have completed redevelopment / greenfield Highrise building project with minimum plot area of 7000 Sq.mtr.
- The Developer shall have at least one CC of redevelopment project of CIDCO constructed buildings.
- The Average Annual turnover of Developer shall be minimum of Rs.50 Crores during last three financial years.
- The Bidder shall have positive net worth for last 3 years and current Net worth shall be minimum of Rs.25 Crores.

The Bidder is required to visit the site to carry out field surveys, all investigations, detailed Engineering and Market studies for real estate etc. at their own cost. The data given by the Society made available in good faith only for general information as guidance without any commitment on the part of the Society. Bidder shall check and verify all the documents required for this Bid. The Bidder shall not raise any claims against the Society and/or the PMC for any discrepancy in such matters. The Bidder is also required to arrange his own financial resources for the above project. The Bidder, whose Bid is finally accepted would be allowed to utilize the surplus built up area as per agreement to recover his investment. The Bidder shall not mortgage or assign the Society's land and its property, and shall not sublet the work. The Society reserves the right to revise, modify or amend the Bid Document in part or full, prior to the last date notified for submission of Bids or on any subsequent date.

PART 3: SUBMISSION OF OFFER

Date:

To,
Hon. Secretary,
Himgiri Co.Op. Housing Society Ltd.

Sub: Redevelopment work of Himgiri Co. Op. Housing Society, Sector 03, Sanpada, Navi Mumbai – 400705

Sir,

We have visited the site for Redevelopment of the above mentioned Society and examined the Bid Documents, General Conditions of Bid, Special Conditions of Bid, Technical Specifications and other documents forming part of the Bid documents by virtue of their specific and implied meanings mentioned in these documents for the works named above, I/We the undersigned hereby offer to construct, execute, complete and maintain the whole work in conformity with the said Bid Documents, General Conditions of Contract, Special Conditions of Contract and Technical specifications and other documents as mentioned above for the offer as given herewith as may be ascertained in accordance with the said conditions of Contract. We hereby agree to all the terms and conditions contained in the Bid, document.

I/We Further undertake/confirm/agree that:

1. I/We will abide by this Bid for the period specified in the Bid Notice. It shall remain binding on us and the Bid may be accepted at any time before the expiry of that period and/or before the expiry of any further period extended by mutual consent. In case of any default by me/us* in our obligations above, we acknowledge, that the Earnest Money of **Rs. 50,00,000/- (Rs. Fifty Lakh only)** deposited herewith shall be forfeited by you.
2. Until a formal agreement is executed, acceptance of this Bid offer shall be binding on me/us*, subject to modifications as may be mutually agreed between me/us* and indicated in the letter of acceptance of my/our* offer for this work.
3. I/We* have inspected thoroughly the site of works, and have satisfied ourselves before filling this Bid. The geotechnical investigation report attached with the bid document reference for bidding only and the same can be verified at our end if required. We understand that separate geotechnical investigation will be carried out to the satisfaction of our structural consultant before execution of work.
4. I/We* agree to keep this Bid open for acceptance for a period of 120 days from the date of submission of the Bid and in default thereof I/We*shall be liable for forfeiture of full amount of my/our* "Earnest Money" **Rs. 50,00,000/- (Rs. Fifty Lakh only)**
5. I/We agree to pay the professional fees of PMC as stipulated in the BID after due approval of the society.
6. I/We agree to pay the professional fees of Architect/ Structural Engineer and other Consultants required to be appointed by us for planning design, execution, monitoring & control till successful completion of project.
7. On failure to complete the whole or part of the work within the specified period (36 months) as mentioned in the Appendix or any other extended period as may be mutually agreed, 1/we* shall be liable to pay" Liquidated Damages at the rate of 0.5% as per clause Per week of delay or part thereof for the period of default, without prejudice to the Society's rights to recover the damages. I/we acknowledge and agree that such Liquidated Damages are not be by way of a penalty, but are a genuine pre-estimate of the losses that the Society would be likely to suffer as a result of the failure on my/our part to complete the work within the specified period.
8. In the event of my/our* failure to execute the contract documents and to commence the work within the prescribed period after issue of letter of acceptance of the BID, the Society may be entitled to determine that I/We* have abandoned the contract and thereupon my/our*Bid and acceptance thereof shall be treated as cancelled and the Society shall be entitled to forfeit the full amount of earnest money deposit of **Rs. 50,00,000/- (Rs. Fifty Lakh only).**
9. It is clearly understood that the Society is not bound to accept the lowest/ highest or any other Bid received.
10. I/We acknowledge that any forfeiture of the Earnest Money Deposit by the Society as contemplated above would be a fair and reasonable compensation of the damages that the Society will suffer on account of defaults on our part and shall not be treated as a penalty.
11. In the event of our aforesaid offer being accepted by the Society, we agree and undertake to execute the Development Agreement in the form decided upon by the Society.

I/We* hereby certify that the statements made herein and the information furnished in the document are true in all respects and that in the event of any such statement or information being found to be a misinterpretation it will entitle the Society to void any resultant contract. I/We further confirm that the submission of this duly filled tender on my/our part is to be treated as an offer on my/our part and implies acceptance by me/us of all the terms and conditions of the Bid Documents.

A Pay order/DD No. __/ (Rupees ——dated --------- issued by----------Bank for Rs. _____ Only) in favour of the Society towards Earnest money is attached herewith.

Yours Truly,

Seal and Signature of BIDDER
Name and Designation of Signatory
Date:
Place:
*Strike out which is not applicable.

PART 4:
GENERAL INSTRUCTIONS TO BIDDER

4.1 General Instructions to the BIDDER

The information contained in this Bid Document is given in good faith and is meant only as information. However, it is the responsibility of the Bidder to independently check and verify the same prior to submission of the Bid. Once a Bid is submitted, the Bidder shall be deemed to have satisfied himself/itself with all the matters regarding the redevelopment and shall be deemed to have full knowledge of the relevant documents for proposed project work whether inspected or not. The Society / PMC / the Managing Committee of the Society shall not entertain any objection or accept any defense / justification in this regard. The BIDDER shall be deemed to have satisfied himself by visiting the site and deemed to be fully conversant with the site conditions, local conditions that are likely to be encountered during the works and he/they shall be deemed to have considered all factors into account while submitting the Bid. The work shall be carried out strictly as per drawings, specifications and as per the requirement laid out by the Society in the contract and according to the Society and PMC's advice on methodology, specifications and conditions to be applied, in consultation with the Managing Committee of the Society

The information given in this Bid documents is given as guidance. However, it is the responsibility of the BIDDER to check and verify the same prior to submission of BID.

4.2 Language

All correspondence including agreement between the Society and PMC and the Developer shall be in English language.

4.3 Manner of Submission of Bid

The Bid shall be submitted in two separate sealed envelopes i.e. one envelope for Technical Bid accompanied by EMD and second envelope for Financial BID. Both these sealed envelopes duly captioned **"BID Offer for Redevelopment of Himgiri Co. Op. Housing Society Ltd, Sector 03, Sanpada, Navi Mumbai – 400705**. Along with the words "Technical Bid" and "Financial Bid" on the respective envelopes shall be super scribed on each envelope along with the respective BID. The name and address of the BIDDER shall be written on the bottom left-hand corner of the envelope. The Bidder should carefully read all the documents and all the pages of the Bid including enclosures have to be stamped and signed by the developer including each and every page of the Performa's certifying the acceptance of all terms & conditions.

Sealed bid shall be submitted in the PMC office between 10:30 am to 5:00 pm on all days from __/__/2025 to __/__/2025.

4.4 Interpretation

The words 'BID and 'BIDDER' wherever they appear in these documents will be considered synonymous to the 'BIDDER' and 'BID' respectively, unless such an interpretation is out of context. Similarly, 'BID papers' will mean 'BID documents'.

4.5 Documents Comprising the Bid

4.5.1 ENVELOPE NO. 1 'TECHICAL BID shall include:

Covering letter for submission of offer on Bidder's letter head, as per the format given in the Bid Document under PART 3 along with the list of all enclosed documents.

a. Details of:

i. BIDDER as per Proforma 'A'
ii. Details of work of similar type and magnitude carried out by the BIDDER in the last 5 years with supporting documents (Proforma 'B')
iii. Details of work/ project tendered for and works in hand as on the date of submission of the re- development proposal with supporting documents (Proforma 'C') and shall specifically mentioned about any redevelopment project in hand.
iv. Details of Bidder's Organization Structure (Proforma 'D')

v. Financial Status of the Bidder (Proforma 'E')
vi. A net worth statements of the Bidder/s
vii. Details of Banker (Proforma 'F')
viii. Litigation History (Proforma 'G')
viii. Declaration for site visit (Proforma 'H')
ix. Draft of Bank Guarantee (Proforma I) shall be given by selected developer.
x. Draft for Deed of Indemnity (Proforma J) shall be given by selected developer.
xi. Earnest Money Deposit by way of Pay Order/Demand Draft of any Nationalized/Scheduled Bank in favor of respective Society in equal payable at Mumbai.

b. Copies of the following certificates/documents:

i. Income tax Returns with Audited Balance Sheet and Profit & Loss Account,
ii. Turnover certificate for the last three financial years. (Attested by CA)
iii. Solvency Certificates from a Bank.
iv. Registration with Goods and Service Tax Department,
v. Permanent Account Number of the Company.
vi. Registration with Registrar of Companies/Registrar of Firms.
vii. Affidavit of the Proprietor.
viii. Memorandum of Articles of Society (M.O.A.) for Limited Company.
ix. Partnership Deed for Partnership Company.
x. Resolutions and Power of Attorney/Authority to fill this Bid document.
xi. Disclosure of Loans, Liabilities, and Charges:
The bidder firm must disclose all existing loans, liabilities, and charges pertaining to the firm, as well as those of all its partners and directors. Additionally, the bidder must disclose the loans, liabilities, and charges of any other firm in which any partner or director of the bidder firm holds a position as a partner or director.
If no such loans, liabilities, or charges exist, the bidder must submit an affidavit declaring the same.

4.5.2 ENVELOPE NO. 2 - 'FINANCIAL BID' shall include:

This envelope shall contain the financial proposal and shall be submitted in the prescribed form of Offer as mentioned in part 17 of this document along with Complete set of Bid document along with other documents (except those submitted with the Technical Bid above) issued for the work duly filled in by the offer for the redevelopment works, initialed on each page and signed by the BIDDER at the prescribed places in the Bid document.

4.6 OPENING AND EVALUATION OF BID PROPOSALS:

The information submitted by the Bidders in both envelopes will be opened before the Committee along with the interested members and further scrutinized and evaluated by PMC and Tender Evaluation Committee as per the Bidding process (strictly as per Government Resolution No. सगृयो २०१८/ǗN.८५/१४-स dated 4th July 2019). The Bidders may be asked to clarify their bids, in which event necessary clarifications shall be furnished within 10 days in writing by the applicable Bidder.

4.6.1 Evaluation of Envelope No. 2:

The evaluation of proposal will be done having regard to the following:

- Area offered by the bidder for each member.
- The information about any other consideration given by Bidder with respect to society's demand,
- Amenities provided for entire Project and additional amenities proposed if any, landscaping etc. The layouts shall take into account the FSI as per Regulation of UDCPR on the total plot, for Redevelopment of CIDCO developed Housing schemes in Navi Mumbai Municipal Corporation's Jurisdiction.

- Superior specifications offered by Developer than proposed herein.

4.6.2 Track record of the Bidder:
The Bidder's credibility / reputation in the market, work profile with respect to similar projects executed / under construction, financial strength, loan and liabilities on the bidder or its partner/director etc. shall also be considered during scrutiny of the technical bid alone.

4.7 PRESENTATION:
Shortlisted Bidder will have to give presentation of their profile of firm as well as of proposal in front of the Society for better understanding and appreciation which shall include Details of proposed parking spaces as per NMMC rules and/or as specified by the Society. Feasibility and financial viability of the proposal and any other relevant technical details, their project management and resources i.e. planning, organizing, staffing (including consultants), project monitoring, quality control, their experience of multistoried building projects, special technology adopted if any to execute the work, their understanding about this project including type of structure, etc.

4.8 Evaluation of the presentations made by the Bidders:
The Managing Committee of Society will evaluate the proposal in consultation with PMC and the outcome of the negotiations by the Society, will be considered for acceptance. The Acceptance of the Bid will be subject to the satisfaction of the Society.
The selection of Developer will be done by following the procedure laid down under Government Resolution No. strictly as per Government Resolution No. सगृयो २०१८/ुं.N.८५/१४-स dated 4th July 2019 and subsequent amendments thereto.

4.9 Earnest Money Deposit (E.M.D.)
The Bid must be accompanied by Earnest Money (EM) amount. The Earnest Money of unsuccessful Bidder shall be returned after selection of final developer.
Earnest Money shall be forfeited by the Society if the Bidder withdraws the Bid/ offer after submitting the Bid or modifies it during the period of Bid validity. Such forfeiture would be a fair and reasonable compensation of the damages that the Society will suffer on account of such breach of conditions on the part of the Bidder and shall not be treated as a penalty.

4.10 Acceptance of Bid
BIDs shall not be accepted if submitted after the hour and the last date fixed for submission of the BIDs. The BIDDERs cannot take any action against the Society and/or claim against the Society for rejection of their BIDs. The Society reserves the right to accept/ reject all/ any offers without assigning any reason. The decision of the Society shall be final and binding on all.

4.11 Validity of Bid

The Bid shall remain valid for the period of 120 days after the last date of submission of the BID. However, the validity may be extended by mutual consent.

4.12 Cost of BIDDING

The Society and/or the consultant shall not be liable to pay any expenses incurred by the BIDDER in BIDDING, like the cost of Bid documents, expenses of company profile, Lease charges for purchase and submission of BID, expenses for attending meetings or any other expenses etc.

4.13 Offer

On receipt of BID, Developer will be short-listed on the basis of the information submitted by them as per checklist. The final offer given by the developer shall be firm throughout the

Period of construction. No variation of any kind shall be entertained; the offer shall be based on 'as is where is basis'.

The selected Bidder shall not be entitled to reduce any of the parameters of his offer at any stage including on the

following grounds: -

(i) On the ground of change in policy, rules, regulations, laws and/or the modification in rules; and/or

(ii) On the ground of acquisitions/reservations/set-backs affecting the Property or any part thereof. (The bidder has made himself aware of the acquisitions/reservations/set-backs, if any, affecting the Property); and/or

(iii) Under no circumstances, including fluctuations in the market costs of raw materials, labor charges, T.D.R., NMMC/CIDCO premiums, government levies, or any other costs or reasons whatsoever, changes in the accepted offer shall be permitted nor any compromise in the quality, performance and functional parameters of the entire Project, including time frame of the completion of the Project shall be permitted; and/or

(iv) On any other ground whatsoever.

4.14 Rejection of Bid

The Bidders acknowledge and agree that these Bid Documents merely constitute an invitation to offer by the Society, and not an offer in themselves. The Society and the Consultant do not bind themselves to accept the highest Bid and reserve the right to reject any or all BIDs without assigning any reason whatsoever. The Bid shall be treated as invalid/rejected if only one part of Bid is submitted or incomplete in any manner. The Bid not accompanied by Earnest Money Deposits will be rejected. Conditional BIDs are liable to be rejected therefore BIDDERS are advised to avoid putting conditions that are at variance with the terms and conditions stipulated in the Bid Documents or quote conditional offer. BIDs containing erasures and alterations in the Bid document are liable to be rejected. The BIDDER must attest any correction made in the entries as correction. If it is found that two or more persons who are concerned with one another either financially or as principal and agent or master and servant have Bid under different names for the same contract, without disclosing their connections, then such Bid will be rejected and earnest money deposit will be forfeited. Any contract entered in to under such conditions is also liable to be rejected.

Failure to provide information which is essential to evaluate the BIDDER'S qualification or to provide timely clarification or substantiate the information supplied may result in disqualification of the BID.

The BIDs are liable to be rejected if the BIDDER:

a. Does not submit Earnest Money Deposit
b. Does not disclose the full names and address of all his partners in case of a Partnership concern.
c. Erases or makes any alterations in any part of the Bid document.
d. Fails to initial corrections, fails to fill completely all the Performa's provided in the Bid
e. Stipulates any conditions in the Bid
f. Stipulates the validity period less than what is stated in the form of the Bid
g. Does not sign every page of Bid documents with seal of Company/firm

h. Fails to provide any information essential to evaluate the Bid
i. Incomplete bid

4.15 Withdrawal of Bid

BIDDER cannot withdraw the Bid once submitted till the validity of BID, this shall result in forfeiture of the EMD. Such forfeiture will be considered to be a fair and reasonable compensation of the damages that the Society will suffer on account of such breach of tender conditions on the part of the Bidder by withdrawing the bid, and shall not be treated as a penalty.

4.16 Omissions and Discrepancies

The BIDDER shall check the Bid documents and if any page/pages is/are missing or duplicate or indistinct or illegible, the same shall be brought to the notice of the Society/PMC and rectified before submission of the BID. The BIDDER should not take advantage of any misinterpretation of the conditions due to typing or any other error/omission.

If the BIDDER finds any discrepancies or omission in the Bid documents or should be in doubt as to their meaning, he should at once notify the Society/PMC who may send a written instruction to all BIDDERS. It shall be understood that every Endeavour has been made to avoid any error which can materially affect the basis of the Bid and successful BIDDER shall take upon himself and provide for the risk of any error which may subsequently be discovered and shall make no subsequent claim on account thereof.

4.17 Details of the bidder

Full information about the BIDDER shall be given as follows:

A	If an individual	i. His full name, office and residential address and telephone / mobile numbers. ii. His financial status. iii. His previous experience
B	In case of partnership firms	i. The names of all the partners and their office, residential addresses and telephone/mobile numbers. ii. The financial status of the firm and its partners. iii. Previous experience of the firm and its partners.
C	In case companies	i. Date and place of registration including date of commencement certificate in case of Public Companies Certified copies of Memorandum and Articles are also to be furnished. ii. Nature of business carried on by the Company and the provisions of its Memorandum relating thereto. iii. Name and particulars including office/residential addresses and telephone/mobile numbers of all the Directors iv. Previous experience of the companies and its directors v. It's authorized, subscribed and paid up Capital

SEPARATE SHEETS STATING THE SAME TO BE ATTACHED OTHER THAN THE PROFORMAS**.**

4.18 Changes in the Constitution

Where the Developer is a partnership/private limited/public limited firm, prior approval in writing of the Society shall be obtained before any change is made in the constitution of the firm. Where the Developer is an individual or Hindu Undivided Family business concern such approval as aforesaid shall likewise be obtained before the Developer enters into any partnership firm would have the right to carry out the work hereby undertaken by the Developer. If prior approval as aforesaid is not obtained the contract shall be deemed to have been assigned in infringement of the contract hereof and same action may be taken and the same consequences shall ensure as provided for in the said condition.

4.19 Bid Opening

The Society Managing Committee and Project Management Consultant will open the BIDs including submissions made. They will check the Envelopes /parcels/packages to examine whether the BIDs are complete, whether the documents have been properly signed and whether the BIDs are generally in order.

4.20 Confidentiality in awarding the Contract.

After the opening of BIDs, information relating to the examination and comparison of BIDs and recommendation concerning the award of contract shall not be disclosed to the BIDDERS or other persons not officially concerned with such process until the award of the contract to the successful BIDDER has been announced. Canvassing in any form shall lead to disqualification of the BIDDDER.

4.21 Transfer of Bid Documents.

Transfer of Bid documents from one BIDDDER to another is not permissible.

4.22 Private and Confidential.

The BIDDER, whether he submits the Bid or not shall treat the details of Bid documents as private and confidential.

4.23 Process to be adopted.

The "Technical Bid ' 'of the BIDDER will be opened to verify the contents in respect of financial standing qualifications, past experience of executing similar development works and/or their organizational capability.

The 'Financial BID' will be opened to verify the offer submitted by the bidder. Subsequently, various documents submitted by the BIDDER will be subjected to scrutiny by the Society and its consultant and further acceptability of the same will be decided after getting clarifications, if any, from the BIDDER.

4.24 Signing Authority

The Bid documents shall be signed as follows:

a) In case of proprietary concern, bid documents shall be signed by the proprietor himself.

b) In case of Partnership firm, each partner or Power of Attorney holder shall sign the BID. Power of attorney of the person signing the Bid shall be enclosed with The Bid documents in original.

c) In the case of a Limited Company, bid documents shall be signed by a duly authorized Person holding Power of Attorney for signing the Bid in which case, a certified copy of the Power of Attorney shall accompany the BID. Such Limited Company or BIDDER may be required to furnish satisfactory evidence of its existence before the Bid is submitted. The Power of Attorney shall be supported by Board Resolutions and appropriate and adequate evidence in support of the same shall be given.

4.25 Modification/Corrigenda

Prior to the date of opening of the BID, Society/ PMC may issue modification/Corrigenda to clarify documents or to reflect modifications in the design or terms and conditions of The Bid documents. Each modification/Corrigenda will be issued in duplicate to each BIDDER and BIDDER shall submit the same as instructed herein. These modifications /Corrigenda shall form part of the original Bid document.

PART 5: PROPOSALS INSTRUCTIONS TO BIDDERS

5.1 **GENERAL:**

5.1.1 The proposed scheme is for redevelopment of the existing property (land & buildings) of the Society by constructing new buildings by utilizing the Base Floor Space Index available and Ancillary Floor Space Index as may be available on the Said Land and handing over new flats in the newly constructed building meant for the use of the existing members of the Society and using the balance flats for sale by the Developer to recover his cost etc., The rights, ownership and possession of the properties shall be retained with the Society. The new purchasers to whom surplus area is sold by the Developer shall apply to be the members of the Society on such terms and conditions as the Society may prescribe for its members.

5.1.2 All costs and expenses of the project right from the beginning to handing over the entire Proposed building, developed properties back to the Society are to be borne by the Developer, including but not limited to Corpus, Bank Guarantee, Stamp duty & Registrations fees for Society development agreement, Power of Attorney, individual agreements with the members as well as development agreement with the Society, and who has to give free of cost to the Society along with all other amenities, specifications mentioned in the annexure to the Bid document. The Developer shall execute the entire project as per specifications, design criteria and other stipulations as specified in this Bid document.

5.2 **Layout:**

5.2.1 The Society shall select the layout and scheme to be finally adopted by the Developer, the final decision of selecting the layout of new buildings will be entirely at the discretion of the Society. Developer may submit additional option of his own choice and shall submit proposed building layout plans of sale flats plans in detail.

5.2.2 The Society appointed its own PMC along with the legal adviser, etc. for advising it through the Managing Committee on relevant matters to facilitate approval to the proposals of the Developer at various stages. The expenses of these experts will be paid by the Developer as per the schedule of payment of fees of PMC as mentioned in the agreement between Society and PMC after the day of signing the development agreement. The Developer shall have to work in close coordination with these advisors to avoid delay and get appropriate proposals prepared from the team of consultants/advisors accordingly to save time. The members such as beams, columns, slabs and other structural members shall be adequately designed as per relevant IS Codes. It is the sole responsibility of the Developer to ensure that the structural design is accurate and as per standards and specifications. The work will have to be carried out as per specifications, design criteria and other stipulations in this Bid document and as would be indicated in the agreement/acceptance document. The successful Bidder will not be allowed to transfer his/its rights and obligations which accrue to him/it under the agreements with the Society.

The PMC appointed by the Society shall provide assistance from society side so as to obtain all the necessary approvals from Local Municipal Authority and other requisite State and Central Authorities for plans and designs prepared by him with the approval of the Society and the expenses shall be borne by Developer. All the various permissions such as sanction of plans and estimates including electrification and installation of lifts, separate transformer, from Competent Authority, external electric connections from MSEDL, water supply, bore-wells, and sanitary arrangements, internal roads, landscaping, street lights with solar panels, storm-water drains, safety measures such as firefighting, lightning conductor, tree authority approval etc. from Local Municipal and other Authorities and for obtaining such sanctions from the respective Competent Authorities, all fees /License fees, deposits etc. and costs for such sanctions shall be borne by the Developer. The decisions of the Society on all matter pertaining to this project including scrutiny of designs, supervision of works, quality control etc. during the project shall be final and binding on the Developer. The Developer shall ensure that there should not be any inconvenience, nuisance to the occupants/neighborhood in and around this complex during construction, as well as during the period till these are finally handed over by him.

5.2.3 The Prevailing rules and regulations as specified by the Local Municipal Authority shall be applicable for the project and the Developer shall ensure compliance of the same. All statutory permissions will have to be obtained by the Developer at his own cost from the concerned competent authority.

5.2.4 The specifications enclosed in Bid document are minimum for scope of the project. – The Developer has liberty only to improve/upgrade the specifications while submitting his offer. The Developer shall demolish the existing structures only after obtaining approvals of plans, commencement certificate and making arrangement of alternative accommodation and clear the site at his own cost. The Developer shall allow the concerned members to remove their fittings & fixtures, interiors, furniture etc. after which he shall be entitled to remove the remaining materials and dispose of the same as per his desire after clearing the site. The Developer shall carry out all investigations including locating service lines such as water-supply pipe line, bore-wells, SW drains, Sewerage lines, electrical and telephone lines, internet cables, Gas lines etc. and carry out shifting of these services at his own cost, temporarily during construction to keep them in service till permanent arrangements are made as a part of the project. The status of the approval of the drawings, approved by the Managing Committee, submitted by the Developer to NMMC/CIDCO shall be communicated to the Society from time to time.

5.2.5 Environmental requirement – The Developer shall take mitigative measures at his own cost during construction and till handing over the site to the Society, with a view to minimize environmental impact. The PMC will assist to obtain all these approvals from the Appropriate Authorities including disposal of debris and tree cutting (if any). Any other cost including the Govt. fees shall have to be borne by the developer.

5.2.6 Finally approved drawings and As-Built drawings of the structures duly approved by the competent authority should be submitted by the Developer to the Managing Committee in quadruplicate and on computer writable disc. The As-built and finally approved drawings shall be plastic coated also a soft copy of the same shall be submitted.

5.2.7 The Developer shall ensure that external outlook/elevations/Appearance finishes of all buildings (Rehab & Saleable) should be of the same quality & grade and there shall be no exceptions to these conditions.

5.2.8 The Developer shall enter into individual agreement with each member of the Society for permanent alternate accommodation addition to the agreement with the Society for the development and the developer shall bear all expenses like stamp duty, registration, brokerage & to and fro shifting charges to individual members as per the development agreement etc. and pay any other taxes as applicable from time to time on the development agreement as well as on the permanent alternate accommodation agreements. The concerned members' permanent alternate agreement shall be duly registered at sub registrar and stamp duty /registration charges/ Liaisoning expenses shall be made prior to execution of documents and after concerned member's consent for temporary transit accommodation.

5.2.9 The Society has appointed M/s. Urban Analysis & Solutions Consultancy Services as Project Management Consultant. The scope of work of the PMC is as mentioned in the agreement between society and PMC. This agreement is binding on the developer.

5.2.10 The Developer has to register the project in MAHA RERA and all provisions and procedures are binding on the Developer.

5.2.11 The Developer has to pay the maintenance of all the Non occupied flats to the society.

5.3 CONDITIONS AND GENERAL INSTRUCTIONS TO BE OBSERVED WHILE MAKING THE PROPOSAL:

5.3.1 The Developer shall carry out his own studies and assessment independently to arrive at the financial viability of the project. Similarly, he shall carry out his own field surveys and investigations including soil investigation and collect necessary data and prepare his own cost and time estimates for formulating the proposal. The bore log details and underground water test report are attached with this bid.

The successful Developer shall also take required no. of trial bore/trial pit before starting actual construction to reconfirm/ascertain correctness of founding level etc.

5.3.2 The Developer shall make his own arrangements for financing the scheme from his own resources and/or from open markets etc. No advance or Loans or subsidy or equity will be provided for the project by the Society. Also, project loan by keeping mortgage of society's land will not be allowed.

5.3.3 The Developer shall shift the all-existing utility lines such as water supply, external drainage, storm water drain, telephone and electrical cables, gas lines etc. as per requirement during construction as directed by the Managing Committee & PMC. The Developer shall obtain prior approval from concerned authorities regarding shifting of utility services. All expenses for shifting of utility services and obtaining necessary permissions from concerned authorities shall be borne by the Developer.

5.3.4 The Developer shall not be permitted to construct permanent structures other than those, which are ancillary and form part of the project. The location and the layout of these ancillary structures shall be approved by the Managing Committee /PMC before constructing the same.

5.3.5 The Construction of temporary structures such as site office, labour camp etc. for Developer shall be permitted after obtaining approval of the Managing Committee and other statutory authorities. Detailed plan as regards to space allocation shall be decided before commencement of temporary structures work on site. The temporary structures shall be dismantled within 30 days from the date of completion of project by the Developer.

5.3.6 The Developer shall make his own arrangements for the quarries at his cost, including obtaining the environmental clearances if required. The responsibilities of payment of royalty to the concerned department and other requirements of the concerned authorities are on the Developer.

5.3.7 It is clearly understood that the ownership of the proposed project as well as the land and any right shall remain with the Society. The Developer shall not be entitled to earn any revenue except by way of sale of the built-up area of the saleable component of the project.

5.3.8 The Offer shall be valid for a period of 120 days from the last date of submission of the Bid or for further extended period as may be required by the Society from time to time.

5.4 BID MEETING:

5.4.1 The Developers shall be free to ask for any additional information or clarification either in writing or orally and the reply to the extent possible shall be given by the Society, based generally on this, a Common Set of Amendments (CSA) will be issued which shall form part of the Bid Document (which will be common and shall be applicable to all Bidders).

5.4.2 The offer submitted by the Developers shall be based on The Bid documents.

5.4.3 Bidders are cautioned that conditional offers or offers containing any material deviation from the contractual terms and conditions and contract specifications and other requirements relating to the project as specified in The Bid documents shall be liable to be summarily rejected.

5.5 **INSURANCE:**

The Successful Bidder shall obtain sufficient Insurance coverage for his Organization for the purpose of carrying out demolition work, site preparation, construction work and completion of the project and safety of adjacent buildings, pedestrians and vehicles moving around the adjacent roads, during the entire project. The Bidder shall also obtain insurance for the entire redevelopment project. The above insurance coverage shall be in the joint name of the Society and the developer and take care of any injury to or loss of life of residents of the Society, visitors, Worker/s, technical nontechnical, managerial/otherwise and other damages and third- party risks. The Society shall not be held responsible for any kind of Loss or injury and further, indemnity to such extent shall be provided in the policy. Such policies shall be placed with the Society Duly Assigned. The policy shall also cover compensation likely to be paid under ESI Act and Workmen's Compensation Act.

5.6 **BANK GUARANTEE:**

The Successful Bidder, on acceptance of his offer by the Society, shall furnish performance guaranty, this will include an unconditional and irrevocable Bank Guarantee from Scheduled/Nationalized Bank payable at Navi Mumbai and EMD will become the part of guaranty for successful bidder. The terms & conditions of the Bank Guarantee shall be as per the format given by the society. The Bank Guarantee shall be valid and subsisting, for the period of the project and after expiry of defect liability period. If the Society intends to extend the time for completion of the project for any reason, the Bank Guarantee shall be extended corresponding to the extended period before the Society grants such extension of time. The Bank Guarantee shall be furnished in favour of the Society within the period prescribed by the Society. The Successful Bidder shall provide Bank Guarantee in order to ensure due performance of the Contract by the Developer. The Society shall be entitled to encash the Bank Guarantee on account of the following:

i. Non-completion of the project within the stipulated time or within the extended time or poor progress,

ii. Non-completion of the project on any ground whether within or beyond the control of the Successful Bidder,

iii. Non-observance of any of the Terms & Conditions of the Agreements to be entered into between the Society/its Members and the Successful Bidder.

If the successful Developer does not submit the Bank guarantee to the Society within the time prescribed and sign the agreement or pay the minimum guarantee amount in time, his earnest money shall stand forfeited.

5.7 **SCHEDULE OF COMPLETION:**

The Developer shall complete the entire project within 36 months from the date of obtaining the Commencement Certificate. The Agreement between the parties shall provide for the Terms & Conditions. Time shall be the essence of the contract. All the Rules & Regulations prescribed by various Authorities shall be binding on the Successful Bidder for the purpose of the Terms & Conditions to be observed by the Successful Bidder.

5.8 **MISCELLANEOUS:**

5.8.1 This contract in all respects shall be governed and shall be in accordance with the laws of India.

5.8.2 PMC charges shall be borne by the successful bidder as per the PMC agreement.

5.8.3 The Society, after acceptance of the Bid, and after observance of necessary formalities mentioned in this document, shall enter into a Development Agreement with the Successful Bidder.

5.8.4 The Successful Bidder shall be responsible to complete all the legal formalities before the start of the work. The Society shall be at liberty to incorporate appropriate and/or adequate terms and conditions in the agreement to be executed between the parties, only with a view to protect its interests.

5.8.5 The work shall not be considered as completed unless all the construction activities are completed to the satisfaction of the Managing Committee and the Developer has obtained unconditional and full occupancy certificate from Local Municipal Authority to the Society.

5.8.6 For any reason whatsoever, if the Developer stops construction of the Society's component of work, the Society reserves full rights to prohibit the Developer from construction of saleable component of work. The clause regarding mechanism for prohibiting the Developer will be incorporated in the Development Agreement and will be binding on the developer. The Developer shall complete the entire Society's component of work and handover the same as per approved drawings to the Society prior to handing over of Developers Area to the prospective purchasers. The Developer shall be allowed to use the saleable component in full or in stages only after handing over the Society's component of work.

5.8.7 Construction Schedule

The Developer shall after have a mutual discussion with the PMC submit a Bar chart to the Society for the construction activity to be carried out on the Said Property prior to the commencement of work. The Developer shall stick to the construction schedule. The developer shall discuss with the consultant the construction sequence and program to achieve completion of work as scheduled.

5.9 Sale of additional apartments by "Developer"

All sale agreements for apartments constructed for sale by "Developer" shall be tripartite agreements and signature of Society's authorized representative on all these sale agreements is a must in addition to that of "Developer" and "Buyer".

5.10 No differentiation in quality of apartments

All apartments under proposed redevelopment including ones that are for existing society members and others constructed for sale by "Developer" shall have identical specifications, amenities and facilities.

PART 6: PROFORMA FOR BID DETAILS

6.1 PROFORMA 'A'

PARTICULARS OF BIDDER:

Sr. No.	Description	Details
1.	Name of the Organization/Company/Bidder with year of Establishment & Commencement of Business.	
2.	Full Address of the place of Business with other offices, if any	
3.	Whether the Bidder is an Individual, Joint Stock Company, Undivided Hindu Family, Limited Company, partnership Company or Proprietary Firm	
4.	Name of Sole Proprietor/Partners/Directors with brief Bio-Data incorporating past experience.	
5.	Name of Person holding Power of Attorney	
6.	Telephone Numbers a. Office b. Mobile of Individuals c. Residence d. Fax Number e. E-mail Address	
7.	Website address	
8.	Name of Bankers with full addresses and telephone numbers	
9.	Amount of Solvency Certificate which the applicant holds with Nationalized/Scheduled Banks	
10.	Present arrangement/Organization setup and facilities Available in the office.	

Seal and signature of BIDDER

Name and Designation of Signatory

Date:

Place:

Note: Please furnish information of all the partners separately.

6.2 PROFORMA 'B'

DETAILS OF WORK OF SIMILAR TYPE CARRIED OUT BY THE DEVELOPER IN PAST WITH SUPPORTING DOCUMENTS.

NAME OF THE BIDDER: ----------

Sr.No.	Name of the work	Built up area	Cost in Rs. Lakhs.	Time in which completed with date of start of project	Date of handing over the flats to the Society members	Principle features including built up area in sq.mt	Remarks
1	2	3	4	5	6	7	8

.

Seal and signature of BIDDER.

Name and Designation of Signatory

Date:

Place:

Note: Give Information of all partners separately

6.3 PROFORMA 'C

DETAILS OF WORK/PROJECT TENDERED FOR AND WORKS IN HAND AS ON THE DATE OF SUBMISSION OF THE RE-DEVELOPMENT PROPOSAL WITH SUPPORTING DOCUMENTS.

Sr. No.	Name of work along with built-up area of project in Sqmt	Details of the Works in hands				Remarks
		Cost of Completed construction in Rs. Lakhs	Cost of remaining works in Rs. Lakhs	Date of start of project	Anticipated date of completion	
1.	2.	3.	4.	5.	6.	7

Seal and signature of BIDDER

Name and Designation of Signatory

Date:

Place:

6.4 PROFORMA 'D'

DETAILS OF DEVELOPER'S ORGANISATION STRUCTURE

Name of the Developer

Address

(Head Office)

Telephone No.

Fax No.

Local Office Address

Description of company

Registration and Classification

Name and address of Bankers

No. of years' experience

Name and address of Principals of Company to be Associated in the project and whether parent/ Subsidiary others.

Attach Organization Chart Showing the structure of the Company including names and Position of Directors and key personnel

Seal and signature of BIDDER

Name and Designation of Signatory

Date:

Place

Note: - In case of a Partnership Firm, separate forms to be used for each partner.

6.5 PROFORMA 'E'

FINANCIAL STATUS OF THE DEVELOPER

1. Name of the Developer:

2. Average Annual Turnover certificate during last three financial years, duly certified by CA.

3. The profit and Loss & turnover Statements of last three years

4. Networth Certificate it should be positive for last 3 years and Current Networth should be minimum Rs.25 Cr.

5. Developer's financial arrangements (Mention amount in Rupees)

a) Own Resource

b) Bank

c) Others (Specify)

6. Certificate of financial soundness from bankers of Developers Name address of Bank providing credit line/ Solvency certificate.

a) Solvency certificate from Nationalized bank

Note:

Where any particular item is not applicable it should be clearly mentioned as not applicable

6.6 PROFORMA 'F'

DETAILS OF

BANKER

Name of the Bidder: - ----------

Bidder should provide financial information required to demonstrate that meets the requirements stated in the eligibility criteria and to complete the project. If necessary, use separate sheets to provide complete information regarding the Bidder's Banker.

Name of Banker/s ----------
Address of Banker
Telephone Nos.
Name of the Contact Person, Title and his office and Mobile No.
Fax/ E-mail:

Seal and signature of BIDDER

Name and Designation of

Signatory Date:

Place

1.1.1 PROFORMA 'G'

LITIGATION HISTORY AND FINANCIAL LIABILITIES

Name of the Bidder: ----------

The Bidder, including each partner of a joint venture, should provide Information on any history of litigation or arbitration resulting from contracts executed in the last five years and currently under execution as well as details of any bank / financial liabilities/ charge/ debt if any on the firm or its sister concern or any of the partner in any other firm A separate sheet should be used for each partner of a Joint Venture.

Award for/ Against the Bidder	Name of the Client, cause of litigation and matter in Dispute.	Dispute amount (current value)	Actual amount awarded or decision or dispute	All pending litigations.

Seal and signature of BIDDER

Name and Designation of Signatory

Date:

Place

6.8 PROFORMA 'H'

DECLARATION FOR SITE VISIT

To,
Hon. Secretary,
Himgiri Co. Op. Housing Society Ltd,
Sector 03, Sanpada, Navi Mumbai – 400705.

Name of work: - Redevelopment of your society buildings.

I/we* hereby solemnly declare that I/We*have visited the site of work personally and have made myself/ourselves* fully conversant of the conditions therein and in particular the following:

I. Topography of the area.
II. Preliminary Geotechnical Investigation Report.
III. Sources and availability of construction materials.
IV. Rates for construction materials, water, electricity including all local taxes, royalties, GST etc.
V. Availability of local labour (both skilled and unskilled) and relevant labour rates and labour laws.
VI. Existing roads, approaches, pathways to the site of work.
VII. Space for stacking of materials, stores, office etc.
VIII. Trees, shrubs, bushes, debris etc. required to be removed for site clearance
IX. Need of dewatering/pumping etc.
X. Climatic conditions and availability of working days and working hours Law and order situation and availability of working days and working hours with respect to vicinity dwellers.
XI. Any other condition, which may affect the offer.
XII. Space for stacking of material, stores, offices, labour camp, maneuverings of men, material and equipment.
XIII. Existing service lines including underground MGL lines, MSEDCL lines etc which need to be taken care of. Also existing storm water and sewage discharge points and their invert levels.

I /We* have quoted my/our*Bid for various items in the Bid schedule taking into account all the above factors likely to be encountered during execution of the work. I/We*shall not be entitled for any claim against the Society for above or any other factors.

Seal and Signature of BIDDER

Name and Designation of Signatory

Date:

Place:

. * Strike out whichever is not applicable

PART 7:

GENERAL CONDITIONS OF CONTRACT

6.1 Singular and Plural

Where the context so requires, words imparting the singular shall also mean the plural and vice versa, throughout the BID.

6.2 Headings and Marginal Notes

Headings and marginal notes to the various conditions shall not be deemed to form part thereof or be taken in to consideration in the interpretation or construction thereof the contract.

6.3 Gender

Words imparting the masculine gender shall also include the feminine gender and vice versa.

6.4 Definition of various terms

The following words and expressions used in this contract and Invitation to Bid Specifications shall have the meaning hereof assigned to them except where assigned to them and the context otherwise requires.

6.5 Developer:

Developer is an agency comprising of an individual or group of individuals, a partnership firm, a registered firm, a company registered under Companies Act, 1956 for undertaking the work of re-development and shall include their legal representative, Employees and workmen engaged on the work.

6.6 The Society:

The Society shall mean Himgiri Co-Op Housing Society Ltd, Navi Mumbai functioning through its General Body (Managing Committee in respect of certain delegated powers).

6.7 Managing Committee:

The "Managing Committee" (MC) shall mean the Managing Committee of the Society constituted in accordance with Bye-laws of the Society from time to time and to carry out on its behalf the affairs of the Society from time to time and to carry the functions related to the project as maybe specifically assigned to it by the Society.

6.8 Redevelopment Committee:

The "Redevelopment Committee" (RC) shall mean the Redevelopment Committee of the Society constituted by the Society and to carry out on its behalf from time to time the functions related to the project as maybe specifically assigned to it by the Society.

6.9 Architect:

The "Architect" shall mean the person appointed by Developer for redevelopment as its Architect to advise it on architectural matters of the project.

6.10 Structural Engineer/Advisor:

The "Structural Engineer" shall mean the Structural Engineer engaged by Developer to advise it on structural design and related matters of the project and so informed to the Developer by the Managing Committee.

6.11 Legal Advisor:

The "Legal Advisor" shall mean the legal expert/firm engaged by Developer to advise it on legal matters of the project and so informed to the Developer by the Managing Committee.

6.12 Project:

The "Project" shall mean the works of re-development of the Society to be executed in accordance with this Bidding document/agreement and shall include extra or additional, altered or substituted, ancillary works as required for the performance of the agreement. The same shall include development of site, buildings, infrastructure, amenities etc. on the Society's land both for the Society's component as well as saleable component.

6.13 Project Cost:

Project cost shall mean the cost incurred by the Developer in survey/investigation/studies, planning, designing, construction and commissioning of the project as well as internal water supply and sanitary arrangement, internal roads, storm water drainage, street lighting, concrete paving around building wherever required, transformer if required, landscaping, maintaining environmental conditions, arboriculture including cost towards dismantling existing structures if any, shifting and relocation of existing utility services/such as water supply, sewage, drainage, telephones, electric lines, water harvesting, solar system (common area), Mahanagar Gas, etc. as may be required for satisfactory completion of the project to be in conformity with the scope of the project, cost of relocating members temporarily if required, including license fees to be remitted to Competent Authorities for sanction of plans & estimates, electrification, provision of lift, firefighting arrangements/external water supply and sanitary arrangement, completion certificate from respective authorities etc., and consulting charges of consultants appointed by Society. The. Cost of purchasing FSI, development of open grounds, internal pathways/roads etc. shall be borne by the Developer. The cost will be incurred by the Developer as well as cost of premium to purchase any additional FSI available due to Govt. Notification corresponding to above area. Cost of professional fees for project management consultant, etc. to be paid as per the agreed terms. The project cost shall include cost for all above-mentioned activities and the same would be deemed to be inclusive of Developer's profit, interest on investment, escalation due to variation in price indices, cost of insurance cover and all taxes and levies, if any, during construction. Cost of CRZ clearance if applicable also shall be borne by developer.

6.14 Temporary works:

The Temporary works shall mean all works of every kind required for or in Connection with execution of the work but which will not form part of the works, to be undertaken and dismantled after completion of work and site cleared by the Developer at their own cost, risk and consequences.

6.15 Local Municipal Authority:

Local Municipal Authority shall mean Navi Mumbai Municipal Corporation or any other authority designated by the government under M.R.T.P. Act in whose jurisdiction the work/project is taken up.

6.16 D.C Rules:

D.C. Rules shall mean the UDCPR or Development Control Rules and Regulations of Local Municipal Authority or any other Authority designated by the Government under M.R.T.P. act as amended from time to time.

6.17 Competent Authority:

Competent Authority shall mean all the sanctioning authorities in respect of project work such as Local Municipal Authority, CIDCO, MSEB or equivalent authority, MSEDL Power or any other Power Company, Electrical Inspector, Lift Inspector, Revenue Authorities, Tree Authority, Civil Aviation Department, Ministry of Environment and Forests, Defense Authorities, Regional Development Authority, MMRDA/MRTS or Govt. of Maharashtra /Govt. of India etc.

6.18 Government:

Government shall mean the Government of State of Maharashtra / Central Government.

6.19 Defect Liability Period:

Defect Liability Period shall mean such period as mentioned in clause 7.61 during which the rectification of the defects pointed out to the developer by the Managing Committee/ member shall be carried out by the Developer. Such defect liability period shall be reckoned from the date of handing over the completed buildings to the Society for occupation and use.

6.20 Carpet Area:

The definition of Carpet Area would be clear internal finished wall to wall Dimensions of the flat including door jams & which does not include flowerbed, dry yard, wall skirting, etc.

6.21 Contract:

Shall mean the Agreement papers, details of the Company/Firm, all the Proforma, bid document together with the letter of Intent and any other documents specifically indicated herein and the formal agreement executed between the developer and Society. All these documents taken together shall be deemed to form one contract and to be part of each other.

6.22 Letter of Intent

Shall mean intimation by a letter to BIDDER that the Bid has been accepted in accordance with the provisions contained in the letter.

6.23 Works:

Shall mean and include all works to be executed in accordance with the Contract or part(s) thereof, as the case may be and shall include all extra or additional, altered or substituted works as required for satisfactory performance of the contract.

6.24 Site:

Shall mean the land and/or other places, on which the Society is standing, in or through which the work is to be executed under the contract or used for the purposes of contract.

6.25 Approval of the Society/PMC:

Shall mean the written Approval of a document or other particulars or matters in relation to the contract by the Society/Engineer in-charge of PMC.

6.26 Scope of Work:

Shall mean the totality of work by expression or implication envisaged in Bid document, discussions, negotiations, if any, all communications, exchanged between the Society and Developer and shall include all materials and labour for all relative or incidental or in connection with the commencement or performance or completion of any work and/or for incorporation to the work. The Developer shall provide new flats on ownership basis free of costs to all the existing members of the Society which is complete in all aspects of modernity and there should not be any loss.

6.27 Approved:

Shall mean approved in writing including subsequent written confirmation of previous verbal approval and approval, means Approval in writing including as afore said.

6.28 Final Completion

shall mean when the Works included in the Contract have been completed in all respects as per the specifications, drawings, directions, and the Site has been cleared including the removal of labour camps, and all other facilities put up by the Developer for the execution of Contract and all the new flats made ready and fit and complete with all the utilities in proper functioning order for occupation with the "Occupation

Certificate" (OC) for all the phases of the Project granted by required Competent Authority, and installation of all amenities and ancillary structures in good and proper working condition.

6.29 Mobilization

shall mean establishment of sufficiently adequate infrastructure by the Developer at 'Site' comprising of construction equipment, aids, tools and tackles including setting up site offices, with facilities such as power, water, communication, etc. establishing manpower organization comprising of Engineers, supervisory personnel and an adequate strength of skilled, semiskilled and unskilled workers, who with the established infrastructure shall be in a position to commence execution of work, in accordance with the agreed time schedule of completion of work.

6.30 Specifications

Shall mean the schedules, technical specifications, detailed designs, statements of technical data, performance characteristics and all such 'Particulars' mentioned as such in the Contract pertaining to the method and manner of performing the Works or to the quantities and qualities of the materials to be furnished under this Contract, and shall include any modifications that may be made to the same. The same shall also include the latest editions including all addenda, corrigenda for relevant Indian Standard Specifications or other relevant codes.

6.31 Test

Shall include all tests made without releasing the Developer of his liability, as may be considered necessary by the Society or his representative in order to ascertain the quality and efficiency of the Contract Work or part thereof and material tests in particular.

6.32 Completion Certificate

Shall mean the certificate to be issued by Society upon receipt of Occupancy Certificate in respect of all phases of the Project, submission of all authority approved, statutory and legal documents for the entire redeveloped property issued by the concerned Competent Authority, and after installation of all amenities and ancillary structures in good and proper working condition, and after the Society determines that Final Completion has been achieved.

6.33 Urgent Works

Shall mean the urgent measures which in the opinion of the Society's Consultant become necessary during the progress of the work to obviate any risk of accident or failure or which become necessary for security.

6.34 Time Being Essence of Contract

On this job the timely completion of work is of prime importance and the work shall be completed within the stipulated period. The Developer should add hereto his action plan and work schedule as mentioned in above point, as it is deemed to be the essence of the contract on the part of the developer. The Developer has to agree that the work shall be commenced and carried on in the order or precedence as may be directed by the Society/Society's PMC. The progress of work shall be checked at regular intervals based on PERT / CPM chart submitted by Developer within one month of signing DA. Developer shall submit to the Society with a copy to the Society's PMC, progress report every fortnight indicating time progress of the work. Written Communication

Any communication by either or all the three parties' viz. Developer, Society's Consultant and Society shall always be in writing. Any verbal communication unless confirmed in writing, will have no binding on any of the parties and will not be accepted for any reason whatsoever.

There are no other understandings between the parties other than as set forth in the Contract. All communications made prior to the date of contract are hereby abrogated and withdrawn unless such communications are made part of the Contract.

6.35 Developer to Preserve Peace

The Developer shall, at all times during the progress of the work, take all requisite precautions and use his best endeavors for preventing any riotous behavior by or amongst the workers and other employed on the works and for the preservation of peace and protection of the inhabitants and the security of property in the neighborhood of the works.

Minimum Third-Party Insurance

Rs.1,00,000/-for single accident for maximum of 05 accidents initially and to be renewed as required. Before commencing the execution of the works, the developer shall insure against his ability of any material or physical damage, loss or injury which may occur to any property, any employee of the Society, Resident/Occupant of Society/visitor to the Society and Society's Consultant and their representative, arising out of the execution of works or in carrying out of the contract. Such insurance shall be affected with an insurer and on the terms approved by the owner or Society's PMC. The policy or polices of insurance and the receipt for the payment of the current premiums shall be deposited with the Society by the Developer. The developer shall also indemnify the Society, its office bearers and managing committee of any consequence arising out of not insuring his workmen and if any untoward incidents happen.

6.36 Taxes

The Developer shall pay the necessary Income tax, sales tax, Works Contract tax, GST wherever applicable, E.S.I.C. and all other governments' dues such as stamps duty, if any. The certificates for the same shall be submitted to the Society along with documentary proof. The developer shall always indemnify the Society for any lapses on the part of developer to pay any taxes even after completion of work. All charges on account of Octroy/terminal or sales tax and other duties on material obtained for the work from any source including the tax applicable as per Maharashtra Sales Tax including action of transfer of property in the goods involved in the execution of works contract (reenacted) Act 1991 etc. shall be borne by the Developer.

6.37 Completion Certificate and Final Completion Certificate

As soon as the work is completed, the developer shall give a notice of such completion to the PMC with a Copy to the Society and within 7 days of receipt of such notice the PMC and Society shall inspect the work and then the Society shall furnish the developer with certificate of completion in fully satisfied, indicating the date of completion. In case, there are defects yet to be rectified, the Society shall communicate the same to the Developer. Final Certificate of Completion shall be issued when the completion of work shall be up to the satisfaction of the Society. Further, no certificate of completion shall be issued, nor the work can be considered to be completed till the developer rectifies all the defects and also removes from the premises on which the work has been executed, all scaffolding, sheds and surplus materials, rubbish and all huts and sanitary arrangements required for his workers on the site in connection with the execution of work, as shall have been erected by the developer or the workmen and cleaned all dirt from all parts of the building upon or about which the work has been executed thereof and cleaned floors/gutters and drains, eased doors and sashes, oiled lock and fastening, labelled the keys clearly and handed them over to the Society and made the whole premises fit for immediate occupation or use to the satisfaction of the Society and its Consultant. The work shall not be considered complete until the Society has certified in writing that they have finally completed the work to their satisfaction.

6.38 The 'Defect Liability Period' as mentioned below shall commence from the date of final completion certificate issued by the society subject to receipt of Occupancy Certificate.

6.39 Temporary Office on Site and Facilities

The Developer shall, at his own cost, provide separate, suitable, proper and water proof temporary office of minimum 200 sq.ft area with doors, windows, locks, bolts and proper amenities/facilities with fastening security of the Society and the Society's Consultant and his subordinates as close to the works.

The developer shall also have his office at the premises and have a clerk or some other authorized person always present at such office, upon whom, any required notices may be served and service of any notices left with such clerk or other authorized person or at such office shall be deemed good service upon the Developer.

6.40 Sanitation

The developer shall, at his own cost, make all necessary provisions for health and safety of his work men. He shall, when required by the Society's consultant, provide proper latrines and urinals as per 'Model Rules for the Protection of the Health and Sanitary Arrangements for workers employed on its contracts and shall take all steps necessary to compel his work people to resort to such latrines and urinals. Developer shall provide adequate water supply for the use of laborers. Developer shall make arrangement for the treatment of sewage by providing septic tanks and for draining away sewage water. Rules and Regulations in regards to sanitation of local authorities shall be made applicable to the developer and all the cost and any local taxes there of shall be borne by the developer. All charges on these accounts shall be borne by the developer.

6.41 Debts and Loans

The Developer shall not be entitled to raise any financial assistance/Loans from the banks/financial instructions or any other person by offering the said plot or part thereof as security.

The Developer is required to furnish to the Society from time to time during the progress of the work as requested, verified statement showing the developer's total outstanding indebtness in connection with the work covered by this Contract.

6.42 Material obtained from Excavation

All soil, filth and other matter of an offensive nature taken out of any excavation trench, sewer drain, cesspool, or other place shall not be deposited on the surface but at once carted away by the developer. He shall completely remove and satisfactorily dispose of all rubbish resulting from the operation under this contract and shall do all the work necessary to restore the territory embraced within the site of his operations to at least as good order and conditions as at the beginning of the work. The developer shall remove the excess earth, shuttering and scaffolding material from the work site as and when instructed by the Society/Society's Consultant.

6.43 Use of Society's Land

The developer will be allowed to use a portion of the site defined and/or marked onsite plan free of charge for the temporary purpose of sheds, offices thereon for themselves and the Society/Society's Consultant and his subordinates, and shall remove the same from the ground at the completion of the works, or when required to do so by the Society/Society's Consultant after receiving 7days' notice. He shall not use or allow to use any such ground, shed or office or any portion of the site of the works, for any purpose other than the carrying out of works under this BID.

The developer shall, in such case, pay all taxes, which have to be paid in respect of all ground sheds or offices used as above and all the license fees/etc., that may be demanded for the storage or otherwise under the various laws as per rules in force.

The developer shall provide, if necessary or required, on the site, all temporary access thereto and shall adopt and maintain the same as required from time and shall take up and clear them away as and when no longer required and make good all damage done to the site.

6.44 Right of entry

Society and its Consultant or its representative shall always, have free access to the works and/or other place where materials are being prepared for construction for the contract and also at any place where the materials are lying or from which they are being obtained. The Developer shall give necessary facility to the Society and its Consultant or its representative for inspection, examination and testing of the materials and workmanship even to the extent of discontinuing portions of the work temporarily of taking down portions of finished work.

If any work is to be done at a place other than the site of the works, the developer shall obtain written permission of the Society for doing so. Except the representative of public Authorities, no person shall be allowed on the works at any time, without the written permission of the Society.

6.45 Storage of Explosives

No inflammables/explosive within the meaning of Indian Petroleum Act, Indian Explosive Act or any other similar regulation shall be allowed to be stored at the site or within half a kilo meter of limit of the site. If required, Developer shall do so, under requisite license and with all precautions in compliance with the relevant acts.

6.46 Access for Inspection

The Society has a right to ascertain the happening of any contingency/including but not limited to the contingencies listed below, which would vest in the Society certain powers including, but not limited to, taking possession of the work so far as it has been performed and to completing the work either by himself or by employing some other Agency, retaining property of the Developer such as, materials, plant or money already due to the Developer.

6.47 Assign and Sublet

The developer shall assign, transfer or attempt to assign transfer the work and any part thereof or any benefit or interest therein or there under including creation of Charge in favour of any third party with prior approval of the Society. If the developer sublets the contract to any of the third party without prior approval of the Society and if the same is brought to the notice of the Society, then the initial security submitted by the developer will be forfeited and the Bank Guarantee will be invoked without prejudice to other remedial measures available to the Society. Such forfeiture and invocation shall not be construed to be by way of a penalty, but shall be considered a fair and reasonable compensation to the Society in view of the default and breach of this material obligation by the Developer.

6.48 Uncovering and Making Good

The developer shall uncover any part of the works and / or make opening in or through the same as the Society/Society's consultant may from time to time direct for verification and shall reinstate and make good such part to the satisfaction of the Society/Society's Consultant. All such expenses shall be borne by the developer.

6.49 Maintenance of Underground Utility Services

All the underground utility services such as water pipes, gas pipes, drains, sewers cable etc. which may be met up or about any excavation, shall if the Society's PMC deems it practicable, be properly maintained and protected by the developer himself or through other agency by means of shoring, strutting planking over, padding or otherwise as directed by the Society's Consultant during the progress of the work. Any damages to these underground utility services shall be immediately remedied by the developer or by other agency at developer's own cost, failing which, the Society's Consultant may without notice, adopt such measures as he may deem necessary at the risk and cost Developer.

6.50 Fencing, Watching and lighting

The developer shall provide and maintain at his own expense, all lights/guards, fencing and watching when and where necessary or as required by the Society for the protection of the works. In the event of failure on the part of the developer, the Society's Consultant may, with or without notice to the developer, put up a fence or improve a fence already put up or provide and/or improve the lighting or adopt such other measures as he may deem necessary, and all the consequent cost as may be incurred by the Society PMC shall be recovered from the Developer.

6.51 Treasure Trove, Fossils etc.

All fossils, coins, articles of value of antiquity and structural and other remains or things of geological or archaeological interest discovered in or upon the site shall be the absolute property of the Society and the developer shall duly preserve them and shall take precautions to prevent his workmen or any other person from removing or damaging any such articles or things and shall immediately upon discovery thereof and before removal, acquaint the Society with such discovery and shall from time to time deliver the same to such person, or person as the Society may from time to time appoint to receive.

6.52 Protection of Trees and Eco-Friendly Development

Trees designated by the Society's Consultant shall be protected from Damage during the course of the work and earth level within one meter of each such tree shall not be changed. Where necessary, such trees shall be protected with temporary fencing. All such costs shall be borne by the Developer. Further, the Developer shall comply with all the other rules and regulations with regards to ecofriendly development.

6.53 Name Board

The Developer shall display clearly on a display board the name of the works, the name of the Developer and the name of the Society's PMC for the full duration of the works only after execution of definitive agreements.

6.54 Developers Personnel

6.54.1 Developer's Senior Representative for Execution and Coordination of works

The Developer shall have on site at all times during working hours throughout the course of the work at least one competent senior representative who shall be qualified as approved by the Society/Society's PMC and who shall be empowered to make decisions binding on the Developer in respect of all matters likely to arise in connection with the execution and coordination of the Works at site and the developer shall keep the Society's PMC and the Employer informed at all times about the name and designation of such representative. Any directions, explanations, instructions or notices given by the Society/Society's PMC to such representative shall be held to be given to the Developer.

6.54.2 Developer's Employees

The Developer shall provide and employ after approval from the Society PMC on the site in connection with the execution, completion and maintenance of the works, all Engineering staff/ technical assistants as are qualified. Skilled and experienced in their respective trades, foremen and leading hands as are competent to give proper supervision, ensuring quality and output to the work they are required to supervise, and also such skilled, semi-skilled and unskilled labour as are necessary for the proper and timely execution, completion and maintenance of the works.

6.54.3 Removal of Developer's Employees

The Developer shall on the direction of the – Society/Society's Consultant immediately dismiss from the works any person employed thereon by him who may, in the opinion of the Society/Society's Consultant, be incompetent or commits any misconduct and such person shall not be again employed on the works.

6.54.4 Unauthorized Persons

No unauthorized persons are to be allowed on the site. The Developer shall instruct all such persons to keep out and shall take steps to prevent trespassing.

6.55 TECHNICAL CONTROL OF THE WORK

6.55.1 Entire Project Work

a. The Managing Committee with the assistance of Society's PMC under whose direction, and control the work shall be carried out by the Developer. The Managing Committee shall be the final authority on all technical matters. In case of disagreement the decision of the Managing Committee shall be final and binding on all such matter on both parties. The Developer shall comply with all the instructions of the Managing Committee for achieving proper control on the quality and progress of the project. The work shall be treated as completed only after a full completion certificate is issued by the Managing Committee on satisfactory completion of the works in all respect and clearance of site and after the Developer obtains occupation certificate and building completion certificate from competent authorities.

b. The Managing Committee with the assistance of PMC appointed by the Society shall be the competent authority for approval of plans prepared by the Developer. The Developer after getting approval of the Managing Committee shall obtain necessary approval from Local Municipal Authority and other authorities.

c. The Managing Committee shall co-ordinate all the activities pertaining to the execution of the project concerned with the Developer/other Government Organizations/Society's Consultants as may be necessary and shall exercise overall control on the execution of work.

d. No work on any component shall be started without obtaining prior approval of the Managing Committee.

6.55.2 Additional requirements for Saleable Component of the Work

A. For the Saleable component of buildings to be constructed by the Developer on the Society land to be sold by him, the Developer shall construct with the per the works specifications for construction in conformity with the requirements laid down in UDCPR of the Local Municipal Authority and other competent authorities.

B. The Developer shall be solely responsible for obtaining sanctions for saleable component of work, specifying in detail the nature of use from the Local Municipal Authorities. The Society will approve the nature of use of this component of works and shall monitor/supervise the same. The Developer shall ensure that nature of use of this component of work shall not amount to inconvenience, discomfort, nuisance, hazards to public or Society and its members. It shall not create any security problem in premises. While selling his component of work, it is the responsibility on the part of the Developer not to change/alter use of the premises by the purchasers.

C. It will be the responsibility of the Developer that all requirements such as structural designs/quality control/minimum specifications etc. Conforming to D. C. Rules of the Local Municipal Authorities etc. and sound engineering practices are ensured either by way of in-house arrangement or through supervision/structural consultants approved by Society. No work or component of work shall be started without getting approval from Local Municipal Authority and/or from Component Authority as may be necessary Copies of all such approvals obtained by the Developer from various authorities starting from commencement to occupation certificate shall be submitted to the Managing Committee for record.

D. The Developer shall not be entitled to assign or transfer the project in part or full to anyone else, or create any third-party rights unless and until approved by the Managing Committee in writing.

6.56 OTHER CONDITIONS:

6.56.1 General:

I. The Developer shall be deemed to have carefully studied the work and site conditions, specifications, schedules and drawing and various other data and shall be deemed to have visited the site of the work, carried out his own inquires and measurements and to have fully acquainted himself regarding the local conditions and the surroundings including market conditions of real estate etc. He shall be deemed to have carried out his own surveys, investigations, and assessment of site conditions. He is deemed to be fully aware of all statutory requirements including those concerning labour rand the local conditions/status or availability and employment of laborers. He shall be deemed to have his own assessment of present and future market. The data given by the Society is made available in good faith only for general information without any commitment or responsibility on the part of the Society about its accuracy. The Developer shall accordingly work out his proposal.

II. The Developer shall submit within the time stipulated to the PMC in writing the detailed methodology that would be adopted for the execution of any item and obtain its approval to the same in advance before starting the work.

III. The Developer shall also submit the programme of work indicating the date of actual start with monthly planning to the PMC. The developer shall complete the entire project within the time limit and as per agreed timetable for salient milestones, failing which he shall render himself liable to pay liquidated damages to the Society. In the event of non-completion of the project within the stipulated/extended time, the Society and its members shall be at liberty to encase the bank Guarantee as mentioned in this Bid Document or to accept the liquidated damages as stated in this clause. Action plan for covering back log of progress of actual work with respect to planned work in the subsequent month of activity from time to time.

IV. The Society's PMC shall receive orders as shall be given by the Managing Committee and shall be binding on him for carrying them out. The Site Order book shall be maintained on the site, which shall be the property of the Society and Resident Engineer of Developer shall promptly acknowledge the orders given therein by the Managing Committee.

V. The required quality control tests conforming to the various Indian Standard Codes shall be carried out by the Developer at his own cost and the results the same shall be carried out by the Developer in field laboratory, established on work site. At least twenty percent tests shall be carried out in Govt. laboratory or any other approved laboratory as per directions of Engineering Consultant of the Society.

VI. The Developer at his own expense shall make arrangements for housing, supply drinking water, and provide latrines and urinal at the locations, for his staff with all necessary amenities and protective measures. He shall take all necessary precautions for safety of the workers and preserving their health while working on this project.

VII. The Developer shall indemnify and save harmless the Society against all actions, suits, claims and demands including non-observance of prevailing laws, rules and regulations, infringement of patent rights brought or made against it in respect of anything done or omitted to be done by the Developer in connection with the work and against any loss or damage to the Society in consequences of any action or suit being brought against the Developer for anything done or omitted to be done in the execution and maintenance work.

VIII. The Developer shall make all arrangements at his own cost for safety and security measures and take all precautions against damages, from accidents of his plant equipment, material, constructed/under construction structures and the staff working on the project as also the entire site. The Developer shall comply with all rules and regulations, bye-laws and directions given from time to time by competent authority in connection with this work and shall pay all fees, which are livable for the project.

IX. The PMC shall check each and every component of work for quality and only upon certificate from the Society to that effect, the slab shall be considered completed without any defect.

X. In the event of discovery by the Developer or his employees during the progress of the work of any treasure, fossils, minerals, or any other article of value or interest, the Developer shall immediately intimate the Managing Committee of such treasure or things which shall be the property of the Society.

XI. The Developer shall provide a temporary office of minimum 200 sq. ft area with suitable partitions etc. at suitable location for the use of Society's field staff and a separate office for consultants, free of cost on the site of work. The office shall be provided with all amenities, furniture, fixtures and fittings etc. required for a good office.

XII. The Developer after completion of the work and obtaining Occupation Certificate from NMMC/CIDCO, or on termination shall clear the site of all debris and remove all unused materials, plants, machinery, equipment, tools etc. The Developer shall also clear the site of all temporary structures, site office, labour camps, utility lines etc., constructed/erected for execution of the project and obtain a letter to this effect from the Managing Committee. The work shall be treated as complete only after relevant completion Certificate is issued by the Managing Committee on satisfactory completion of all works in all respects and clearance of site.

XIII. The Developer shall bear all the market risks and financial burden due to any future changes in legislation and rules and regulations involving extra cost in fulfilling his obligations under this contract. Provided that any extra benefits of FSI etc. accruing to the Society due to future legislative changes or changes in rules and regulations shall belong to the Society without any sharing with the Developer. All of above noted benefits including FSI will be proportionately shared with the members of the Society.

XIV. The Developer shall incur all costs of legal matters of the Society that might arise during the course of this project.

6.57 FORCE MAJEURE:

If at any time during the execution of the project, the Developer is not able to proceed with construction/ completion of the project beyond a period of one month due to any reason beyond his control as mentioned below, the Developer shall get extension of time to proceed with the project work in case of occurrence of such events; the period of extension being assessed by the Society as reasonable and necessary. Such extension of time shall be considered by the Society only after the Developer has provided a written notice of a Force Majeure occurrence within one month of the occurrence of the event (the issue of which notice within the stipulated time period shall be considered a mandatory pre-requisite), providing therein detailed reasoning as to the actual impact or deterrence being caused due to the Force Majeure event on the execution and progress of the Works. Apart from grant of suitable extension of time, no other claim shall be considered or available to the Developer, including but not limited to towards escalation, losses, additional expenses, revision in commercial terms etc. /'Force Majeure means any, including, without limitation, of following events or circumstances or combination of events and circumstances.

1. Act of war or hostilities (whether declared or undeclared), invasion, armed conflict, or act of foreign enemy, blockade, embargo, revolution, riot, insurrection, insurgency, terrorist or militant action, sabotage, or civil commotion of the threat of any of the foregoing.

2. Acts of God and earthquakes in Thane and Raigad district of intensity more than 6.0 on Richter scale.

3. Any event or circumstance of a nature analogous to any of the foregoing occurring in India which materially affects either party adversely with the terms of the contract, but only if and to the extent that such events and circumstances are not within reasonable control, directly or indirectly/if such Affected Party, despite the exercise of reasonable diligence, is unable to foresee, prevent, avoid, mitigate or remove such event of Force Majeure."

6.58 WORKMEN:

i. The Developer and his subordinates/representatives/agents shall comply with the latest provisions of the Minimum Wages Act, 1948 and rules made there under in respect of any employee employed by him on this project including the ancillary works and the provisions of various Acts and Laws relating to employment and welfare of all workmen employed by the Developer including Workmen's Compensation Act/1923 and relevant laws.

ii. The Developer and his agents shall comply with all sanitary rules and carry out all sanitary measures that may, from time to time be prescribed by Government, local bodies and permit inspection of all sanitary arrangements at all times by the Managing Committee's Representative.

iiï. The Developer shall provide medical facilities at the site as may be prescribed by the Managing Committee in relation to the strength of the Developer's resident staff and workmen, directly or through petty contractors or sub-contractors employed on the work.

6.59 ESCALATION:

The Developer shall not change the offer and/or any of the items mentioned in the offer on account of escalation in cost of the project on account of delay in completion of the project. The Developer is advised to calculate the project cost by considering variations in future prices until completion of project.

6.60 DEFECT LIABILTY PERIOD:

Defect liability period for all components of the project except water proofing works shall be 05 (Five) year respectively for each building differently from the date of issue of completion certificate and 10 years for water proofing work of any type. If during the defect liability period, the said work is found to be defective in any manner whatsoever, the Developer shall forthwith on receipt of notice in that behalf from the Society/Managing Committee, duly commence, rectify the work at his own cost in every respect. All the works that may be necessary for rectifying the defects specified therein, including dismantling and reconstruction of defective portions strictly in accordance with and in the manner prescribed and under the supervision of the Managing Committee, shall be completed within 30 days from the written notice given by it or as directed by the Society. In the event of the Developer failing or neglecting to carry out the said rectification work, the same will be carried out by the Managing Committee at the risk and cost of the Developer, which risk and cost amounts may, at the sole discretion of the Society, be recovered from the performance guarantee retained with the Society. If such cost so incurred by the Society exceeds the amount of Performance guarantee, the difference between the performance guarantee and expenditure incurred by the Society shall be recovered from the Developer as admitted debt due by the Developer to the Society. Defect liability period to be considered building wise and as per the Completion schedule.

In case of any defects in the buildings constructed for sale by the Developer, the entire responsibility lies with the Developer only. The Society will not be responsible in any way for any defects or their rectification. However, if such defects endanger the safety/serviceability of Society's component of work, the Managing Committee will be free to take appropriate action as deemed fit. After the purchasers of saleable area become members of the Society, the Developer shall be responsible for the balance period of defect liability to the Society.

All types of permissions from Local Municipal and other statutory Authority for the entire project shall be obtained by the Developer. The charges towards various permissions shall be borne by the Developer. All statutory permissions regarding Society building shall be obtained in the name of the Society and submitted to the Managing Committee.

6.61 MISCELLANEOUS:

a. The Developer shall provide separate electrical metered connections for each residential flat. The permission from MSEDL for electrical connection shall be obtained by the Developer for the whole project. The charges in this regard shall be borne by the Developer. The required documentary assistance will be

Provided by the Society as and when necessary. The Electrical substation/transformer for Society component and saleable component on land/built up area shall be provided independently at the Developer's cost if necessary.

b. The water supply system shall be provided by the Developer as per approved design and carried out as per standard specifications mentioned in the Standard Specification Book of Public Works Department. The Developer shall provide separate connections for buildings of Society's component with internal and external water supply connections. The necessary permissions from Local Municipal Authorities shall be obtained by the Developer. The plans of distribution of water line, pumping system, overhead tank etc. shall be approved from the Managing Committee as well as the Local Municipal Authorities by the Developer. The charges for these sanctions shall be borne by the Developer.

c. The Street light arrangements inside the entire complex and area lighting around the buildings/ complex shall be carried out by the Developer as per approved plan. The Street light arrangement shall be independent for Society's component and saleable component of work, the former not being inferior to the latter. All common lighting shall be solar powered.

d. The Developer shall be responsible to connect external drainage and sewerage lines, storm water drains, etc. to the main drainage line of Local Municipal Authorities.

e. All types of municipal taxes and levies pertaining to Society's part of the building during the period till the completion certificate referred to above obtained by the Developer shall be borne by the Developer and there after the same shall be borne by the Society after taking over possession of the completed buildings. As regards the taxes for saleable component of work, the Developer shall be fully responsible for payment of such taxes and other outgoing till all the occupants become members of the Society.

f. The Developer shall complete the entire project and hand over the component for use by present members of the Society including infrastructure etc. after obtaining completion certificate, within 36 months from the date of obtaining the first commencement certificate.

g. Failure of the Developer to complete the works within the above-mentioned time limits shall render him liable to pay liquidated damages.

h. The Bank guarantee less deductions/recoveries if any shall be returned/ released to the Developer as per the table given below:

Sr. No	Percentage of Bank guarantee to be released	Period after completion of whole project & handing over as per completion certificate issued by PMC
1.	Up to 90%	01 month subject to possession of flats
2.	10%	05 years after the Occupancy Certificate

In the event of encashment of Bank guarantee by Managing Committee, the Developer shall within 30 (thirty) days of encashment notice furnish to the Managing Committee Fresh Bank Guarantee failing which, the Managing Committee shall be entitled to terminate this agreement in accordance with the provisions of this contract.

The land/built up area along with construction made thereon in good condition shall be handed back quickly and peacefully to the Society after completion of the Project, without any liability to the Society.

j. The Developer shall request the Managing Committee to issue a certificate of completion of works along with no claims certificate. After receipt of such request the Managing Committee shall take suitable action within 30 days. A joint inspection shall be carried out before issue of completion certificate and the Developer shall rectify all defects and carry out all tests suggested by the Managing Committee within specified period.

The Developer shall ensure that the work has been completed satisfactorily as per specifications and that all clearances have been obtained from the competent authorities before requesting for completion certificate.

6.62 LIQUIDATED DAMAGES FOR DELAY

a) If the Developer fails to execute, complete and deliver the work within the specified time, including with respect to any construction milestones as per the construction schedule to be submitted, he shall pay to the Society as and by way of compensation at the rate of (0.5%) i.e. ½ % (half percent)] of the total Project Cost for each week's delay or part thereof, beyond the agreed date of completion specified in the contract, provided that the amount to be paid under this clause shall not exceed 20 percent of the total Project Cost.

b) Society may, without prejudice to any other method of recovery, deduct the amount of such damages from security available with the Society, including but not limited to the Bank Guarantee.

c) The Developer acknowledges and agrees that such Liquidated Damages constitute a genuine pre-estimate of the losses that would be suffered by the Society as a result of such breach of contract by the Developer by way of delay in completion of the work, and are not by way of a penalty. The Developer acknowledges that the losses may be of such a nature wherein it may not be possible to furnish proof of such losses, and in light thereof, the aforesaid sum of liquidated damages shall be payable irrespective of whether any proof of losses being suffered is furnished.

6.63 DELAYS:

If there is any delay in execution/completion of the contract due to reasons beyond the control of the developer like delay due to non –availability of drawings or Noncooperation of members on site or stoppage of work by the PMC/ SOCIETY. The Developer must intimate the same in writing within 3 days of any such hindrance occurring (intimation within the stipulated time period being a mandatory pre-requisite), following which legitimate extension of time as deemed reasonable by the Society will be allowed but no monetary compensation of any kind whatsoever (like payments for over stay etc.) will be given by the Society. The Developer acknowledges that any such extension granted by the Society at its sole discretion shall constitute the sole and adequate compensation to the Developer for any such delay.

6.64 SUSPENSION

If the developer except on account of any legal restraint upon the Society preventing the continuance of the work, suspends or neglects the works or fails to proceed with due diligence in the performance on his part of the contract, the Society and/or the Consultant shall have the power to give notice in writing to the developer requiring that the work be proceeded within a re and with reasonable dispatch. After such notice shall have been given the developer shall not be at liberty to remove from the site of the works any plant or materials belonging to him, which shall have been placed thereon for the purpose of the works and the Society, shall have lien upon all such plants and materials.

6.65 TERMINATION OF CONTRACT BY SOCIETY

If the developer commits a breach of any terms of this contract, and fails to rectify such breach within 15 days of a notice in this regard being issued to the Developer by the Society, or if the Developer commits or any Act of insolvency or shall be adjudged as Insolvent or shall make an assignment or composition for the benefit of the greater part in number or amount of this creditors or (being an Incorporated Company) shall have an order made against him or pass an effective resolution for winding up either compulsorily or subject to the supervision of the Court or voluntarily, the Society reserves the right to terminate the Contract.

In such cases the 'Bank Guarantee' of the Developer shall be invoked and utilized as the case may be and further the Society shall enter upon and take possession of the works and all plant, tools, scaffoldings, sheds, machinery, power operated tools and steel, cement and other materials lying upon the premises or the adjoining lands or roads, and use the same as his own property or may employ the same by means of his own servants and workman in carrying on and completing the works or by employing any other Developer or other person or persons to complete the works and the Developer shall not in any way interrupt or do any act, matter or

Thing to prevent or hinder such other Developer or other persons employed for completing and finishing or using the materials and plant for the works.

In case of termination of the Development Agreement the Developer shall lose the right under the Development Agreement and the Society shall have the right to complete the redevelopment of the Property in the manner it deems fit and at the risk and cost of the Developer, in addition to the right to seek all the remedies available to it under the law and equity

In case of termination it is specifically clarified that the Developers shall not have any claim on the Society, Society's Property and / or its Members or any part thereof for any expenditure incurred by him / them of whatsoever any nature for execution of this Project including but not limited to fees of consultants, administrative expenses, salaries & wages of employees, dues payable to suppliers, subcontractors, stamp duty, registration fees, official expenses, out of pocket expenses, incidental expenses etc. Further the Society shall not be liable for any compensation for the efforts taken by the Developer.

In the event of the Developer being individual or Partnership or LLP, such individual or Partnership or any of its Partners being adjudged as an insolvent or the Developer being a Corporate Body, in such event the Company being ordered to be wound up or going into voluntary winding up, then in such case the Performance Bank Guarantee given to the Society shall de facto stand invoked a day prior to happening of such event without any act or deed on the part of the Society and the Developer's Bankers shall be liable to pay the amount of the Performance Bank Guarantee to the Society without demure & any reference to the Developer his Official Assignee or Official Liquidator as the case may be. A provision to that effect will be made in the Performance Bank Guarantee. Since the Performance Bank Guarantee is to stand invoked a day prior to the happening of the event stipulated hereinabove, the Bankers shall not refer or shall not absolve themselves from their liabilities on the ground of appointment of the Official Assignee or Official Liquidator as the case may be.

6.66 GENERAL SPECIFICATIONS FOR QUALITY OF MATERIALS:

All materials for incorporation into the works shall be of the best quality of their respective kinds as specified herein and shall be obtained from sources and suppliers approved by the Society /Engineer and shall comply strictly with the tests prescribed hereinafter or, where tests are not laid in this Specification, with the requirements of the latest edition of the relevant. Indian Standards approved by the Engineer.

6.66.1 Inspection and Testing

All materials before being incorporated into the Works shall be subjected to inspection and testing as provided in the Conditions of Contract and elsewhere in the specifications. The cost of all tests required by these Specifications or approved standards shall be borne by the Developer. No material shall be used in the works unless they have first been approved by the PMC Engineer or his Representative.

6.66.2 Samples

Samples of all materials proposed to be used or incorporated in the works and to be supplied by the Developer may be called for at any time by the PMC's Engineer or his Representative.

6.66.3 Independent Tests

Independent tests and analysis of any of the materials may be made from time to time by a Testing House or Analyst appointed by the Engineer/ Society in order to check the supplier's works tests and analysis. The

developer shall at his own expenses supply and deliver to a Testing House or Analyst such materials as may be directed by the Engineer. Should the result of any test be found to be unsatisfactory to the PMC's Engineer or his representative, the materials represented will be rejected.

Society shall have the full right, without any reservations; to change the developer if above situation arises.

6.66.4 Other Details:

1. The Developer shall apply for all permissions in the name of the Society through PMC.

2. Professional fees of the PMC and all other consultants shall be borne and paid by the Developer

6.67 ARRANGEMENT OF SECURITY AND SAFETY:

The developer shall take all the necessary precautions during the entire project regarding the life and property of the members of the Society and the third parties. He will ensure life of the entire workmen, who would be engaged by the developer or his Agency/Sub contractor/Nominee.

7. DETAILED SPECIFICATIONS OF WORK

7.1 SPECIFICATIONS OF MATERIALS

Water:

- Water to be used in the work shall be clean and free from injurious amounts of deleterious materials such as acid, alkali, salt and vegetable growth. Potable water is generally considered satisfactory for use in the work.
- If required by the PMC, the Developer shall to get the water tested at his own expense for its suitability from approved laboratory.
- If the water is found to contain any sugar or an excess of acid, alkali or salt the PMC may refuse to permit its use.
- The pH value of water shall be not less than 6 and as far possible neutral.

Cement:

- The cement to be used shall be fresh ordinary Portland cement/blended cement confirming to IS specifications for different types and shall be obtained from authorized sources. The cement shall be stored in weatherproof area and on dry platform and shall be well protected from rain and moisture.
- The Developer shall keep accurate records of all deliveries of cement and its use in the work. Cement shall be used in the sequence in which it arrives in order that no cement shall be unnecessarily stored for a long period, if cement turns into lumps due to moisture, it shall not use for the entitled work and be removed from the site immediately. The cement shall be used before three months from the week of manufacturer.
- Batch certificate shall be obtained from the manufacture for each separate batch. ·

Sand: (Fine Aggregate)

- Sand shall mean fine aggregate and shall confirm to IS 383/1970.
- In addition, the sand as per IS 2116 and IS 1542 shall be used for the respective works.
- It shall be clean, sharp, strong, and granular and composed of hard siliceous material. The sand shall not contain more than 5% by the volume of silt as determined by filled test with measuring cylinder. The sand containing more than 5% of silt content shall be brought within the limit by washing.
- Crushed/Machine made sand may be acceptable as per IS 383/1970, if approved by the PMC.
- Account for bulking shall be made while volume batching.

Lime and Neeru:

- Lime and Neeru used shall conform to IS Standards. Neeru prepared and stored for more than 15 days shall not be used.

Metal (Coarse Aggregate):

- Metal shall mean coarse aggregate and shall generally confirm to the requirements of IS 383/ 1970.
- It shall consist of hard stone free from deleterious substance and shall contain no flat or elongated pieces.
- If required by the PMC, they shall be screened and/or washed and dried before use, without any extra cost. The Developer shall include in his price the cost of screening, washing and grading the aggregates.

Classification:

- Metal No. 1 shall be aggregate, which shall pass through 12 mm mesh but not through 6 mm mesh.
- Metal No 2 shall pass through 25 mm mesh but not through 12 mm mesh.
- Metal No.3 shall pass through 50 mm mesh but not through 25 mm mesh

Stones:

- Stones to be used in the masonry shall be trap, granite, quanite, quartzite, gneiss, laterite or any other type of good stones that may be specified in the item. The stone of the required quality shall be obtained

from quarries specified in the contract or quarries approved by the PMC.

- Laterite stone should be compact in texture. The mottled and streaked colours pervading it should be evenly distributed. Laterite stones exposed to weather to harden for some lime should be preferred.
- Quality of face stones- The stones to be used in the face shall be tough, hard, dense, sound and durable, resistant to weathering action, reasonably fine• grained uniform in colour and texture and free from seams, cracks or other defects which would adversely affect their strength, durability or appearance. The exposed face shall be entirely free from any type of discoloration. Stones shall generally be freshly quarried, clean faced and sharp edges all around and shall be of such a character that it can be worked to such lines and surfaces, whether curved or plane as may be required. Size and shape of stones shall be as per the requirements of each item.
- Quality of rubble stones shall be of approved quality, sound, hard, dense and durable, free from segregation, seams, cracks, weathered their soundness and strength.
- Samples: Samples of stones to be used in the work shall be got approved by the PMC before the work is started.

Reinforcement Steel:

The type of reinforcement used shall be as follows:

- Mild Steel bars conforming to Grade I of IS: 432 (Part 1) 1966
- Cold Twisted High Yield Deformed Bars conforming to IS: 1139-1979. The pitch of twist shall be 10 to 12 times the diameter of the bars and shall preferably bear the Manufacture's identification mark.
- Welded fabric and or wire mesh conforming to IS: 1566 made out of high tensile wires electrically welded together. Either galvanized or plain M.S. Welded wire fabric shall be used of specified opening and gauge. Wire mesh shall be of minimum 24 gauge and shall be secured tightly to the surface.
- All the reinforcements shall be clean and free from dirt, oil, paint, grease, mile scale or loose or thick rust at the time of placing.
- The developer shall produce a test certificate whenever demanded by the PMC. If independent tests are considered necessary, they shall be carried out according to IS 1521 and 1608 in approved laboratory. The Manufacturer of bars shall be as approved by PMC/Society
- Reinforcement steel shall be stored above ground surface and shall be protected as far as practicable from surface deterioration by direct contact with undesirable elements or exposure to conditions producing rust and corrosion.
- When required to be measured, measurement shall be by weight with tons as the unit. The bars may be directly weighed or the weights shall be calculated according to standard unit weights.

Mild steel Binding Wire:

- The mild steel wire shall be of 16 or 18 gauge and shall conform to IS: 280. It shall be free from rust, oil, paint, grease, loose mile scale or any other undesirable coating which will prevent adhesion of cement mortar.
- The wire coils shall be free from rust or corrosion.
- No measurements will be taken of the wire used for typing reinforcement bars. The rate for reinforcement steel and its fabrication shall include the cost of the binding wire.
- Binding wire shall be coated with anti-rust epoxy chemical

Structural Steel:

- Only TATA toroidal steel rods to be used. All structural steel used shall conform to be 226 – 1975 before fabrication. Any structural steel other than that specified may also be used if the permissible stresses and other designs provisions are suitably modified and steel is suitable for the type of fabrication adopted.
- Bolts and Nuts shall conform to IS: 1363-967, IS: 1364-1967; IS: 1367- 1967, IS: 3640-1967:IS: 6623-1972 and IS: 6639-1972 as appropriate.
- Covered electrodes for welding shall confirm to IS: 814 (part – I) – 1974, or IS: 1395-1971 as appropriate.

Bricks:

- The bricks used shall be first class bricks locally available and shall generally confirm to requirements of IS 1077-1970
- The bricks shall be burnt, table molded and of uniform shape and size.
- The brickbats after immersion in water for 24 hours shall not absorb water more than 20 % of its weight when oven dry.

Timber:

- The specification covers the requirement of good quality for various works, when the kind of wood is not specially mentioned, good Indian teak alone shall be used.
- Timber to be used in building works shall be from the heart of a sound tree of mature growth. It shall be uniform in substance, straight in fiber and free from large loose knots, flaws, shakes, wrap, cup, spring, twist, bends or defects of any kind. It shall be free from spongy, brittle, flaky or brushy conditions. All timber shall be seasoned and free from decay, rot, harmful fungi and insect attacks or any other damages which will affect the strength, durability, appearance or its usefulness for the purpose for which it is required.

Plumbing and Sanitary Fittings

- Cast Iron pipes: - The diameter of the iron pipes specified in the wording of the item shall be the inside diameter of the bore of the pipes and the pipes shall confirm to IS 1729.
- Galvanized Iron Pipes: - The galvanized iron pipes shall be of the type and diameter specified in the wording of the item and shall comply with IS 1239. The specified diameter of the pipes shall refer to the inside diameter of the bore of the pipes. Heavy type (C class) galvanized iron pipes shall be used. Clamps, Screws and galvanized iron fittings shall be of standard type to match the pipe.
- PVC Pipes: - The PVC pipes specified shall confirm to IS 13592 and designed to withstand continuous hydraulic pressure of 6 Kg/ cm2

Admixtures:

- Admixture must be strictly used as per the manufacturer's guidelines and specifications. The use of admixtures containing Calcium Chloride, Fluorides, Nitrates and Sulphates is prohibited. PM C's decision on· all matters relating to the use of admixture shall be final.
- Admixture which has deteriorated or which has been contaminated or damaged whether during transit or at site shall not be used and shall be immediately removed from the site and replaced at Developer's-expense.

Storage of Materials:

- Storage of materials shall be as per IS: 4082

7.2 APPLICABLE CODES AND SPECIFICATIONS

The following specifications, standards and codes; are made part of this contract document. All standards, specifications, codes of practice referred to herein shall be the latest editions/revisions including all applicable official amendments, revisions and all relevant parts. In case of discrepancy between the Annexed specification and those referred to herein, the former shall govern:

IS CODES	DESCRIPTION
Excavation and Earthwork	
IS3764	Safety code for excavation work
IS4081	Safety code for blasting and related drilling operations.
IS10379	Code of practice for field related to moisture and compaction of soils for embankment and sub – grade

IS783	Code of practice for laying of concrete pipes
IS3385	Code of practice for measurement of Civil Engineering works
IS2720	Determination of Water Content/Dry Density
Concrete and Allied Works	
IS8112 / 12269	Ordinary Portland cement (M 43 and M 53 grade
IS8042	White Portland cement
IS1489	Portland- Pozzolana cement
IS 383	Coarse and fine aggregates from natural sources for concrete
IS 2386	Methods of test for aggregates for concrete
IS 2430	Methods of sampling of aggregates for concrete
IS 4925	Concrete batching and mixing plant.
IS 10262	Recommended guideline for concrete mix design
IS 456	Code of practice for plain and reinforced concrete
IS1199	Methods of sampling and analysis of concrete
IS 516	Methods of test for strength of concrete
IS 3370	Code of practice for concrete structures for the storage of liquids
IS 2571	Code of practice for laying in – situ cement concrete flooring
IS 2645	Integral cement waterproofing compounds
IS 4990	Plywood for concrete shuttering work
IS 1786	High strength deformed steel bars and wires for concrete reinforcement
IS 432	Mild steel and medium tensile steel bars and hard drawn steel wire for concrete reinforcement
IS 1521	Methods for tensile testing of steel wire
IS 1608	Method of tensile testing of steel products
IS 2502	of practice for bending and fixing of bars for concrete reinforcement
IS 2571	Code of practice for welding of mild steel plain and deformed bars for reinforced concrete construction
IS 8989	Safety code for erection of concrete framed structures
IS 3696	Safety code for scaffolds and ladders
IS 3558	Use of Immersion Vibrators for Consolidating Concrete
IS 3025	Methods of Sampling and Test (Physical and Chemical) for water used In Industry.
IS 2722	Portable Swing weigh batchers for concrete (Single and double bucket type)
IS 2506	Screen Board Concrete Vibrators
IS 1791	Batch Type Concrete Mixers
IS 1489	Portland Pozzolona Cement (PPC)
IS 8112	Ordinary, Portland Cement (OPC) Grade 43Cement
IS 4634	Method of Testing Performance of Batch – type Concrete Mixers
IS 4326	Earthquake resistant design and construction of building
Masonry Work	

IS 1077	Common burnt clay building bricks
IS 3495	Methods of tests for burnt clay building bricks
IS 5454	Methods of sampling of clay building bricks
IS 2212	Code of practice for brick work
IS 1597	Code of practice for construction of stone masonry

IS 2572	Code of practice for construction of hollow concrete block masonry
IS 2250	Code of practice for preparation and use of masonry mortars

IS 1905	Code of practice for structural safety of building, masonry
IS 2645	Integral cement water proofing compounds
IS 2116	Sand for Masonry Mortars
IS 2394	Code for practice for application of lime plaster finish
	Plastering & pointing
IS 1542	Sand for plaster
IS 1661	Code of practice for application for cement and cement lime plaster finishes
	Paving, Floor, finishing and Dado
IS 6509	Code of practice for installation of joint in concrete pavements
IS 1237	Cement concrete flooring tiles
IS 1443	for laying and finishing of cement concrete flooring tiles
IS 777	Vitrified tiles
IS 2114	Laying in situ terrazzo floor finish – PAVERS
IS 2571	Laying in situ concrete flooring- PAVERS
	Door, Windows, and Ventilators:
IS 4021	Timber door, window, and ventilator frames
IS 1003	Timber paneled and glazed shutters
IS 2191	Wooden flush door shutters (cellular and hollow core type.)
IS 2202	Wooden flush door shutters (solid core type).
IS 2338	Code of practice for finishing of wood and wood-based materials
IS 1948	Aluminum doors, windows and ventilators –U.P.V.C
IS 1949	Aluminum windows for industrial buildings- U.P.V.C
IS 3548	Glazing in building
IS 4020	Methods of tests for wooden flush door: type tests
IS 5807	Method of test for finishes for wooden furniture
	Painting:
IS 2395	Code of practice for painting, concrete, masonry and plaster surfaces
IS 2933	Specification for enamel, synthetic, exterior, type – II
IS 2932	Specification for enamel, synthetic, exterior, type – I
	Miscellaneous Work:
IS 6313	Code of practice for anti – termite measures in buildings
	Road works:
IRC 37	For concrete roads
IS 73	Paving Bitumen
IS 215	Road Tar
IS 217	Cutback Bitumen
IS 383	Coarse and fine aggregates from natural sources for concrete
IS 458	Pre-cast Concrete pipes (with and without reinforcement)
IS 460	Test Sieves
IS 2386	Methods of test for aggregates for concrete

IRC 19	Standard specification and code of practice for water bound Macadam

	Sanitary, Water Supply and Drainage Works :
IS 2556	Vitreous Sanitary appliances (Vitreous chine)
IS 5329	Code of practice for sanitary pipe works above ground for buildings Cast iron brackets and supports for wash basins and sinks
IS 3486	Cast iron spigot and socket drain pipes
IS 782	Caulking lead
IS 651	Salt glazed stoneware pipes and fittings
IS 5961	C. I. Gratings for drainage purposes
IS 1230	C. I. Rain water pipes and fittings
IS 554	Dimensions for pipe threads where pressure tight joints are made on threads
IS 781	Cast copper alloy screw- down bid taps and stop values for water services
IS 774	Flushing cisterns for water closets and urinals
IS 2470	Code of practice for installation of septic tanks
IS 2065	Water supply in buildings
IS 1172	Basic requirements for water supply, drainage and sanitation
IS 771	Glazed earthen ware sanitary appliance
IS 1172	Basic requirements for water supply, drainage and sanitation
IS 1742	Building drainage
IS 5219	'P' and 'S' traps. (Part I).
	General
IS 1200	Method of measurement of building and civil engineering works
IS 4326	Code of practice for earthquake resistant design and construction of buildings
IS1893	Criteria for earthquake resistant design of structures

7.3 TECHNICAL SPECIFICATION (DEMOLITION AND DISMANTLING)

General Specification for Safety

- The developer shall provide shoring, necessary barriers, warning signals, and other safety measures while carrying out all the external work or wherever otherwise necessary to avoid accidents. He shall also provide and maintain at his cost all lighting, watching, fencing and security whenever and wherever necessary or as directed by the PMC or by the duly constituted authority for the protection of works and the safety and convenience members and others.
- There shall be maintained in a readily accessible place first aid box including adequate supply of sterilized dressings and cotton wool. An injured person shall be taken to a hospital without loss of time whenever required. The name, address and telephone numbers of the nearest hospital and of police station having jurisdiction on the site shall be conspicuously displayed in the site office permanently.
- Suitable and strong double scaffolds with adequate handrails and safety belts, helmets etc. shall be provided for all workmen, supervisors, and engineers for all works that can't be done safely from ground.
- No portable single ladder shall be of more than 5m lengths. The width between the side rails shall be less than 30 cm and distance between two adjacent rungs shall not be more than 30 cm whenever a ladder is used, an extra labour shall be engaged in holding the ladder.
- Any excavated material shall not be placed within 2m of the edge of the pit/trench. All pit/trenches shall be provided with necessary shoring, fencing, lighting etc.

- Workers engaged in mixing and handling materials such as cement mortar or concrete shall be provided with protective footwear and hand gloves.

- No floor, roof or other part of the structure shall be overloaded with debris to render it unsafe.
- Those engaged in welding works shall be provided with Welder's protective eye shields and gloves.
- Hoisting machines and tackle used in the works including their attachments, anchorage and supports shall be in perfect condition and they shall be checked/ serviced periodically and also before any major use. The ropes used in hoisting or lowering material, as the means of suspension shall be of durable quality and adequate strength and free from any defects.
- List of all the safety equipment with quantities shall be prominently displayed in the site office and updated regularly.

Scaffolding

Conventional Scaffolding shall be of H frames/vertical members of steel pipes spaced and filled by suitable horizontal/ cross members secured to each other firmly by clamps or some such sturdy arrangement. Bamboo scaffolding tied with coir string shall be used only if specifically permitted by the PMC. This scaffolding shall be reacted in two rows both connected and braced properly and secured by connecting with the members of permanent structure. No holes shall be permitted in external brick work. To reduce the height of falling debris, intermediate platforms on the scaffolding shall be erected. Access for labour and staff to the platform from the rooms at the relevant levels will be given, if permitted by the societies/ occupants.

Demolition or breaking

The structure shall be dismantled carefully and the materials removed without causing damage to the serviceable materials to be salvaged, the part of the structure to be retained and any properties or structures nearby. Any avoidable damage to articles to be salvaged and part of the structure to be retained and, any damage to nearby property or structure shall be made good by the developer without extra claims. The developer shall be responsible for any injury to the workers or the public because of negligence from his end. Gas cutting, if required, may be resorted to with the written permission of the PMC. In such a case gas cutting shall be carried out as directed and specified by the PMC.

All gas cutting operations shall be finished before the new construction is commenced. Equipment or methods which might damage members, portions of the structure to be preserved or adjacent construction or structure shall not be used. If sewers or drains are removed or disturbed, the developer shall at once remove the foul matter. If sewers or drains have to be temporarily removed, the developer shall provide temporary passage for the flow and re do the sewer or drain without extra claims.

Disposal

All materials obtained from the removal of structures shall be immediately removed from the site. Till the time they are removed, the structures shall be stacked, neatly in such a manner as to avoid deterioration and in a safe place. Unless otherwise provided, excavated materials shall be used in backfilling excavation made in removing the structure.

Final Clearance

All rubbish shall be cleared off the site and the ground left clean and clear. Any damages caused during the operation shall be made good.

Responsibilities

The developer shall be responsible for:

a) Keeping intact the portion not to be removed.
b) Stacking neatly and safe custody of the salvaged materials till handing over to the society.
c) Disposal of unserviceable as per NMMC guidelines material and its consequences.
d) Damages to nearby property and injury to workers and public due to his operations.

7.4 TECHICAL SPECIFICATION (EXCAVATION AND RE- FILLING)

General

The excavation will generally refer to open excavation wet or dry.

1. **Clearing site**
   The site on which the structure is to be built as shown on the plan and the area required for setting out other operations should be cleared and all obstructions, loose stones, and old concrete foundation or debris, materials and rubbish of all kinds, stumps, brush wood and trees removed and directed roots being entirely grubbed up.
2. **Setting Out**
   After clearing the site, the center lines/ grid lines will be given by the PMC and it will be the responsibility of the developer to install reference marks, bench marks etc. and maintain them as long as required. Labour, material etc., required for setting out establishing Bench Marks and other reference marks shall be arranged by the developer at his own cost.
3. **Excavation**
   Foundation excavation shall include removal of all materials of whatever nature whether wet or dry, necessary for the construction of foundation and substructure exactly in accordance with the lines, levels, grades and curves shown on the plans or as directed by the PMC. The Developershall, at his own cost, do the necessary shoring or cutting of slopes to a safe angle or both, as approved by the PMC when strata needs such treatment.
4. **Preparation of foundation footing**
   The bottom of the foundation shall be levelled both longitudinally and transversely or stepped as directed. Before footing is laid, final surface should be slightly watered and rammed. If any soft patches come to light on inspection or ramming, these shall be dug out and dealt with as advised by the PMC. The elevation of the bottom of foundation shown on the plan will be considered approximate only and the society/PMC may order such changes in the dimensions and elevations of foundation as may be deemed necessary to secure satisfactory foundation. After each excavation is completed, the developer shall notify the PMC to that effect and no footing will be allowed to be laid until the PMC has approved the depth and dimensions of excavation and/or measurements are recorded.
5. **Shoring**
   Excavation of slopes to prevent falling in of sides or providing, fixing, maintaining and removing shoring, bracing, etc. shall not be paid for. The developer would be responsible for the design of shoring for the excavation to be properly upheld.
6. **Protection**
   All frequented places of excavation shall be strongly fenced and marked with red lights at night, in place of watchman, to avoid accidents. Adequate protective measures shall be taken to see that the foundation excavation does affect or damages adjoining structures.
7. **Disposal of excavated materials**
   No materials excavated from the foundation trenches, of whatever kind they may be, are to be placed even temporarily nearer than 1.5 M or greater distance prescribed by the society/PMC from the outer edge of excavation Materials suitable and useful for backfilling or other use shall be stacked in convenient places but not in such a way as to obstruct free movement of men, animals and vehicles or encroach on the area required for construction purpose. For backfilling, the materials shall be placed in 15 cm (6” 52xidize.) to 20 cm (8”) layers, moistened and well

compacted. Materials not useful in any way shall be disposed of as directed by the PMC.

8. Dewatering

The excavation rate would include bailing or pumping out all water which may accumulate in the excavation during the progress of the work from seepage, springs, rain or any other cause and diverting surface flow if any, by bunds or other means.

9. Slips and blows

If there are any slips or blows in the excavation, they shall be removed by the developer without cost to the society so as to provide the correct dimensions required for the foundation.

10. Blasting

a) General: The Blasting is not permitted. However if permitted by PMC, the Blasting shall be carried out only with the written permission of the NMMC. All the laws, regulations, rules etc. pertaining to the acquisition, transport, storage, handling and use of explosives shall be rigidly followed.

b) Materials, tools and equipment: The black powder, explosives, detonators, fuses, tamping materials, electrical firing equipment, if used, tools for drilling holes and tamping shall be subject to the approval of the NMMC. The NMMC may specify type of explosives to be allowed in special cases.

c) Personnel: The blasting operation shall remain in charge of competent and experienced supervisor and workmen who are thoroughly acquainted with the details of handling explosives and blasting operations.

d) Blasting operation: The blasting shall be carried out during fixed hours of the day preferably, during the mid-day lunch hours or at the close of the work as ordered in writing by the NMMC. Red danger flags shall be displayed prominently in all directions during the blasting operations. People except those who actually light the fuse shall be prohibited from entering into this area. A standard mode of measurement of soil/hard rock excavation should be disclosed in advance.

e) Accidents: The developer shall be solely responsible for any accident during the entire procedure of handling explosives and blasting and shall pay necessary compensations to persons affected or damage to lands or property etc. due to the blasting without any extra claims from the society.

11. Classification:

The classification of the excavation would be decided by the NMMC and his decision shall be final and binding on the developer. Merely the use of explosives in excavation will not be considered a reason for higher classification unless blasting is clearly necessary in the opinion of the NMMC.

12. Filing in with Murum or selected earth

Murum or selected earth shall be hard and of approved quality. Only freshly quarried Murum or selected earth shall be used on the work and in no case shall disintegrated material be used. On the cleaned site, Murum or selected earth shall be spread in 150 mm thick layers consolidated at optimum moisture content till full compaction is attained by heavy hard rammers road rollers or other approved means. The finished surface shall be levelled and shall follow the gradient or levels of the base of flooring. Flooding with water for compaction will not be allowed.

13. Sand filing

Sand required for filling plinths, ramp etc. shall be clean and coarse and generally obtained from the local source unless found to be unsuitable. It shall not contain more than 10% of clay or silt. The sand approved by the PMC shall be filled in the plinth, ramps, etc. as shown on the drawings and as directed by the PMC. The sand shall be hydraulically compacted. Sand shall be compacted to the maximum dry density by flooding with water and tamping with heavy hand rammers. The total compacted thickness of the sand layer shall be as shown in the drawings or as directed by the PMC at Site. Item to include providing filling, watering and compacting the sand in layers in

plinths, ramps etc., as detailed above and all incidental labour, material and tools etc., as detailed above and required for the satisfactory completion of the work.

14. Rubble Packing – General

The developer shall furnish all labour materials, tools and services necessary to complete all rubble packing in accordance with the drawing and as specified herein.

15. Materials:

The rubble stones shall be sound, hard and durable. They shall have at least one dimension equal to the thickness of rubble packing and shall in any case, be not less than 15 cm in any direction. The stones shall be less than. Thickness of rubble packing placed vertical with the smaller face of the two ends at the top. All interstices between stones shall be filled in solid with well driven stone chips and the surface shall be made uniform with sand. The surface shall be formed to such slopes as directed by the PMC. The rubble packing shall be thoroughly consolidated and sprinkled with water, if required by the PMC. The depth of the rubble packing shall be taken as consolidated depth. The concrete for flooring shall be laid over rubble packing only after the PMC issues the order to that effect.

16. Bitumen Sand Pad

The bitumen carpet shall consist of 75 mm minimum thick layer of Bitumen• Sand (of fitness modulus 3.5 max) mix made by thoroughly mixing clean, coarse and dry sand with cut back bitumen (30/40 grade) heated to around 93 degrees C, the proration being 80 to 100 kg. of bitumen per cubic meter of sand. The surface shall he lightly rolled and properly graded.

17. Dewatering

a. General: The foundation trenches and the building area shall be kept dry by resorting to pumps alone or in combination with manual labour for bailing out water with buckets etc. or any other satisfactory method. The method to be adopted shall be entirely left to the choice of the developer, provided dewatering is carried out satisfactorily and the scheduled program is adhered to. The developer shall plan construct and maintain satisfactorily safe and fool proof arrangement for dewatering to ensure safe foundation excavation and laying concrete and masonry in the dry. The developer shall supply details of his proposal for approval of the PMC but such an approval will, in no way, relieve the developer from his responsibility for the adequacy of dewatering arrangement and for the quality and safety of the work for all of which the developer shall be solely responsible. Excavation items include cost of dewatering. Pits should be checked for underground spring tidal or river seepage. Cement grouting or other approved methods may be used by the developer at his discretion and cost to prevent or reduce seepage and to protect the area to be excavated if the soil is porous.

b. Pumping: Adequate pumping arrangements shall be made for dewatering foundation trenches and pools in the building area and keeping the same dry while excavation, masonry or concreting is in progress and till the mortar has sufficiently set. Pumps of required capacity and in required number and stages shall be provided to ensure the above. Pumping shall be done outside the excavation as necessary, in such a manner as to preclude the possibility of movement of water through any fresh concrete or masonry and washing away parts of concrete or mortar. No pumping shall be allowed during laying of concrete or masonry and for a period of at least 24 hours thereafter unless it is done from suitable pump separated from concrete or masonry by effective means. Pumping shall be done in such away as not to cause damage to the work or adjoining property by blows, subsidence etc. The developer shall make his own arrangements for necessary labour, materials, pumps, engines, well point and other suitable machinery and device required for successful execution of the item of dewatering.

c. Shoring etc.: Staging, shoring, strutting, sumps and other protective works required for facility of dewatering shall be designed and put up by the developer to ensure full safety to the work,

workmen, machinery and property and shall be removed after they have served their purpose in a manner and to the extent directed by the PMC. The developer shall be responsible for all damage and injury caused by the execution of this item.

d. Disposal of Water: The water from the excavated trenches shall be disposed of in the manner detailed below or in any other manner in conformity with the rules in force and approved by the NMMC:

- In case the area is developed, such as cities, which are severed to have open gutters along the roadside, the water may be led to the nearest such gutters or sewers.
- In undeveloped area such as countryside where severing system has not been introduced, the water may be led to the nearest natural drain or pond through properly laid and dug channels through pipes.
- The Developer shall be responsible for all incidental formalities like obtaining permission of local bodies (NMMC or Local Governing Body) and persons concerned to lead the water to the open or underground sewers or digging up channels, make use of lands and properties owned by private persons or public etc. and for the damages caused in the operation of this item.

18. Stone Pitching

a. General: where the pitching is required to be provided with stone it shall confirm to the following specifications: •

b. Stone: The stone shall be good, hard, quarry or boulder stones such as will not weather on the surface. It shall be roughly hewn or squared with the hammer to ensure the stones fitting fairly one on the other so as not to expose the earth

c. Laying: The stone is to be laid with their broad faces downwards and firmly bedded on a layer of Murum, gravel, at least 150 mm in thickness. They are to be packed against each other with the hammer or mallet so as to fit closely. No pinning is to be allowed between the side and stone and the use of chips should be confined to hollows and inequalities in the bed and for packing after the stones are laid on the surface to from a uniform slope.

d. Slope: slope should be maintained as per requirements. The surface of the work after completion should be fairly uniform.

8.4 A TECHICAL SPECIFICATION: PILING

1) Steel

Reinforcement steel shall be any of the following:

a) Mild steel and medium tensile steel bars conforming to IS 432 (Part1),
b) High strength deformed steel bars conforming to IS 1786, and
c) Structural steel conforming to IS2062.

2) Concrete

a) Consistency of concrete to be used for driven cast *in-situ* piles shall be consistent with the method of installation of piles. Concrete shall be so designed or chosen as to have a homogeneous mix having a slump/workability consistent with the method of concreting under the given conditions of pile installation.

b) The slump should be 150 to 180 mm at the time of pouring.

c) The minimum grade of concrete to be used for piling shall be M 25. For sub aqueous concrete, the requirementsspecifiedinIS456shallbefollowed.The minimum cement content shall be 400

kg/m^3. However, with proper mix design and use of proper admixtures the cement content may be reduced but in no case the cement content shall be less than 350kg/m^3.

d) For the concrete, water and aggregates specifications laid down in IS 456 shall be followed in general.

e) The average compressive stress under working load should not exceed 25 percent of the specified works cube strength at 28 days calculated on the total cross-sectional area of the pile. Where the casing of the pile is permanent, of adequate thickness and of suitable shape, the allowable compressive stress may be increased.

f) The top of concrete in a pile shall be brought above the cut off level to permit removal of all laitance and weak concrete before capping and to ensure good concrete at cut-off level. There enforcing cages shall be left with adequate protruding length above cut-off level for proper embedment into the pile cap.

g) Where cut-off level is less than 2.5 m below the ground level, concrete shall be cast to a minimum of 600mmabovecut-off level. For each additional 0.3 m increase in cut-off level below the working level, additional coverage of minimum 50 mm shall be allowed. Higher allowance may be necessary depending on the length of the pile.

3) WORKMANSHIP

A) Control of Alignment

Piles shall be installed as accurately as possible according to the design and drawings either vertically or to the specified batter. Greater care should be exercised in respect of installation of single piles or piles in two pile groups. As a guide, for vertical piles, an angular deviation of 1.5 percent and for raker piles, a deviation of 4 percent should not be exceeded. Piles should not deviate more than 75 mm or *D*/6 whichever is less (75 mm or *D*/10 whichever is more in case of piles having diameter more than 600 mm) from their designed positions at the working level. In the case of single pile under a column the positional deviation should not be more than 50 mm or *D*/6 whichever is less (100 mm in case of piles having diameter more than 600 mm). Greater tolerance may be prescribed for piles cast over water and for raking piles. For piles to be cut-off at a substantial depth below the working level, the design shall provide for the worst combination of the above tolerances in position and inclination. In case of piles deviating beyond these limits and to such an extent that the resulting eccentricity cannot be taken care of by redesign of the pile cap or pile ties, the piles shall be replaced or supplemented by additional piles.

B) Sequence of Piling

In a pile group the sequence of installation of piles shall normally be from the center to the periphery of the group or from one side to the other.

C) Driving a Group of Friction Piles

Driving piles in loose sand tends to compact the sand, which in turn, increases the skin friction. In case where stiff clay or dense sand layers have to be penetrated, precautions need to be taken. However, in the case of very soft soils, the driving may have to proceed from outside to inside so that the soil is restricted from flowing out during operations.

D) Concreting and Withdrawal of Casing Tube

1) Whenever condition indicates ingress of water, casing tube shall be examined for any water accumulation and care shall be taken to place concrete in a reasonably dry condition.
2) The top of concrete in a pile shall be brought above the cut-off level to permit removal of all laitance and weak concrete before capping and to ensure good concrete at cut-off level. The reinforcing cages shall be left with adequate protruding length above cut-off level for proper embedment into the pile cap.
3) Where cut-off level is less than 1.50 m below working level, the concrete shall be cast to a minimum of

600 mm above the cut-off level. In case the cut-off is at deeper level, the empty bore shall be filled with lean concrete or suitable material, wherever the weight of fresh concrete in the casing pipe is found inadequate to counteract upward hydrostatic pressure at any level below the cut-off level.

Also before initial withdrawal of the casing tube, adequate quantity of concrete shall be placed into the casing to counter the hydrostatic pressure at pile tip.

E) Defective Piles

1) In case defective piles are formed, they shall be left in place and additional piles as necessary shall be provided.
2) If there is a major variation in the depths at which adjacent piles in a group meet refusal, a boring may be made nearby to ascertain the cause of such difference. If the boring shows that the strata contain pockets of highly compressive material below the level of shorter pile, it may be necessary to take such piles to a level below the bottom of the zone, which shows such pockets.
3) Any deviation from the designed location, alignment or load capacity of a pile shall be noted and adequate measures taken well before the concreting of the pile cap and plinth beams.
4) While removing excess concrete or laitance above the cut-off level chipping by manual or pneumatic tools shall be permitted seven days after pile casting. Before, chipping/breaking the pile top, a 40 mm deep groove shall be made manually all-round the pile at the required cut-off level.

F) Deviations

Any deviation from the designed location, alignment or load-carrying capacity of any pile shall be noted and adequate measures taken to check the design well before the concreting of the pile cap and grade beams are done.

A) While removing excess concrete or laitance above cut-off level, manual chipping shall be permitted after three days of pile concreting. Pneumatic tools shall be permitted only after seven days after casting. Before chipping/breaking the pile top, a groove shall be formed all around the pile diameter at the required cut-off level.

G) Recording of Data

A competent inspector shall be maintained at site to record necessary information during installation of piles and the data to be recorded shall essentially contain the following:

a) Sequence of installation of piles in a group,
b) Type and size of driving hammer and its stroke,
c) Dimensions of the pile including the reinforcement details and mark of the pile,
d) Cut-off level and working level,
e) Depth driven,
f) Time taken for driving and for concreting recorded separately, and
g) Any other important observations, during driving, concreting and after withdrawal of casing tube.

H) Testing of Piles

1. Conducting Pile low strain integrity test as per ASTM D 5882- 96 code of American Society for Testing on cast-in –situ RCC pile of all diameter inclusive of analysis, with all contractor's equipment's, manpower, site preparation, lead and lifts etc. complete as per standard procedure, and as directed by the Engineer in Charge.
2. Conducting load testing of a single pile Up to following capacity in accordance with IS 2911(Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. with all labor, material, tool & plants, equipment, machinery, etc. complete as per drawing and specification, as directed by the Engineer
    - Routine Load Test Up to 50 ton capacity pile
    - Routine Load Test above 50 ton capacity Up to 100 ton capacity pile
    - Initial load test above 100 ton capacity Up to 250 ton capacity pile
    - Extra for every increase of 50 T in pile capacity or part thereof over 250 T

8.5 TECHINICAL SPECIFICATION (ANTI TERMITE)

1. Chemicals:

The chemicals used for the treatment shall be any one or a combination of the following with concentration shown against each in aqueous emulsion

Chemicals Concentration	By Weight
Aldrin	05%
Chlordane	1.0%
Heptachlor	0.5%

2. Masonry Foundation and Basements:

The bottom surface and sides (up to a height of 300 mm from the bottom) of the excavations made for masonry foundations and basement shall be treated with the above chemical emulsion at 5 liters per Sqmt of surface area.

3. Treatment of Backfill Earth:

After the masonry foundations and retaining walls of the basement have come up, the backfill in immediate contact with the foundation structure shall be treated with the chemical emulsion at the rate of 7 .5 liters per Sqmt of the vertical surface of the sub-structure for each side. The earth is usually backfilled in layers and the treatment shall be carried out in similar stages. The chemical emulsion shall be directed towards the concrete or masonry surface of the columns and walls so that the earth in contact with this surface is well treated with the chemical.

4. RCC Foundation and Basements:

The treatment shall start at a depth of 500 mm below the ground level except when ground level is raised or lowered by filling or cutting after the foundations have been cast .In cases the depth the of 500 mm shall be determined from the new soil level resulting from filling or cutting mentioned above and soil in immediate contact with the vertical surface of RCC foundations. From this depth, the backfill around the columns, beam and RCC basement walls shall be treated at the rate of 7 .5 liters per m2 the other details of the treatment shall be as laid down above.

5. Top Surface of Plinth Filling:

The top surface of the consolidated earth within the walls shall be treated with the chemical emulsion at the rate of 5 liters per Sqmt of the surface before the sand bed or sub- grade is laid. If the filled earth has been well rammed and the surface done not allow the emulsion to seep through, hole up to 50 to 75 mm at 150 mm centers both ways and may be made with 12 mm MS Bar on the surface to facilitate absorption of emulsion

6. Junction of wall and Floor:
Special care shall be taken to establish continuity of the vertical chemical barrier on inner wall surface from the ground level up to the level of the filled earth surface. To achieve this, a small channel 30x30 mm shall be made at all the junctions of wall and columns with the floor (before laying the sub- grade) and rod holes in the channel up to the ground level 150 mm apart and the rod moved backward and forward to break up the earth and chemical emulsion poured along with channel at the rate of 7.5 liters per Sqmt of the vertical wall or column surface of the sub – structure so as to soak the soil right to the bottom. The soil should be tamped back into place after this operation.

7. Soil along External Perimeter of the Building:
After the building is complete, the earth along the external perimeter of the building should be rolled at intervals of 150mm and to a depth of 300 mm and the rods should be moved backward and forward parallel to the wall to break up the earth and chemical emulsion poured along the wall at the rate of 7 .5 liters per m of vertical surface. After the treatment, the earth should be tamped back into place. The earth outside the building be graded on completion of the building. This treatment should be carried out on the completion of such grading. In the event of filling being more than 30 mm, external perimeter treatment shall extend to the full depth more than 300 mm the external perimeter treatment shall extend to the full depth of filling up to the ground level so as to ensure continuity of the chemical barrier.

8. Soil under Apron along External Perimeter of Building:
Top surface of the consolidated earth over which the apron is to be laid shall be treated with chemical emulsion at the rate of 5 liters per Sqmt of the surface before the apron is laid. If consolidated earth does not allow emulsion to seep through holes up to 50 to 75 mm deep at 150 mm centers both ways, it may be made with 12 mm steel rod on the surface to facilitate saturation of the soil with the chemical emulsion.

9. Retaining Walls above floor Level:
Retaining walls like the basement walls or outer walls above the floor level which retain soil need to be protected, by providing chemical barrier by treatment of retained soil in the immediate vicinity of the wall. This will prevent entry of termites through the voids in masonry, cracks and crevices etc. above the floor level. The soil retained by the walls shall be treated at the rate of 7 .5 liters per m? Of the vertical surface so as to affect a continuous outer chemical barrier in continuation of the foundation.

10. Treatment to Expansion Joints:
Treatment to expansion joints shall be done as per the recommendations proposed by RCC Consultant appointed by the Developer after approval from society's Project Management Consultant

11. Soil Surrounding pipes, Wastes and Conduits:
When pipes, wastes and conduits enter the soil inside the area of the foundation, the soil surrounding the point of entry must be loosened around each such pipe, waste or conduits for a distance of 150 mm up to a depth of 75 mm before the treatment is commenced. When they enter the soil external to the foundations, they shall be similarly treated unless they stand clear of the walls of the building by a distance of linear meter.

12. Spraying Equipment:
A pressure pump shall be used to carry out spraying operation to facilitate proper penetration of chemicals into the earth

13. Safety Precautions:
These chemicals are usually brought to site in the form of emulsifiable concentrates. The contained should be clearly labelled and should be stored carefully so that children and pet cannot get at them. They should be kept securely closed. Workers should wear clean clothing and should wash thoroughly with soap water, especially before eating and smoking. If chemicals splash into the eyes they shall be flushed with plenty of soap, water and immediate medical attention should be sought. The concentrates are oil solutions and present a fire hazard owing to the use of petroleum solvents. Flames should not be allowed during mixing. Care should be taken in the application of chemicals to see that they are not allowed to contaminate wells or springs which serve as sources of drinking water.

8.6 TECHNICAL SPECIFICATION (REINFORCEMENT)

1. Supply:

Reinforcement bars, if supplies are arranged by developers shall be high strength deformed bars as per IS: 1786, mild steel bars as per IS: 432 and welded wire fabric (WWF) as per IS: 1566 as specified on the drawings or in the Bill of Quantities. Substitution of reinforcement will not be permitted except upon written approval from the PMC.

2. Storage:

The reinforcement shall not be kept in direct contact with the ground but stacked on top of an arrangement of timber sleepers or the like. If the reinforcing rods have to be stored for a long duration, they shall be coated with cement wash before stacking and/ or kept under cover or stored as directed by PMC. Fabricated reinforcement shall be carefully stored to prevent damage, distortion, corrosion and deterioration.

3. Quality:

All steel shall be Grade 1 quality unless specifically permitted by the PMC. If demanded by the PMC, the Developer shall submit the manufacturer's test certificate for steel. Random tests on steel supplied by developer may be performed by society as per IS: 1521 and IS: 1608. All costs incidental to such tests shall be at developer's expense. Steel not conforming to specifications shall be rejected. All reinforcement shall be clean, free from grease, oil, paint, dirt, loose mill scale, loose rust, dust bituminous material or any other substance that may destroy or reduce the bond. All rods shall be thoroughly cleaned before being fabricated. Pitted and defective rods shall not be used. They shall be painted with Fusion bonded Epoxy.

4. Fixing:

Reinforcement shall be accurately fixed by the approved person / method / specification, meant and maintained in the correct position shown in the drawings by the use of blocks, spacers and chairs as per IS: 2502 to prevent displacement during placing and compaction of concrete. Bars intended to be in contact at crossing points shall be securely bound together at such pints with number 16 gauge annealed soft iron wire. [IS: 10632 (part 2)). The vertical distance required between successive layers of bars in beams or similar members shall be maintained by the provision of steel spacer bars at such intervals that the main bars do not perceptibly sag between adjacent spacer bars.

5. Laps:

Laps and splices for reinforcement shall only be as shown on the drawings. Splices in adjacent bars shall be staggered and the locations of all splices, except those specified on the drawings, shall be approved by the PMC. The bars shall not be lapped unless the length required exceeds the maximum available lengths of bars at site. Not more than 25 % bars shall be lapped in one section.

6. Bending:

The bending of reinforcement shall be in accordance with IS: 2502 – 1963. Reinforcing bars supplied, bent or in coils, shall be straightened before they are cut to size. Straightening of bars shall be done in cold and without damaging the bars. All bars shall be accurately bent according to the size and shapes shown on the detailed working drawings/bars bending schedules. Reinforcing bars shall not be straightened and re-bent in a manner that will injure the material; bars containing cracks or split shall be rejected. They shall be bent cold, except for bars of over 25 mm diameter which may be bent hot if specifically approved by the PMC. Bars bent hot shall not be heated beyond cherry red colour (Nor exceeding 845 degrees. C.) and after bending shall be allowed to cool slowly without quenching. Bars incorrectly bent shall be used only if the means used for straightening and re-bending is such, in the opinion of PMC, will not injure the material. No reinforcement shall be bent when in position in the work without approval, whether or not it is partially embedded in hardened concrete. Bars having kinks or bends other than those required by design shall not be used. Developer shall Prepare his own bar bending schedule as per the RCC drawings and shall get it approved from the PMC before commencing fabrication.

7. Nominal Cover:

Nominal cover is the design depth of concrete cover to all reinforcements, including links. It shall not be less than the diameter of the bar. Unless indicated otherwise on the drawings, nominal concrete cover for reinforcement (exclusive of plaster or other decorative finish) shall be as follows.

Minimum Nominal Cover to Meet Durability Requirements in MMS	
Exposure	Nominal Cover
Mild	20
Moderate	30
Severe	45
Very Severe	50
Extreme	75

- For main reinforcement up to 12 mm Q bar for mild exposure the nominal cover may be reduced by 5 mm
- Unless specified otherwise, actual concrete cover should not deviate from the required nominal cover by + 10 mm and 0 mm.
- For exposure condition 'Severe' and 'Very Severe', reduction of 5 mm may be made, where concrete grade is> M35.
- For a longitudinal reinforcement bar in a column nominal cover shall in any case not be less than 40 mm, or less than the Q of such bar.
- For footing/ below ground pedestals/plinth beams minimum cover shall be 50mm.

8. Cover Blocks:

The correct cover shall be maintained by mortar cubes or other approved means.

9. Inspection:

Erected and secured reinforcement shall be inspected and approved by PMC prior to placement of concrete.

10. Welding of Bars:

Welding shall be carried out as per IS: 2751. In all cases of important connections, tests shall be made to prove that the joints are of the full strength of bars welded special precautions, shall be taken in the welding of cold worked bars and bar other than mild steel.

8.7 TECHINICAL SPECIFICATION (PLAIN AND REINFORCED CONCERETE)

General Scope:

This specification deals with cement concrete, plain or reinforced, for general use, and covers the requirement for concrete materials, their storage, handling, grading, mix design, strength and quality requirements, pouring at all levels, protection, curing finishing and other misc. work. The developer shall furnish all labour, materials and equipment, plan and finish all structural concrete and miscellaneous items complete as indicated in the drawings. The provision of IS: 456-2000 shall be complied with unless permitted otherwise by PMC in writing. For liquid retaining structure the relevant clauses of IS: 3370 shall be complied with.

Material Water:

1. Water, fit for drinking is fit for concreting. Before commencing the trial mix design, and in the course of the work whenever the source of water changes, or whenever there is, in the opinion of the PMC, reason to suspect

a change in water quality, the developer shall get the water to be used for mixing g, tested in an approved laboratory.

2. Water to be used for mixing and curing concrete shall be clean, fresh and free from organic or inorganic matter in solution or suspension in such amount as may impair the strength or durability of concrete or steel. Water which is potable is normally considered satisfactory for concrete mixing. Sea water or water from excavation shall not be used. In case of doubt, suitable checks shall be made using distilled shall not be used. In case of doubt suitable checks shall be made using distilled water as the basis for comparison

3. Where water can be shown to contain an excess of acid, alkali, sugar or salts, the PMC may refuse to permit its use. As a guide, the following concentrations represent the maximum permissible values:

4. To neutralize 200 ml sample of water, using phenolphthalein as an indicator, it should not require more than 2 ml of 0.1 Normal Na OH. The details of test shall be as given in Part 13 of IS: 3025

- To neutralize 200ml sample of water, using methyl orange as an indicator; it should not require more than 10 ml of 0.1 HCL, the details of test shall be as given in Part of IS: 3025
- Percentages of solids when tested in accordance with IS 3025 shall not exceed the following

Maximum permissible limits of solids	
Solids	Limit
Organic	200 mg/ 1
Inorganic	3000 mg/ 1
Sulphate (as SO4)	500 mg/ 1
Chlorides (as CL)	2000 mg/ 1
Suspended matter	2000 mg/ 1

- The PH value of water shall be between 6-10

Cement:

The cement shall be ordinary Portland cement with 7 days strength not less than 220 kg/cm? And 28 days strength of 430 kg/cm^2 (M43 GRADE) unless otherwise specified, conforming to IS: 8112 – 1989 or as per IS: 12269, OPC 53 Grade as directed by PMC. It shall be delivered at site in sealed bags or cement tankers marked with manufacture's name and trade brand. The concrete mix proportions shall be used on the weight of cement bags as delivered at the Mixer and not on their theoretical weight.

The developer should allow in his rates for losses in weight of cement bags in transit and handling. Fly ash confirming to Grade 1 of IS: 3812 may be used as part replacement of ordinary Portland cement provided uniform blending of cement is ensured. In general, following types of cements may be used on works if required.

Cement Type	CONFORMATION TO
M43 Grade OPC	IS: 8112
M53 Grade OPC	IS: 12269
Portland Slag Cement	IS: 455
Portland Pozzolana Cement	IS: 1489
Sulphate Resisting Cement	IS: 12330

Storage:
The Developer shall follow accepted good practice in handling and storing cement. Cement may be stored on site in moisture proof bulk containers which shall be equipped with venting arrangements. Cement delivered in bags shall be stored off the ground by at least 15 cm in dry, well ventilated, weather-proof/water proof sheds, arranged in separate consignments as received from the manufacture so that consumption of cement is ensured in the order of receipt i.e. "First in First out" (FIFO) Rule. The stacks of cement shall be such that there is easy access, proper inspection and identification. The bags shall be piled not more than 15 bags per pile. Each stock of cement shall be covered with tarpaulin or thick polyethylene sheets. Cement bags in storage for more than 3 months shall be retested before use.

Testing:
Tests shall be carried out on cement delivered to the site for fineness, initial and final setting time and compressive strength (IS: 4031) and the results should be approved by the PMC before use. Samples shall be taken immediately on receipt of the cement at site. PMC may specify other forms of sampling and tests, if in his opinion the cement is of doubtful quality. The cost of such additional tests shall be borne by the developer, if cement is supplied by him.

Fine Aggregates (sand):
Fine aggregate except as noted above, and for other than light weight concrete shall consist of natural or crushed sand confining to IS: 383. The sand shall be chemically inert, clean, sharp, strong and durable and shall be free from dust, vegetable substances, adherent coating, clay, alkali, organic matter, mica, salt or other deleterious substances, which can be injurious to the setting qualities, strength and durability of concrete. Fine aggregates shall be chemically inert Beach sand shall not be used. Machine made sand will be acceptable, provided the constituent rock/ gravel composition shall be sound/hard, dense, non- organic, uncoated and durable against weathering and approved by PMC. Sand shall be prepared for use by screening and washing to remove all objectionable foreign matter while separating the sand grains to the required size fractions. Washing shall be done at least one day before using it in concrete. The percentage limits of impurities in Fine Aggregate shall not exceed the limits given in IS: 383-1970. Silt % in fine aggregate shall not exceed 5%. Unless otherwise directed or approved, the grading of fine aggregate shall be within the limits indicated in 383-1970. The sand shall have a fitness modulus neither less than 2.2 nor more than 3.2 (the fineness modulus is determined by sum, divided by 100, of the cumulative percentage mass which is retained on each of the following sieve.)

4.75mm	1.18mm	600 Micron	300micron	150 micron

Fly ash conforming to Grade 1 IS: 3812 may be used as part replacement of fine aggregates provided uniform blending of fly ash is ensured.

Coarse Aggregates:
Coarse aggregate for concrete, except as noted as above and for other than light weight concrete shall confirm to IS: 383 -1970. This shall consist of natural or crushed stone and gravel, and shall be clean, free from elongated, flaky or laminated pieces, adhering coatings, clay lumps, coal residue, clinkers, slag, alkali, mica, organic matter or other deleterious matter. The specific gravity of aggregates shall not be less than 2.6. The aggregate retained on 4.75 mm IS sieve shall be termed as coarse aggregate. Coarse aggregates shall be chemically inert. Coarse aggregate shall be either in single size or graded. In both cases, grading shall be within the limits specified in table 1 of IS: 383-1970. The nominal maximum size of coarse aggregate should be as large as possible within the limits specified but in no case greater than ¼th of the minimum thickness of member, provided that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and fill the corners of the form. For most work, 20 mm aggregate is suitable. For heavily reinforced concrete members, as in the case of ribs of main beams, the nominal maximum size of aggregate should usually be restricted to 5 mm less than the minim um clear distance between the main bars or 5 mm less than the minimum cover, to the reinforcement, whichever is smaller. Sampling and testing of aggregate shall be as per IS: 516 and IS: 2386 (Part 1 to 8}. The Developer shall follow accepted good practice for the storage of aggregates. The aggregates shall be stacked on clean level ground.

Grades of Concrete		
Group	Grade Designation	FCK (N/MM2)
Ordinary	M10	10
	M15	15
	M20	20
Standard	M25	25
	M30	30
	M35	35
	M40	40
	M45	45
	MS0	50
	M55	55
	M60	60
	M65	65
High Strength	M70	70
	M75	75
	M80	80

FCK is characteristic compressive strength of 150 mm concrete cube@ 28 days.

Nominal Mix Concrete:
Nominal Mix Concrete may be used for concrete of M 20 or lower. The following proportion of materials can be used on weight basis.

Proportion For Nominal Concrete		
Grade	Mix	W/C Ratio
M5	1:5:10	1.2
M7.5	1:4:8	0.90
Ml0	1:3:6	0.70
M15	1:2:4	0.65
M20	1:1.5:3	0.60

Mix Design:
Concrete Mix Design shall conform to IS: 10262, IS 383, SP 23 and IS: 456-2000.The developer shall be entirely responsible for the design of the concrete mixes. The design is however to be approved by the PMC before commencing any concreting in the works. The developer shall make trial mixes using samples of coarse aggregates; sand, water and cement, typical of· those to be used in the laboratory. The mix shall be designed to produce the grade of concrete having the required workability and the characteristic strength not less than the desired grade. The target means strength of concrete mix should be equal to the characteristic strength +
1.65 x standard deviation. Mix design done earlier not prior to one year may be considered adequate for later work, provided there is no change in source and the quality of the materials. The standard deviation for each grade of concrete shall be calculated separately. The total number of samples required for calculation of standard deviation shall not be less than 30. Each sample consists of average of 3 cube tests. The individual variations should not be more than ±15% of the average. If more, the test results of the sample are invalid. Where sufficient test results for a particular grade of the concrete are not available, the value of initial standard deviation given in the following table may be assumed. As soon as the results of samples are available, actual calculated standard deviation shall be used in mix design.

Assumed Standard Deviation (N/mm2)	
Standard Deviation	Grade Designation
3.5	M10
	M15
4	M20
	M25
5	M30
	M35
	M40
	M45
	M50
	M40
	M45
	M50

The value of assumed standard deviation are valid for good concrete quality control at site, in case of average quality control the above values of standard deviation shall be increased by 1 N/mm2 In case Portland Pozzolona Cement is supplied in place of OPC, no deviation either in rate or Schedule of Work will be entertained on this account. The mix design should be based on the use of Portland Pozzolona Cement.

Developer shall furnish the cement content assumed for various mixes for approval by the PMC within one (1) week after award of contract. In all cases the developer shall make trial cubes from each consignment of cement and test the same before actually using in the work. Whenever there is a significant change in the quality of any of the ingredients of concrete, the PMC may at his discretion order the carrying out of fresh trial mixes. All costs for trial mixes and test shall be to the developer's account and held to be included in the contract rates. When the Proportions of a concrete mix have been approved by the PMC; the developer shall not vary the quality or source of the material or the mix without the written approval of the PMC. If the water quantity has to be increased in special cases, cement also be increased proportionately to keep the ratio of water to cement same as adopted in trial mix design for each grade of concrete. No extra payment for the additional cement will be made. To keep the water- cement ratio to the designated value, allowance shall be made for the moisture contents in both fine and coarse aggregates and determination of the same shall be made as frequently as directed by the PMC-in-charge. The determination of moisture content shall be according to IS: 2386(part 3). The Developer shall exert proper quality control at various stages of concrete production and placement, as frequently as the PMC may require, testing shall be carried out in the field for the following:

1	Moisture content of sand
2	Moisture content of aggregates
3	Silt content of sand
4	Grading of Sand

The Developer shall provide and maintain at all times, until the works are completed, equipment and staff required for carrying out these tests. The developer shall grant the PMC or his representative, on demand, full access to and produce complete records of all tests carried out on the site.

Concrete Quality Control at site:

A random sampling procedure shall be adopted to ensure that each concrete batch shall have a reasonable chance of being tested that is, the sampling should be spread over the entire period of concreting and cover all mixing units. The PMC shall select random batches of concrete for examination without warning the developer and sampling will generally be done at the point of discharge from the mixer. The strength at seven days for use of normal Portland cement shall not be less than two third of twenty-eight days strength. All tests shall be carried out as per IS: 516.

The results of tests in any recognized laboratory shall final and binding on the developer. All arrangement for testing concrete cubes shall be made by the developer at his own cost. All the materials and labour for making Curing and transporting the cubes for carrying out necessary tests including the fees. Of testing whether at site or elsewhere shall be at the cost of the Developer. The minimum frequency of testing of concrete of each grade shall be as follows

Frequency Of Testing concrete at Site	
Quality of Concrete {M}	Number of Samples
1-5	1
6-15	2
16-30	3
31-50	4
51 and above	4+ Additional Sample For Each Additional 50 m3 or part thereof.

Normally cube strengths substantially in excess of those specified are expected. The concrete shall be deemed to comply with the strength requirements when both the following conditions are met:

Compressive Strength (FCK)Compliance Requirements		
Concrete Grade	Mean of Four Test Results (Consecutive)	Individual Test Results
M 15	FCK+ 0.825 x 51 (N /mm2) Or FCK +3 (whichever is Greater)	FCK-3(N/MM2)
M 20 or more	FCK+ 0.825 x 4 (whichever is Greater)	FCK-4(N/MM2)

Where "S" is standard deviation in above table:

Three test specimens shall be made for each sample for testing@ 28 days. Additional samples may be required for various purposes such as to determine the compressive strength of concrete at 7 days or modulus of rupture test at 72 ± 2hour or at the time of striking the form work, or to determine the duration of curing, or to check the testing error. Additional samples may also be required for testing samples cured by accelerated method as described in IS: 9103. For concrete made up of OPC the flexural strength of samples at 72 ± 2 hours, 7 days and compressive strength at 7 days given as under for general guidance.

Concrete Grade	Required Strength in N/mm2		
	Comprehensive strength	Modulus of Rupture by Beam Test	
	Of cube @7 DAYS	72 + hours	7 days
M 10	7	1.2	1.7
M15	10	1.5	2.1
M 20	13.5	1.7	2.4
M 25	17	1.9	2.7
M 30	20	2.1	3.0
M 35	23.5	2.3	3.2
M 40	27	2.5	3.4

All consequence of rejection of concrete shall be totally at the developer's account. If the concrete produced at the site does not satisfy the above strength requirements, the PMC will reserve the right to require the developer to improve the method of batching, the quality of the ingredients and redesign the mix with increased cement content if necessary. The developer shall not be entitled to claim any extra cost for the extra cement used for the modifications stipulated by the PMC for fulfilling the strength and durability requirements specified.

Concrete Quality Assurance Program at Site:

Quality assurance in construction activity relates to proper mix design, use of adequate materials and components to be supplied by the producers, proper workmanship in the execution of work by the developer. Quality assurance measures. Are both technical and organizational. The job of quality control and quality assurance would involve quality audit of both the inputs as well as the outputs. Inputs are in the form of materials for concrete: workmanship in all stages of batching, mixing, transportation, placing, compaction and curing; and the related plant, machinery and equipment; resulting in the output in the form of concrete in place. To ensure proper performance, it is necessary that each step in concreting which will be covered by the next step is inspected as the work proceeds. Each party including suppliers and sub developers in the realization of project should establish and implement a quality assurance plan, for its participation in the project. The individual quality assurance plan shall fit in to the general quality assurance plan. A typical quality assurance plan shall be:

Quality Assurance Plan:

1. Define task and responsibility of all persons involved.
2. Establish adequate control and checking procedures.
3. Organize and maintain adequate documentation procedures as follows

Documentation shall consist of:

a. Test report and manufacturer's certificates for materials, mix design details.
b. Concrete Pour cards and its approval records.
C. Record of site inspection reports and field tests.
d. Record of non-conformance report and change order.
e. Record of quality control through statistical analysis

Durability Requirements:

Notwithstanding the mix design prepared by the Developer, the absolute minimum quantity of cement, maximum water to cement ratio and minim um grade of concrete which must be used for various exposure conditions shall be as follows:

Durability Requirement of Reinforced Concrete				
Exposure	Cement Content (Kg/m3)	Max W/c Ratio	Min. Concrete Grade	Nominal Cover (mm)
Mild	300	0.55	M20	20
Moderate	300	0.50	M25	30
Severe	320	0.45	M30	45
Very Severe Extreme	340 360	0.45 0.40	M35 M40	45 70

Durability requirements of Plain Concrete			
Exposure	Cement Content (Kg/m3)	Max W/c Ratio	Min. Concrete Grade
Mild	220	0.60	M15
Moderate	240	0.60	M20
Severe	250	0.50	M20
Very Severe	260	0.45	M25

Extreme	280	0.40	M25

Sr. No.	Nominal Maximum Aggregate Size(mm)	Adjustment to minimum Cement Content to Table above (Kg/ M3)
I	10	+40
II	20	=0=
III	40	-30

Cement content not including fly ash and ground granulated blast furnace slag in excess of 450 Kg/m^2 should not be used unless special consideration has been given in the design to the increased risk of cracking due to shrinkage in thin sections, or to early thermal cracking and to the increased risk of damage due to alkali silica reaction.

The general environment to which the concrete will be exposed during its working life is classified into the following 5 levels of severity.

Environmental Exposure conditions:

Environment	Exposure Condition
Mild	Concrete surface protected against weather or aggressive conditions, except
	those situated in coastal area
Moderate	Concrete surface sheltered from severe rain or freezing whilst wet. Concrete exposed to condensation and rain or continuously under water. Concrete in contact or buried under non aggressive soil/ground water. Concrete surface sheltered from saturated salt air in coastal area
Severe	Concrete surface exposed to severe rain, alternate wetting, drying or occasional freezing whilst wet or severe condensation. Concrete completely immersed in sea water or exposed to coastal environment
Very Severe	Concrete surface exposed to sea water spray, corrosive fumes or severe Freezing conditions whilst wet. Concrete contact with or buried under aggressive sub soil/ ground water.
Extreme	Surface of members in tidal zone. Members in direct in contact with Liquid/solid aggressive chemicals.

Concrete weight Batching:

The aggregates shall always be measured by weight batching making due allowance for the water contained in aggregates. Volume batching of aggregates shall be permitted in exceptional cases only, after the PMC is satisfied that adequate control can be exercised by the developer and densities of the aggregates are fairly uniform. The Water shall be controlled by direct measurement and due allowance shall be made for water in the aggregates. Cement shall always be used on actual weight basis with necessary addition to compensate for weight of gunny bag and deficiency in weight of cement in the particular bag. Where nominal mixes are specified use of cement may be permitted on basis of number of bags as may be decided by the PMC. Record of theoretical and actual consumption of cement shall be maintained by the developer for each work separately and regularly. In addition to the accurate control of water / cement ratio, slump tests shall be adopted to check that there is no significant variation in the workability of the mix,

alternatively the Compacting Factor test in accordance with IS 1199 shall be carried out. The workability shall be ascertained as follows.

Workability of concrete

Sr. No.	Placing condition	Degree of Workability	Compacting factor / slump
1.	Shallow Section with Vibration	Very Low	0.75 To 0.80 SLUMP= 0.25 Run
2.	Lightly Reinforce Section With Vibration	Low	0.80 To 0.85 SLUMP = 25.50 MM
3.	Lightly Reinforce Section But Without Vibration	Medium	0.85 To 0.92 SLUMP = 75 – 100mm
4.	Heavy reinforced Section With Vibration	Medium	0.95 To 0.92 SLUMP = 75-10O mm
5.	Heavy reinforced Section Without Vibration	High	ABOVE 0.95 SLUMP = 15O -175 mm

Ready – mix concrete supplied by ready –mixed concrete plant shall be preferred. Solid admixtures shall be measured in mass, while the liquid admixture shall be measured in volume.

Volume batching with weight Control:

Where batching by volume with weight control is specified by the PMC, all measurement of sand, coarse aggregate and water shall be by volume and of cement by the bag controlled by regular periodical weighing. In order to ensure correct proportioning, the following precautions shall be taken:

The Developer shall maintain at site suitable number of platform balances, capable of weighing up to 200 kg to the nearest 100 g. The balance shall be used for weighing cement bags and occasionally boxes of sand and coarse aggregate as specified below:

The Developer shall provide the mixer operator with two standard measures. One of 5 liters and one of 1-liter capacity for measuring the water to be added to the mix. The quantity of water to be added to the mix shall be approved by the PMC or his representative and may be adjusted by them as frequently as necessary in order to allow for moisture content of the sand or coarse aggregate and workability desired. On no account shall the developer be allowed more water to be added to the mix than that specified. A mix containing such excess water may be rejected by the PMC or his representative and not allowed for use in any RCC works. Sand and coarse aggregates shall be measured by volume. The sizes of measuring boxes or the depth to which they are tilled-or both shall be adjusted to obtain the correct weight of each material specified by the PMC for that mix. Random weighing of box of sand or of coarse aggregate shall be carried out on the balance to ensure that filling of boxes is being done uniformly. Adjustment shall be made from time to time in the amount of each box filled to take into account variations in moisture content and bulking of sand. This frequent weighing of boxes, particular of sand if found to vary considerably in moisture content, and bulking may be required by the PMC and shall be done by the Developer without additional cost.

Concrete Mixing:

Concrete shall be mixed in a mechanical mix.er. The mixer shall comply with IS: 1791 and IS: 12119. The mixer shall be fitted with water measuring devices. The mixing shall be continued until there is uniform distribution of the material and the mass is uniform in colour and consistency. If there is segregation after unloading from the mixer, the concrete should be re mixed. In general, the mixing time shall be at least 2 minutes. For more efficient mixers, the recommendation of manufacturer shall be followed. Dosages retarders, plasticizer sand super plasticizers shall be restricted to 0.50, 1.0 and 2.0% by weight of cementations material. When hand mixing is authorized by the PMC, it shall be done on water tight platform. The material shall, be turned at least three times after the water is added and until the batch is

homogenous in appearance and colour. Concrete shall be poured and consolidated in its final position within half an hour of mixing. Tampering with concrete which is partially hardened, i.e. remixing with or without additional cement, aggregate or water, shall not be permitted.

Concrete Placement:

Before placing concrete, all equipment for mixing and transporting the concrete shall be cleaned and all debris shall be removed from the place to be occupied by the concrete. All form and soil surface shall be finished to the desired level and shall be thoroughly wetted immediately prior to placing concrete. Concrete shall be handled from the place of mixing to the place of final deposit as practicable by methods which will prevent the segregation or loss of any of the ingredients.

If segregation does occur during transport, the concrete shall be mixed before being placed. The concrete shall be placed and compacted before setting commences and shall not be subsequently disturbed. The concrete shall in no case be dropped from a height of more than 1.5 meters; rather it shall be carefully laid in its position. Before depositing the concrete, all debris and dirt shall be removed from the space to be occupied by concrete.

Concreting shall not be done unless the formwork conforms to the shapes, lines and dimensions as shown in the drawing. The formwork shall be sufficiently rigid. During the placing and compaction of concrete, care shall be taken to ensure that there is no loss of water from concrete and no segregation takes place. The method of placing and compaction employed in any particular section of the work shall be to be the entire satisfaction of the PMC. To ensure bond and water tightness between old concrete surface and the new concrete to be placed, the surface should be cleaned and roughened to initial green. Before plastering the surface shall be thoroughly hacked. The bonding of old and new concrete should be done by applying the cement slurry after thoroughly watering the old concrete surface and removing all loose particles. Unless otherwise approved, concrete shall be placed in single operation to the full thickness of slabs, beams and similar members and shall be placed in horizontal layers not exceeding 1 M deep in walls, columns and similar members. Concretes shall be placed continuously until completion of the part of the work between construction joints or as directed by PMC. Concreting shall not be started unless the Electrical conduits or any other piping wherever required are laid by the concrete agency. The Developer shall extend all the facilities, and maintain co-ordination of work with other agencies engaged in electrical and such other work as directed by the PMC. Before concreting, the developer shall provide, fabricate and lay in proper position, Metal inserts, Anchor bolts, and pipes etc. (which are required to be embedded in concrete members) as per relevant drawings and directions of PMC. Where concrete is placed on soil, it shall be placed only on firm undisturbed ground. Any concrete that is placed on a well compacted fill shall have the prior approval of the PMC. Concrete shall not be placed in standing water on sub grade or in foundation excavation. The concrete after being laid shall be compacted by means of vibrators complying with IS: 2505, IS: 2506, IS: 2514 and IS: 4656. Vibration shall not be confined only to the top surface but the whole mass of concrete shall be well vibrated until the dense mass assumes jelly like appearance and consistency with water just appearing on the surface. Over /under vibration or vibration of very wet mixes shall be avoided. Care should be taken to avoid segregation and formation of air bubbles. The whole process starting from the mixing of concrete to the placing and completion shall be completed before the initial setting takes place. All chutes, pipes and other placing equipment shall be kept clean and free from coating of hardened concrete by cleaning and thoroughly flushing with water after each run, and water used for flushing shall be discharged clear of the concrete already in place. No concrete shall be deposited until the PMC has inspected the forms, reinforcing steels, hollow clay tile units, sleeves etc. and given permission to place. Concrete shall be deposited only in the presence of representative of the PMC.

Tolerance on placing of reinforcement and Cover shall be as follows.

Tolerance on Placing of Reinforcements	
For effective depth 200 mm or less	± 10mm
For effective depth > 200 mm	±15mm
Tolerance on Placing of Nominal Cover	
For effective depth 200 mm or less	±l0mm
For effective depth > 200 mm	± 0mm

Curing:
Curing is the process of preventing the loss of moisture from the concrete while maintaining a satisfactory temperature regime. The prevention of moisture loss from the concrete is particularly important if the water cement- ratio is low, or if the cement has a high rate strength development. The curing regime also prevents the development by keeping the concrete covered with a layer of sacking canvas, Hessian or similar absorbent materials and kept constantly wet for least ten days from the date of placing of concrete unless otherwise specified. In the case of concrete where the mineral admixture or blended cement is used, the minimum curing period shall be at least 14 days.

The approval of the PMC shall be obtained for method of curing which the developer proposes to use on the work. In very hot weather precaution shall be taken to see that temperature of wet concrete does not exceed 38° C while placing. Heavy loads shall not be placed on or moved across floor slabs until curing is complete. Care shall be taken to prevent floor surface being marred during curing period. For freshly laid concrete,

Form work shall not be jarred. Walking on concrete shall not be permitted for at least twenty-four hours after it has been placed in the forms and for such additional length of time as the PMC may direct. Approved curing compound may be used in lieu of moist curing with permission of the PMC. Such compounds shall be applied to all exposed surfaces of the concrete as soon as possible covering closely the concrete surface may also be used to provide effective barrier against evaporation.

Construction Joints:
Joints are a common source of weakness and therefore it is desirable to avoid them. If this is not possible, their number shall minimize. Concreting shall be carried out continuously up to construction joints, the position and arrangement of which shall be approved by the design office. In general, the construction joints in slab and beams can be located at 0.30 x span from any one side. Construction joints should comply with IS: 11818. Construction joints shall be placed at accessible locations to permit cleaning out of laitance, cement slurry and unsound concrete, in order to create rough/uneven surface. It is recommended to clean out laitance and cement slurry by using wire brush on the surface of joint immediately after initial setting of concrete. Fresh concrete should be thoroughly vibrated near construction joints so that mortar from the new concrete flows between large aggregates and develops proper bond with old concrete. Where higher shear resistance is required at the construction joints, shear keys may be provided. The PMC's decision as to the extent of the liability of the developer in the above matter shall be final and binding.

Defective Concrete:
Should any concrete be found honeycombed or in any way defective, such concrete shall, on the instruction of the PMC, be cut out by the developer and made at his own expenses.

Concreting of Grade Slab:
Concrete for flooring on grade shall be placed in alternate bays not exceeding 6m x 6m or as specified on design drawings including hacking the joints of adjacent bays. The stiff mix shall be thoroughly vibrated and finished to receive the floor finish.

Admixtures:
The use of admixtures in concrete for promoting workability, improving strength and durability, entraining air or for any other purpose shall be only with the written approval of the PMC. In any case, addition of admixture shall not reduce the specified strength of concrete nor increase the risk of corrosion of reinforcement. The admixture shall conform to IS: 9103. The chloride content of admixtures shall be independently tested for each batch before acceptance. If two or more admixture res are used simultaneously in the same concrete mix, date should be obtained to access their interaction and to ensure their compatibility.

Non- Shrink Grout:
The Grout shall be such as to produce a flow mixture consistent with Manufacturer's recommendations. Surface to be ground shall be thoroughly roughened and cleaned. All structural steel elements/pockets to be grouted shall be cleaned of oil, grease, dirt, etc. The use of Muriatic Acid solution for this purpose will be permitted.

Formwork:
Developer to design the form work and centering as per IS: 14687, before commencement of actual work and get them approved by the PMC. Form work shall be composed of steel and/or best quality shuttering wood of nonabsorbent type. Timber shall be free of knots and shall be of medium grain as far as possible. Hard woods shall be used as caps and wedges under or over posts. Plywood or equivalent shall be used where specified to obtain smooth/fair surface for exposed concrete work. Struts/props shall generally be mild steel tubes, and strong steel balls 150mm in diameter or above. Bamboos, shall diameter ball is, etc. shall not be used as props unless approved by the PMC in specific cases. The form work (Concrete dimensions) shall conform to be the shape, lines and dimensions as shown in the in the Drawings, within the tolerances given below as per IS: 456- 2000

Deviation from specified dimensions of Cross Section of Columns and Beams	+ 12 mm 6 mm
Deviation From Dimensions of Footings in plan	+ 50 mm 12 mm
Eccentricity (W)= > Footing Width Along deviation	0.02 xw 50 mm
Thickness	0.05*Thick

The centering shall be true, rigid and thoroughly braced both horizontally and diagonally. The forms shall be sufficiently, strong to carry without undue deformation, the dead weight of the concrete at the time of casting as well as working load. Where the concrete is vibrated, the form work shall be strong enough to withstand the effect of vibration without appreciable deflection, bulging distortion or loosening of its components. The joints in the form work shall be sufficiently tight to prevent any leakage of mortar. The form work shall as ensure a smooth uniform surface free from honey combs, air bubbles, fins and other blemishes. Any blemish or defect found on the surface of the concrete must be brought to the notice of the PMC immediately by the Developer and rectified, free of charge, as directed by him. To achieve the desired rigidity, tie bolts, spacer blocks, tie wire and clamps as approved by the PMC shall be used but they must in no way impair the strength of concrete or leave stain or marks on the finished surface. Where there are chances of this fixture being embedded; only mild steel of adequate strength shall be used. Bolts passing completely through liquid retaining walls/ slabs for the purpose of securing and aligning the formwork should not be used. All forms for beams slabs and similar members shall be so designed and erected that the sides can be removed without disturbing the soffit and its supports. Vertical props shall be supported on wedges or sole plates by any other suitable means whereby the props can be gently lowered while commencing the removal of shuttering. Column shuttering shall not be over 2.5 meters in height a piece. For exposed interior and exterior concrete surfaces of beams, columns and walls, plywood or other approved forms, thoroughly cleaned and tied together with approved corrosion resistant devices

shall be used. Rigid care shall be exercised in ensuring that all columns are plumb and true and through cross braced to keep them so.

All forms shall be thoroughly cleaned of old concrete, wood shavings, saw dust, dirt and dust sticking to them before they are in position. All rubbish, loose concrete. Chipping, shaving, sawdust, etc. shall be scrupulously removed from the interior of the forms before the concrete is poured. Along with wire brushes, brooms, etc. compressed air jet and/or water jet shall be kept handy for the cleaning, if so directed by the PMC. Before reinforcement is placed in position, the form surface in contact with concrete shall be treated with approved form removing non-staining oil or releasing agent. The form work shall be so designed and erected that the forms for slabs and the sides of beams, columns and walls may be removed first, leaving the shuttering to the soffits of beams and their supports in position. Re- propping of beams shall not be done except with the approval of the PMC, and props can be reinstated in anticipation of abnormal conditions, if form work for column is erected for the full height of the columns, one side shall be left open and built up in section, as placing of concrete proceeds. Wedges, spacer bolts, clamps or other suitable means shall be. Provided to allow accurate adjustment of the form work and to allow it to be removed gradually without jarring the concrete.

The Developer shall record the date on which the concrete is placed in each part of the work and the date on which the form work is removed from there and have this record checked and counter signed by the PMC. The Developer shall be responsible for safe removal of the work but the PMC may delay the time if he considers it necessary. Any work showing signs of damages through premature removal of formwork shall be entirely reconstructed by the Developer without any extra cost to the society. Forms shall be thoroughly scrapped, cleaned, examined and when necessary, repaired, before they can be re- used. Form work shall not be used/re- used, if declared unfit or unserviceable by the PMC

Stripping Time:

Forms shall not be released until the concrete has achieved a strength of at least twice the stress to which the concrete may be subjected at time of removal of from work. In normal circumstances where ambient temperature does not fall below 15°C and where OPC is used and adequate curing is done, following striking period may be used.

Sr.No	Type of Formwork	Minimum Striking Period
01	Verticals of Columns, Walls and Beams	16-24 Hours
02	Soffit of slabs (Props to be re-fixed immediately	3 Days
03	Soffit of beams (Props to be re-fixed immediately	7 Days
04	Props of Slabs a) Spanning up to 4.5 meters b) Spanning over 4.5 meters	7 Days 14 Days
05	Prop of Beams/ Arches a) Spanning up to 6 meters b) Spanning over 6 meters	14 Days 21 Days

For other cements and lower temperature, the stripping time recommended above may be suitably modified. The number of props left under, their size and disposition shall be such as to be able to safely carry the full dead load of the slab or the beam, as the case may be, together with any live load likely to occur during curing or further construction. Where the shape of the element is such that the formwork has re-entrant angles, the formwork shall be removed as soon as possible after the concrete has set, to avoid shrinkage cracking occurring due to the restraint imposed. Before removing any form work, the developer must notify the PMC well in advance to enable him to inspect the concrete, if he so desires.

Precast Concrete

The specification for precast concrete shall be the same as that for the cast• in-place concrete. All precast work shall be carried out in a yard made for the purpose. This yard shall be dry, properly levelled and shall have a hard and even surface. If the ground is to be used as a soffit for the units, it shall be paved with concrete or masonry and provided with layer of plaster (1:2 proportions) with smooth neat cement finish or a layer of M.S. sheeting. Lifting hooks, where necessary or as directed by the PMC shall be embedded in correct position of the units to facilitate erection. Precast concrete units, when ready, shall be transported to site by suitable means approved by the PMC

After erection and alignment, the joints shall be filled with grout or concrete as directed by the PMC.

Embedded items shall be placed and maintained in correct position while concreting. Side shutters shall not be struck in less than 24 hours after depositing concrete and no precast unit shall be lifted until the concrete reaches strength of at least twice the stress to which the concrete may be subjected to at the time of lifting.

Embedded Fixtures:

The developer shall build into concrete work all items noted below and shall embed them partly or fully as directed and secure the same as may be required. Exposed surfaces of embedded materials are to be painted with one coat of approved anti-corrosive paint and/ or bituminous paint with one coat of approved anti- corrosive paint and/ or bituminous paint without any extra cost to the society. Necessary templates, jigs, fixture, support etc. shall be used as may be required or directed by the PMC, free of cost.

Items to embed:

- Inserts, hangers, anchors, frames around openings, manhole covers, frames, floor clips, sleeves, conduits and pipes
- Anchor bolts and plates for machinery, equipment and for structural steel work.
- Dowel bars, etc. for concrete work falling under the scope of other developers.
- Lugs or plugs for door and window frames occurring in concrete work.
- Flashing and jointing in concrete work
- Any miscellaneous embedment and fixture as may be required

Testing of Structure:

If from the test results it appears that some portion of the work has not attained the required strength, the PMC may order the testing of the suspected as well as adjacent portions of the structure. Such testing shall be at the developer's cost. The PMC may also reject the work and order its demolition and reconstruction at the developer's cost if the strength of concrete in any portion of the structure is lower than the required strength, but is considered nevertheless adequate by the PMC so that demolition is not necessary, the developer shall be paid lower rate for such lower strength concrete as determined by the PMC. The PMC may instruct the developer to carry out one or more of the following tests on the structure to ascertain its quality and durability.

Testing of structure:

1. Core test as per IS: 516
2. Load test on flexural member as per IS: 456 2000
3. Ultra-sonic pulse velocity test as per IS: 516
4. Rebound hammer test as per IS: 13311- part 2.

Load Test on Flexural Members as Per IS: 456-2000:

The member under consideration shall be subjected to a test load equal to 1:25times the specified live load used for design and this load shall be maintained for a period of 24 (twenty-four) hours before removal. The detailed procedure of the Test has to be submitted and approved by the PMC. Load testing shall be made after the structure is at least 28 days old. If the member shows evident failure, such changes as are necessary to make the structure adequately strong shall be made by the Developer free of cost to the society. Alternatively, if permitted under statutory regulations and at the discretion of the PMC the

structure under test or a portion thereof may be retained as such without any modification by reducing its load bearing capacity provided the design criteria allows such reduction. A reinforced concrete beam, floor or roof shall be deemed to have passed the test if the maximum deflection at the end 24 hours does not exceed the deflection given by the following expression:
Deflection (mm) = 40 L2/D, due to imposed load only.
L: Span of the member (m) under load test (the shorter span in case of slabs) D: Depth of the member (mm)

In case the actual deflection exceeds the above value and the member does not recover at least 75% (seventy- five percent) of the observed deflection within 24 hours after removal of load, the test loading shall be repeated after an interval of at least 72 (seventy-two) hours and the members shall be considered to have failed to pass the test, if the recovery after the second test loading, is not at least 80 % (eighty percent) of the maximum deflection shown during the second test.
The entire cost of load testing shall be borne by the developer. If a portion of the structure is found to be unacceptable, it shall be dismantled and replaced by new structure as per specification. The entire cost of dismantling and replacement and restoration of the site shall be borne by the developer.

8.9 TECHNICAL SPECIFICATION (MASONRY WORK)

1. Burnt Brick Masonry First Class in Lime/Cement Mortar

a. Materials: Bricks shall be first class, of uniform size, shape and colour conforming to IS: 1077 and must be well burnt so as to give a clear ringing sound when struck. They shall be clean, whole and free from flaws, cracks, stones or lumps of any kind, especially lime. They shall have sharp edges and angles and even surface and shall be round and hard to resist compression. They shall be from a source to be approved by the PMC. No brick after immersion in water for 24 hours shall absorb water more than 15 Percent of its weight. The bricks shall be homogenous in texture and shall not show any signs of efflorescence. First class bricks shall have a minimum compressive strength of 35 Kg/ cm.

b. Cement Mortar

Cement and sand shall be mixed in specified proportions; sand being measured in measuring boxes. The proportions will be by volume on the regular basis of 50 kg. bag of cement being equal to 35 litres. The mortar may be hand mixed or machine mixed. The mortar so prepared shall be used within 30 minutes. Only such quality of mortar shall be prepared as can be used within 30 minutes. The mortar remaining unused after that

12 mm Ceiling Plaster

Surface preparation, application and curing shall be as outlined for Neeru plaster except that undercoat shall be of 9 mm thick and finishing coat 3mm.

a. Watering and Curing – All plaster work shall be kept damp continuously for a period of 10 days.

b. Bad work – should the mortar of the plaster perish through neglect of watering or for any other default and if the work is not done as specified above, the plaster shall be removed and redone at the developer's expense.

8.10 SPECIFICATION FOR BRICK BAT COBA WATER PROOFING TREATMENT

1. MATERIAL

a. Cement, sand and water used shall be in conformity with the specifications for repairing concrete with polymer modified cement mortar mentioned elsewhere in the Tender.

b. Brick bats shall be prepared out of whole, sound, well brunt free from cracks and impurities to the entire satisfaction of the PMC.

c. China mosaic chips

China mosaic shall be broken flat glazed tiles of mixed colours of not less than 20 mm thick and of approved size and quality. Before laying the same it shall be thoroughly soaked in

water for at least 2 hours and then allowed to dry for 15 minutes. China mosaic shall be laid to required slope over a bedding of 25mm thick. Cement mortar and set in cement floating in approved patterns. Care shall be taken to fix the mosaic in the cement float tapping to the required slope, and to press the floor hard so as not to leave any air gap between the mosaic floor and brick bats below.

2. GENERAL

Waterproofing treatment shall be as specified in the schedule of items over RCC terrace slabs, chhajas and sloping roofs with or without cut-outs, openings, inverted beams, ducts, vents pipelines etc. All proprietary material shall be than laid to manufacturer's specifications and proportions but in no case less than the specifications and proportions as detailed in the following paragraphs.

a. Surface Preparation

The RCC and other surface should be cleaned off all foreign materials such as loose mortars, concrete, local humps, bare metal pieces and other unwanted materials. The surface to be treated shall be hacked with tacha to remove loose mortar scaling and roughened. The surface should be rubbed vigorously to remove all dust with the help of wire brush/ brooms. The surface should be cleaned to have proper bond with the waterproofing treatment to be laid.

The surface thus prepared shall then be washed with clean potable water before laying the waterproofing treatment. The construction joint cracks, honey combing; if any, should be located and should be treated with waterproofing compound injection, grouting etc. to seal the cracks, air holes combing etc. to the entire satisfaction of the PMC or his authorized representative. The terrace is then subject to terrace method of waterproofing treatment as per manufacturer's specifications

3. Workmanship

a. Surface, over which brick bats are to be laid, shall be thoroughly cleaned with water. 25mm thick layer of cement mortar 1:4 with approved waterproofing compound at 1 kg/bag material shall first be laid. Over this base material brick bats at required sizes shall be laid to proper levels and slope not flatter than 1: 100, waterproofing compound at 1 kg/bag. The brick bat coba so laid should be allowed to cure for at least for 3 to 7 days as instructed by the PMC and kept under water. Any seepage/ dampness notice on the underside of ceilings should be treated again as described above.

The finishing layer shall be finished with 20 mm thick cement plaster layer in cement mortar 1:3 with waterproofing compound at 1 kg/bag to the desired slope and level. The layer so laid should be joint less and troweled vigorously till it becomes hard. Suitable parabolic wattas at the junction of wall and floors up to a height of 300 mm or as directed shall be provided. The top layer of waterproofing treatment shall be finished with false marking if required. Subsequently, china mosaic chips shall then be fixed over this surface.

b. The construction joints shall be taken at the ridge and should be made properly watertight and monolithic. The total thickness of the treatment shall be average 115 mm thick with at least 50 mm thick at drain points. Any additional brick bat coba laid for attaining desired levels and slope will be measured and paid under separate item

c. Curing

Wet curing shall be done at two stages. Once for 3 days when brick bats are embedded in base mortar and second time for 7 days after interstices are filled up and top layer of cement mortar is applied. Any defects noticed during such times shall be attended to immediately to the entire satisfaction of the PMC.

4. Cleaning

All tools shall be cleaned immediately after use with clean water.

5. Guarantee

The Developer shall issue to the client a performance guarantee certificate for 07 years period in the format suggested by the PMC for water tightness of the treatment from the date of completion.

8.11 TECHNICAL SPECIFICATION (DOORS AND WINDOWS)

1. Wood

Wood used for all work shall be the best of the respective class specified, and properly seasoned by a least 6 months' air drying suitable for joiner's work, should be of natural growth, uniform in texture, straight grained, free from sapwood, dead knots, open shakes, boreholes, rot, decay and any and all other defects and blemishes. Timber shall be accepted as well seasoned if the moisture content done not exceed 18 %

2. Workmanship

a. All the wood work shall be neatly and truly finished to the exact dimensions required.

b. All the necessary mortising, grooving, tonguing, housing, rebating etc. for joiners shall be carefully done as per details and instructions so that all joinery work fits truly and without wedging or filling.

c. Framed wood work includes all sawing, cutting planning, jointing, framing, supply and use of all straps.

d. All ironwork connected with wood work and going to be embedded in masonry shall, before erection, receive 2 coats of hot coal tar. If it is to be painted, it shall be given first coat on the ground before being fixed in position and the two coats afterwards.

e. All woodwork shall be inspected and passed by the society/ PMC before being put into work

f. If within three months after the work is completed, any undue shrinkage or bad workmanship is discovered, the Developer shall forthwith replace or re-fix the same to the satisfaction of the PMC without extra charge.

g. Balusters: They shall have pattern, shape and dimensions as shown in detailed drawings or as directed.

h. Handrails: The hand rails shall be molded shaped and finished to the dimensions and slope as shown on the drawings or as directed. It shall be secured to the new posts and to the top of balusters, grill work or jail as the case may be, finishing shall be as specified in the item.

i. Doors and windows, Ventilators: Timber used shall be as mentioned in the item. Minimum three hold fasts shall be fixed to each post of door frame and two to each post of the window frame. The item shall be carried out in conformity with IS: 1003- Part I and part II. Homs shall be 150mm long. The vertical posts of the frame shall be embedded in sill masonry for 100 mm length in ground floor and 25 mm on the upper floors. The frames shall be erected in position and held plumb with strong supports. The shutters shall be fixed later. The joints of the frames with the wall shall be made neatly with pointing or plaster as the case may be. All fixtures and fittings shall be got approved. Finishing of the doors shall be as specified in the item.

j. The door shutters shall be of approved make and type and of the exterior or interior grade as mentioned in the item. It shall confirm to the relevant specification for the type and grade given in IS: 2202 (Part-I and Part- II). Face veneers used shall be of the approval pattern and colour. When glazing and/ or Venetian are provided in the item, the same shall be done in door shutters in the position shown in the detailed drawings. Lipping – If so specified, edges of the core shall be lipped with ls Class teakwood battens and as per IS: 5248

k. The Cellular or hollow core shutter shall be of the commercial type of the exterior or interior grade as mentioned in the item and shall conform to IS 2191 (Part I and Part II).
Lipping: If so specified, edges of the core shall be lipped as described above.

l. For windows the frames shall be of teakwood and each window in one full length.

m. Fittings and fixtures shall be as shown on the drawings or as directed. Glazing shall be as specified. Finishing shall be as specified in the item. For Venetian windows, the specifications shall be same as that for Venetian doors except that it shall be fully ventilated.

3. Aluminum Windows: U.P.V.C Windows-

a. The windows shall make out of extruded aluminum tubular hollow sections of heavy duty. The corner joints shall be mechanical.

b. Openable windows shall be double weather-stripped. One weather-strip shall be provided in the outer frame and the other weather-strip in the shutter frame. The weather strip shall be of extruded neoprene and of a size to make the windows completely weather – tight. The weather strip shall be detailed in the window sections.

c. The design and arrangement of screw less beading shall be such as not to allow any water penetration.

d. The coupling bar if required shall be such as to have inherent features of a weather bar as well as shall prevent leakage of water.

e. The hinges of openable window shall be strong. Pin of the hinges shall be of non- corroding material, preferably nylon. In case the windows are- projected type (side hung or top hung) these shall be provided with brass pivots sliding on stainless steel guides, allowing cleaning of glass from inside and outside. The brass pivot shall have arrangement for adjusting the friction. Concealed type friction stays shall be provided to keep the windows open 1n any desired position.

f. The windows shall be made out of master sections for outer frame and shutter frame. The respective portion of the outer frame and shutter frame shall be milled off to give pivoted window out of single solid without cutting and welding the section, which weakens the window.

g. The aluminum sections shall be anodized in natural matt finish and the anodic film shall be 25 microns (±3 microns)

4. Glaze Work

a. General

The specification covers glaze work including the type of glasses, putty, method of fixing the glass in wooden or steel frames, partitions etc.

b. Glass

All glasses shall be of the best quality, free from specks, bubble smoker, veins, air holes, blisters and other defects. The kind of glass shall be as mentioned in the item and as shown in the detailed drawings. The thickness of glass panes shall be uniform.

c. Workmanship

All glasses shall be cut accurately to fit easily in to rebates and to be well puttied and as directed. Glazier's putty shall be made of pure whiting and raw linseed oil and to be used fresh except to metal windows and doors where metal beading hardening agent like litharge shall be used.

d. Items to include

i. Providing and fixing the type of glass as specified including cutting and waste.
ii. Cleaning the glazed work.
iii. Repairing of any work damaged during glazing.
iv. All labour, material, scaffolding and equipment required to carry out the item.

8.12 TECHNICAL SPECIFICATION (FLOORING)

1. Indian Patent Stone Flooring

a. Materials

i. The cement, sand and water constituting the materials for the work shall conform to the specifications laid down for the concrete work.

ii. Stone aggregates required for work shall be 10 mm and below in size, well graded.

iii. Proportions of cement, sand and metal shall be 1:2:3

b. Workmanship

i. The surface of the sub-base shall be thoroughly wetted and cement slurry shall be applied thereto with fine broom.

ii. The mixing, transporting and placing of the materials shall be in conformity with the specifications laid down for the concrete work.

iii. The laying- shall be done in alternate bays not greater than 3.5 m? to the required thickness, and the surface shall be finished smooth with cement floating coat 33 mm thick complete with lining, borders, etc., as directed

iv. When used for terrace concrete (1:2:3) mix to a height of 15 cm and finished flush with the internal plaster of the parapet wall. In floor, the joints shall be 6 mm thick kept by means of steel or timber dividing strips. The joints shall be cleaned and filled with bitumen compound as directed.

2. Granamite Tile Work in Living/Bedroom

a. Materials

Granamite tiles lm x lm in living area and 600x 600 mm in other rooms shall be of enlisted manufacturer, quality, uniform in size, and free from warp, cracks and other defects. The developer shall furnish samples of tiles he intends to incorporate in the work. Anti-skid in Kitchen/Balconies/Bathrooms.

b. Workmanship

The tiles shall be soaked in water for 10-12 minutes and allowed to dry for the same length of time before laying. Sub-base shall be thoroughly wetted after cleaning all dirt, scum, laitance and other material. Lime and sand mortar (1:2) or equivalent shall be laid over the sub-base and finished to proper levels and falls, the top being left slightly rough to from a satisfactory key for the tiles. The lime mortar bedding shall be allowed to harden for 24 hours before the tiles are laid. Neat cement grout of honey like consistency shall be spread over the mortar over the bed. Tiles with their under-side also smeared with cement slurry then are laid in an approved pattern one after another each tile being gently tapped with a wooden mallet. The joints shall be as close as possible and in straight lines, the width not exceeding 1.5 mm. The tiles shall be jointed in cement mixed with suitable pigment to give a fine and nearly indistinguishable jointing. The floor surface shall be machine polished to the entire satisfaction of the PMC. Chequered or grooved tile flooring shall always be polished by hand. The work shall be properly cured for at least seven days and kept well protected.

3. Granamite Tile Work in Dado and Skirting

Dado and skirting shall be fixed only after laying of floor tiles. The brick or concrete wall surface to which the tiles are fixed shall first be wetted with clean water and later covered evenly with 15 mm thick cement mortar (1:3). Before this is hardened, tiles with cement slurry shall be laid and gently tapped against with a wooden mallet in a true plane and level. The fixing shall be done from bottom upwards. All other specifications shall be similar to those for the flooring work except polishing being done by hand

4. Colored Terrazzo Tiles Flooring, Dado and Skirting

Same as specified for Granamite tiles flooring, Dado and skirting

5. Glazed Tiles Work in Floors, Dado and Skirting

a. Materials

Glazed tiles shall be of the first quality, indigenous make, 6mm in thickness. They shall be of approved manufacture and approved quality

b. Workmanship

The developer shall furnish samples of tiles he intends to incorporate in the work. Tiles shall be immersed in water for at least 6 hours prior to their use. Cement and sand mortar (1:4) bedding shall be laid over the approved sub• base and finished to proper levels and falls. It shall be roughened before the surface has hardened. Surface shall be cleaned afterwards and well wetted to receive thin cement slurry. Tiles with their under-side also smeared with cement paste shall then be laid over the beddings and tamped into positions properly to have the top surface in true plane and level or to fall as directed.

The joints shall be cleaned of the grey cement grout with wire brush or trowel and all dust and loose mortar removed. Joints shall then be filled with cement of suitable colour. The work shall be properly cured for at least seven days.

6. Polished Granite, Kota, Cuddapah, Shahabad and Tandoor Stone Flooring, Skirting and Facing

a. Materials

At its thinnest part, no stone shall be thinner than 25mm. The flag stone shall be hard, sour durable, resistant to wear, rectangular or square in shape as directed and of required width. They shall have plain surface. Stone flags shall be without any sort of veins, cracks or flows and shall have a uniform colour. They shall have even natural surfaces, free from broken flakes on top and shall be chiseled on edges to half its depth, true and square to ensure uniform width of joint. The edges shall be quite straight. Cement mortar for bedding and pointing shall be of the required proportion. They shall be free from veins, flaws and their edges shall be true and square and shall be machine cut and surface double machine polished.

b. Workmanship

The surface on which the stone slabs are to be laid shall be cleaned of all dust and saturated and water. The slab shall be set in cement slurry over lime mortar (1:2) bedding and tamped with wooden mallet. The joints shall be flushed with cement and cured for 7 days. Polishing as specified in the item of marble mosaic tiles.

Cement mortar for bedding may be mixed manually or by a mechanical mixer. The amount of water added shall be minimum necessary to give sufficient plasticity for bedding. Before spreading the mortar, the base shall be cleaned of all dirt, scum or laitance, and of loose material and well wetted without having any pool of water on the surface. All points of level for the finished paving shall be marked out. The mortar shall be evenly and smoothly spread using screed battens only over so much area as will be covered with stone slabs within half an hour. The thickness of the mortar bedding shall be less than 12 mm or more than 25mm. The required slope shall be given to the bed.

Before laying, the stone flags shall be thoroughly wetted with clean water. Neat cement grout of honey like consistency shall be spread on mortar bed over as much area that could be covered with slabs within half an hour. Specified type of slabs shall then be laid on neat cement float and shall be evenly and firmly bedded to required level and slope in mortar bed. Each slab shall be gently tapped with a wooden mallet till it is firmly and properly bedded. There shall be no hollow left. If there is hollow sound on gentle tapping of the slabs, such slabs shall be removed and reset properly. The mason shall make the joints of uniform thickness and in straight line. The thickness

of joints shall not exceed 1.5 mm and shall be grouted with neat cement slurry.
The exposed surface of the specified slab shall be machine polished to a smooth, even and true plan after curing the stone surface with wet sand water for 7 days

8.13 TECHNICAL SPECIFICATION (SANITARY, WATER SUPPLY AND DRAINAGE)

1. GENERAL

The work shall be carried out, in compliance with the requirements of relevant bye-laws of the local body in whose jurisdiction the work is situated. All materials, fixtures and workmanship shall be in accordance with the relevant IS specifications and codes of practice unless otherwise specified hereunder. Sanitary, plumbing work shall be carried out by a licensed plumber

2. AII glazed earthenware shall be of approved make, white in colour. All metallic fixtures like taps, stop cocks, soap holder etc. shall be of CP brass make. All wall fittings shall be fixed with wooden plugs and CP brass screws and washers.

All pipes and sanitary fixture and fittings shall be of good quality, free from blisters, cracks, and such defects. They shall be of required size and conforming to relevant IS codes. Measurement shall be taken in as laid condition and the rates shall be inclusive of all fittings, junctions, bends, Y's T's, caulking where required, bolts, threading, labour, tools, complete.

All pipes, fitting and appliances shall be thoroughly cleaned before fixing and care should be taken to that no extraneous material gets into them during fixing. All items required for ensuring leak proof joining and efficient functioning of the pipe and appliance shall be carried out without extra claims. All these works shall be carried out by an experienced and/or licensed plumber to the entire satisfaction of local laws and the PMC. All cement joints shall be cured for seven days. All holes made in walls shall be made good with no extra claims.

The pipes before being laid shall be thoroughly cleaned specially the inside of pipes, if required. Socked ends of pipes shall always face upstream of effluent flow. The drains shall run in perfect straight lines between manholes. The trenches shall not be filled in until the joints have been tested and alignment of drains and connections into and from the manhole and their positions have been examined and certified by the PMC, if required. The whole of sanitary work comprising provision of drainage and water supply arrangements including sanitary water fittings and fixtures complete in all respects shall be carried out in accordance with the rules and regulations of the local authority through the agency of a licensed plumber. If required, the Developer shall have to get all the materials brought on site for incorporation in the work, approved by the local authority at his own expenses
Wherever practicable all the main drain shall be commenced at the point of the outfall, the necessary junctions for the branch drains to be inserted as the work proceeds until the mains are completed. The branch drains shall then be commenced at the point of the junction with the main drain. The whole of the drain pipe shall be accurately laid and butted closely together at the joints, where stoneware concrete drains are laid. Special care shall be taken that cement etc. is neatly out of the pipes by drawing a closely fitted wad through them as the work proceeds

3. Wall Mounted Type Water Closet-Concealed Type.

Wall Mounted Type Water Closet shall be conforming to IS: 2556 part III and the size shall be as specified in the drawing.

4. Wash Basin

This shall be one-piece construction including a combined overflow and shall be flat back with one tap hole and shall conform to IS 2556-part IV. A slot type overflow with an area minim um 5 sq. cm^2 in the back of the basin and so designed as to facilitate cleaning of overflow. The basin shall be fitted on

M.S. or CI bracket as per IS 7751 and shall be painted with two coats of enamel paint over a coat of primer. The basin shall be fixed flush on wall side and jointed with white cement mortar. One pillar cock CP brass 15 mm and PVC connecting pipe with brass union, a CP brass bottle trap with union and extension piece, CP brass chain and rubber or PVC stopper shall be fitted with wash basin. Normally wash basin shall be fixed at 300mm above floor level.

5. Kitchen Sink/ Lab Sink

These shall be of stainless steel (anti-noise), heavy section, one-piece construction and conforming to IS: 2556-part V and as per the size indicated in schedule of quantities. It shall be fixed either on platform or on brackets with CP bottle trap with 40 mm diameter CP brass waste extension coupling and rubber plug with CP brass chain.

6. Shower Rose

This shall conform to IS 2064. The shower head shall be CP brass 100/ 150mm diameter with holes of one mm diameter each sufficiently close for all ordinary requirements.
Normally it shall be fixed at height of 2.0 m from floor level.

7. Toilet Paper Holder

This shall be either CP brass projected type or glazed earthenware recessed type as indicated in drawing.

8. Soap Dispenser

This shall be CP brass or approved quality and shall be fixed with CP brass screws on wooden plugs firmly embedded in wall.

9. Nani Trap

This shall be of heavy C.I as per IS 3989 with 100 mm inlet and 80/ 100 mm outlet with CP pressed steel grating shall be of self-cleaning design. This shall be fixed in 1:2Cement Mortar

10. C.I. Soil/ Waste Pipe

These shall be socket and spigot type conforming to IS 3486 (heavy duty). The spigot of the pipe shall be placed fully resting inside the socket and jointed by lead spigot of the pipe shall be of hemp yarn. Lead conforming to IS: 782 in molten state shall be poured in the joints in one operation and shall be caulked with proper tools to make it even all round. Depth of the lead from the top joints shall 37 mm for 150 mm diameter pipe 25 mm for 100- and 50-mm pipe. All holes in walls and floor shall be made good with M 15 grade concrete and should be leak proof.
All pipes shall be tested for leakage by hydraulic test

(10a) Specification PVC soil/waste pipe

The PVC pipes of specified diameter shall confirm to IS 13592 and designed to withstand continuous hydraulic pressure of 4 kg/ cm^2

11. Glazed Stone Ware Ceramic Pipes

This shall conform to IS 651and shall be best quality stoneware free from air blows. Fire blisters, cracks, and other imperfections and the surface external and internal shall be smooth and perfectly glazed. Thickness of the pipes shall be uniform throughout. The depth of the socket should not be less than 38 mm for all pipes up to 200 mm diameter. The internal diameter of spigot should be sufficiently large to allow a joint of min 6mm all-round which shall be filled with hemp yarn and 1:2 cement mortar. The laying of stoneware pipes shall be done to the specified slopes on the M 10 grade PCC bedding in the trench.

12. Half Round channel

Half round glazed stoneware channel shall be same as above in glazed stone ware pipes but with half round pipes and the rate shall include providing and laying half round glazed stoneware pipes including jointing with 1:2 cement mortar and filling of MIS concrete in the space around pipes etc. complete.

13. Stone Ware Gully –Trap Chamber

This shall be (100 x 150) confirming to IS: 651 or approved equal complete with C.I. cover. The size of frame and cover shall be 300 x 300 and shall be properly fixed. The size of chamber shall be 300 x300 (internal dimensions) and shall be constructed in 1: 4 CM, 115 mm brick work resting on 1:3:6 concrete- bedding. Inside and outside faces of brick work shall be plastered with 1: 3 CM.

14. Inspection Chamber

The size of the manhole and chamber shall be as specified in drawing or items. It shall be constructed with 230 thick and 350 thick brick masonry in 1:5 CM resting on MIO bed concrete, the inside and exposed holes of chamber shall be plastered with 20 thick cement mortar 1:3 C.I. Manhole cover shall be provided as per drawing or MS rungs if required for deeper (1500 mm) manholes with 16 $MS rod and painted with 2 coat of anticorrosive paint.

15. Pipes and Fittings

All pipes and fittings shall be 'C' class type and shall conform to IS: 1239 for water supply. All screwed pipes and fittings shall have threading conforming to IS: 554. All fittings shall be malleable galvanized iron and shall include couplings, elbows, tees bends, unions, nipples, reducers, and flanges with nuts, bolts and rubber insertions, bushes etc. required to complete the work. Screwed GI pipes shall be jointed with socket joints and while lead and fine hemp. Compound containing red lead shall not be used. All pipes above ground shall be fixed with GI holders clamps clear off the wall at 2.5 and 2.0 cm maximum for vertical and horizontal respectively. If the pipes are embedded in wall by chiseling walls they shall be secured in position by GI hooks@ 1.2 M etc. All visible pipes shall be painted with 2 coats of white oil paint. All U / G pipes shall have min. earth cover of 600 mm before pipes are covered or painted. These shall be tested to hydrostatic pressure of minimum 6kg/ cm2.

a. Materials

The galvanized iron pipes shall be of the type and diameter specified and complies with IS: 1239, 1973. Unless otherwise specified, heavy type (C Class) galvanized iron pipes shall be used. Fine hemp, linseed oil, clamps, screws and galvanized iron fittings shall be covered in the rates.

The fitting shall be secured clear of the wall surface by means of MS holder bats. All control valves, bib cocks, stop cocks, ball valves shall be of the best approved quality procurable of heavy cast drawn brass.

b. Laying and Fixing

Where pipes have to be cut or re threaded, ends shall be carefully filled out so that no obstruction to bore is offered. In joining the pipes, the inside of the socket and the screwed ends of the pipe shall be rubbed over with white zinc and few turns of hemp yam wrapped round the screwed end of the pipe which shall then be screwed home in the socket with a pipe wrench. Care must be taken that all pipes and fittings are kept at all times free from dust and dirt during fixing.

c. Internal Work –CPVC

For Internal Work, G.I pipes and fitting outside the walls shall be fixed by means of standard batten holder (guttis) and clamp keeping the pipe clear off the wall by 15m. Where directed by the PMC. Chasing of walls shall be done to embed pipes. All pipes and fittings shall be truly vertical and horizontal or as directed by PMC. All embedded water pipes shall be wrapped in bituminous coated tape.

d. Testing:

All PVC Pipes (heavy duty) and fittings shall be tested to a pressure of 10Kg/cm2 for 2 hours to ensure that pipes have proper threads and jointing (which shall be sealed with white zinc and hemp). All leaking joints shall be leak proof by tightening or redoing at Developer's expense.

16. Gun Metal Valve

All full way and globe valves shall be of gun metal and tested at 300 psi and shall conform to IS 778

17. BIB and Stop Cock

These shall be of screw down type heavy grade and conform to IS 781. All taps shall be CP brass or ordinary brass as specified.

18. AC Vent Pipes

These shall conform to IS 1626 and shall be fixed by M.S. brackets to bricks/concrete work and steel work as indicated in drawing. All clamp brackets shall be painted with 2 coats of enamel paint. The pipes shall be jointed with jute yam dipped in coal tar and ground with 1:2 CM.

8.14 TECHNICAL SPECIFICATION (PAINTING)

1. **Painting and Polishing –**
2. **General**

A skilled painter with paints and shades as approved by the PMC shall carry out all paintings. Thoroughly cleaned brushes shall be used. Entire building shall be swept clean before taking up painting work. Paints generally shall be ready mixed and supplied and delivered to sites in sealed containers clearly labelled. Lids of the drums shall be kept tightly closed when not in use. Paints are to be used strictly in accordance with the manufacturer's printed instructions. Wherever required, scaffolding shall be double scaffolding, so that it is independent of structure or walls. Painting work shall be taken up after all other trades are practically complete.

The surface to receive the paint shall be thoroughly cleaned from mortar droppings and foreign matter and sand papered. All broken edges, cracks, loose plaster and wavy surface shall be brought up to patch plasterwork. New plaster surface shall be painted after 2 months. Painting should be done upon thoroughly dry surface only.

All metal fittings and fastenings are to be removed before the preparatory processes, cleaned and re- fixed in position on completion. Wherever it is not possible, the fittings shall be protected by covering it with polythene sheet or cloths etc. at no extra cost.

All previously, painted woodwork shall be washed with soap and water, well rinsed with clean water and rubbed down with waterproof abrasive paper before repainting. All cracks, crevices and holes to be scrapped out, primed and made good with hard approved make or made up on the job site according to the approved practice. All knots of woodwork should be treated to prevent bleeding. Large or loose knots should be cut out and replaced with ground wood or cut back and the surface made good with stopper. Smaller knots of wood or treated with two thin coats of knots should be cut out and replaced with ground wood or cut and the surface made good with stopper. Smaller should be treated with two thin coats of knotting. The knotting used shall be of approved make, free from resin.

All iron and steelwork shall be cleaned from scales, loose paint, oil dirt etc. All iron and steel work should be properly prepared and treated with approved pacifying solution and primed with selected primer. This preparation and priming should be followed immediately by painting, with approved paint. Painting shall be done to the entire satisfaction of the PMC. If PMC feels that surface has not achieved the desired result, the surface shall be repainted by the Developer at no extra cost. All rubbish to be cleaned from time to time as it accumulates, and the premises left

clean and fit, all locks to be eased and oiled. Floors to be scrubbed after completion of work.

2. White Washing with Lime

a. Preparation of Surface:

Before new work is white washed, the surface shall be thoroughly brushed free from mortar droppings and foreign matter. In case of old work, all loose pieces and scales shall be scrapped off and holes in plaster as well as patches of less than 50 sq. cm. area shall be tilled up with mortar of the same mix.

b. Preparation of Lime Wash:

The wash shall be prepared from fresh stone white lime. The lime shall be thoroughly slaked on the spot, mixed and stirred with sufficient water to make a thin cream. This shall be allowed to stand for a period of 24 hours and then shall be screened through a clean coarse cloth. 40 gm. of gum dissolved in hot water, shall be added to each 10 cubic decimeters of the cream. The approximate quality of water added in making the cream will be 5 litres of water to one kg. Of lime. Indigo (Neel) up to 3 gm per kg. Of lime dissolved in water, shall then be added and wash stirred well. Water shall then be added at the rate of about 5 litres per kg. Of lime to produce a milky solution. Lime obtained as a by-product in the manufacture of acetylene may also be used for white washing purposes, instead of white lime of natural quality. When such lime is used it shall be ensured that it is procured fresh in the form of a paste and used before it dries up. The lime shall be mixed with sufficient 'water to make it a thin cream. The cream shall be screened through a clean coarse cloth and 40mm gum dissolved in hot water added for each 10 cubic decimeters of the cream. More water shall be added at the rate of 5 liters per kg. of lime to produce a milky solution. When by-product lime is used it is not necessary to add indigo (fabric whitener).

c. White Washing:

The white washing shall be applied with brush to the specified number of coats. For mode of measurement of painting works, refer IS 1200. The operation for each coat shall consist of a stroke of the brush given from the top downwards, another from the bottom upwards over the first stroke and similarly one stroke, horizontally from the right and another from the left before it dries. Each coat shall be allowed to dry before the next one is applied. Further each coat shall be inspected and approved by the society/ PMC before the subsequent coat is applied No portion of the surface shall be left out initially to be patched up later on. For new work, three or more coats shall be applied till the surface presents a smooth and uniform finish through which the plaster does not show. The finished dry surface shall not show any signs of cracking and peeling nor shall it come off readily on the hand when rubbed.

d. Protective Measures:

Doors, windows, floors, Articles of furniture etc. and such other parts of the building not to be white washed shall be protected from being splashed upon. Splashing and droppings, if any, shall be removed by the Developer at his own cost and the surface cleaned.

3. Luster/ Plastic Paint- Asian Velvet or Higher

a. Materials:

Luster/Plastic washable paint of approved brand and manufacture shall be used. The primer used as on new work shall be cement primer or distemper primer. This shall be of the same manufacture as oil bound distemper.

b. Preparation of Surface:

The surface shall be thoroughly cleaned of dust, old white or colour wash by washing and scrubbing. The surface shall then be allowed to dry for at least 48 hours. It shall then be sand papered to give a smooth and even surface. Any unevenness shall be made good by applying putty made of plaster of Paris mixed with water on the entire surface including filling up the undulation and sand papering the same after it is dry.

c. Application:

i) Primer Coat:

The primer coat shall be with luster primer or cement as required in the description of the item. It shall be applied with a brush on clean, dry and smooth surface. Horizontal strokes shall be given first and vertical strokes shall be applied immediately afterwards. This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks. It shall be allowed to dry for at least 48 hours, before oil bound distemper or paint is applied.

ii) Luster/Plastic Coat:

For new work, after the primer coat has dried for at least 48 hours, the surface shall be lightly sand papered to make it smooth for receiving the distemper, taking care not to rub the priming coat. All loose particles shall be dusted off after rubbing. One coat of distemper properly diluted with thinner (water or other liquid as stipulated by the manufacturer) shall be applied with brushes in horizontal strokes followed immediately by vertical ones which together constitute one coat. The subsequent coats shall be applied in the same way. Two or more coats of distemper as are found necessary shall be applied over the primer coat to obtain an even shade. A time interval of least 24 hours shall be allowed between consecutive coats to permit proper drying of the preceding coat.

d. Water proof Elastomeric Paint

i. Materials:

The water proof Elastomeric paint shall be of approved brand and manufacture.

ii. Preparation of Surface:

The surface shall be thoroughly cleaned of all mortar droppings, dirt, algae, grease and other foreign matter by brushing and washing. The surface shall be thoroughly wetted with clean water.

iii. Preparation of Mix:

Water proof elastomeric paint shall be mixed as per manufacturer's instructions. Care shall be taken to add the water proof elastomeric paint gradually to the water and not vice versa.

e. Application

i. The solution shall be applied on clean and wetted surface with brushes or spraying machine. The solution shall be kept well stirred during the period of application. The method of application of water proof elastomeric paint shall be similar to oil bound distemper. Three or more coats of water proof elastomeric paint as are found necessary shall be applied.

ii. All paints shall be of best manufacturer and to be delivered at the site in the maker's original packages and tins and maker's guarantee to be produced if called for by the PMC. The quality of the paint shall be suitable for use in the local climatic conditions. Thinners must be those recommended by the manufacturers and used only as directed by them.

iii. Sample tint of all finishing coats shall be prepared and submitted to the PMC for his

approval. The priming, under coating and finishing coats shall be of different tints. The finishing coats shall be semi-glass or matt-finished as directed by the PMC. All the materials shall be kept properly protected when not in use. Lids of containers shall be kept closed and the surface of paint in open or partially open containers shall be covered with thin layer of turpentine to prevent the formation of skin. Materials which, in the opinion of the PMC, have become stale or flat shall not be used on the works and shall be removed from the site of the work

iv. The paint shall generally confirm to the composition and other characteristics to the relevant IS specification.

v. The paint shall be put on with approved brushes, kept well bound and well worked during its application. For iron work, fairly stiff brushes shall be used. The painting to be carried out in such order as directed by the PMC. The brushes shall be thoroughly cleaned out before being used for a different type or class of material.

v. The contents of the drum or tin shall be stirred well before use. Thinning of paint shall not be permitted without the specific permission of the PMC. Each coat of paint shall be thoroughly dry before the next coat is laid on. All surfaces shall be rubbed down with an abrasive material appropriate to the surface treatment.

vii. All painting work shall be in strict conformity to the sample panels approved by the PMC. All floors to be twice washed, all works on paint to be sponged off, the work generally to be touched up after and left clean, perfect and water-tight on completion to the satisfaction of the PMC.

4. Painting Priming Coat on Wood, iron or Plastered Surfaces:

a. Materials:

The priming coat for work, iron work and plastered surface shall be as specified in the description of item. It shall be prepared at the site of works or readymade primer of approved brand and manufacture shall be used.

b. Preparation of Surface:

i) Wood Work:

The wood work to be painted shall be dry and free from moisture. The surface shall be thoroughly cleaned. All unevenness shall be rubbed down smooth with sandpaper and shall be well dusted. After the priming coat is applied (the holes and indentation on the surface shall be stopped with glazier's putty or wood putty. Stopping shall not be done before the priming coat is applied as the wood will absorb the oil in the stopping and the latter is therefore liable to crack.

ii) Iron and steel Work:

All rust and scales shall be removed by scraping or by brushing with steel wire brushes. All dust and dirt shall be thoroughly wiped away from the surface. The surface shall be dried before priming coat is undertaken

5. Oil Paint:

a. Material:

Paint, Oil etc. of approved brand and manufacturer shall be used. If, for any reason, thinning is necessary in case of ready mixed paint, the brand of thinner recommended by the manufacturer or as instructed by the PMC shall be used.

b. Commencing Work:

Painting shall not be started until the PMC has inspected the item of work to be painted.

6. Painting with Wood Preservative

- Oil type wood preservative of specified quality and approved make, conforming to IS: 218 shall be used.
- Preparation shall be done only when the surface is perfectly dry to permit good absorption. All direct dust or other foreign matter shall be removed from the surface to be pained.
- Application:
- The preservative shall be applied liberally with a shout brush in two coats.

a. Paint:

Synthetic enamel paint of approved brand and manufacturer and of the required shade shall be used for the top coat and an under coat of shade to match the top coat as recommended by the manufacturer shall be used. The surface preparation shall be as described earlier

ii) Application: Under Coat:

One coat of the specified paint of shade shall be applied and allowed to dry overnight. It shall be rubbed next day with the finest of wet abrasive paper.

Top Coat:

Top coats of the specified paint and desired shade shall be applied after the under coat is thoroughly dry. Additional finishing coats shall be applied if found necessary to ensure proper, uniform glossy surface

8.16 TECHINICAL SPECIFICATION (ROADS)

1. GENERAL

a. Materials

Metal:

i. The stone or breaking metal or metal obtained from quarries shall be hard, tough, sound, durable, clean, dense, closed structure and free from soft decayed and weathered portion. The stone should successfully resist weathering abrasion and fracture against traffic. Stone should have freshly broken faces, disintegrated stone or those with loose skin shall be excluded.

Sand:

ii. Sand obtained from river or any other sources (sea sand shall not be used) shall be got approved before stacking to work site. It should be free from silt, organic and deleterious matter. The sand shall be coarse, hard and should not generally contain particles bigger than 6 mm and silt more than 10% **Gravel:**

iii. The gravel shall be free from organic or deleterious matter. The gravel should be hard, dense and tough and should not generally contain particles bigger than 12 mm silt more than 10 %

Bitumen:

iv. Natural or naturally occurring bitumen from natural hydro carbons or from derivatives of natural hydro carbons by distilling, oxidizing, or cracking, solid or viscous, containing a low percentage of volatile product, possessing agglomerating properties and substantially soluble in carbon sulphide and shall be of specified grade.

2. Specifications

a. Formation:

The ground shall be dug or filled to proper levels. The formation shall be formed to proper gradient camber and super elevation corresponding to the required finished surface and shall be watered and rolled with an l0tons to 12tons power roller.

b. Soling:

Soling may be of hard stone or over brunt bricks as per specified in drawings.

i) **Hard stone soling:**

15 cm to 23 cm hand packed hard stone soling shall be done in the formation trench which is 30 cm wider on both sides than the finished road surface in one layer (longer sides placed vertical and interstices shall be formed to gradients, camber and super elevation as required. Then it shall be rolled for proper compaction with an l0ton power roller, any depression or hollow filled with spalls

ii) **Over brunt brick soiling:**

There shall be 25 mm thick sand cushioning below the over burnt brick soling over the formation trench prepared 30 cm more wider on both sides off the actual finished road surface required. Bricks are laid on edge in loamy soil or flat over hard soil in length along the width of the road, 23 cm profiles should be made right angles to the length of road at 25 cm to 3.0, intervals. Joints are filled with sand and 25mm thick layer of sand shall be spread over uniformly and should be rolled with a 6ton power roller for proper compaction to required gradients, camber and super elevation etc. as specified.

c. Shingle or Murum Surface:

The material shall be obtained from the quarry river bed or any other source screened to remove size in excess of half the spread thickness. It shall be spread uniformly and evenly on the formation or base and rolled with a light 6 ton power roller to receive proper compaction. Any settlement or depression caused shall be filled up and work shall be finished to the required gradients, camber and super elevations.

d. Water Bound Macadam:

WBM shall be conforming to IRC codes. In order to resist weathering abrasion and crushing due to stresses developed by traffic, the stone metal shall be hard, sound, tough, and dense and shall possess good cementation property. Stone from approved source shall be used.

The metal shall be of mixed gauges approximately 50% of 50 mm size, 25% of 40mm size, 15% of 20mm size and 10% of 6mm size and less. It shall be screened to remove fines from 10mm size to dust which shall be kept separate for blending. 150mm thickness of the metal shall be spread evenly correct to template. It shall then be rolled with a l0ton to 12ton power roller working from edges to centers except on super elevation where rolling should commence at a lower edge and go towards upper edge. Then the surface shall be thoroughly watered and rolled to receive proper compaction. During wet rolling the metal shall be spread to a thickness of 10mm, well-watered and rolled. A layer of 6mm thick Murrum or dust shall then be spread on the surface, and then the surface shall be finally rolled to proper gradients, camber and super elevation specified

e. Templates:

It is absolutely important to provide full width gauge fixed with a central plummet and both edges with it, the depth of plank forming gauge shall be the thickness of the metal coat. At least three templates shall be used at an interval of 25’ to 50’ maximum and a spirit level shall invariably be used with the template to ensure that the edge of the metaling line are truly in level.

f. Base:

The sub-grade shall be of gravel, brick bats, or aggregates well consolidated and cambered as specified, 12mm thick hard stone chipping at the rate of 0.2 m per 10 m^2 area for a thickness of 20mm is uniformly spread over the surface, well-watered and consolidated with alight roller of 6t as directed.

3. Bitumen Layer

a. Water bound macadam (WBM) surface shall be thoroughly cleaned of dust, loose materials, caked mud and other foreign matter before laying the bitumen layer. Cleaning shall be carried out in such a manner as to expose metal to a depth of 1 to 2mm without dislodging the interlocking of the 1 metal. All dust and other material thus removed shall be carried away and dumped at a suitable place as directed by the PMC.

b. Just before applying the tack coat, the surface shall be thoroughly cleaned.

c. Bitumen for tack coat shall be heated in asphalt boiler to 177°-188° Centigrade and shall be spread uniformly at the rate of lkg/m2 by means of sprayers. The applied binder shall be evenly spread. The tack coat shall be applied just ahead keeping pace with the laying of bitumen.

d. Mechanical mixers shall be used for preparation of bituminous macadam. However, improved hand mixing drums may be used if permitted by the PMC.

e. The bitumen macadam shall be laid in one course of 60mm compacted thicknesses as. Per the quality of bitumen and aggregates specified in schedule of rates.

f. For the first layer, asphalt at the rate of 400kg/ 100m2 of surface shall be heated to a temperature of 163°to 177°with 3% to 4% of kerosene if required. Place 8.5 m3 of specified aggregates in the hot mix plant and pour over it the quantity of heated asphalt. Continue mixing till all the aggregates are uniformly coated. For the seal coat, asphalt shall be used at the rate of 140 kg/ 100 m^2 and aggregate shall be 12mm and down size at the rate of 2.5 m3/100m

g. Spread bitumen macadam in a uniform layer over the tack coated WBM surface with rakes to the required thickness and distribute evenly by means of a drag spreader. The camber shall be checked by means of camber board.

h. Layer shall be thoroughly rolled with 10 tons capacity tandem roller. Rolling should commence from edge and proceed toward center longitudinally. Camber shall be checked at every stage and defects found shall be rectified.

9: SAFETY CODE GENERAL SPECIFICATION

General Specification for Safety

The Developer shall provide shoring, necessary barriers, warning signals, and other safety measures while carrying out all the external work or wherever otherwise necessary to avoid accidents. He shall also provide and maintain at his cost all lighting and watching, fencing and securing when and where necessary or as directed by PMC for the protection of works and the safety and convenience of members and others.

There shall be maintained in a readily accessible place first aid box including adequate supply of sterilized dressings and cotton wool. An injured person shall be taken to a hospital without loss of the time wherever the situation requires. The names, addresses and telephone numbers of nearest physicians, hospitals and police station shall be conspicuously displayed in the site office permanently fencing, barricades shall be erected to dissuade third persons from entering the work area.

Suitable and strong double scaffolds with adequate handrails and safety belts shall be provided and using during the project work.

No portable single ladder shall be of more than 8m lengths. The width between the side rails shall not be less than 30cm and distance between two adjacent rungs shall not be more than 30cm. whenever a ladder is used, an extra labour shall be engaged in holding the ladder.
Any excavated material shall not be placed within 2m of the edge of the pit/ trench. All pit/trenches shall be provided with necessary shoring, fencing, lighting etc.
Workers engaged in mixing and handling materials such as cement mortar or concrete shall be provided with protective and footwear and hand gloves.
No floor, roof or other part of the structure shall be overloaded with debris to render it unsafe. Those engaged in welding works shall be provided with Welder's protective eyes shields and gloves
No paints containing lead or lead products shall be used except in the form of paste or ready-made Paint. Suitable facemasks shall be supplied to the workers while applying spray of such paint. Developers shall supply overcoats and other facilities to the painter and other workers.
Hoisting machines and tackle used in the work including their attachments, anchorage and support shall be in perfect condition and they shall be checked/ serviced periodically and also before any major use. The ropes used in hoisting or lowering material, as the means of suspension shall be of durable quality and adequate strength and free from any defects

List of all the safety equipment with quantities shall be prominently displayed in the site office and updated regularly.

Propping and Shoring

- Unless permitted by the PMC, only adjustable steel props shall be used for supporting purpose. Minimum 50 such props shall be always being made available extra at the site for use in emergency. Wooden props shall always be used with wooden runner at the top and adequate base placed at bottom
- Props shall be particularly used as per the direction of the PMC. However generally all the relevant portion of the structure shall be propped which is directly affected by structurally dependent upon the member being repaired.
- The propping and shoring shall be kept and maintained in position until required/as directed by the PMC.
- The propping and shoring shall be kept be and maintained in position until required/ as directed by the PMC.

Scaffolding

Conventional Scaffolding shall be of H frames/ vertical members of steel pipes
Spaced and filled by suitable horizontal/cross members secured to each other firmly by clamps or some such sturdy arrangement. Bamboo scaffolding shall be erected in two rows, both connected and braced properly and secured by connecting with the members of permanent structure. No holes shall be permitted in external brickwork. To reduce the height of falling debris, intermediate platforms on the scaffolding shall be erected. Access for labour and staff to the platform from the rooms at the relevant levels will be given, if permitted by the society's occupants.

Demolition or breaking.

Care shall be taken so as not to disturb the surrounding structures. The developer shall demolish the existing structures in consultation with the PMC and shall be actually prior to demolition work. Mechanical breakers shall be preferred over ordinary tools, however in any case, forceful removal of plaster/ concrete shall be avoided.

- Care shall also be taken to avoid noise, dust, etc. as much as possible.
- All precautions shall be taken by providing guardrails and covers in the interest of the safety of passersby
- Debris shall be stacked neatly. Debris. Shall. Not in any case be thrown/ dropped from more than l m. Unless specifically permitted to use elevators/ staircase; debris from terrace shall be shifted to ground using pulley blocks/ ropes only.

- Masonry shall be broken only as directed and debris shall be immediately shifted to an indicated place for stacking

- Removed flooring/ dado tiles shall be stacked separately if they are in reusable condition and shall be further disposed as per the direction of the PMC.

- Stacked debris shall be carted away as soon as possible.

PART 10:

ADDITIONAL CONDITIONS

10.1 DEVELOPER'S OBLIGATIONS

The Developer has to conduct Structural Audit at his own cost and take sanctions of Identification Committee as per the requirement of CIDCO/NMMC and the rules & regulations in this behalf.

The Developer shall procure the permissions/approvals for the total plot of the Society land in the name of the Society, as per the policy, from the concerned authorities under different rules and regulations, by carrying out necessary surveys, preliminaries, working out layouts etc. and co-ordinations with authorities like NMMC/CIDCO and Govt. of Maharashtra. The formal application shall be made by the Developer for the particular layout in consultation with Society shall obtain, the same within a period of three months from the date of acceptance of his Bid and signing of Development Agreement and in any case before demolition of the existing building. In all these operations, the Developer shall function as a representative of the Society with ~~a~~ "Authority" to be given in his favour by the latter for the specific purpose and period.

The ownership of the property and all rights of FSI etc. therein, present and future except to the extent as provided under this contract shall continue to vest with the Society. The Society shall not transfer its land and buildings in the name of the Developer.

The Developer shall construct and give flats having carpet area as defined as Annexure but does not include common area, lift area and other free amenities as per NMMC/CIDCO rules to each member of the Society in the newly constructed buildings. This is for the purpose of preparing initial preliminary layouts for submitting Bid, the final layouts will be prepared in coordination with PMC & Society. The entire cost of construction of the said building as also of the amenities, fittings and fixtures in the flats and infrastructure shall be borne by the Developer. The amenities, fittings, and fixtures and facilities shall be as per Part 13 of this Bid Document. The Successful Bidder shall have to separately carve out and earmark the units to be handed over to the Society and its member as decided by the Society.

In the event of constructing identical flats as mandated by the society for the saleable component and the Society's component , the Society shall have the right to demarcate from the approved plan, units to be reserved for its members and itself. All apartments under proposed redevelopment including ones that are for the existing society members and other constructed for sale by developer shall have identical specification, amenities and facilities.

The Developer shall construct and give two covered car parking space (no stack parking or mechanical Parking) free of cost to each member for the Society's Old & New member's vehicles in the basement or ground or podium and /or stilt of the buildings. Also, he shall provide adequate no of visitors' car parking as per the NMMC/CIDCO rules and regulations and/or as per the specifications given by the Society.

In additions to the above, provision to be made to construct and transfer in favour of the Society at his cost a Fitness Centre & hall as per DCR along with toilets/ change rooms and other amenities as specified by the Society.

If any member wishes to sell his/her flat to the Developer before the start of the project, the Developer shall purchase the same at the rate quoted by the Developer in his BID.

The Developer undertakes to complete the construction of the entire project within 36 months from the date of obtaining the first commencement certificate from the NMMC/CIDCO.

The necessary agreements, deeds and documents in pursuance hereof will be prepared and executed after consultations between the Society and the Developer.

The Developer agrees and undertakes not to transfer any part of the project to any other party, not to create any charge or mortgage or third party rights on this property until the completion of the project and at any time thereafter. The members of the Society shall not vacate their homes unless all the relevant plans are approved by the NMMC/CIDCO and the commencement certificate is in place.

The Society members shall reoccupy the redeveloped property only after Occupation Certificate is obtained and distributed.

The Society and its members reserve the right to ensure the adequate rent is procured from the builder for the transit accommodation.

In case of any delay for any reason from any side the rent will be continued to be paid irrespective till such time that the members are given occupancy of their individual apartment.

The developer shall at his own cost make a sample flat with the similar amenities that shall be available to all members of the Society. The amenities between sale component and redeveloped part shall be the same.

The Developer agrees and undertakes to register the redevelopment project under RERA and agrees to follow all the guidelines of the said act.

10.2 INSURANCE:

1. The Insurance cost shall be for the entire capital of the project and shall provide cover against any structural failure or distress during the construction or after completion of the project up to defect liability period and considering the possibility that the scheme may be abandoned or dropped midway by the Developer for any reason whatsoever, the insurance shall cover the entire period of defect liability. The insurance shall also cover any damage to the existing buildings & loss of life, if any due to construction activities of the Developer and his agents.

2. The Developer shall provide, in the joint names of the Society and the Developer, insurance cover from the date of execution of the Development Agreement to the end of the defect liability period as necessary for the following events which are due to the Developer's risks:

a. Loss of or damage to the works, plants and materials;

b. Loss of or damage to Equipment

c. Loss of or damage of property (in addition to a and b above) in connection with the Contract including existing buildings and

d. Personal injury or death of Developer's persons, Society persons, visitors, workers etc.

3. Policies and Certificates for insurance shall be delivered duly assigned to the Society by the Developer within 30 days from the date of signing the agreement. All such insurance shall provide for compensation to be payable and as required to rectify the loss or damages incurred.

4. If the Developer fails to effect and keep in force the Insurance's referred as above, or any other insurance which the Developer may be required to effect under the terms of the contract, then and in any such the case the Society/Managing Committee shall stop the work and/or release of land for construction, built up area till such premium is paid by the Developer to keep insurance in force.

5. Alterations to the terms of insurance shall not be made without the approval of the Society.

10.3 FINANCIAL CONDITIONS:

The Bidders shall furnish to the Society an Earnest Money Deposit (EMD.) in the form of Demand Draft/Pay order of a Nationalized Bank in the name of Society for EMD of Rs.50,00,000/- (Rs. Fifty Lakh only) along with their Bid proposal.

The EMD will not carry any interest and shall be refunded after final short listing of the Bidder and expiry of validity of offer in case of the Bidders not likely to be selected for the project.

After signing of Development Agreement & Power of Attorney and completing the formalities, the successful Developer shall arrange to procure necessary approvals and sanctions to the plans from various authorities and Commencement Certificate (CC) for the layout finally selected by the Society.

The Stamp duty, registration charges, all statutory levies as existing and applicable in future up to the date of possession of the flats including GST, WCT, Service Tax and all applicable local and central taxes and all other costs, charges and expenses as applicable for vesting property in favor of the Society as also for transferring the flats in favor of each member of the Society shall be paid and borne by the Developer.

All payment, premiums and charges that may be required to be made by the Society to NMMC/CIDCO, State or Central Government for permission of redevelopment of the above property or any other charges whatsoever including cost of procurement of FSI, to anybody shall be paid/incurred/borne by the Developer, on behalf of the Society under intimation to the Society.

The Developer shall pay all the applicable deposits payable towards Water Supply, NMMC/CIDCO, Electrical Department, Telephone Department, Mahanagar Gas, Civil Aviation, or any other body as incurred towards the construction of the new buildings.

The Developer undertakes that all expenses including applicable taxes incurred by the Society for redevelopment will be borne by him including the fees of the PMC as per the appointment letter issued by society to the PMC, also the fees of other professional engaged for the project.

10.4 SOCIETY'S OBLIGATIONS:

The Society shall issue a "Authority" in favour of the Developer for the Specific purpose and period to enable the latter to approach the authorities concerned, obtain sanctions and approvals and to carry out construction and all follow up actions necessary for fulfilling his obligation under the contract, on behalf of the Society. All rights present and future, to FSI, redevelopment etc. in the property shall continue to vest in the Society except sale proceeds of saleable component of the Developer as provided herein.

The Society shall issue necessary certificates, letters, authority etc. as needed by the Developer for carrying out his obligations. The Society shall also supply copies of its available relevant documents, plans, Lease agreement to the developer as may be needed by him for the above-mentioned purpose.

The Society is not responsible for accuracy of the various figures of area etc. given for the information of Bidders, who shall make their own inquiries, studies and measurements and obtain correct figures. The Society shall allow inspection of its property and various documents to the Bidder/Developer for satisfying himself about the situation.

The Society shall permit or give NOC to sale of surplus constructed area of the saleable component to the Developer, after the Developer has met all his obligations towards the Society under the Development Agreement. The purchasers of new flats of The Developer's components shall be admitted as members of the Society after thorough scrutiny, and after paying charges to the Society as approved by General Body from time to time, in accordance with law, subject to certain conditions as the Society may prescribe. It is specifically understood that the Society shall continue to be the owner of the land and buildings with infrastructure on Society's premises.

PART 11:
SPECIAL CONDITIONS OF CONTRACT

11.1 General

The Special Conditions of Contract are to be read in conjunction with General Conditions of contract. If there are any variations or discrepancies or conflicting provisions, the provisions in Special Conditions shall take precedence over the provisions in the General Conditions of Contract.

11.2 Scope of Works

The on-site work splits as demolition of existing structure, constructing Substructure, superstructure and External Site Development works

11.2.1 Substructure

- Earthwork including dewatering for lift pit.
- Earthwork in dressing and rubble soling.
- Anti-termite Treatment PCC/RCC work in lift including dewatering, PCC in grade slab.
- Waterproofing of lift pits/Basement with box type waterproofing
- Masonry for plinth wherever required

11.2.2 Superstructure

i. Civil Works

- PCC Work/RCC Work like Frame structure, Underground water storage tank with box type waterproofing.
- Brick/Block Masonry Work
- Plastering work (Internal and External)
- Flooring and Dado Work
- Timber and Metal Joinery (Doors, Windows and Sundry metal works)
- Painting (Internal and External)
- Water proofing of chhajas, Terrace, Toilet, Lofts, Kitchen, Nahani area, overhead water storage tanks.
- Civil work concerned with lift well, lift machine room, lift shaft and substation Etc.

ii. Plumbing Work

- Rain water pipe from terrace and waste water pipe from balcony should be concealed in the paving up to society's internal storm water drain.
- Water supply lines O.H. and U.G. Water tank to each unit
- Water supply rising main from U.G. to O.H. Tank
- C.I. /P.V.C drainage in plumbing and sanitary work up to last chamber connecting to NMMC/CIDCO chamber.
- All sanitary fittings and fixtures to be with concealed piping of HMS grade
- Installation of Water pumps and control panels connected with automation sensor system with required electrical work and safety service slabs at all floor levels
- Isolation valves for each flat either within the flat and also for each bathroom
- GI pipes passing through slabs shall be housed in higher size sleeves for ease of maintenance

iii. Electrical Work

- All electrical cabling, conducting, wiring, DB's, ELCB, MCB, fittings, lightings. Wire sizes for light circults shall be 1.5 sqmm, for power circuits it shall be 2.5 sqmm and for geyser and air conditioner it will be 4 sqmm
- In common areas, panels boards, including metering panel and energy Meters within the building up to meter room.

- Common Dish Antenna on the terrace of the building for entire members.
- Earthing including earth pits and earth conductors, lighting arresters, etc.
- Electrical work for lighting and cabling for lifts shaft up to lift m/c room, for pump
- Telephone wiring from telephone tag blocks at stilt floor up to the telephone socket outlets in the flats.
- Writing for cable television network from splitter box at stilt floor up to the T. V. socket in the flat including necessary splitters tap-offs.
- Ducts and conduits for cabling and Internet, telephone etc.
- Providing Lift car installation with lift machine room, substation electrical work including cabling for lifts up to lift m/c room.
- Provision to be kept for connections up to back-up Generator.
- DG sets to be provided for alternate power supply for lift/water pumps/ stair case/compound and one for each flat

iv. Fire & Electronic Security

The building should have a comprehensive fire protection system in conformity with CFO's requirement. The firefighting system shall be designed and installed as per relevant provisions of the law in force. The pipes, hoses, pumps, hydrants etc. shall be of best quality and of reputed makes.

Designing, getting approval from Chief Fire Officer, installing of firefighting and electronic security equipment, cameras, wet riser system inclusive of G.I. piping, loop around at Ground level/stilt, fire hydrant, fire alarm etc. Including installation of electrical work.

v. Water Connections

The service connections of adequate size shall be obtained from Municipal Corporation. The water meter and plumbing as per relevant IS code/building code and municipal practices.

vi. Sewer line Connections

Internal sewer lines and chambers shall be constructed as per relevant IS codes and practices. The sewer lines shall be connected to municipal sewer lines.

vii. Area lighting

The area should be adequately illuminated by providing latest design and type of electrical fixtures. Wherever necessary hot dip galvanized octagonal poles shall be erected. The execution should take care of I.E., rules, Electricity Board's requirement and other local authorities and site condition.

viii. Cables and wiring

The Cables of required rating shall be laid for electric supply. Individual electricity meters shall be installed at a common place. Necessary MCCB/MCB/ELCB/ shall be provided in the circuit. The household wiring shall be carried out as per the relevant IS standard. Wiring within the fixture and for connection to the branch circuit wiring shall be not less than 1.5 sq. mm or equivalent for 250 V applications for light circuits, 2.5 sqmm for power circuits and 4sqmm for geyser and air conditioner circuits. The system of wiring shall consist of FRLS insulated copper conductor wires. FRLS PVC conduits for concealed installation and metal conduits for surface installations.

11.2.3 Site Development

- Underground water storage tank, pump room including pump, panels etc. including installation and electrical work for the same.
- Roads, paving, plinth protection and footpaths.
- Storm water drains up to Municipal Corporation's peripheral network as per NMMC/CIDCO requirement.
- Civil work for substations
- External drainage from 1st manhole up to last chamber connecting to Municipal Corporation's peripheral network.
- External water supply from Municipal Corporation's peripheral network tapping point up to Under Ground tank.
- Landscaping

- Compound wall with gates
- Security Cabins at gate.
- External Electrical Development including area lighting, street lights, Work in substation, lifts etc.

11.2.4 Battery Limits

The contractor has to arrange and bear charges for all works associated with electricity, water, communication, any other utilities those are essential for the residential building which may appear beyond battery limits.

11.3 Earnest Money Deposit (E.M.D)

The Developer shall deposit along with the BID, a Pay order/Demand Draft of EMD of Rs.50,00,000/- (Rs. Fifty Lakh only) issued in favour of the Society towards Earnest Money Deposit. The said Deposit shall be interest free.

The E.M.D may be forfeited:

1. If the developer withdraws his Bid within the period of validity.

2. in case a Developer fails within the specified time limit of acceptance of offers

a) Letter of Intent or b) furnish the required security deposit.

The D.D/Pay Order should be in the name of the Society from a Nationalized Bank located in the town or city in which the developer has his registered office.

Any Bid not accompanied by E.M.D shall be rejected by the Society as non-respond.

11.4 Sequence of Events

a. Letter of Intent (LOI)

The same will be further to the appointment letter as Developer.

b. Survey of the Premises

Once again, a detailed survey for the verification of the exact area of the plot including area of all the flats will be carried out by the Developer. This will be in addition to the survey already expected to have been undertaken by the Bidder prior to submission of the Bid. Detailed geotechnical investigation as per satisfaction of structural engineer.

c. Memorandum of Understanding (MOU) (if required)

d. Development Agreement with the Society

The BIDDER whose Bid is accepted, shall enter into a regular development agreement with the Society in the format to be furnished by the Society and containing the required terms and conditions including those/mentioned in the entire Bid documents (Technical and Commercial). The BIDDER, his legal representative, executors, administrators etc. shall be bound for full and complete execution of the contract. The BIDDER whose Bid is accepted shall be required to present himself in person at the office of Society after the issue of letter of intent to execute agreement on the proper from. Failure to furnish the deposit or to execute the agreement within the time specified, shall constitute a breach of agreement attached by the acceptance of the BID, in which case, the Earnest Money accompanying the Bid shall be forfeited by the Society as liquidated damages for such default without prejudice to Developer being liable for any further loss or damage incurred in consequence by the Society. Development Agreement document shall consist of: Agreement papers (Legal and Technical)

Original Bid document

Relevant correspondence i.e. all letters/correspondence forming

part of the contract and referred to in acceptance letter

Acceptance letter

Any other documents as may be desired to protect the interest of the Society and its

member's e.CC

The developer will obtain Commencement Certificate from NMMC/CIDCO for the redevelopment works. Approval of plans from Concerned Agencies/Departments.

f. Individual Agreement with all the Members:

An individual agreement with all the existing members shall be entered into stating the actual carpet area to be provided and Approval of Layout Plans.

g. Shifting to Temporary Accommodation

The members shall be paid rent and other expenses as per the approved offer for shifting to temporary accommodation. Shifting shall start after obtaining of CC.

h. Demolition of Existing Structure

The demolition of the structure can only be commenced after the shifting of all the members from the premises and on completion of all the technical/legal formalities.

i. Construction of Building

11.5 Builder/Developer must provide the following

(a) Copy of agreement with Developer before taking possession of the flats.

(b) Handing over the Building plan, certified copies of approved drawings, tittle deeds and

warranties I Completion Certificate,

(d) Occupation Certificate.

The new structure will have to be constructed as per the agreement and Reestablishment of the existing members.

11.6 A. Additional Carpet Area (Cost Free)

. The building should be constructed in such a way that existing members of all the buildings shall get additional carpet area with no cost, over and above the existing carpet area held by them. The total carpet area including the additional carpet area over & above existing carpet area given by CIDCO as expected by the society is mentioned in the annexure

11.6 B. Additional Carpet Area (At Discount Rate)

The developer may also offer additional carpet area (over and above the aforesaid Cost Free Area as per 11.6A) to the members at a discounted rate, which could be decided before finalizing this offer.

11.1 Future Benefits and Changes in Rules/Regulations

Any additional and/or future benefits occurring due to amendments is any law or due to any changes including increase in FSI, the right for the same shall lie with the Society and the Developer shall not prefer any claim on the same. Further, the Developer takes the entire responsibility to ensure that, existing interests as well as those that shall be committed in the final contract agreement Society and its existing members shall not be affected in any way, due to any subsequent new rules, regulations, non-procurement of any exemptions
/certificates, NOC etc.

Expenditure for obtaining all necessary CRZ clearances if any will be borne by the developer.

11.2 Scrap Sale

Developer shall dispose of the scrap with approval of the Society.

11.3 Alternate Accommodation

The developer shall offer compensation to the members in his offer to provide temporary/alternate accommodation to the occupants of the building from the Vacation Date till the completion and possession of the newly constructed flats to the existing members of the Society. Till all such time the Developer shall pay the monthly rents and deposits in terms of advanced cheques to the members. The Developer has to bear the actual brokerage charges, all stamp duties, Registration Charges/ taxes (for alternate accommodation agreement) to & fro charges within Navi Mumbai for transportation of the member's belongings. The Developer shall provide 36 months' rent in advance by pay order plus the amount of deposit for alternate accommodation to the existing members. Brokerage shall also be given by the Developer. The rent for alternate accommodation will have to be provided by the developer in case of delay of the project also. This shall be provided in the 12th month, if delay is expected beyond 36 months.

11.4 Encroachment

The Developer shall not allow any encroachment on the premises of the Society. It shall be responsibility of the Developer to ensure complete safety of the premises.

11.5 Demolition

The demolition of the existing building will be carried out only after obtaining full CC with entire FSI loaded and plans approved for the entire project. Before any Demolition work is commenced and also during the process of the work:

a. All roads and open areas adjacent to the work site shall either be closed or suitably protected.

b. No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by operator shall remain electrically charged.

c. 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 a building shall be so overloaded with debris or materials as to render it unsafe.

11.6 Corpus Fund

The Developer shall provide a Non-refundable Corpus Fund to Society as decided by Municipal commissioner as per UDCPR towards mitigating the hardship of heavy future outgoings and incidental future expenditure. The said same shall be paid as mentioned in the Bidder offer

Note: Individual corpus fund shall not be accepted.

11.7 Plans, Amendments, Additions and Alterations in Plans

The plans required to be submitted to the NMMC/CIDCO or any other authorities for the Reconstruction/redevelopment in respect of areas to be provided to the existing members shall be prior approved by the Society in writing. Any amendments / additions/alterations to the said plans as per the requirements of Development Control Regulations or any other statutory body, shall also be prior approved by the Society in writing.

The Developer will submit the plan for demolition and reconstruction to the Society 7 days prior to the submission to NMMC/CIDCO/ concerned Govt. authorities and he shall seek prior written consent of the Society. In case, any alterations are made, prior written consent of the Society shall be sought. Neither the plans nor the alterations shall be binding on the Society unless approved in writing by the Society.

11.8 Parking

There will be given one covered car parking space (no stack parking or mechanical parking) free of cost per existing member plus visitors car parking as per UDCPR.The size of parking shall be as per UDCPR.

11.9 Period of Construction

The completion period for the project shall be 36 Calendar Months from the date of receipt of Commencement Certificate.

11.10 Society office for New Building

The Developer shall provide a Society office with toilet block as per NMMC/CIDCO norms with good amenities

11.11 Electric Supply

The Developer shall arrange at his own cost, power, with necessary wiring, switchboards, energy meter etc. and shall be responsible for their maintenance up to the completion of work. He shall provide required clearance for overhead lines to facilities easy movement of heavy machinery such as cranes etc. On completion of the work, the Developer shall remove all wiring installed by him and make good to the satisfaction of the Society's Consultant, if any disturbance or damage is done. The Developer shall employ a certified Electrician for carrying out this work. All expenses incurred and deposits paid for the said work shall be borne by the Developer.

The Developer shall keep alternative arrangement ready including, Generator at his own cost for any failure/interruption of electric power that may take place and under no circumstances can this be deemed to be a reason for any consequential delay in the works.

11.12 Supply of Water

The developer shall construct required storage tanks, lay internal distribution lines network for facilitating construction which shall be removed on completion of work. The developer shall pay all deposits to local authorities to receive water connection for construction activities. The developer shall obtain Permanent water connections required for the proposed flats as per the prevailing rules and bear expenses thereof.

11.13 Samples

a. Material

The Developer shall furnish to the PMC for approval, with reasonable promptness and within reasonable time for consideration, adequate numbers of samples of all the materials to be used in the work, irrespective of whether material/products is from approved list given in Bid or not. The choice of approval of materials rests with Society/Society's Consultant unless otherwise specified.

b. All material samples shall be delivered to the PMC at the Developer's cost. Each sample shall be in duplicate and properly labelled asunder:

- Name of the Project
- Name of the Developer
- Name of the Product
- Name of the Manufacturer

11.14 Statutory Approvals and incidental costs

The Developer shall purchase the full permissible FSI for consumption/utilization in the name of the Society before commencement of any building construction work and demolition of existing buildings (if any). The entire FSI shall be purchased in one stroke and no piece purchase of FSI as per the progress of work is permitted. Cost of purchase of FSI, it's Brokerage and other incidental expenses there to, are to be borne and paid by the developer. Developer shall also pay for sanction and approval of the plans, Commencement Certificate, Completion Certificate/Occupation Certificate thereof from NMMC/CIDCO, etc. and all other statutory Authorities as and when needed and all the cost/expenses for the same shall borne by the developer.

The Developer will also liable to pay for assessments, property taxes of the additional flats till the date prospective flat purchaser becomes member of the Society. The Successful Bidder shall be liable to make subdivision of property tax bill in the name of existing flat owners and new flats purchasers from NMMC property tax department after obtaining full occupancy certificate and shall bear expenses for the same.

The developer shall obtain permissions as required for the additional flats as per the prevailing rules and bear expenses thereof. The developer shall bear all expenses and obtain new electric connections for the proposed flats from MSEDL.

The stamp duty, registration or any official legal expenses that will have to be paid on agreement or any other deed or document or writing which will be executed in pursuance of this transaction shall be borne and paid by the Developer. Society as well as the existing members shall not be paying any taxes/duties of whatsoever nature including the Stamp Duties, Property Taxes and other Incidental and all liaisoning expenses. All such expenses for regulatory the Society's Consultant. Developer will also pay deposit charges for electrical connection, water and drainage connections to the MSEDL and NMMC/CIDCO.

All the necessary approvals/permissions for carrying out this Redevelopment works shall be Developer's sole responsibility. The necessary payments required to be made to the various departments in the form of Deposits/Scrutiny fees, premium, development charges, ULC charges, water charges, assessment tax, royalties, labour cess, sewerage charges , debris clearance , tree authority charges etc. or any government levy and all liaisoning expenses etc. which is required to be made to various statutory authorities from time to time shall be borne by the developer.

If any legal action is taken by any statutory Authority due to noncompliance/negligence/delay on the part of the Developer to obtain such necessary approvals/permissions, the Society will not be responsible in any manner what so ever and all risks, costs, penalties and any other consequences arising due to the above actions on the Developer's part shall be the responsibility and liability of the Developer solely and in totality.

No work shall be carried out without obtaining the necessary permissions from the corporation and any other regulatory agencies. All the permissions obtained shall be furnished to the Society for its verification. If at any point of time it is found that the Developer has carried out certain works without appropriate permission, then the PMC may instruct the developer to stop the work. If the Developer still continues to carry out the work without valid permission, then the Society/PMC may be compelled to take necessary action as deemed fit including forfeiting deposits and/or encashing Bank Guarantee.

11.15 Taxes and Duties

The developer shall be responsible to apply to the appropriate authorities and pay all taxes, levies, royalties, income tax, GST, sales tax, works contract tax, VAT, excise duties and to submit required periodical returns to the said authorities' etc. as applicable from time to time.

11.16 Reports and Registers

The Developer is required to maintain proper records at site of work in addition to normal routine requirements of our office. The records to be maintained shall include but not limited to the following:

a. Weekly Progress Report
b. Trade and skill wise labors on the works
c. Site order book
d. Instruction by PMC- A work instruction book, serially numbered, will be kept and all day-to-day instructions will be given in that book by the PMC. Developer's representative shall see these instructions and sign them at bottom in token of his having seen them and implement them.
e. Material Register – Detailed account of all material received and consumed on the work and stock position in respect of each material shall be maintained.
f. Complaint Book
g. Daily Work Diary in the prescribed format.

11.17 Testing of Materials

The Developer shall make arrangement for field facilities for all construction materials and the sampling and testing will be as approved by the Society. The Society may also get tested a few samples of materials at random independently. The charges for such tests shall be borne by the Developer.

All the Laboratory tests etc. concrete cube testing, lump test, and reinforcement steel testing, etc. should be done at Developer's own cost. The Developer shall also be responsible for carrying out tests stipulated above and bring to the immediate attention of Society any failure of cube strength test or any other test. The PMC shall verify the test report submitted by the Developer. If the test report/result of material/work done is not found satisfactory, the developer will rectify the work/replace the materials as instructed, failing which, necessary cost adjustment/recovery shall be made from the Developer.

The material test shall be carried out only by an approved and standard agency. Minimum 20% tests to

be carried out in approved external laboratory.

11.18 Suspension of Work

The Developer shall, on receipt of a notice in writing from the Society in this regard, suspend the progress of the work or any part thereof for such time and in such manner as the Society may consider necessary for any of the following reasons:

A. On account of continued non-compliance of the instructions of the Society or any other default on the part of the developer

B. For proper execution of the works or part thereof, for reasons other than the default of the developer.

c. For safety of the project property necessary instructions shall be given on behalf of Society by the Society Consultant.

11.19 Submission of Detailed Bar/PERT Chart and Method of Working

The Developer shall with the BID, submit to the Society a detailed programme covering,

a. Developer's note explaining sequence of various activities.

b. Network (PERT/CPM) bar chart.

c. A tentative layout of the Developer Property and details of temporary works that the developer wants to carry out of to fulfil his obligation under the contract.

d. Indication of shuttering system to be followed.

e. The methods to be employed in carrying out the works.

f. It shall include a list of labour force, classified into trades as envisaged.

The Society shall grant their approval to proceed with the work, with or without modification. However, acceptance of programme and method of working as submitted by the Developer or with any modification there to in the opinion of the PMC, shall not relieve the Developer of any his contracted obligations. All these programmers and plans submitted by and approved by the PMC shall become part of the contract and same shall not relieve the Developer of any extension of time unless delay, if any, is expressly sanctioned by the Society in writing.

11.20 Field Laboratory

The Developer shall establish a field laboratory for various field tests for items like concrete cubes, cement, aggregates, sand, and bricks for masonry, tiles, wood and for similar items as directed by the Society's Consultant. A site Laboratory of approximately 5.0 x 7.0 m area with platforms etc. shall be constructed for testing as directed by the Society's Consultant. The laboratory must have the following equipment:

Slump Cone	:	6 nos, as per I.S.I
Cube molds for concrete	:	48 Nos.
Cube molds for cement mortar	:	6 Nos.
Cement testing equipment	:	1 Set
Soundness accelerated (initial and final setting, fitness Compressive test equipment etc.) Weight balance	:	2 Nos.
I.S. Sieves	:	2 Sets
Glass measuring cylinders	:	6 Nos.
CTM machine of 200 tonnes	:	1 No.

Construction of Laboratory building and equipping with minimum equipment's as listed above is included in the work. The Developer shall further carry out other various tests for various item and materials at approved laboratory as directed by the PMC at Developer's own cost. At end of each month for each category/ stage of the work, e.g. RCC work, masonry work, etc., the Developer shall give statistical analysis of all the test-result in the format prescribed by the PMC and take corrective action in the work in accordance with these results.

11.21 Developer's and their Representatives

The Developer shall be responsible for the execution of the project with regards to management and supervision instructions issued by PMC to the Developer. It shall be deemed to be the Society's instruction in respect of:

1. Day to day supervision including materials testing.
2. Approval of material involving safety or protection of persons or property.
3. Matter of urgency involving safety or protection of person or property.
4. Monitoring progress of work.
5. Interpretation of drawings.
6. Interpretation of specifications.
7. Certification of works.

The Society's Consultant shall approve the Variation and extension of time with the prior approval of the Society. The Developer and the Society's Consultant shall hold regular progress meetings at site for evaluation and execution of works.

11.22 Quarry

The Developer shall make arrangement of Quarry for extraction of Murrum.

All compensations, royalties, environmental cess, fees.etc, with regard to quarry shall be paid, by the Developer. The developer shall hold regular progress meetings at the site for evaluation and execution of works.

11.23 Indemnity Bond

An Indemnity Bond shall be executed by the Developer in favour of the Society stating that, all the works will be done by the Developer as per the Development Agreement. He will complete all the formalities within the framework of laws applicable. The Developer shall not exceed the power vested in him and will fully indemnify the Society and its Members of any wrong doing on his part. Format of the Indemnity Bond is given in Proforma J. This Indemnity bond shall remain in force for till the end of the Defect Liability Period.

11.24 Provision of Computer at Site Office

The Developer shall install minimum one computer of approved configuration with printer and necessary genuine software for office, design and project monitoring use in the office for the PMC and provide necessary stationery and furniture.

11.25 Time Schedule for Compliance

The Developer shall note the following time schedule for various compliances and follow the same:

a. The Development Agreement shall be signed by the Developer within 7 days of notice served by the Society to do so. The Final Bar Chart shall form part of this agreement along with other necessary documents.

b. The Developer shall construct the site office within one month from the date of execution of the Development Agreement. The Site office will be as per relevant clause in this Bid Document.

c. The Contractors All Risk Policy (CAR) policy and labour license shall be obtained by the Developer within 15 days from the date of the Development Agreement.

11.26 Order of Preference

In case of any conflict in interpretation, the following order of precedence shall prevail:

a. For Contract Conditions:
b. The Development Agreement shall prevail over the Corrigenda, the Special Conditions as well as the General Conditions. Special Conditions shall prevail over General Conditions. Addenda
/Corrigenda Clarification issued shall prevail over Special Conditions.
c. Technical Specification and Approved Drawings by the PMC shall prevail in specifying the scope of contract.
d. For Legal Matters: Contract, conditions read along with addends/corrigenda/clarification issued prevail over Technical Specifications.

11.27 Approval of PMC

The steel reinforcement provided in all RCC structures shall be approved by the PMC prior to casting. At every stage of work, approval of PMC shall be taken by the Developer. Before starting any work like cornering, masonry, waterproofing, concrete etc. detailed information of the work in the prescribed Proforma shall be submitted to the PMC and his approval shall be obtained by the Developer. The Developer shall execute and maintain the works strictly in accordance with the contract to the satisfaction of the Society's consultant and shall comply with and adhere strictly to the Instructions and directions of the PMC on any matter whether mentioned explicitly or otherwise.

11.28 Disputes

The "Dispute Resolution" shall be strictly as per Indian Arbitration and Conciliation Act, 1996 and binding on all parties to the Contract. The place and seat of arbitration shall be Vashi, Navi Mumbai. The competent courts in Navi Mumbai shall have the exclusive jurisdiction to resolve all disputes that cannot be resolved through arbitration, as well as the disputes arising out of the arbitration proceedings.

11.29 Accidents

If any accident, fatal or otherwise occurs, a detailed report about the same shall be made promptly by the Developer to the Society. The developer shall at all times during execution of the work keep the Society fully indemnified against all risks, claims, litigations and financial burdens arising out of all incidental operations on work and any accidents.

11.30 Site Order Book

The Society's Consultant will maintain Site Order Book at the site of work. The Developer or his authorized representative shall sign all the instructions received therein, in token of having received the same and shall comply with them forthwith.

11.31 Cleaning of Site

All water, which may accumulate on the site during the progress of the works or in trenches and excavation, shall be removed from the site to the satisfaction of the Society's Consultant. The site shall be maintained free from rubbish. Proper stacking of scaffolding material, shuttering material bricks
/brickbats, steel pieces etc. needed for work on day-to-day basis shall be organized in proper stacks. The Developer shall not, at any time, cause or permit or commit any nuisance on the site or do anything which shall cause unnecessary disturbance or inconvenience to the Society, tenants, members or occupiers of other properties near the site and to the public in general. The developer shall install mosquito proof and accessible water storage tanks for construction and drinking water. The Developer shall periodically give treatment to water storage tanks, sites of water stagnation, water collection.

11.32 Datum

The average ground level will be considered as the crown of the nearest link road, which should be taken as 'Datum' which is however, subject to final confirmation by PMC

11.33 Alignment and Bench Marks

The alignment of the work to be carried out under the contract shall be marked on the ground as per the instructions of the PMC. For The purpose of facilitating the work, a series of temporary bench marks on masonry pillars will be established. These pillars will be constructed along with the alignment and such other locations as may be initiated by the Society's Consultant. All expenses incurred in the process of marking alignment on ground, checking the alignment, constructing masonry pillars in establishing bench marks thereon, shall be borne by

the Developer. It will be responsibility of the Developer to ensure that the masonry pillars so constructed are not damaged during the period of work in progress.

11.34 Developer Responsible for Sufficiency of Means Employed

If the Society is not in a position to deliver to the Developer the site of the contract work for any reason whatsoever at the agreed time, delaying commencement of the contract, work, such omissions of the society shall not be a breach of any its obligation under the contract and the Developer shall not be entitled to claim from the Society any Compensation for loss or damage if any, caused thereby, but shall be entitled to a reasonable extension of the period agreed for completion of the contract work.

If the Developer is obstructed in the execution of the work by any person other than the representative of the Society, the Developer shall exclusively deal with such situation by due process of law. He shall not be entitled to attribute thereby the breach of any obligation under the contract.

11.35 Drawings

The PMC will submit to the Society and the Developer two sets of the drawing issued for Architectural, Structural, and Public Health, Mechanical, Electrical & Drainage Installation Works and all other drawings pertaining to the Project.

11.36 Standards

The standards, specifications and byelaws issued by the Indian Standard Institution and other similar organization shall in every case be deemed to include the latest edition or issue of such standards, specifications and byelaws including all revisions, amendments and addendum subsequently issued. Where materials are not specified and standards exist in respect of such materials, then the materials shall in all respects comply with relevant and current I. S. In cases where 1. S. do not exist, the best manufacturer's specification shall be followed and in absence of all these, the instructions of the PMC shall be followed.

11.37 Supervisory Staff

The Developer shall engage on the work, a qualified and experienced engineer, capable of managing and guiding the work properly who shall be authorized by the developer in writing to receive the orders issued by the PMC from time to time. The Developer shall be responsible for carrying out these orders promptly.

11.38 Fire Precautions

The Developer shall comply with fire regulations of controlling authority in force at the site of the work relating to the precautions to be taken against fire hazards.

11.39 Safety Engineer

The developer shall employ and depute at site on full time basis a fully qualified Safety Engineer who shall be responsible to ensure observance of safety measures and precautions required to be taken at the site. The Developer shall ensure compliance of all the applicable rules and regulations with regard to safety.

11.40 Substitution

Should the Developer desire to substitute any material and workmanship, he/they must obtain the approval of the Society in writing for any such substitution well in advance. For Materials designed in this specifications indefinitely by such term as 'Equal' or 'Other approved' etc. specific approval of the Society has to be obtained in writing.

11.41 Preparation of Builder Works for Occupation and Use on Completion

The whole of the work will be thoroughly inspected by the Developer and deficiencies and defects put right. On completion of the inspection, the Developer shall inform the Society that he has completed the work and it is ready for inspection. On completion, the developer shall clean all windows and doors including the cleaning and oiling, if necessary, of all hardware, inside and outside, all floors, staircases, and every part of the building. He will leave the entire building neat clean and ready for immediate occupation to the satisfaction of the Society. The Society will accept possession of new flats only after full occupation Certificate is obtained by the developer from NMMC/CIDCO.

11.42 Open Spaces

The developer does not have any right on the open spaces of the Society.

11.43 Admission of New members to the Society

New members to whom the Developer shall be selling flats shall be admitted only after receipt of Full Occupation Certificate. The Developer shall be entering into an agreement with the new purchasers only after getting the said agreement approved by the Society. The Agreement must provide that the Society will not be responsible for the new flat purchased till the developer obtains Full Occupation Certification. New members should be made aware of all the details of the agreement between the Society and the developer including that the new members have to contribute towards the Corpus Fund. Further, new members shall have to abide by the rules and regulations of the Society. Society shall have the right to ask the new members to pay certain amount of monthly maintenance in advance. Also, new purchasers who shall be admitted as members of the Society shall also be required to contribute to the Corpus Fund and the Sinking Fund, equivalent to the amount contributed by the existing members.

11.44 PROFORMAT 'I'

DRAFT OF BANK GUARANTEE

(TO BE ARRANGED BY THE DEVELOPER INFAVOUR OF THESOCIETY)

THIS DEED OF BANK GUARANTEE made at Navi Mumbai this ----- day of 2025 BETWEEN:

- ----------Bank, a Banking Corporation constituted under the Banking Companies (Acquisition
And Transfer of Undertakings) Act 1970 having its office at ---------- hereinafter called "
THE GUARANTOR "(Which expression shall unless it be repugnant to the context or meaning thereof be deemed to mean and include its successors and assigns) of the

FIRST PART: AND----------hereinafter referred to as "THE SOCIETY"

(Which expression shall unless it be repugnant to the context or meaning thereof, be deemed to mean and include its successors and assigns) of the SECOND PART:

WHEREAS:

(i) The Society is seized and possessed of or otherwise well and sufficiently entitled to property admeasuring ---------- sq.mtrs or thereabout (as per CIDCO lease deed) ---------- (said plot) having Residential buildings. The said Plot is hereinafter referred to as the said Property:

(ii) By a Development Rights Agreement dated day ------ of 2025 (said agreement) made between the Society of the First Part And Members of the Second Part and the Developer, the firm having its office at---------- (therein and hereafter referred to as " the Said Developer") of the Third Part, the Society and the Members granted the Developer license to enter upon the said property and the Developer by demolishing the existing buildings as approved on the said Plot and construction of new building(s) and structures thereon on the terms and conditions more incorporated therein:

By and under the said Agreement it is interalia provided. The Developer agrees to provide minimum Bank Guarantee from a nationalized bank for performing all the acts as Per the Development Agreement and within the time stipulated therein. If the Developer defaults on any of the conditions, the society will invoke the Guarantee without any prior intimation to the Developer and the Guarantor Bank shall honor the invocation without any permission from the Developer. This amount of bank guarantee will be reduced as per mutually agree terms up to 90 % of the Guarantee amount only after 06 months of completing the entire construction works and after reestablishment of the existing members in totality and completion of the other activities, sale of new flats to purchasers and reestablishment of existing members thereof. Remaining 10% of the Guarantee amount shall be released after completion of defect liability period.

The Bank Guarantee thereof shall remain in force as per the above referred

clause. NOW THIS DEED OF GUARANTEE WITHESSETH that:

(i) The Guarantor is aware of all the terms and conditions contained the said Agreement.

(ii) The Guarantor hereby unconditionally, irrevocably and without any demur and notwithstanding any intimation or direction by the developer to the contrary, guarantees to pay to the Society the said sum of Rs.----------/- (Rupees ---------- only)

(iii) The guarantee contained in this Deed is irrevocable, unconditional and a continuing one and shall not be determined or any way prejudiced by any absolving of the Guarantor or any amalgamation thereof with any other bank or concern but shall ensure and be available for and by the absorbing or amalgamated bank or concern.

(iv) This Bank Guarantee shall be valid and shall remain in force as per the agreement.

(v) A demand in writing by the Society shall be deemed to have been duly made to the Guarantor by sending the same by registered post acknowledgment due addressed to the Guarantor at its Branch office at

IN WITNESS WHEREOF the Guarantor has subscribed its hand the day and year

First hereinabove

written. Signed

sealed and delivered

By the within named

'Guarantor) In the

presence of

1. ----------

2. ----------

11.45 PROFORMA – 'J'

DRAFT DEED OF INDEMNITY

(BY DEVELOPER IN FAVOUR OF SOCIETY AND THE MEMBERS)

This deed or indemnity is made at Mumbai this ------- day of 2025 between:

I/We ---------- having our registered office at hereinafter called

"THE OBLIGOR" (which
Expression shall unless it be repugnant to the context or meaning thereof be deemed to mean and include its successors and assign) of the FIRST PART:

AND ----------Society registered under the Maharashtra Co-Operative Society Act having its registered office situated at----------

Hereinafter referred to as "THE SOCIETY" (which expression shall unless it be repugnant to the context or meaning thereof, be deemed to mean and include its successors) AND All Members of the Society, listed in Schedule -1, all Indian Inhabitants ,all having their addresses at the flats shown against their respective names in the Society As above hereinafter collectively referred to as the "MEMBER" (Which expression shall unless it be repugnant to the context or meaning thereof be deemed to mean and include their respective heirs' executors, administrators and assigns). The Society and the Member are hereinafter collectively referred to as the "OBLIGEES" of the OTHER PART.

WHEREAS:

1. By a Development Rights Agreement dated --/--/2025 (said Agreement executed between the Society of the First Part, (Therein referred to as the Society), the Members of Society of the second part (therein referred to as the Members) being the obliges herein and M/s----------
   ----------(therein referred to as OBLIGOR has agreed and granted the License
   To the Obligor
   To enter upon the property, more purpose to describe in the Schedule there under written for the limited purpose to develop the Property (hereinafter referred to as the "said Plot") by demolishing buildings. Thereon buildings on the said Plot and by constructing proposed buildings. Thereon by utilizing existing FSI of the said Plot and by acquiring and utilizing FSI for providing additional carpet area to the existing member as Contractors and by acquiring and utilizing balance FSI as Developer on the terms and conditions incorporated in the said Agreement. As per the said Agreement, the Obligor shall act as the contractor for the Member for the construction of the new flat for them and providing car parking spaces to existing members of the Society. The said Agreement is properly stamped and registered in the office of the Sub Registrar, Navi Mumbai vide Register No. ---------,/ /2025:
2. As per the said Agreement:
   a) The obligor is required to obtain at its own costs, any additional FSI in accordance with the provisions of the UDCPR and get the building plans approved (after getting the consent of the majority of the Members of the Society thereto, obtain the Commencement Certificate and sanction of building plans elevations from the Municipal Corporation (NMMC/CIDCO) and pay all the requisite deposits, fees, premiums etc. to various authorities including the NMMC/CIDCO for the purpose of getting the building plans approved to enable it to construct and complete the new construction at its own coats and expenses and the Society or Members shall not in way be liable or responsible for the same.
   b) The obligor is required to pay and discharge duly and punctually all those

liabilities to the building contractors, labour, materials, workmen and other employees employed by it for the purpose of and indemnified the Society/Members from and against all actions, costs, claims and demands arising there from.

c) The Obligor shall from the date it receives vacant possession of the said properly, indemnify and keep indemnified the Society/Members from and against all costs, claims, demands, expenses, suits or proceedings that may be made or raised on the Society/Members as a result of the said construction activity and/or on account of any act of commission or omission or any breach, delay or default on the part of the Developer in developing the said Property, including third party claims.

d) The Obligor shall alone be responsible for any liability under E. S. I. S. Provident Fund, VAT, Service Tax, GST, Workmen Compensation Act, and shall indemnify the Society/members in this regard. The Developer shall also take suitable policy for the new building under construction for adequate value.

Now this deed witnessed that pursuant to the said Agreement and the premises aforesaid, the obligor doth hereby indemnify and shall at all times hereinafter save and keep indemnified the Obliges from and against all actions, losses, costs, charges, expenses, claims, demands damages and liabilities, suits and proceedings.

Whatsoever, which the Obliges may incur or suffer arising as a result of any act of commission or omission during the course of redevelopment of the plot by the Obligor, any claim, and demand of, all penalty demanded, imposed in the course of development by the NMMC/CIDCO and /or all other concerned authorities, liabilities to the building contractors, labour, material suppliers, workmen and other employees, employed by it for the purpose of and incidental to the development work, any liability under E.S.I.S., Provident Fund, GST, VAT, Service Tax, make good such loss at its own costs. The Obligor has hereunto set and subscribed his signature as witness on the day and year first hereinabove written.

SIGNED AND DELIVERED BY

The within named 'OBLIGR

M/s ---------- Developer

By the hand of Director/Partner

Mr. ----------

PAN No.

In the presence of

BEFORE ME

PART 12: SAFETY CODE

The developer shall ensure all the safety rules and statutory regulations and procedures for carrying materials and movement of labour within and outside the site are strictly followed.

The developer shall be responsible for the safety of his employees. The developer shall be responsible for making all the safety arrangement in the execution of the work and shall employ trained workmen conversant with safety regulations.

The developer shall be responsible for all the safety measures and he shall arrange for various types of safety appliances such as safety belts, safety helmets and safe working conditions. No worker will be engaged in work without using/wearing safety appliances.

12.1 GENERAL PRECAUTIONS

a. Any worker working in elevated places, not adequately provided by railings or suitable enclosure shall be provided with proper safety belts by the developer at his own cost with life line tied securely to firm structure or other support independent of any other load. The developer shall ensure that the suspended scaffolding should be of good material and of sufficient strength. The developer shall arrange at his own cost to test any rope or suspension arrangement for load of twice the amount which it is intended to carry. Any rope and suspension arrangement which gets damaged or cut during the course work shall be promptly replaced by the developer.
b. To ensure that the safety belts are compulsorily worn by the workers while working at heights, the developer will give a certificate to the effect that the safety belts conforming to relevant I. S. code have been provided and worn by these workers in writing to the Engineer-in-charge.
c. All the workers irrespective whether they are male or female are provided with the proper safety appliances, required for the safe execution of work, like safety helmet, leather shoes, hand gloves, safety goggles etc. If at any time, it is found that the workers are not working with the safety belts. The PMC or his representative will be well within his right to stop the work and will not allow the work to recommence, till such time safety rules are properly followed and practiced by the developer's workers. No claim on account of such idle labour or delay occurring on this account will be entertained by the PMC.
d. The developer shall also provide safe/dependable and suitable means of access for working on inaccessible place of work.

12.2 SAFETY CODE

1. 1. First aid appliances including adequate supply of sterilized dressings and cotton wool shall be kept in a readily accessible place.
2. An injured person, where the injury necessitates hospitalization, shall be taken to a public hospital without loss of time.
3. Excavated material shall not be placed within 1.5 meters of the edge of the trench or half of the depth of trench whichever is more. All trenches and excavations shall be provided with necessary fencing and lighting.
4. Every opening in the floor of a building or in a working platform shall be providing with suitable means to prevent the fall of persons or materials by providing suitable fencing/ railing of a minimum height of one meter.
5. All staff/workers employed in the work shall be provided with safety shoes, helmet, belt etc.
6. No floor, roof or other part of the structure shall be overloaded with debris or materials so as to render it unsafe.
7. Those engaged in welding works shall be provided with welder protective eye-shields and gloves.
8. No paint containing lead or lead products shall be used except in the form of paste or readymade paint.

9. Hoisting machine sand tackle used in the works, including their attachments, anchorage and supports shall be in perfect condition.
10. The ropes used in hoisting or lowering materials or as a means of odd suspension shall be of durable quality and adequate strength and free from defects.
11. The Developer shall appoint 'Safety Officer' to maintain safety records to the satisfaction of the PMC.
12. Suitable scaffolds shall be provided for workmen for all that cannot be done safely from the ground or from solid construction except such short period of work as can be done safety from ladders. When a ladder is used an extra labour shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder.
13. Scaffolding or staging more than 3.25 meters above the ground or floor, swung or suspended from an overhead or support or erected with stationary support, shall have a guard rail properly attached, belted and otherwise secured at least 1-meter-high above the floor or platform of such scaffolding or staging and extending along the 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.
14. Working platform, gangways and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangway or stairway is more than 3.25 meter above ground level or floor level, it shall be closely guarded, have adequate width and be suitable fenced as described above.
15. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 meters in length; width between side rails in a rung ladder shall in no case be less than 30cm for ladder up to and including 3 meters in length. For longer ladder this width shall be increased by at least 6 mm for each additional 30 cm of length. When a ladder is used, an extra laborer shall be engaged for holding the ladder.
16. Adequate precaution shall be taken to prevent danger from electrical equipment. No material on any of the sites shall be so stacked or placed as to cause danger or inconvenience. The Developer shall provide necessary fencing and lights to protect public from accidents and shall be bound to bear expenses of defense of every suit, action or other proceeding at law that may be brought by any person for damages and sots which may be awarded in any such suit, action or proceedings to any such person or which may with or without the consent of the developer be paid to compromise any claim by any such person.

12.3 EXCAVATION AND TRENCHING

All trenches, 1.50 meters or more in depth, shall at all times be supplied with at least one ladder for each 0.6 meters in width Ladder shall be extended from bottom of trench to at least 1 meter above surface of the ground sides of a trench which is 1.5 meters or more in depth shall be stepped back to give suitable slope, or securely held by timber branching, so as to avoid the danger of sides collapsing. Excavated material shall not be placed within 1.5 meters of edge of trench or half or depth of trench, whichever is more. Cutting shall be done from top to bottom. Under no circumstances shall undermining or under cutting be done.

12.4 DEMOLITION

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

a. All roads and open areas adjacent to the work site either be closed or suitably protected.
b. No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by an operator shall remain electrically charged. –

All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion, or flooring, no floor or other part of building shall be so overloaded with debris or materials as to render it unsafe.

All necessary personal safety equipment as considered adequate by the Society's Consultant shall be made available for use of person employed on the site and maintained in a condition suitable for immediate use. The Developer shall take adequate steps to ensure proper use of equipment by those concerned.

a. Workers employed on mixing asphaltic materials, cement and lime mortars/ concrete shall be providing with protective footwear, hand gloves and goggles.
b. Those engaged in handling any material, which is injurious to eyes, should be provided with protective goggles.
c. Those engaged in welding works shall be provided with welder's protective eye shield.
d. Stonebreakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
e. When workers are employed for sewer and manhole work, which are in use, the Developer shall ensure that manhole covers are opened and manholes are ventilated at least for an hour. Manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.
f. The Developer shall not employ men below the age of 18 and women on the work of painting with products containing lead in any form.

Whenever men above the age of 18 the employed on the work of lead painting the following precautions shall be taken:

1. No paint containing lead or lead product shall be used except in the form of paste or ready-made paint.
2. Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or any surface having lead paint is dry rubbed and scrapped.
3. Overalls s a f e t y g e a r s shall be supplied by the Developer to workmen and adequate facilities shall be provided to enable working painters to wash during and on cessation of work.

PART 13: AMENITIES / CONSTRUCTION FEATURES/FACILITIES

The Developer shall be required to provide the amenities as mentioned below.

The list of amenities is only by way of being the minimum expected amenities, and is not exhaustive and the Developer may add latest amenities as he may provide.

These specifications cover the items of work in structural and non-structural parts of the works coming under the purview of this document. All work shall be carried out in confirmation with these specifications. In general, provisions of the Indian Standards and National Building Codes (NBC) shall be followed.

These specifications are not intended to cover the minute details. The work shall be executed in accordance with the best modern practices. All codes and Standards referred to in these specifications shall be latest revision thereof.

The Developer shall complete in first 12 months a sample flat and get it approved by Society.

13.01 Common Facilities

- Well-designed Entrance lobby/lobbies with name plates and letter boxes for each tenement.
- Security cabins with intercom connection.
- Society office with toilet block as per the prevailing D.C. rules.
- The stair case should have minimum width of 5'0" for one section of flight.
- Broun Marble/Granite treads and rises
- Water meter in each flat along with electric meters.
- Landing and mid landing to be of decorative type of Granite/Marbonite/Natural Stone
- Staircase wall and ceiling to be painted with plastic emulsion paint. S.S hand railing all along staircase. Service lift and Stretcher lift.
- Storage tank for continuous water supply.
- Name board and nameplate of same design to each and every flat.
- Submersible pump for the Under Ground water tank with control panel at suitable location.
- Well-equipped Driver room, Servant Toilet in each and every wing. With facilities of bathing.
- Good sturdy decorative gate security room
- Entire compound to be paved with P.C.C. and Chequered tiles/vitrified tiles/interlocking Paver blocks to be provided.
- Designer entrance lobby in marble/granite/vitrified/Marbonite tiles with reception area and fancy nameplate fitting.
- Health club with a well-equipped gymnasium (Maximum Area as per NMMC/CIDCO).
- Postal delivery boxes of size 8" x 11" inside dimension for each member. Mail box at entry of flat.
- 24 hours 3tiered security with CCTV monitoring – intercom system, video door system of good bound quality.
- Multi layered heat resistant glazing
- Four-wheeler, two wheeler, bicycle parking provided place
- Solar panels , Rain Water harvesting as per the provisions of UDCPR
- Single, Two and three phase connections as per norms of MSEDCL

13.02 Garden and Landscaping

- Beautiful landscaped garden.
- Children's play equipment, pavilion, and play area paved and well-designed lawns for children and elderly people.
- Good club house having library, sitting space, gymnasium, carom , table tennis facilities to be provided
- Jogging Track to be provided
- Two all-weather swings in playground for exclusive use of members especially senior citizens.

13.03 Site Development

- Compound wall with lighting and with boom barrier facility, provided by good quality garden light fixtures.
- Provision for storm water drains and drives ways.
- Well-designed garbage system
- Vermiculture system
- Society Name board (decorative, durable and visible) as approved by the Society.

13.04 Additional facilities in existing members flat:

1. Room height shall be minimum 10 Feet
2. Cloth drying facility in every flat
3. Every Chhajas should have hooks
4. In the kitchen, space must be kept for clothes washing machine/dish washing machine. Water connections to these machines must be thoughtfully laid out.
5. PVC rust proofing piping and large enough exit points for forceful gushing of water. Must ensure largest Nani Trap' size permissible.
6. Power and light points in all rooms and toilets
7. Space for Provision of AC unit and compressor unit along with concealed cables and drain pipe.
8. Proper piping for internet and DTH wiring in flat and building
9. Uniform Grills and safety Doors to each flats.

Note:

1. All the finishing material and specification shall be approved by PMC and Managing Committee.
2. Also all materials / fixtures shall be as per Green Building requirements

PART 14: PROJECT DETAILS

The salient details of the area to be developed and the present buildings etc. are as shown below:

i. Name of the Society : Himgiri Cooperative Housing Society Ltd,

ii Location : Sector 03, Sanpada, Navi Mumbai–400705
.

ABOUT US

iii The surrounding locality is well developed with Residential Development. It is in the vicinity of many civic amenities like schools, Markets, Banks, railway stations and other commercial establishments

The details are as follows:

1)	Plot area as per Lease	:	6440.42 Sq.mtr.
2)	No. of tenements	:	149 Units
3)	Existing Carpet Area	:	unit wise List enclosed
4)	Year of completion	:	1992
5)	Building Age	:	More Than 30 Years
6)	Majority of the members of the Society have consented to go for redevelopment.		
7)	Existing Building is of Residential use		
8)	Zone	:	'R' Zone
9)	road	:	30 m wide roads.
10)	Setback	:	as per NMMC
11)	Highway/Transmission Line N.O.C	:	N. A
12)	Geographical Situations a) Railway station	: 	 Sanpada railway station is 1 Km away
13)	Geological Situations	:	Plane Land and Existing -33 Bldg. on Plot .
14)	Regulation applicable	:	10.10.2 of UDCPR
15)	Permissible Height	:	As per AAI approval

UDCPR REGULATION-10.10.2

10.10.2 Reconstruction / Redevelopment of Building in CIDCO / NMMC Areas

Regulation for reconstruction / redevelopment schemes undertaken by CIDCO/Owner's Association / Co-operative Housing Society (CHS) in respect of the authorized buildings previously constructed by CIDCO but subsequently destroyed by natural calamities or accidental fires or which have collapsed by aging or are demolished or being demolished under a lawful order of the Municipal Commissioner etc.:-

Reconstruction / Redevelopment, in whole or in part of a building, previously constructed by CIDCO (not being a building wholly occupied by warehousing / Industrial user and also not being an individually owned structures, which has ceased to exist for the reasons mentioned above) or a building constructed by CIDCO which has been declared dilapidated by the

(1) Inserted vide Notification u/s 37 (1AA)(c) No. CR 236/18 (Part 6) dt. 12th October, 2022
(#) Clarification issued vide Letter No. CR 42/21, dt. 14th June, 2021 &Order No. CR 236/18 (Part 2) dt. 12th October, 2022.

Commissioner NMMC or a buildings constructed by CIDCO which is above 30 years of age, irrespective of its status of dilapidation, (hereinafter collectively referred to as "dangerous / dilapidated building") shall be permissible in accordance with the following Regulations.

Regulation for Reconstruction / Redevelopment :-

1. For redevelopment of building or buildings in the housing schemes of CIDCO, containing houses or tenements for (i) EWS / LIG and / or (ii) MIG and/or (iii) HIG, the total permissible FSI shall as specified in Table below or Rehab + Incentive FSI as per clause 2(A) & (B), whichever is more and shall be based on gross plot area:-

Table No -10 C

Sr. No.	Category	Permissible FSI
i)	Plot area of 1000 sq.mt. or more and having access road of minimum 15 m width.	3.00
ii)	Plots area of 1000 sq.mt. or more and having access road of minimum 9m. width	2.00
iii)	All other plots having access road below 9m width.	1.80 or Authorisedly consumed FSI + 50% Incentive whichever is less

If the entitlement of FSI as above is less than maximum building potential mentioned in column 6 or 9 of Table 6-G of Regulation No.6.3, then difference of FSI entitlement shall be availed by payment of premium. Moreover, the maximum building potential mentioned in Table No.6-G shall be allowed considering the road width one step below subject to road width of minimum 12 m.

e.g. for the roads as mentioned at Sr.No.3 in Table No.6-G, the maximum building potential shall be considered as given at Sr.No.4.

Identification of dangerous / dilapidated buildings shall be done by a Committee Under the Chairmanship of the Municipal Commissioner, NMMC, comprising Superintendent Engineer, Public Works Department, Thane; Joint Director, Town Planning, Konkan Division; City Engineer, NMMC; Chief Engineer, CIDCO; Chief Planner, CIDCO and such other members as may be appointed by the Municipal Commissioner, NMMC, having regard to their academic qualifications, technical competence and previous experience in the field of Structural Engineering.

2. Where redevelopment of any dangerous / dilapidated buildings(s) in a Housing Scheme of CIDCO constructed building is undertaken by the Co-op Housing Society or the occupiers of such building(s) or by the lessees of CIDCO, the Rehabilitation area Entitlement, Incentive FSI and sharing of balance FSI shall be as follows:-

A) Rehabilitation Area Entitlement :

i) Under redevelopment of any dangerous / dilapidated building(s) in a Housing Scheme of CIDCO, the entitlement of rehabilitation are for an existing residential tenement shall be equal to sum total of-

(a) a basic entitlement equivalent to the carpet area of the existing tenement plus 35% thereof, subject to a minimum carpet area of 300 Sq.ft. and

(b) an additional entitlement, governed by the size of the plot under redevelopment, in accordance with the Table below :-

Table No - 10 D	
Area of the Plot under Redevelopment	**Additional Entitlement (As % of the Carpet Area of the Existing Tenement)**
Upto 4000 Sq.m.	Nil
Above 4000 Sq.m. to 2 hect	10%
Above 2 hect to 5 hect	15%
Above 5 hect to 10 hect	20%

Explanation: The plot under redevelopment means the total area of the land on which redevelopment of dangerous / dilapidated building (s) is to be undertaken.

Provided that the maximum entitlement of rehabilitation area shall in no case exceed the maximum limit of carpet area prescribed for MIG category by the Govt., as applicable on the date of approval of the redevelopment project.

Provided further that the entitlement of rehabilitation area, as admissible under this regulation, shall be exclusive of the area of balcony.

ii) Under redevelopment of any dangerous / dilapidated building(s) in a Housing Scheme of CIDCO, the entitlement of rehabilitation area of any existing authorized commercial unit / amenity unit in the Residential Housing Scheme shall be equal to the carpet area of the existing unit plus 20% thereof.

B) **Incentive FSI** : Incentive FSI admissible against the FSI required for rehabilitation, as calculated above, shall be based on the ratio (hereinafter referred to as Basic Ratio) of Land Rate)LR) in Rs/Sq.m. of the plot under redevelopment as per the Annual Schedule of Rates (ASR) and Rate of Construction (RC)* in Rs/Sq.m. applicable to the area as per the ASR and shall be as given in the Table below :-

Table No – 10 E	
Basic Ration (LR/RC)	**Incentive (As % of Admissible Rehabilitation Area)**
Above 3.00	70%
Above 2.00 and upto 3.00	80%
Above 1.00 and upto 2.00	90%
Upto 1.00	100%

Explanation :- *RC is the rate of construction in respect of R.C.C. Construction, as published by the Chief Controlling Revenue Authority & Inspector General of Registration, Maharashtra State in the Annual Schedule of Rates.

Provided that the above incentive will be subject to the availability of the FSI on the Plot under redevelopment and its distribution by NMMC, with prior approval of CIDCO.

Provided further that in case there are more than one land rate applicable to different parts of the plot under redevelopment, a weighted average of all the applicable rates shall be taken for calculating the Average Land Rates and the Basic Ratio.

Provided further that the Land Rate (LR) and the Rate of Construction (RC) for calculation of the Basic Ration shall be taken for the year in which the redevelopment project is approved by the authority.

C) **Sharing of the Balance FSI :**

The FSI remaining in balance after providing for the rehabilitation and the incentive components, calculated as per (A) and (B) above respectively, shall be shared between the existing or proposed Co-operative Housing Society / Apartment Ownership Association and CIDCO, in the form of built-up area, as given in Table below and the share of CIDCO shall be handed over to CIDCO free of cost.

Table No - 10 F		
Basic Ratio (LR/RC)	Sharing of Balance FSI	
	Society / Association Share	CIDCO Share
Above 3.00	30%	70%
Above 2.00 and upto 3.00	40%	60%
Above 1.00 and upto 2.00	50%	50%
Upto 1.00	60%	40%

Provided that building or buildings under redevelopment in the NMMC area, upto 20% of the CIDCO's share in the form of tenement shall be handed over free of cost to the NMMC. NMMC require the same for rehabilitation of the project affected persons.

2.1 Where redevelopment of dangerous / dilapidated building(s) in a Housing Scheme of CIDCO is undertaken by CIDCO directly or jointly by CIDCO along with the Co-operative Housing Society / Association or the occupiers of such building(s) or by the lessees of CIDCO, the Rehabilitation Area Entitlement, incentive FSI and sharing of balance FSI shall be as follows:

A) **Rehabilitation Area Entitlement :**

The Rehabilitation Area Entitlement shall be increased by 15% of the existing carpet area, over and above the Rehabilitation Area Entitlement calculated in (A) of Clause 2 above, subject to the maximum of the size of MIG, prescribed by the Government in the Housing Department.

B) **Incentive FSI :** Incentive FSI shall be the same as in (B) of Clause 2.

C) **Sharing of the balance FSI :** There shall be no sharing of the balance FSI, which shall be entirely available to CIDCO for implementing Affordable Housing Project.

3. **Other requirement / Criteria :**

i. For the purpose of calculating the FSI, the entire area of the layout including widening of existing roads and internal roads but excluding the land earmarked for public amenities shall be considered. Sub-division as well as amalgamation of plots shall be permissible. Amalgamation of more than one Apartment Owners' Association / Co. op. Hsg. Society (CHS) / Residents' Association shall be permissible and after such amalgamation, the amalgamated plot should be in the name of the applicant CHS with legal ownership title, without considering the provision made in the Regulation of the DCR. However consent of at least 70% leaseholders / occupants who intend to amalgamate such condominium shall be necessary.

ii. In a condominium/plot area, widening of existing roads as per the regular line of street prescribed by the Commissioner, NMMC or widening of road providing vehicular access to the condominium plot to bring it to the minimum right of way as prescribed in Table No. 10 C, shall be permissible for reconstruction / redevelopment, after handing over required stretch of land under road to NMMC, free of cost, duly developed with

storm water drains and footpath, if any, to the satisfaction of the Municipal Commissioner.

iii. In case where there are a number of dangerous / dilapidated buildings on a plot, in such cases, equivalent Land component of such buildings shall be worked out and incentive F.S.I. shall be based on such land component.

iv. The normal permissible tenement density per net hectare may be allowed to be exceeded in multiple of F.S.I. permissible.

v. The existing residential premises (other than R+C premises) shall be permitted to be redeveloped for residential user only. No change of use from Residential to Residential cum Commercial shall be permitted. However, in such premises, if area of such plot is more than 1000 Sq.m. and the same is fronting on a road having width of 20 mtr and above then it shall be permissible to construct convenience shopping to the extent of 5% of the plot area and if the plot area is more than1000 sq.mr and the plot is fronting on a road having width of 30 mtrs and above then this limit for convenience shopping will be upto 10%.

vi. In a condominium/plot area, It shall be mandatory to keep minimum 10% or 15%, as the case may be, compulsory recreational open space on ground clearly open to sky over and above podium garden, in the proposed redevelopment project in respect of land area between 2500 sq.mt. to 4000 sq.mt. or more than 4000 sq.mt., respectively.

vii. 5% of the Plot area under reconstruction / redevelopment project shall be surrendered to the Municipal Corporation, free of cost, towards essential amenity area, in case the plot area is more than 2500 sq.mt. The FSI of such amenity area shall be permissible on the balance plot area and the entire area of such amenity space will be considered for computation of FSI, without deducting this area from the gross plot area. However, 1.0 FSI out of amenity space FSI will be deducted from the total permissible FSI. Alternatively carpet area equivalent to 5% of the area of the plot Under redevelopment can be constructed within the Scheme, providing Separate access, and handed over to NMMC free of cost as Social amenity.

viii. The Layout of entire condominium / residential / Residential cum commercial premises, duly signed by the Apartment owners' Association/CHS shall be submitted at the time of Commencement Certificate to ascertain the feasibility of the entire condominium for redevelopment, so that in future, proper redevelopment of other buildings in the condominium/residential premises is smoothly feasible. However, such redevelopment can be undertaken in a phased manner in respect of one or two buildings likewise as per the approved layout of the entire condominium/residential premises. In case of such partial redevelopment, the infrastructure charges shall also be deposited in proportion to the area under such partial redevelopment.

ix. For the purpose of deciding the authenticity of the age of the structure, if the approval plans of such existing structure are not available, the Municipal Commissioner shall consider other evidence such as Assessment Record, or city survey record or sanad.

x. In any Redevelopment project where the existing or proposed Co-operative Housing Society/Apartment Owners' Association/Developer appointed by the concerned Society/Association has obtained No Objection Certificate from the CIDCO, thereby securing additional balance FSI with the consent of 70% of its members and where such NOC holder has made provision for alternative accommodation in the proposed building (including transit accommodation), then it shall be obligatory for all the occupiers / members to participate in the Redevelopment Scheme and vacate the

existing tenements for the purpose of redevelopment. However, in case of Apartment owners' Association, the Consent as per the concerned Act will be required.

xi. For redevelopment of any dangerous / dilapidated buildings in any Housing Scheme of CIDCO under clause 2.1 hereinabove, by CIDCO, the consent of the Cooperative Housing Society in the form of a valid Resolution as per the Co-operative Societies Act, 1960 will be sufficient. Similarly in case of Apartment Owners' Association, the consent as per the concerned Act will be required.

xii. For providing the requisite infrastructure for the increased population, an infrastructure charge at the rate of 10% of the Land Rate as per the ASR of the year of approval of the redevelopment project shall be levied and charged by the NMMC for the extra FSI granted for the redevelopment project, over and above the Basic Zonal FSI.

xiii. A corpus fund, as may be decided by Municipal Commissioner, shall be created by the Developer which shall remain with the concerned Co-operative Housing Society / Apartment Owners' Association for the maintenance of the new buildings under the Rehabilitation Component.

xiv. For the purpose of this Regulation, the carpet areas for EWS, LIG or MIG tenements shall be as determined by the Government in the Housing Department from time to time.

XV. Any redevelopment proposal where NMMC has already issued Commencement Certificate (C.C.) prior to the date of coming into force of this Modification (hereinafter referred to as "the appointed date") and which is valid as on the appointed date, shall be allowed to convert to redevelopment projects under this Regulation, provided it satisfies all the requirements specified in this Regulation.

PART 15: LIST OF APPROVED MATERIALS/BRANDS

Unless otherwise mentioned specifically, any of approved makes or brands shall be allowed to be used. Other makes or brands of the building materials bearing I.S.I, monogram on the material itself will also be allowed to be used. The Developer should clearly understand that it would not be their prerogative to insist on using particular make brand from the following list. The final below selection will have to be done with the approval of PMC /Committee. The list given below is only indicative and not restricted to brand mentioned. Other equivalent brand may be approved at the discretion of PMC /Committee after verifying equality thereof. The BIDDER may suggest additional brand names if desired, the same may be approved by of PMC /Committee provided the BIDDER convinces both the parties regarding the credential of the material/manufacturer/supplier.

Note: Amenities provided and the materials used should qualify for Green Building Certification.

MATERIALS	APPROVED BRANDS/MAKES
CIVIL	
Cement	O.P.C. – Ultratech, Birla, ACC, Gujarat Ambuja P.P.C. – Ultratech, Gujarat Ambuja, Birla S.P.C. – Indorama
White Cement	Birla J. K
Tor Steel/Reinforcement	TISCO, SAIL, Indian Steel Authority, Vishakhapatnam. Ispat Ltd,
Concrete	Ready mixed concrete of reputed company in proximity with mixed design approved by structure consultant of society /PMC
Screws	G. K. W. Nettle fold.
Ceramic Tiles	
• Nonskid ceramic tiles •Glazed ceramic tiles •Vitrified ceramic tiles	R. A. K., Spartek, Bell, Kajaria, NITCO Johnson, Pedder. R.A.K., Spartek, Bell, Kajaria NITCO, Johnson, Pedder, Bell, Jonson, Euro
Adhesives	Pidilite, Bal Adhesive
Steel door frames	AGEW, Ferro steel, Sentiaroic, Weldoors
Door shutters Wooden solid core flush door Shutters Steel door shutters- general Purpose/Fire reacted	Kully, anchor, Anand (Sejpal), Goyal, Kaplesh Abaqs, Basic Arch, Shakti Met – door
Hardware	Shalimar, CIEF, Vijayan, Nav Bharat Brass Works, Sobeet
Aluminum Windows (UPVC)	Alumile, Alupex, Almech, Indrajit Associates, Fenista.
Stainless Steel Sink	Nirali, Diamond, Tuff
Locks	Godrej, Sobeel, Vijayan, Yale
Paint (Internal & External)	Asian, I.C.I. Nerolac, NITCO, Berger
Cement paint	Supercem ,Snowcem India, Nitco, Cem, Hindustan colours& Chemical India
Acrylic Paint	Snowcem Paint, Asian Paint Nitco Paint
Waterproofing	India waterproofing CC, Leak proof India Pvt. Ltd. Overseas waterproofing Co. Nina Industries. Pidilite waterproofing materials and caulking tapes
Chemical Admixture & waterproofing compounds	MC Bauchemie, Krishna Conchem Products Pvt. Ltd. Pidilite , CICO, Sunanda Chemicals

Sand	Rajasthan Red sand , Gujarat Silica sand , river sand (no sea sand and creek sand is allowed) or crushed conforming to IS383:2016(latest Version)

ELECTRICAL WORK	
Wires	Copper conductor double/Single PVC as per I S 694, Finolex, Sundeep, V Plast, Polycab, R.P. Cable
Ten SFU /FSU with HRC Fuses	L & T, Siemens, GE
HRC Fuses	L & T, Siemens, GE
Energy Meter	L & T, AE, Nippon etc.
MCB & MCB DB	Indo- Kopp, MDS, Siemens, L & T – Havells
MCCB	L & T, GE,MDS, Schneider
MCB + ELCB	MDS Siemens, L & T, Havells
ELCN	MDS Siemens, L & T, Havells
Bushar Chamber	CPL, KEW
Metal clad DP and TPN Switches	Clip
Iron clad cut out	Bosma or any MSEB approved or equivalent
11 KV Ring Main unit without Switches and switch fuse units	Andrew Yule and Co. LG Southern switches
11 KV XLPE Cable	Asian, CCL Glosteror, polycab, RPG
Transformer 11 KV /43. V.	Pactil, Emco, Bharat Bijlee, Voltamp
Indoor	
ACB Feeder Pillars Distribution Pillars Minipillar LT fuse Boxes/switch boxes	Locally fabricated as per MSEB Approved make. Prior approval of MSEB required before Fabrication,
Air circuit breaker	L & T, Siemens, MG, GE
Cable (1.1 KV grade)	Al/Cu. Conductor XLPE Insulated, approved PVC Sheathed, Asian, Polycab, Gloster CCI, Finolex, RPG
Cable glands	Brass heavy duty, glands weather proof with rubber washers and gaskets
Cable Lugs	Dowells (Crimping type)
11 KV, cable and termination Kit& cable jointing Kit	Raychem, xicon or approved equivalent
Terminal Blocks	Elmex
Reliable fuse base and tops	KEW, CPL
Lighting fixtures for HPMV/HPSV Lamps and fluorescent tubes	Bajaj, Wipro, Philips
Fluorescent tubes	Bajaj, Wipro, Philips
HPMV and HPSV	Bajaj, Wipro, Philips
Steel Tubular poles	Bombay Poles, Nityanand Poles, Noel Poles.
GL pipe poles	Gujarat, Zenith
Pole terminal box, pole prickets Cable junction boxes	Locally fabricated, as per approved specifications
Motor Starter	L & T ,Siemens etc.
Water pumps	Crompton, Kirloskar, Jyoti
Capacitor	L & T, KHATAU
Switches, socket & switch boards (Modular)	Anchor, Clips & Cab tree, CP4 or approved Equivalent, ROMA, M K, Legrand

DP Switches and other lighting Accessories	CPL Wizard Series MK/Anchor – Roma/CAB Tree, M K, Legrand
Screws	Nettlefold

Earth Wire	Bare Copper/PVC insulated wire of required
PVC conduit pipe and accessories	Precision, Premium etc.
PVC casing/capping with accessories	Modi, Classic, Precision (Concealed wiring)
MS conduit pipe and accessories	Supreme, PMC/CIDCO, Kaycee
Rotary Switches	L & T, Siemens, Kaycee
Gas Heater	ISI marked
Generator	Kirloskar
Video Door Phone /Camera	Siemens, Honeywell
Water Purifier	Aqua Guard
Exhaust Purifier	Bajaj, Rallis, Crompton
PLUMBING WORK	
Sanitary ware	Hindustan, Parry ware, Neycer
C.P. Fittings	Jaguar, Marc, Gem
G.I. /M. S. Pipes	TATA
G.I. Fittings	Kirti, Unik, ISI
Sluice Value	Kirloskar, Indian Value Co.
Stoneware Pipes	Gorco, Rajura Ceramics Khanpur ceramics.
C. I. LA Class Pipes & fittings	Indian Iron Steel Co Kesoram, Electro Steel
R.C. C. Hume Pipe	K K. Industries, Pranali
C.I. soil variety pipes & Fitting	Bengal Iron Co. Nagpur Engg. Co Hindustan Eng. Projects s Rif.
Gate value (All ISI Mark)	Leader, Zoloto
Butterfly Valves	Audco India, C&R
Insulation	Fibre Glass Pilkington, TWIGA
Flush Valve	NELSON, Jaguar
Fire Hydrant Landing Valves Hose, Reel, Canvas Hose, Cabinets, Portable Extinguishers	Safe guard, Minimax, Newage
PVC Pipes & Fitting	Supreme, Prince
Urinal Flash Valve	Geberit
Hydro Pumps, panels & Equipment and Fire & sprinkler Pumps	H.B.D. Grundfoss, Kirloskar
Sprinkler Heads	S.A.S., H.D.
Sewage handling pumps	HBD Kirloskar, KSB
BRASS BALL VALVE	ZOLOTO
Storage Tank	Sintex, Simlex

FIRE & ELECTRONIC SECURITY	
G. I. Pipe	Tata/Zenith
Butterfly Valves	Audco/Keystone
Pressure Gauges	Fiebig/Prega/H. Guru
Paint	ICI/Asian
Hydrant Valves Branch Pipes and other Accessories	Monsher/Newage/Minimax
First Aid Hose Reel Drum	Monsher/Newage

Pumps	Kirloskar Mather & Platt
Motors	Kirloskar
Diesel Engine	KOEL /Cummins
Foot Valve with GM Strainer	Mansher/M & P
Air Release Value	Mansher/M & P
Batteries	Exide/Standard
Canveshosues	Newage/Jayshree/Fire Marshall
FRLS Cables	CCI/Finolex
Starters	Siemens/L&T
Motor Control Panels	Monsher/Mather &Platt (TAC Approve.)
Control Cables	CCI/Finolex/Gloster
Fire alarm control Zonal Panel/Hooter Call Point/Response Indicator	Monsher/Mather & Platt
Smoke Detectors	Edwards/system sensor/Notified
Sprinkler heads	Grinnel/Viking

Elevators	High-speed Elevators of minimum 10-person capacity in each wing of the building will be as per Regulation with power back up for lifts and common areas Minimum 1 Stretcher lift Make: Mitsubishi / Schindler/ OTIS Cabin finish: Brush finish stainless steel cabins

- **Brands and specification given above are for reference purpose, any change to an upgraded reputed brand can be done with the Prior consent of the Society.**

PART 16: SOCIETY'S MANDATE.

Sr.No.	Description	Offer To Developer
1.	TEMPORARY ACCOMODATION	
a)	Minimum Rent per month per member to be paid to the Existing Members from the Vacation Date till the date of offering repossession of new flats in the newly constructed building subject to receipt of Occupation Certificate.	
b)	Non-Refundable deposit for transit accommodation	
c)	Relocation Cost (Both Ways Shifting & Re shifting to new Flat)	
d)	Brokerage for obtaining temporary accommodation. Brokerage shall be paid in advance.	
2.	BENEFITS TO THE MEMBERS	
a)	Total Carpet Area including Additional free Carpet Area over & above the existing carpet Area to be offered per member. Stamp Duty, Registration Charges and other incidental charges as applicable on such existing & additional Area is to be borne by Developer.	
b)	Mandatory Corpus Fund to the Society	
3.	DISCOUNT TO MEMBERS Discount on purchase of additional area if desired by existing member (if any)	.
4.	COMPENSATION TO THE MEMBERS	

	Compensation to Society member desiring to sell the premises on out right basis to prospective "Developer" prior to demolition provided member desire to sell his/her premises prior to demolition of existing "Building".	
5.	BANK GUARANTEE AMOUNT	
	Amount of Bank Guarantee	
6.	PARKING	
	Free parking area to each existing member.	
7.	List of Amenities to be provided by the prospective "Developer"	

PART 17: BIDDER'S OFFER.

Sr.No.	Description	Offer of Developer
1.	TEMPORARY ACCOMODATION	
a)	Minimum Rent to be paid to the Existing Members from the Vacation Date till the date of offering repossession of new flats in the newly constructed building subject to receipt of Occupation Certificate. Cheques shall be issued for 36-month period in advance by the developer to each member before vacating the flats.	
b)	Non-Refundable deposit for transit accommodation	
c)	Relocation Cost (Both Ways Shifting & Re shifting to new Flat)	
d)	Brokerage for obtaining temporary accommodation. Brokerage shall be paid in advance.	
2.	BENEFITS TO THE MEMBERS	
a)	Total carpet area offered to each member in Sqmt & Sqft Stamp Duty, Registration Charges and other incidental charges as applicable on such existing & additional Area is to be borne by Developer	
b)	Mandatory Corpus Fund to the Society	
	Terms of payment for Corpus Fund	
i)	At the time of execution of development agreement	

ii)	At the time of vacating the existing premises.	
iii)	At the time of possession. Total	
3.	DISCOUNTS TO THE MEMBERS	
i)	Discount rate on additional area wanted by existing member (if any)	
ii)	Maximum Carpet Area on which Discount will be available	
4.	COMPENSATION TO THE MEMBERS	
A	Compensation to the member desiring to sell the premises on out right basis to the Developer prior to demolition. In case any member desires to sell premises prior to Demolition of the Building	
B	Compensation which the developer shall give to existing members in case due to planning constraints the actual area allotted is increased or decreased	
i)	Compensatory Rate for the More Area	
ii)	Compensatory Rate for the Lesser Area	
5.	BANK GUARANTEE AMOUNT	
	Amount of Bank Guarantee	
6.	PARKING	
	Free parking area to each existing member.	

7.	SOURCES OF FUNDS	
i)	Own	-------- %

ii)	Bank	-------- %
iii)	Other	-------- %
8.	List of Amenities to be provided by the Developer	
9.	SPECIAL BENEFITS IF ANY	
10.	Health Club/Gym/Fitness Centre to Ladies & Gents of the Society (as per the NMMC/CIDCO Norms)	----------/- Carpet Sq. ft.

Seal and signature of BIDDER

Name and Designation of Signatory

Date:

Place:

LIST OF AMENITIES

Amenities

All amenities to be provided shall be of highest quality in workman like manner. All fittings and fixtures to be used as specified in list of approved materials & suppliers and of ISI standard. The further details of amenities, electrical points, plumbing layout, door & window schedules, flooring, tiling, dado's, kitchen platforms etc. shall be worked out at the time of finalizing the working drawings based on following list of amenities & list of approved materials & suppliers. These specifications are not intended to cover the minute details.

General

1) The total construction shall be as per relevant Indian Standard Code of Practice.
2) All Construction Specifications irrespective of being individually specified or not will be as per latest BIS / NBC Codes.
3) Material's Specifications will be of ISI or Quality Standards exceeding to ISI of Top /First Quality and as per National Building Code.
4) All materials for incorporation into the works shall be of the best quality, of their respective kinds as specified herein and will adhere to the requirements of the latest edition of the relevant Bureau of Indian Standards or any other equivalent quality standards prevailing in the Trade and / or approved by the Society in consultation with the PMC.
5) The specifications are indicative as minimum specification.

RCC

1) The RCC structure shall be framed structure designed for earthquake resistance as per relevant IS code and National Building code.
2) All the RCC works viz. pile foundation open footings, plinth beams, floor, beams, columns, staircase, lift well, overhead tanks, underground tanks, lift machine rooms, lofts etc. shall be as per IS 456 and shall be designed for earthquake forces and wind forces as per IS 1893 and as per Drawings of Structural Engineer.
3) The type of construction / foundation will be as per the geological soil investigation report.
4) The minimum grade of concrete for all RCC work shall be as per standards approved
5) The minimum grade of reinforcing steel shall be Tor TMT 500 of ISI make.
6) Columns on RAFT foundation as per Structural Engineers requirement.
7) Horizontal tie beams at the stilt level to enhance structural stability of the building.
8) Appropriate and approved construction chemicals & concrete additives shall be used to protect the reinforcement from corrosion.

Structure

1) All external walls shall be minimum 150 mm thick Autoclaved Aerated Concrete (AAC) Blocks with thin bed mortar.
2) All internal walls shall be minimum 100 mm thick Autoclaved Aerated Concrete (AAC) Blocks.

3) Internal Walls between Flats shall be of minimum 150 mm thick AAC Blocks

4) All internal surfaces shall be finished with coat cement mortar plaster finished with gypsum surface plaster (POP finish) of approved brands.

Planning

1) The buildings will be planned for High-rise residential tower with ultra-modern elevation.

2) Society office with toilet, intercom, telephone facilities, cupboards for storage, etc. Complete; of maximum permissible area as per NMMC norms.

3) Adequate refuge areas as per NMMC fire norms.

4) Adequate care shall be taken for proper ventilation and natural lighting in all flats.

5) The external elevation shall be well treated to give elegant modern aesthetic looks.

6) The plot shall be filled to make formation level at-least 1'-6" above finished footpath level & the stilt level shall be at-least 0'-6" above the formation level.

7) clear slab height should be of minimum 10 feet on typical floors.

Common Areas

1) Designer entrance lobby including full height dado as per approved design.

2) Minimum 2 automatic high-speed lift per wing of capacity 10 persons or more as specified including 1 stretcher lift and /or as per the architectural design.

3) Designer lift lobby to be provided at all floors including Granite or Marble jambs around lift openings at all floors

4) Common Passage shall be naturally ventilated.

5) Cabling for telephone/Internet line shall be provided to all units.

6) Uniform Decorative name plate should be provided to all flats at all floors

7) Decorative railing for staircase as per approved design & specification.

8) Decorative compound wall with Decorative Pillars / Gates.

9) Tre mix Concrete Flooring with Joints for open ground.

10) Common toilets for servants / watchman / drivers etc.

11) Sufficient Lighting in common areas.

12) Landscaping/Garden/Play Area at Ground or/and Podium Level.

13) Provision for sufficient parking spaces precisely 2 parking for each Residential unit.

14) Fitness Centre/Society Office.

15) Community Centre

Security System

1) CCTV area surveillance systems for the complete surrounding area, lobby, passages, staircases, lifts & all common areas connected to the Security Desk on Ground Floor & Society Office.

2) All entry and exit shall have a watchman / security cabin with surveillance equipment.

3) All entrances halls of all wings shall have security desk with intercom & video connection to all units in the whole complex.

4) All such security desk shall be inter-connected to all flats and central security room.

5) All surveillance equipment shall have capacity for 60 days storage of recordings
6) Intercom & Video Door Phone (from security desk to flat & internal flat to flat).

Common Services

1) Adequate capacity underground & overhead RCC water storage tank with bore well &dual water supply system as per NMMC norms.
2) Underground RCC water storage tank shall be provided with submersible pumps, auto level controller, starters etc. complete of approved make.
3) Firefighting System along with fire alarm, automatic sprinkler / hooter system etc. complete as per CFO"s requirement and as specified.
4) Firefighting requirements for RCC underground & overhead water storage tank as per statutory requirements and as per CFO"s NOC.
5) Electric Sub-station of adequate capacity as per statutory requirements
6) Adequate generator power backup for all essential common services.
7) Solar water heating system and solar common lighting shall be provided.
8) Rain water harvesting as per statutory requirements.
9) Vermi-culture pits as per statutory requirements.
10) Well-designed garbage disposal system should be provided
11) Anti–termite treatment to complete project.
12) Water proofing to all wet surfaces including toilets, baths, WCs, kitchen nahanis, terraces, chajjas, canopies etc. To be executed from approved agencies with 10 years guarantee to be given by the water proofing company in favour of Society on stamp paper.
13) Brick bat coba waterproofing shall be done for all the floors of toilets, baths, WCs, terrace and also for laying of underground drainage plumbing lines. China mosaic flooring on terrace.
14) Bore wells including the necessary electrical connection along with submersible pumps and automatic water controller shall be provided as per NMMC rules and regulations for flushing purposes
15) Meter room of adequate size at ground floor
16) Adequate Infrastructure like layout roads, storm water drains, street lighting etc. and as approved by statutory bodies
17) Adequate lighting to whole complex including stilts, podiums, pavements & all other common areas.
18) Compound wall.

Electrification

1) Adequate provision for electric points for lights, fans, AC's, exhaust fans, bell points, plug points, Power points etc. as per design & specification.
2) Adequate electrical points in kitchen for lighting, fan, exhaust fan, kitchen chimney,

refrigerator, microwave, water filters, mixtures, power points, plug points etc. as per design & specification.

3) Adequate electrical points in toilets / bath / WC for lighting, exhaust fans, water heating purposes etc. as per design & specification.
4) All switches, switchboards, fittings & fixtures shall be modular of approved make.
5) All light & fan fittings & fixtures in all rooms.
6) TV / Cable Point in living room.
7) Wiring for telephone in all habitable rooms & kitchen.
8) MCB and ELCB shall be provided in each flat with independent circuits & circuit breakers.
9) Electrical supply with proper ear thing to all units
10) The total electrification shall be concealed and the fittings & fixtures provided shall be of 1st quality of approved make.
11) Excellent quality concealed electrification with fire retardant ISI mark cables, wires, pipes etc. of approved make.
12) Adequate provisions for all electrical works in compound, gate, common service areas, stilts, staircase, common passages, terrace, lift machine room, etc. where ever required.
13) All electrical works to comply with regulation of electricity board and electric supply & company.
14) Location, type of fitting & fixtures should be approved by the Society before starting electrical work
15) All electrical fixtures shall be of at least 3-star rating

Internet Connection- Internet connection with required cables within flats.

Plumbing

1) Excellent quality of concealed plumbing, pipes & fittings.
2) Total concealed plumbing shall be of 1st quality U-PVC of ISI mark.
3) UPVC pipes and ring pipe fittings of approved make for external looping and down- takes.
4) External drainage pipes should be UPVC pipes of approved make
5) The Under Ground Drainage pipes shall be of the best quality S. W.G. pipes and fitting with box connecting.
6) All vertical drainage and rain water pipe lines and water supply work up and including drainage connection to the Sewage line and water connection to the NMMC water main including Water master and be carried out through Licensed as per NMMC requirement.
7) All vertical down take water supply & drainage pipes shall have spacers
8) All junctions of vertical down take water supply pipes shall use Strainers
9) Necessary points for water purifier, washing machine shall be provided at suitable location
10) Drainage Chambers as per NMMC sepcifications.

Kitchen

1) MGL gas connection in Kitchen for cooking & heating
1) Kitchen platform shall be either „L" shaped, „U" shaped or on opposite walls as per approved design & specification.
2) Main kitchen platform with conventional 675mm wide, 19mm thick granite platform on top & below with kadappa infrastructure including granite facia Patti with moulding as per approved design & specification.

3) Stainless steel sink with a minimum size of 600 x 450 x 250 mm
4) The kitchen sink shall be provided with mixture sprout as per approved design & specification.

5) Exhaust fans in Kitchen of approved make.

Bath, WC & Toilets

1) All Sanitary fittings & fixtures provided shall be of 1st quality

2) Wall mounted toilets with dual flush system with soft closer seat cover.
3) Branded electric storage type water heaters in all bath / toilets of approved make.
4) Exhaust fans in bath / WC / toilet of approved make.
5) Loft in all bathroom & toilets.
6) Hot & cold-water diverter including sprout & shower etc. complete in bathroom & toilets of approved make as per approved design & specification.

7) UPVC pipes and ring pipe fittings for external looping and down-takes as specified.
8) Proper arrangement for washing machine like power, water supply & drainage.

Paints

1) Velvet Touch / Lustre paint for all internal surfaces.
2) Acrylic emulsion weather coat paint to all external surfaces.
3) Internal walls should be finished with Gypsum and finally wall putty. Paint shall be applied later.

Tiling & Flooring's

1) Minimum Size of 800 x 800 mm joint-free, homogeneous full body vitrified or matt finish flooring in living room as per approved design & specification. 100 mm high vitrified tile skirting flush to wall matching with design of flooring.
2) Minimum Size of 600 x 600 mm joint-free, homogeneous full body vitrified flooring in all bedrooms, passages as per approved design & specification. 100 mm high vitrified tile skirting flush to wall matching with design of flooring.
3) Minimum Size of 300 x 300 mm anti-skid tiles in flooring & 600 x 300 mm full height ceramic tile dado in kitchen of approved make as per approved design & specification. 100 mm high vitrified tile skirting flush to wall matching with design of flooring.
4) Minimum Size of 300 x 300 mm Anti–skid tiles in flooring & 600 x 300 mm full height ceramic tile dado in bath
/ Toilets / WC. All tiles will be designer colour tiles of approved make as per approved design & specification.

Door

1) 40 MM thick with a height of 7ft Decorative entrance door with laminate finish / molded panel flush door having designer skin with all hardware fittings including safety chain, lock, aldrop ,tower bolt, telescopic peep hole, handle, door stopper etc. complete of approved make as per approved design & specification.

2) 35 MM (1 1/2") thick with laminate finish / molded panel flush door to all rooms with all hardware fittings including mortis lock, tower bolt, handle, door stopper etc. complete of approved make as per approved design & specification.

3) Fiber Reinforced Glass doors to Bath / WC /Toilet with all hardware fittings & fixtures including locks etc. complete of approved make as per approved design & specification.
4) Main door frames shall be of Teak Wood with double patties including molding

5) All Bedroom Door frames shall be of Teak Wood and Toilet Doors with Granite double patties including molding

6) All hardware fittings shall be of brass CP / brass powder coated of premium quality as per approved design & specification.

Windows

1) Anodized / Powder Coated Aluminium Sliding Windows of 1 ¼" or 1 ½" series with plain / frosted / tinted glass with all hardware fittings & fixtures including locks etc. complete of approved make as per design & specification approved.

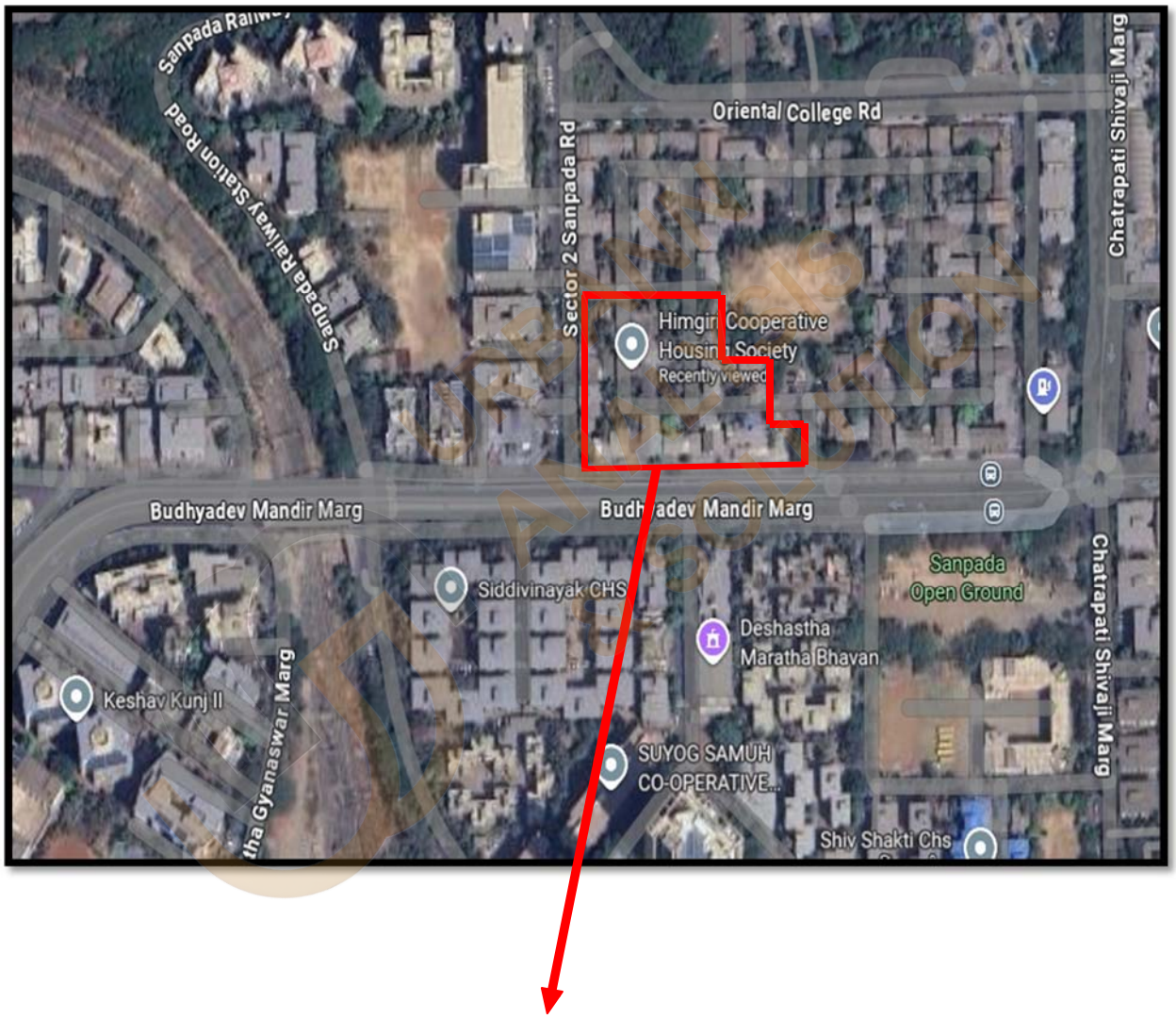
2) Granite / marble sills with double patties including moulding to all windows.

3) Window frames shall be of Granite / marble with double patties including moulding.

4) All hardware fittings shall be of brass CP / brass powder coated of premium quality as per approved design & specification.

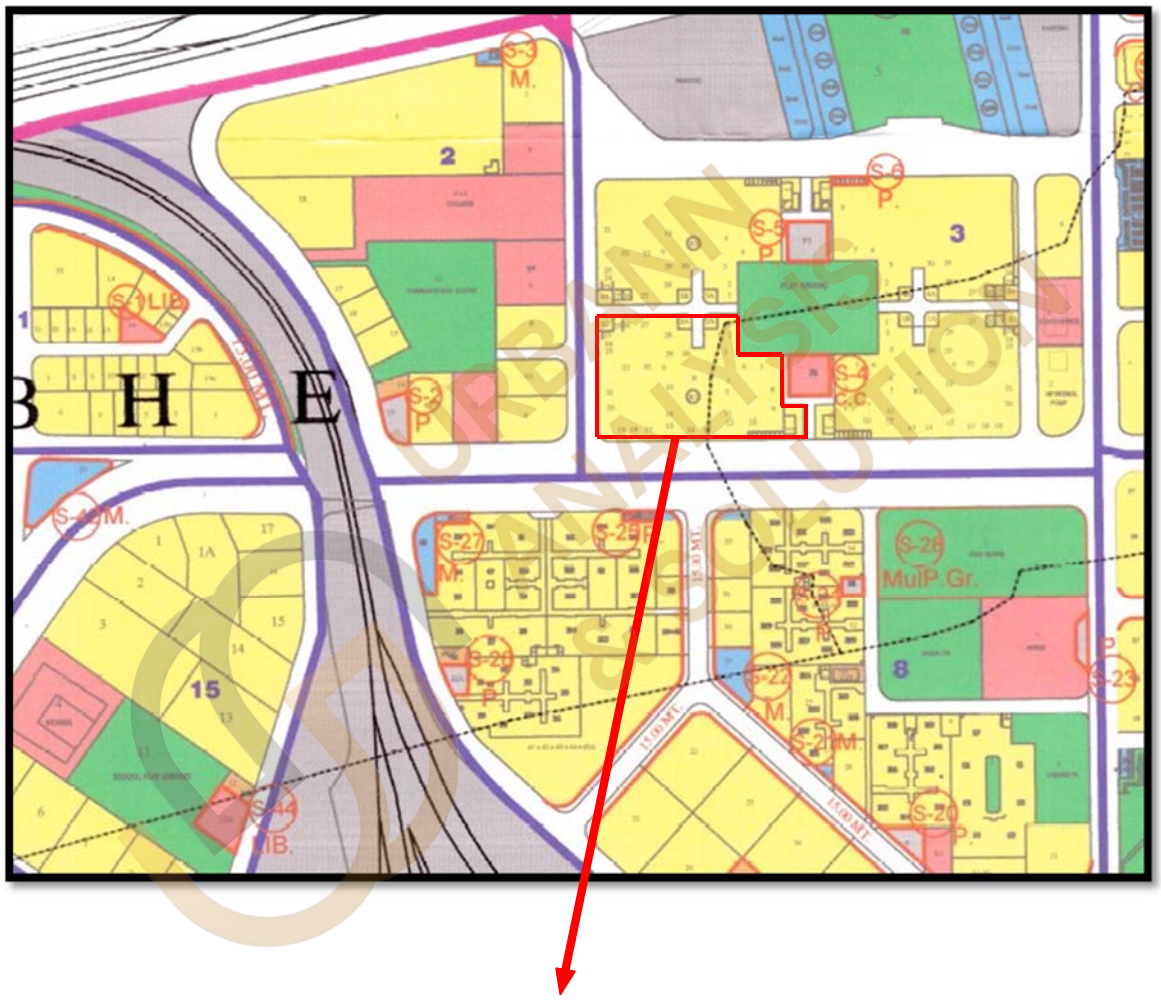
ANNEXURES

LOCATION



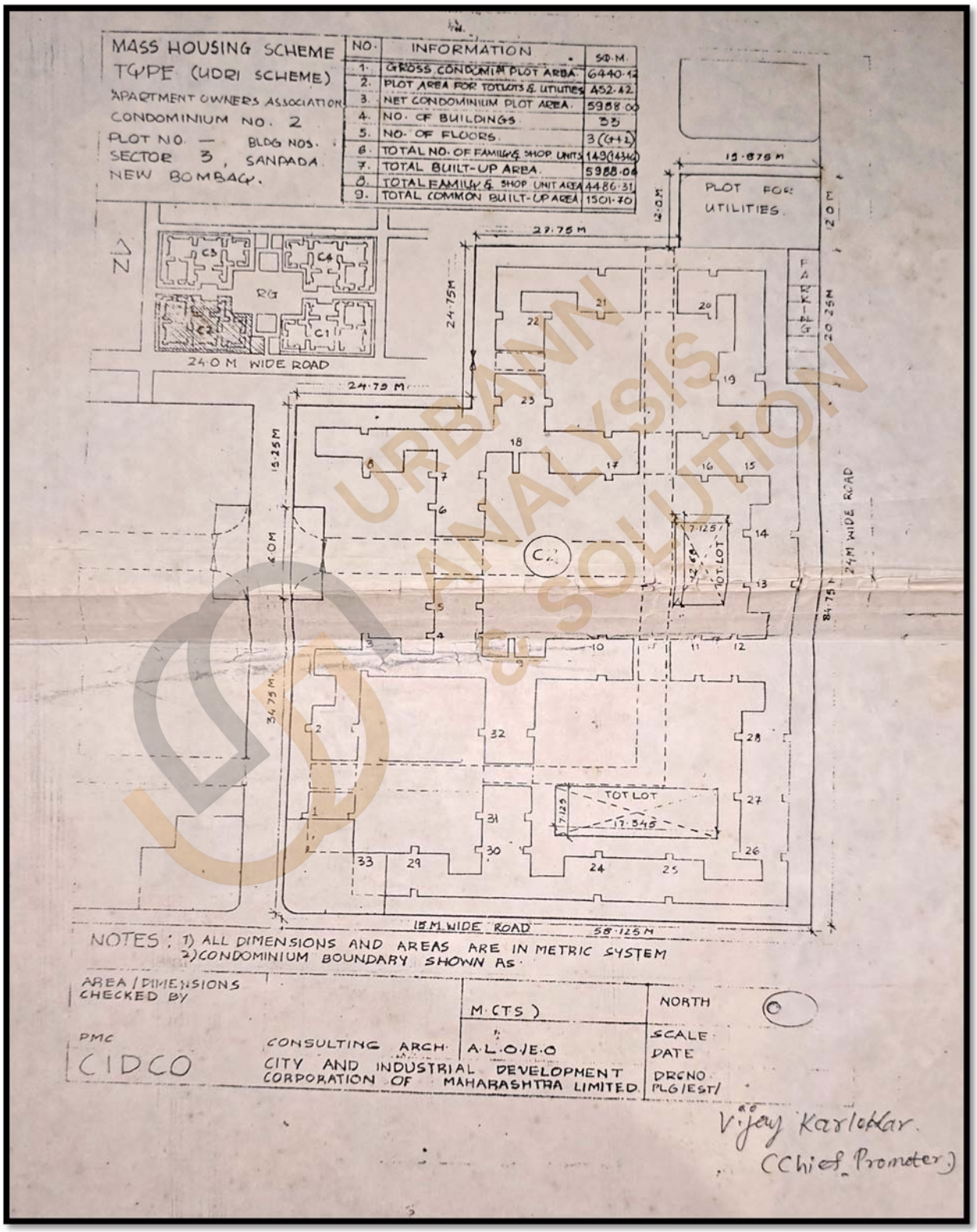
SITE LOCATION

DP PLAN



SITE LOCATION

CONDOMINIUM PLAN



LIST OF CA AND OTHER DETAILS OF MEMBERS

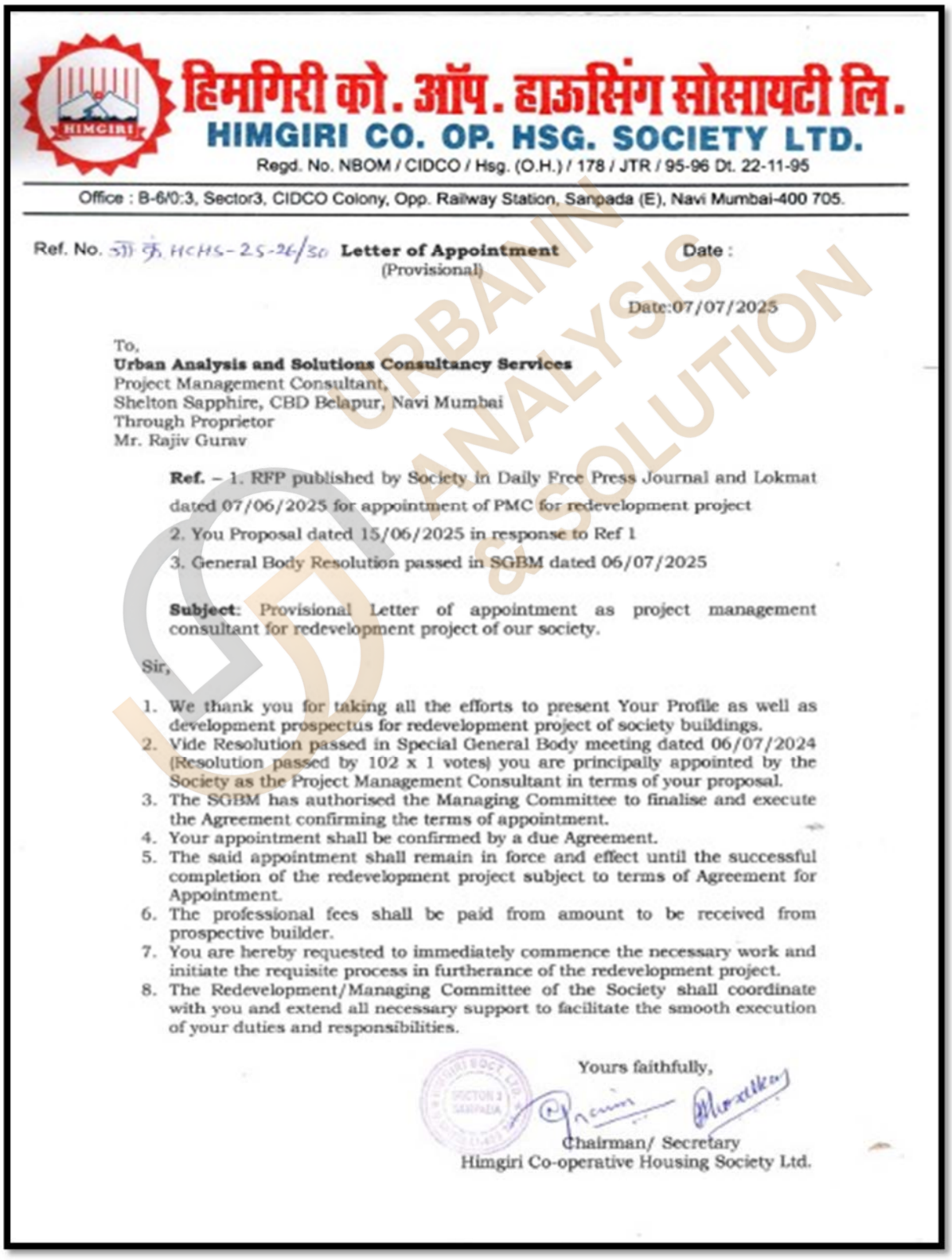
SR NO	BUILDING NO	FLAT NO	CA	BUA	TERRACE	EX-BUA	CC/OC
1	01	0-1	26.81	34.79	0.00		NA
2	01	0-2	26.81	30.38	0.00		NA
3	01	1-1	43.1	60.26	8.39		NA
4	01	1-2	46.66	66.16	6.89		NA
5	02	0-2	15.48	17.82	0.00		NA
6	02	0-1	18.13	20.83	0.00		NA
7	02	1-1	51.09	76.90	10.65	25.3	OC
8	02	1-2	51.09	76.90	10.65	26.32	OC
9	03	0-2	23.44	33.13	0.00		NA
10	03	0-1	26.06	30.59	0.00	6.89	OC
11	03	1-1	37.44	54.36	6.32		NA
12	03	1-2	44.25	62.74	0.00		NA
13	04	0-2	15.48	17.82	0.00		NA
14	04	0-3	15.48	17.82	0.00		NA
15	04	0-1	18.13	20.83	0.00		NA
16	04	0-4	18.13	20.83	0.00		NA
17	04	1-1	65.91	77.97	7.20		NA
18	05	0-1	24.86	29.48	0.00		NA
19	05	0-2	24.86	29.48	0.00		NA
20	05	1-1	37.44	54.36	6.32		NA
21	05	1-2	40.13	60.69	6.44		NA
22	06	0-1	24.86	29.48	0.00	8.976	CC
23	06	0-2	24.86	29.48	0.00		NA
24	06	1-1	37.44	54.36	6.44		NA
25	06	1-2	40.13	60.69	6.44	22	CC
26	07	0-1	15.48	17.82			NA
27	07	0-2	17.9	20.30			NA
28	07	0-3	26.81	34.79		7.82	OC
29	07	1-1	46.66	66.16	6.89	22.88	OC
30	07	1-2	50.55	75.49	7.87		NA
31	08	0-3	15.48	17.82			NA
32	08	0-2	16.95	19.48			NA
33	08	0-1	24.86	29.48			NA
34	08	1-2	37.44	54.36	6.32		NA
35	08	1-1	59.84	73.85	5.69		NA
36	09	0-1	15.48	17.82			NA
37	09	0-2	17.9	20.30		6.9	CC
38	09	0-3	26.81	34.79		8.18	CC
39	09	1-1	49.09	65.43	8.38	32.33	OC
40	09	1-2	50.55	75.49	7.87	24.7	OC
41	10	0-2	15.48	17.82			NA

42	10	0-5	15.48	17.82		4.01	OC
43	10	0-4	16.95	19.48			NA
44	10	0-1	18.13	20.83			NA
45	10	0-3	24.86	29.48		7.36	CC
46	10	1-2	37.44	54.36	6.32		NA
47	10	1-1	59.84	73.85	5.69		NA
48	11	0-1	23.44	24.07			NA
49	11	0-2	26.06	30.59		7.35	OC
50	11	1-2	37.44	54.36	6.32		NA
51	11	1-1	40.13	60.69	6.44	36.101	CC
52	12	0-1	15.48	17.82			NA
53	12	0-2	18.13	20.83			NA
54	12	1-1	51.09	76.90	10.65		NA
55	12	1-2	51.09	76.90	10.65		NA
56	13	0-1	24.86	29.48		6.644	OC
57	13	0-2	24.86	29.48			NA
58	13	1-1	37.44	54.36	6.32		NA
59	13	1-2	40.13	60.69	6.44		NA
60	14	0-1	24.86	29.48			NA
61	14	0-2	24.86	29.48		6.644	OC
62	14	1-2	37.44	54.36	6.32		NA
63	14	1-1	40.13	60.69	6.44		NA
64	15	0-2	15.48	17.82			NA
65	15	0-1	18.13	20.83			NA
66	15	1-1	51.09	76.90	10.65		NA
67	15	1-2	51.09	76.90	10.65	0.88	CC NO AREA
68	16	0-2	23.44	24.07			NA
69	16	0-1	26.06	30.59		4.57	OC
70	16	1-1	37.44	54.36	6.32		NA
71	16	1-2	40.13	60.69	6.44		NA
72	17	0-3	15.48	17.82			NA
73	17	0-4	18.13	20.83			NA
74	17	0-1	24.86	29.48		9.27	CC
75	17	0-2	24.86	29.48		4.42	CC
76	17	1-1	37.44	54.36	6.32	17.7	OC
77	17	1-2	40.13	60.69	6.44	31.99	CC
78	18	0-1	24.86	29.48			NA
79	18	0-2	24.86	29.48			NA
80	18	1-2	37.44	54.36	6.32		NA
81	18	1-1	40.13	60.69	6.44	31.99	CC
82	19	0-1	15.48	17.82			NA
83	19	0-2	17.9	20.30			NA
84	19	0-3	23.44	24.07			NA
85	19	1-1	35.66	47.51	5.36		NA
86	19	1-2	50.55	75.49	7.87		NA

87	20	0-3	15.48	17.82			NA
88	20	0-2	18.13	20.83			NA
89	20	0-1	26.81	34.79		5.19	CC
90	20	1-2	46.66	66.16	6.89		NA
91	20	1-1	54.39	77.11	11.37		NA
92	21	0-2	15.48	17.82		4.01	CC
93	21	0-1	18.13	20.83		4.66	CC NO AREA
94	21	0-3	24.86	29.48		6.64	OC
95	21	0-4	24.86	29.48		4.41	CC NO AREA
96	21	1-2	37.44	54.36	6.32	21.42	OC
97	21	1-1	40.13	60.69	6.44		NA
98	22	0-1	23.44	24.07			NA
99	22	0-2	26.06	30.59		9.232	OC
100	22	1-2	37.44	54.36	6.32		NA
101	22	1-1	40.13	60.69	6.44	22	CC
102	23	0-1	15.48	17.82			NA
103	23	0-2	18.13	20.83			NA
104	23	1-1	51.09	76.90	10.65	26.32	OC
105	23	1-2	51.09	76.90	10.65		NA
106	24	0-1	24.86	29.48			NA
107	24	0-2	24.86	29.48		14	OC
108	24	1-1	37.44	54.36	6.32	14	OC
109	24	1-2	40.13	60.69	6.44		NA
110	26	0-1	23.44	24.07			NA
111	26	1-1	35.66	47.51	5.36		NA
112	27	0-3	15.48	17.82			NA
113	27	0-2	18.13	20.83			NA
114	27	0-1	26.81	34.79			NA
115	27	1-2	46.66	66.16	6.89		NA
116	27	1-1	51.5	77.52			NA
117	28	0-1	26.81	30.38		6.8	OC
118	28	0-2	26.81	34.79			NA
119	28	1-1	40.13	60.69	6.44		NA
120	28	1-2	43.1	60.26	8.39	22.71	OC
121	29	0-1	15.48	17.82			NA
122	29	0-2	18.13	20.83			NA
123	29	1-1	51.09	76.90	10.65		NA
124	29	1-2	51.09	76.90	10.65	27.29	OC
125	30	0-1	23.44	24.07			NA
126	30	0-2	26.06	30.59		9.27	CC
127	30	1-2	37.44	54.36	6.32	14.38	OC
128	30	1-1	40.13	60.69	6.44	14.8	OC
129	31	0-2	15.48	17.82			NA
130	31	0-3	15.48	17.82			NA
131	31	0-1	18.13	20.83			NA

132	31	0-4	18.13	20.83			NA
133	31	1-2	40.9	61.85	7.82		NA
134	31	1-1	65.91	77.97	7.20		NA
135	32	0-1	24.86	29.48			NA
136	32	0-2	24.86	29.48			NA
137	32	1-2	37.44	54.36	6.32		NA
138	32	1-1	40.13	60.69	6.44		NA
139	33	0-1	24.86	29.48		8.81	OC
140	33	0-2	24.86	29.48		4.48	OC
141	33	0-3	27.59	32.82		9.795	OC
142	33	1-1	37.44	54.36	6.32	21.41	CC
143	33	1-2	46.66	66.16	6.89	24.1	CC
144	Shop	2	13.67	14.24			NA
145	Shop	3	13.67	14.24		1.99	OC
146	Shop	5	13.67	26.78			NA
147	Shop	6	13.67	26.78			NA
148	Shop	1	17.89	19.10			NA
149	Shop	4	17.89	35.05			NA
			4552.67	6111.51	443.13	658.942	

(PMC) APPOINTMENT LETTER



हिमगिरी को. ऑप. हाऊसिंग सोसायटी लि.
HIMGIRI CO. OP. HSG. SOCIETY LTD.
Regd. No. NBOM / CIDCO / Hsg. (O.H.) / 178 / JTR / 95-96 Dt. 22-11-95
Office : B-6/0:3, Sector3, CIDCO Colony, Opp. Railway Station, Sanpada (E), Navi Mumbai-400 705.

Ref. No. सी. हि. HCHS-25-26/30 **Letter of Appointment** Date :
(Provisional)

Date:07/07/2025

To,
Urban Analysis and Solutions Consultancy Services
Project Management Consultant,
Shelton Sapphire, CBD Belapur, Navi Mumbai
Through Proprietor
Mr. Rajiv Gurav

Ref. – 1. RFP published by Society in Daily Free Press Journal and Lokmat dated 07/06/2025 for appointment of PMC for redevelopment project
2. You Proposal dated 15/06/2025 in response to Ref 1
3. General Body Resolution passed in SGBM dated 06/07/2025

Subject: Provisional Letter of appointment as project management consultant for redevelopment project of our society.

Sir,

1. We thank you for taking all the efforts to present Your Profile as well as development prospectus for redevelopment project of society buildings.
2. Vide Resolution passed in Special General Body meeting dated 06/07/2024 (Resolution passed by 102 x 1 votes) you are principally appointed by the Society as the Project Management Consultant in terms of your proposal.
3. The SGBM has authorised the Managing Committee to finalise and execute the Agreement confirming the terms of appointment.
4. Your appointment shall be confirmed by a due Agreement.
5. The said appointment shall remain in force and effect until the successful completion of the redevelopment project subject to terms of Agreement for Appointment.
6. The professional fees shall be paid from amount to be received from prospective builder.
7. You are hereby requested to immediately commence the necessary work and initiate the requisite process in furtherance of the redevelopment project.
8. The Redevelopment/Managing Committee of the Society shall coordinate with you and extend all necessary support to facilitate the smooth execution of your duties and responsibilities.

Yours faithfully,

Chairman/ Secretary
Himgiri Co-operative Housing Society Ltd.