



THE SHILLONG MUNICIPAL BOARD SHILLONG, MEGHALAYA

BID DOCUMENT For “CONSTRUCTION AND RE-DEVELOPMENT OF LAITUMKHRAH MUNICIPAL MARKET AT LAITUMKHRAH, SHILLONG, MEGHALAYA, INDIA.”

Tender No: SMB/PW/280/2014-15 /174, dated 5th March 2019

OFFICE OF THE SHILLONG MUNICIPAL BOARD
Bishop Cotton Road, Shillong
Meghalaya- 793001
Website: www.smb.gov.in



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SHILLONG MUNICIPAL BOARD**

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No.SMB/PW/280/2014-15 /174

Dated Shillong the 5th March 2019

NOTICE INVITING TENDER
(Item rate Bids in Single Stage)

Sealed bids are invited from the eligible contractors for the under mention work. The bidding shall be “single bid two envelops (technical and financial bids)” system.

Completed bids shall be received in the office of the undersigned up to 1:30 pm on the 16th April 2019.

Sl.no	Particulars	Estimated cost (Lacs)	Bid Security (Lacs)	Completion Period(Months)
1	Construction and Re-Development of Laitumkhrah Municipal Market at Laitumkhrah, Shillong, Meghalaya, India.	₹.3005.00	₹.30.00	24 months

1. Bid Documents may be obtained from the office of the Chief Executive officer ,Shillong Municipal Board, Bishop Cotton Road,Shillong-793001,District-East Khasi Hills, Meghalaya on payment of ₹.3000/- by cash or DD or may be downloaded from the SMB website - smb.gov.in and the Meghalaya Government Portal <http://Meghalaya.gov.in>. In case of downloaded documents the Bids should be submitted along with a DD of ₹.3000/-. Demand Drafts should be drawn in favour of the “Chief Executive Officer, Shillong Municipal Board” and payable at Shillong.
2. Bid Documents can be obtained on any working day between 10:30am to 3:00pm from the **11th March 2019 to 12th April 2019**
3. A pre-bid meeting will be organized for the interested bidders on **2nd April 2019 at 12:30 hrs**
4. The Pre-bid meeting will be held in the office of the Chief Executive officer, Shillong Municipal Board, Bishop Cotton road, Shillong-793001. Interested bidders who choose to attend the pre-bid meeting shall do so at their own expenses.
5. **Sealed bids must be delivered to the address mentioned below before 1:30 pm of the 16th April 2019.**

6. All bids must be accompanied by the specified bid security as part of the bid. The amount & currency of the bid security shall be as specified in the Bid Data Sheet. The bid security shall be in the form of a Bank Guarantee or a Demand Draft in favour of Chief Executive officer, Shillong Municipal Board, Shillong payable at Shillong issued by a nationalized or scheduled bank of India and valid for the period of bid validity and additional period of 30 days. Late bids shall be rejected. Technical bids will be opened immediately thereafter at 2:00 pm on the 16th April 2019 at the office of the Chief Executive officer, Shillong Municipal Board, Bishop Cotton road, Shillong-793001 in the presence of the bidders or representatives who choose to attend. In the event of the specified date of last date of submission of bids/opening of bids being declared a holiday, the bids shall be received and opened at the same time and place on the next working day.
7. Chief Executive Officer, Shillong Municipal Board, will not be responsible for any extra cost incurred by the bidders in connection in preparation or delivery of the bids.
8. Chief Executive Officer, Shillong Municipal Board, shall reserve the right to accept any bids or reject any and all bids.
9. Amendment to NIT, if any would be published on website only and not in news papers.
10. Bidding will be conducted through the National Competitive Bidding Procedure as specified and is open to all eligible bidders as defined in the bidding documents.

Chief Executive Officer,
Shillong Municipal Board.
Bishop Cotton Road, Shillong-793001
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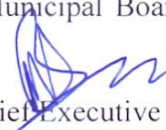
Chief Executive Officer,
Shillong Municipal Board.

Dated Shillong the 5th March 2019

Memo No. SMB/PW/280/2014-15 /174-A

Copy to:-

1. To Principal Secretary to the Government of Meghalaya, Urban Affairs Department for information.
2. The Joint Secretary to the Government of Meghalaya, Urban Affairs Department for information.
3. The Director Urban Affair for kind information.
4. Deputy Commissioner, East Khasi Hills Districts for kind information.
5. The State Informatics Officer ,Meghalaya Shillong with a request to upload the advertisement in the State Government website and Shillong Municipal Board website <http://smb.gov.in>. A soft Copy of the advertisement is enclosed.



Chief Executive Officer,
Shillong Municipal Board

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Instruction to Bidders

SECTION 1. INSTRUCTIONS TO BIDDERS

1.1 SCOPE OF WORK

1.1.1 Introduction.

The Laitumkhrach Municipal Market (LMM) is situated in one of the busiest commercial hubs of Shillong. It is flanked to the north behind a row of shops (facing the main road) owned by the Shillong Municipal Board (SMB) but developed by the owners. To the east is a single lane motorable road and to the west is the road that leads to Lumdawrie and the SBI office. The southern boundary is flanked by private residential houses.

The existing LMM is a 2 storied structure where the basement is occupied by the existing market and some parking space for 25 odd cars. One third of the first floor is used as a parking lot which is accessible through a narrow entry and exit road. An internal road rings round the south boundary and enters the parking above via a ramp. The building is dilapidated and not fit for occupancy due to structural failures.

Therefore this project envisages the following outcomes.

1. To create a modern shopping arcade on the Laitumkhrach Main Road by attempting to rebuild the existing main road shops same floor area and to relocate 3 shops from the main road to the proposed basement
2. To redevelop the existing market in the basement based on case studies of seller/user requirement and needs
3. To provide basic infrastructure like toilets, wide passages, garbage collection points and vertical connections to the parking level
4. To develop a modern shopping mall above the parking level keeping in mind the economics and the needs of the community.
5. To create an efficient parking yard at the road level with basic amenities like toilets and docking points for goods etc
6. To deter parking along the Lumdawrie road and to create an internal road that connects with the road in the east.

1.1.2 Scope of Work:

1.1.2.1. Under this Contract, the scope of the work (the “**Scope of the Project**”) shall mean and include:

- a) Construction of the Project on the Site set forth in Contract Data and as specified together with provision of Project Facilities as specified and in conformity with the Specifications and Standards set.
- b) Performance and fulfilment of all other obligations of the Contractor in accordance with the provisions of the Contract Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Contractor under the Contract Agreement.

1.1.2.2. General Items of Work.

- Demolishing
- Piling work
- Earthwork

- Concrete work
- Brickwork
- Plastering, Tiles & Painting
- Aluminum work
- Water & Sanitary installation
- Internal & External Electrification
- Lift provision
- 100 KVA Transformer
- Providing Fire fighting System
- Site development

1.2 Eligible Bidders

1.2.1. A Bidder may be a natural person, private entity, government-owned entity—or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a Joint Venture (JV). In the case of a JV:

- (a) all partners shall be jointly and severally liable, and
- (b) the JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution

1.2.2. A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in the bidding process if including but not limited to:

- (a) they have controlling shareholders in common; or
- (b) they receive or have received any direct or indirect subsidy from any of them; or
- (c) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the bid of another Bidder, or influence the decisions of the SMB regarding this bidding process; or
- (d) a Bidder or any affiliated entity, participated as a Consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or
- (e) a Bidder employs or hired a person or entity that is or has been employed by the SMB or by the Government of Meghalaya in the Urban Affairs Department or any of its agencies in the last 2 (two years).

1.3 Contents of Bidding Document

1.3.1. The Bidding Document consist of Parts I, II, and III, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB.

PART I Bidding Procedures

- Section 1 - Instructions to Bidders (ITB)
- Section 2 - Bid Data Sheet
- Section 3 - Evaluation and Qualification Criteria
- Section 4 - Bidding Forms

PART II Requirements

- Section 5 – Work Specifications and Drawings

PART III Conditions of Contract and Contract Forms

- Section 6 - General Conditions of Contract
- Section 7 - Special Conditions of Contract
- Section 8 - Contract Forms

- 1.3.2. The SMB is not responsible for the completeness of the Bidding Document and their Addenda, if they were not obtained directly from the source stated by the SMB in the Invitation for Bids.
- 1.3.3. The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the bid.

1.4 Clarification of Bidding Document, Site Visit, Pre-Bid Meeting

- 1.4.1. A prospective Bidder requiring any clarification of the Bidding Document shall contact the SMB in writing at the SMB's address indicated in the Bid Data Sheet or raise his queries during the pre-bid meeting. The SMB will respond in writing to any request for clarification, provided that such request is received no later than twenty-one (21) days prior to the deadline for submission of bids. The SMB shall forward copies of its response to all Bidders who have acquired the Bidding Document including a description of the query but without identifying its source. Should the SMB deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure specified under section 1.5 of this document.
- 1.4.2. The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense. The Bidder and any of its personnel or agents will be accordingly granted permission by the SMB to visit the site.
- 1.4.3. The Bidder's designated representative is invited to attend a pre-bid meeting on the date and time mentioned in the Bid Data Sheet. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 1.4.4. The Bidder is requested to submit any questions in writing, to reach the SMB not later than one week before the meeting.
- 1.4.5. Minutes of the pre-bid meeting, including the text of the questions raised, and the responses given, will be transmitted promptly to all Bidders who have acquired the Bidding Document. Any modification to the Bidding Document that may become necessary as a result of the pre-bid meeting shall be notified by the SMB exclusively through an addendum to be issued in accordance with the provisions of this Document.

1.5 Amendment of Bidding Document

- 1.5.1. At any time prior to the deadline for submission of bids, the SMB may amend the Bidding Document by issuing addenda.
- 1.5.2. Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document from the SMB.
- 1.5.3. To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the SMB may if necessary extend the deadline for the submission of bids.

1.6 Preparation of Bids:

1.6.1. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the SMB shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

1.6.2. Documents Comprising the Bid

The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Bid containing the documents listed in section 1.6.2.1 below and the other the Financial Bid containing the documents listed in section 1.6.2.2 , both envelopes enclosed together in an outer single envelope.

1.6.2.1 The Technical Bid shall comprise the following:

- a) **Letter of Technical Bid;**
- b) **Bid Security;**
- c) **written confirmation authorizing the signatory of the Bid**
- d) **documentary evidence as per section 1.6.5 of the ITB, establishing the Bidder's qualifications to perform the contract;**
- e) **Technical Proposal in accordance with section 1.6.4 of the ITB**
- f) **Any other document required in the Bid Data Sheet.**

1.6.2.2 The Financial Bid shall comprise the following:

- a) **Letter of Financial Bid;**
- b) **completed Price Schedules, in accordance with section 1.6.3 of the ITB;**
- c) Any other document required in the BDS.

1.6.2.3. In addition to the requirements specified above, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed agreement.

1.6.3. Letters of Bid, and Schedules

The Letters of Technical Bid and Financial Bid, and the Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section 4 of this Document (Bidding Forms). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.

1.6.4. Documents Comprising the Technical Proposal

The Bidder shall furnish, as part of the Technical Bid, a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section 4 of this document (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.

1.6.5. Documents Establishing the Qualifications of the Bidder

To establish its qualifications to perform the Contract in accordance with Section 3 of this document (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding information sheets included in Section 4.

1.6.6. Period of Validity of Bids

1.6.6.1. Bids shall remain valid for the period specified in the Bid Data Sheet after the bid submission deadline date. A bid valid for a shorter period shall be rejected as nonresponsive.

1.6.6.2. In exceptional circumstances, prior to the expiration of the bid validity period, the SMB may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If the bidder/s agree to extend the validity of the bids, the bid security shall also be extended twenty-eight (28) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its Bid.

1.6.7 Bid Security.

1.6.7.1. The Bidder shall furnish as part of its bid, in original form, a bid security the amount of which shall be as specified in the Bid Data Sheet.

1.6.7.2. The bid security shall be, at the Bidder's option, in any of the following forms:

- a) **an unconditional bank guarantee issued by a scheduled or nationalized bank; or**
- b) **a cashier's or certified check;**

1.6.7.3. In the case of a bank guarantee, the bid security shall be submitted using the Bid Security Form included in Section 4 (Bidding Forms). The form must include the complete name of the Bidder. The bid security shall be valid for twenty-eight days (28) beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

1.6.7.4. Any Bid not accompanied by a substantially compliant bid security shall be rejected as nonresponsive.

1.6.7.5. The bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security in accordance with the Contract.

1.6.7.6. The bid security may be forfeited:

- a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letters of Technical Bid and Financial Bid, except as provided in ITB 18.2; or
- b) if the successful Bidder fails to:
- c) sign the Contract in accordance with Section 1.9.4 of this document.
- d) furnish a performance security in accordance with Section 1.9.3 of this document;
- e) accept the arithmetical correction of its Bid in accordance with section 1.8.5.

1.6.7.6. The Bid Security or Bid Securing Declaration of a JV shall be in the name of the JV that submits the Bid. If the JV has not been legally constituted at the time of bidding, the Bid Security or Bid Securing Declaration shall be in the names of all future partners as named in the letter of intent mentioned in section 1.2.1.

1.6.8. Format and Signing of Bid

- a. The Bidder shall prepare one original of the Technical Bid and one original of the Financial Bid comprising the Bid as described in ITB 11 and clearly mark it "ORIGINAL - TECHNICAL BID" and "ORIGINAL - FINANCIAL BID". In addition, the Bidder shall submit two copies of the Technical and Financial Bids, clearly mark each of them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.
- b. The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, except for un-amended printed literature, shall be signed or initialed by the person signing the bid.
- c. Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

1.7. Submission and Opening of Bids

1.7.1. Sealing and Marking of Bids

1.7.1.1. Bidders shall enclose the original of the Technical Bid, the original of the Financial Bid, and two copies each of the Technical Bid and Financial Bid, in separate sealed envelopes, duly marked as "ORIGINAL - TECHNICAL BID", "ORIGINAL - FINANCIAL BID" and "COPY NO... - TECHNICAL BID" and "COPY NO.... - FINANCIAL BID." These

envelopes, the first containing the originals and the others containing copies, shall then be enclosed in one single envelope per set.

1.7.1.2. The inner and outer envelopes shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the SMB at the address given in the Bid Data Sheet; and
- (c) bear the specific reference number of this bid as indicated in the Bid Data Sheet;

1.7.1.3. The outer envelopes and the inner envelopes containing the Bids shall bear a warning not to open before the time and date for the opening of Technical Bid, and the inner envelopes containing the Financial Bid shall bear a warning not to open until advised by the SMB.

1.7.1.4. If all envelopes are not sealed and marked as required, the SMB will assume no responsibility for the misplacement or premature opening of the bid.

1.7.2. Deadline for Submission of Bids

1.7.2.1. Bids must be received by the SMB at the specified address and no later than the date and time indicated in the Bid Data Sheet

1.7.2.2. The SMB may extend the deadline for the submission of bids by amending the Bidding Document.

1.7.2.3. The SMB shall not consider any bid that arrives after the deadline for submission of bids. Any bid received after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder

1.7.3. Withdrawal, Substitution, and Modification.

1.7.3.1. Prior to the deadline of submission of bids Bidders may withdraw or substitute their Bid – Technical or Price – by sending a written notice, duly signed by the authorized representative:

1.7.3.2. Bids requested to be withdrawn shall be returned unopened to the Bidders.

1.7.3.3. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified on the Letters of Technical Bid and Financial Bid or any extension thereof.

1.7.4. Opening of bids.

1.7.4.1. The SMB shall open the Technical Bids in public at the address, date and time specified in the BDS in the presence of Bidders` or their designated representatives. The Financial Bids will remain unopened and will be held in custody of the SMB until the specified time of their opening. If the Technical Bid and the Financial Bid are submitted together in one envelope, the SMB may reject the entire Bid or alternatively, the Financial Bid may be immediately resealed for later evaluation.

1.7.4.2. All envelopes holding the Technical Bids shall be opened one at a time, and the following read out and recorded:

- (a) the name of the Bidder;
- (b) the presence of a Bid Security; and
- (c) any other details as may be considered to be appropriate.

1.7.4.3. Only Technical Bid recorded at bid opening shall be considered for evaluation. No Bid shall be rejected at the opening of Technical Bids except for late bids.

1.7.4.4. At the end of the evaluation of the Technical Bids, the SMB shall invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being technically qualified to attend the opening of the Financial Bids. The date, time, and location of the opening of Financial Bids shall be notified within a substantial period in writing by the SMB.

- 1.7.4.5. The SMB will notify Bidders in writing who have been rejected on the grounds of their Technical Bids being substantially non-responsive to the requirements of the Bidding Document and return their Financial Bids unopened.
- 1.7.4.6. The SMB shall conduct the opening of Financial Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders' representatives at the address, date and time specified by the SMB.
- 1.7.4.7. All envelopes containing Financial Bids shall be opened one at a time and the following read out and recorded:
 - (a) the name of the Bidder;
 - (b) the Bid Prices, including any discounts offered; and
 - (c) any other details as may be considered appropriate.
- 1.7.4.8. Only Financial Bids read out and recorded during the opening shall be considered for evaluation. No Bid shall be rejected at the opening of Financial Bids.

1.8. Evaluation and Comparison of Bids

1.8.1. Confidentiality

- 1.8.1.1. Information relating to examination, evaluation, comparison and recommendation of contract award shall not be disclosed to bidders or any other person not officially concerned with such process until final decision on the bid.
- 1.8.1.2. Any attempt by a bidder to influence the SMB in the evaluation of the bids or contract award decisions may result in the rejection of its bid.

1.8.2. Clarification of Bids.

- 1.8.2.1. To assist in the examination, evaluation, and comparison of the Bids, the SMB may ask any Bidder for a clarification. Any clarification submitted by a Bidder that is not in response to a request by the SMB shall not be considered. The SMB's request for clarification and the response shall be in writing. No change in the substance of the Technical Bid or prices in the Financial Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered during the evaluation of the Financial Bids.
- 1.8.2.2. If a Bidder does not provide clarifications by the date and time set in the request for clarification, its bid may be rejected.

1.8.3. Responsiveness of Bids

- 1.8.3.1. A substantially responsive Bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that, if accepted, would:
 - a) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or
 - b) limit in any substantial way, inconsistent with the Bidding Document, the SMB's rights or the Bidder's obligations under the proposed Contract; or
 - c) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.
- 1.8.3.2. The SMB shall examine the technical aspects of the Bid submitted, the Technical Proposal, in particular, to confirm that all requirements of Section 5 (Work Specifications and Drawings) have been met without any material deviation.
- 1.8.3.3. If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected and shall not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 1.8.3.4. Provided that a bid is substantially responsive, the SMB may waive any nonconformity in the Bid that does not constitute a material deviation, reservation or omission.

- 1.8.3.5. Provided that a Technical Bid is substantially responsive, the SMB may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Technical Bid related to documentation requirements. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 1.8.3.6. Provided that a Technical Bid is substantially responsive, the SMB shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component.

1.8.4. Qualification of Bidders:

- 1.8.4.1. The SMB shall determine to its satisfaction during the evaluation of Technical Bids whether Bidders meet the qualifying criteria specified in Section 3 (Evaluation and Qualification Criteria) based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder.
- 1.8.4.2. An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Financial Bid. A negative determination shall result into the disqualification of the Bid, in which event the Financial Bid shall be returned unopened to the Bidder.

1.8.5. Correction of Arithmetical Errors

- 1.8.5.1. During the evaluation of Financial Bids, arithmetical errors shall be corrected on the following basis:
 - a) if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;
 - b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected;
 - c) if there is a discrepancy between the bid price in the Summary of Bill of Quantities and the bid amount in the Letter of Financial Bid, the bid price in the Summary of Bill of Quantities will prevail and the bid amount in the Letter of Financial Bid will be corrected; and
 - d) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a), (b) and (c) above.

1.8.6. Comparison of Bids

All substantially responsive Bids shall be compared to determine the lowest evaluated bid.

1.8.6. SMB's Right to Accept Any Bid, and to Reject Any or All Bids

The SMB reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

1.9 Award of Contract:

1.9.1. Award Criteria

The Contract shall be awarded to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

1.9.2. Notification

Prior to the expiration of the period of bid validity, the successful Bidder shall be notified, in writing, through an issuance of a "Letter of Acceptance" by the SMB. Until a formal contract is prepared and executed, this notification of award shall constitute a binding Contract.

1.9.3. Performance Security

Within twenty-eight (28) days of the receipt of notification of award from the SMB, the successful Bidder shall furnish the performance security in accordance with the conditions of contract, using for that purpose the Performance Security Form included in Section 8 (Contract Forms).

1.9.4. Signing of Contract

- 1.9.4.1. After issuance of the Letter of Acceptance, the SMB shall send the successful Bidder the Contract Agreement and within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the SMB.
- 1.9.4.2. Failure of the successful Bidder to furnish the Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the SMB is at liberty to award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined to be qualified to perform the Contract satisfactorily.

Section-2
BID DATA SHEET

Section 2 - Bid Data Sheet

A. General

ITB 1.1	Bid reference : SMB/PW/280/2014-15 /174, dated 5 th March 2019
ITB 1.1	The name of the Contract is: Construction for Re-Development of Laitumkhrah Municipal Market at Laitumkhrah, Shillong, and State of Meghalaya, India.

B. Contents of Bidding Documents

ITB 1.4	Bidders may seek clarification from the following address: Chief Executive Officer SHILLONG MUNICIPAL BOARD Bishop Cotton Road, Shillong Meghalaya- 793001 Telephone: 364 2224850 Facsimile number: 364 2224702 Electronic mail address: smb-meg@nic.in
ITB 1.4	A Pre-Bid meeting takes place on: 2nd April 2019; Time: 12:30 Hrs Venue at the office of the Chief Executive Officer, Shillong Municipal Board, Bishop Cotton Road, Shillong.

C. Preparation of Bids

ITB 1.6	The Bidder shall submit with its Technical Bid the following additional documents: <ol style="list-style-type: none">1. For Single entity and individual bidders - the PAN No. (Permanent Account Number) of Income tax with the Xerox copy of the PAN card;2. The GST registration certificate and in case of JV, the GST registration certificate of the lead partner3. The addendums issued (if any) further duly signed by the Authorized representative.4. The copy of the JV agreement or the formal intent to enter into JV should be legally notarized. The JV agreement or the formal intent to enter into JV should specify the financial stakes of each of the joint venture partner;
ITB 1.7.2.	The bid validity period shall be 120 days after the deadline for submission of bid.

ITB 1.6.7	The amount and currency of the bid security shall be: ₹.30,00,000/- (Rupees thirty lacs only)
ITB 1.6.8	In addition to the original of the bid, the number of copies is: two
ITB 1.6.8	<p>The written confirmation of authorization to sign on behalf of the Bidder shall consist of:</p> <p>(a) Organizational document, board resolution or its equivalent, or Power of Attorney specifying the representative's authority to sign the bid on behalf of the Bidder.</p> <p>(b) If the Bidder is an intended or an existing joint venture, the Power of Attorney (POA) should be signed by all partners and specify the authority of the named representative of the joint venture to sign on behalf of the intended or existing joint venture. If the joint venture is not yet formed, also include evidence from all proposed joint venture partners of their intent to enter into a joint venture in the event of a contract award.</p> <p>(c) POA to be submitted should be in original and notarized.</p>

D. Submission and Opening of Bids

ITB 1.7	<p>Bids to be delivered to this address:</p> <p>Chief Executive Officer SHILLONG MUNICIPAL BOARD Bishop Cotton Road, Shillong Meghalaya- 793001 Telephone: 364 2224850 Facsimile number: 364 2224702 Electronic mail address: smb-meg@nic.in</p>
ITB 1.7	<p>The opening of the Technical Bid shall take place at/on:</p> <p>The office of the Chief Executive Officer SHILLONG MUNICIPAL BOARD Bishop Cotton Road, Shillong Meghalaya- 793001 Electronic mail address: smb-meg@nic.in Date: 16th April 2019 Time: 13:30 hrs</p>

Section-3

Evaluation and Qualification Criteria

Section 3 - Evaluation and Qualification Criteria

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Section 3 - Evaluation and Qualification Criteria

3.1. Evaluation

3.1.1. Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section 6 (SMB's Requirements).

Non-compliance with equipment and personnel requirements described in Section 6 (SMB's Requirements) shall not normally be a ground for bid rejection and such non-compliance will be subject to clarification during bid evaluation and rectification prior to contract award.

3.1.2. Quantifiable Nonconformities, Errors and Omissions

The evaluated cost of quantifiable non-conformities, errors and/or omissions is determined as follows:

Pursuant to ITB 31.3, the cost of all quantifiable nonmaterial nonconformities or omissions shall be evaluated. The SMB will make its own assessment of the cost of any nonmaterial nonconformities and omissions for the purpose of ensuring fair comparison of bids.

For this purpose, the SMB shall base its assessment on the highest price quoted for the same item(s) or component(s) by the other responsive bidders. If prices of such item(s) or component(s) are not available in the received bids, the SMB will base its assessment on the rates estimated by the SMB. However, if the bidder is awarded the contract, pursuant to the provision in Sub-Clause 14.2 of ITB, these item(s) or component(s) will not be paid for by the SMB during execution and shall be considered deemed covered by the rates for other items and prices of the Bill of Quantities.

3.2. Qualification

3.2.1. Eligibility

- (a) In case of an individual, the bidder should be a citizen of India.**
- (b) In case of a private entity, the entity should be registered under the relevant Indian Laws.**
- (c) In case of JV, each partner should comply to the above conditions.**

3.2.2. Conflict of Interest:

- (a) All bidders shall comply with section 1.2.2 of ITB**

3.2.3. Pending Litigation:

All pending litigation and arbitration, if any, shall be treated as resolved against the Bidder and so shall in total not represent **more than 50% (fifty percent) of the Bidder's net worth** calculated as the difference between total assets and total liabilities should be positive.

3.2.4. Financial Requirement:

- (a) **Bidder's Net-worth:** Submission of audited financial statements for **the last three (3) years** to demonstrate the current soundness of the Bidder's financial position. As a minimum, the Bidder's net worth for the last year calculated as the difference between total assets and total liabilities should be positive.
- (b) **Annual construction turnover:** Minimum average annual construction turnover of **₹. 3000.00 lacs** calculated as total certified payments received for contracts in progress or completed, within the last three (3) years.
 - i. In case of individual/single entity, the bidder should comply with this requirement
 - ii. In case of JV, all partners combined should comply to the requirement, each partner should comply to 25% and one partner should comply to 50% of the requirement.
- (c) **Financial Resources:** the Bidder must demonstrate access to, or availability of, liquid assets, lines of credit, or other financial resources (other than any contractual advance payments) to meet the Bidder's financial resources requirement.

3.2.5. Work Experience:

Participation within the last 5 (five) years that has been successfully or substantially completed and duly certified by SMB that is similar to the proposed works, where the value of the Bidder's participation in:

- (a) at least **one contract for Construction of commercial/institutional buildings exceeding Rupees 2400.00 lacs.**
- (b) at least **two contracts for Construction of commercial/institutional buildings each work exceeding Rupees 1200.00 lacs.**
- (c) at least **three contracts for Construction of commercial/institutional buildings each work exceeding Rupees 800.00 lacs.**

Section 4 – Bidding Forms

Section 4 - Bidding Forms

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Letter of Technical Bid

Bid ref: No.SMB/PW/280/2014-15 /174

Dated Shillong the 5th March 2019

To:

The Chief Executive Officer
Shillong Municipal Board

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued;
- (b) We offer to execute in conformity with the Bidding Documents the following Works:
Construction and Re-Development of Laitumkhrah Municipal Market at Laitumkhrah, Shillong, Meghalaya, India.
- (c) Our Bid consisting of the Technical Bid and the Financial Bid shall be valid for a period of **120** days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) Our firm, including any subcontractors or suppliers for any part of the Contract, are eligible to participate in this bid as per section 1.2 of the ITB
- (e) We, including any subcontractors or suppliers for any part of the contract, do not have any conflict of interest in accordance with section 1.2.2 of the ITB ;
- (f) We are not a government owned entity / We are a government owned entity but meet the requirements of the qualifications criteria of this bid.
- (g) If our Bid is accepted, we commit to mobilizing key equipment and personnel in accordance with the requirements set forth in Section 6 (Employer’s Requirements) and our technical proposal, or as otherwise agreed with the Employer.

Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date

Letter of Financial Bid
[to be submitted in Financial Bid Envelope]

NCB No.SMB/PW/280/2014-15 /174
Dated Shillong the 5th March 2019

To,

The Chief Executive Officer
Shillong Municipal Board

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued;
- (b) We offer to execute in conformity with the Bidding Documents and the Technical Bid submitted for the following Works: **Construction and Re-Development of Laitumkhrah Municipal Market at Laitumkhrah, Shillong, Meghalaya, India.**
- (c) The total price of our Bid, is:

- (d) Our Bid shall be valid for a period of **120** days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (e) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (f) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- (g) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date

Bid Security

Bank Guarantee

.....*Bank's Name, and Address of Issuing Branch or Office*.....

Beneficiary:*Name and Address of Employer*.....

Date:

Bid Security No.:

We have been informed that *name of the Bidder*. (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for the execution of *Construction and Re-Development of Laitumkhrah Municipal Market at Laitumkhrah, Shillong, Meghalaya, India*. under Invitation for Bids No.SMB/PW/280/2014-15 /174 Dated Shillong the 5th March 2019

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we *name of Bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *amount in figures* (. *amount in words*) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Letter of Technical Bid and Letter of Financial Bid; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB or (iii) fails or refuses to furnish a domestic preference security, if required.

This guarantee will expire: (a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; and (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy your notification to the Bidder of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of the Bidder's bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

.....*Bank's seal and authorized signature(s)*.....

Note: All italicized text is for use in preparing this form and shall be deleted from the final document

Technical Proposal

Personnel

Equipment

Site Organization

Method Statement

Mobilization Schedule

Construction Schedule

Others

Personnel

Proposed Personnel

Bidder shall provide the details of the proposed personnel and their experience records in the relevant Information Forms below for each candidate:

1.	Title of position*
	Name
2.	Title of position*
	Name
3.	Title of position*
	Name
4.	Title of position*
	Name
5.	Title of position*
	Name
6.	Title of position*
	Name
etc.	Title of position*
	Name

*As listed in Section 6 (Employer's Requirements).

Resume of Proposed Personnel

Position		
Personnel information	Name	Date of birth
	Professional qualifications	
Present employment	Name of employer	
	Address of employer	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Organisation / Project / Position / Relevant technical and management experience

Equipment

The Bidder shall provide adequate information and details to demonstrate clearly that it has the capability to meet the equipment requirements indicated in Section 6 (Employer's Requirements), using the Forms below. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of Equipment	
Equipment Information	Name of manufacturer
	Capacity
	Model and power rating
	Year of manufacture
Current Status	Current location
	Details of current commitments
Source	Indicate source of the equipment
	<input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured

Omit the following information for equipment owned by the Bidder.

Owner	Name of owner
	Address of owner
	Telephone
	Contact name and title
	Fax
	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project

Site Organization

(Note: Evaluation of the Bidder's Site Organization will include an assessment of the Bidder's capacity to mobilize key personnel for the Contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section 6 (Employer's Requirements)).

Method Statement

Mobilization Schedule

Construction Schedule

(Note: Evaluation of the Bidder's Construction Schedule will include an assessment of the Bidder's technical capacity to mobilize equipment for the Contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements as specified.

Bidder's Qualification

To establish its qualifications to perform the contract in accordance with Section 3 (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

Bidder's Information

Bidder's Information	
Bidder's legal name	
In case of JV, legal name of each partner	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone numbers, fax numbers, e-mail address)	
<p>Attached are copies of the following original documents.</p> <p><input type="checkbox"/> 1. In case of single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and 4.2.</p> <p><input type="checkbox"/> 2. Authorization to represent the firm or JV named in above, in accordance with ITB 20.2.</p> <p><input type="checkbox"/> 3. In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1.</p> <p><input type="checkbox"/> 4. In case of a government-owned entity, any additional documents not covered under 1 above required to comply with ITB 4.5.</p>	

JV Information

Each member of a JV must fill in this form

JV / Specialist Subcontractor Information	
Bidder's legal name	
JV Partner's or specialist Subcontractor's legal name	
JV Partner's or specialist Subcontractor's country of constitution	
JV Partner's or specialist Subcontractor's year of constitution	
JV Partner's or specialist Subcontractor's legal address in country of constitution	
JV Partner's or specialist Subcontractor's authorized representative information (name, address, telephone numbers, fax numbers, e-mail address)	
<p>Attached are copies of the following original documents.</p> <p><input type="checkbox"/> 1. Articles of incorporation or constitution of the legal entity named above.</p> <p><input type="checkbox"/> 2. Authorization to represent the firm named above.</p>	

Pending Litigation

Each Bidder or member of a JV must fill in this form if so required under Section 3.2.3 of Section 3 (Evaluation and Qualification Criteria).

Pending Litigation			
<input type="checkbox"/> No pending litigation			
<input type="checkbox"/> Below is a description of all pending litigation involving the Bidder (or each JV member if Bidder is a Joint Venture).			
Year	Matter in Dispute	Value of Pending Claim in INR or its US\$ Equivalent	Value of Pending Claim as a Percentage of Net Worth

NETWORTH OF BIDDER

Each Bidder or member of a JV must fill in this form

Financial Data for Previous Three Years [INR or its US\$ Equivalent]		
Year 1: 2016-2017	Year 2: 2017-2018	Year 3:2018-19

Information from Balance Sheet

Total Assets			
Total Liabilities			
Net Worth			
Current Assets			
Current Liabilities			

Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			

- Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last three (3) years, as indicated above, complying with the following conditions.
- Unless otherwise required by Section 3 of the Bidding Document, all such documents reflect the financial situation of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.
 - Historic financial statements must be audited by a certified accountant.
 - Historic financial statements must be complete, including all notes to the financial statements.
 - Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Average Annual Construction Turnover

Each Bidder or member of a JV must fill in this form

The information supplied should be the Annual Turnover of the Bidder or each member of a JV in terms of the amounts billed to clients for each year for work in progress or completed.

The information furnished must be related to the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.

Annual Turnover Data for the Last 3 Years (Construction only)			
Year	Amount Currency	Exchange Rate	INR or its US\$ Equivalent
Average Annual Construction Turnover			

Availability of Financial Resources

Bidders shall specify proposed sources of financing, such as liquid assets, lines of credit, and other financial resources, other than any contractual advance payment available to meet the financial requirements for the subject contract or contracts, as indicated in Form-G4. The information furnished must be related to the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.

Bidder shall also submit certificates issued by the respective Bank or Financial Institution in respect of Cash-Credit Limit sanctioned by the Bank or Financial Institution, if Bidder intends to claim any such financial resource. Such certificate of Cash-Credit Limit should have been issued not before one year prior to the deadline for bid submission and should be valid as on the deadline for bid submission.

Financial Resources		
No.	Source of financing	Amount (INR)
1		
2		
3		

¹ *Liquid Assets mean cash and cash equivalents, short-term financial instruments, short term available-for-sale-securities, marketable securities, trade receivables, short-term financing receivables and other assets that can be converted into cash within one year*

Current Commitments:

Bidder (or each JV partner) should provide information indicated below in order to calculate the aggregated financial resources requirement, which requirement equals the sum of: (i) the Bidder's (or each JV partner's) current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued and (ii) financial resources requirement for subject contract as determined by the Employer. Bidder must also disclose any other financial obligations that could materially affect the implementation of subject contract if such contract were to be awarded to the Bidder.

No.	Name of Contract	Employer's Contact (Address, Tel, Fax)	Contract Completion Date	Remaining Contract Period in months (A) ¹	Outstanding Contract Value (B) ²	Monthly Financial Resources Requirement (B / A)
1						
2						
3						
4						
A. Cumulative Financial Resources Requirement for Current Contract Commitments ³						INR
B. Financial Resources Requirement for Subject Contract (Employer to specify)						₹30,00,00,000.00
Financial Resources Requirement (Sum of A and B)						INR

¹ Remaining contract period to be calculated from 28 days prior to bid submission deadline.

² Remaining Outstanding Contract Values to be calculated from 28 days prior to the bid submission deadline (INR or its US\$ equivalent based on the foreign exchange rate as of the same date).

³ Bidder should calculate this amount based on the sum of Monthly Financial Resources Requirements for Each Current Works Contract based on the following calculation:

$$\frac{\text{Estimated Contract Value (Inclusive of Taxes and Duties)}}{\text{Completion Period in Months}}$$

Work Experience: Contracts of Similar Size and Nature

Fill up one (1) form per contract.		
Contract No of	Contract Identification	
Award Date	Completion Date	
Total Contract Amount	INR	
If partner in a JV or subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's Name Address Telephone/Fax Number E-mail		
Description of the similarity in accordance with Criteria 2.4.1 of Section 3		
<p>Participation within the last 5 (five) years that has been successfully or substantially completed and duly certified by employer that is similar to the proposed works, where the value of the Bidder's participation in:</p> <p>(d) at least one contract for Construction of commercial/institutional buildings exceeding Rupees 2400.00 lacs.</p> <p>(e) at least two contracts for Construction of commercial/institutional buildings each work exceeding Rupees 1200.00 lacs.</p> <p>(f) at least three contracts for Construction of commercial/institutional buildings each work exceeding Rupees 800.00 lacs.</p>		

**ABSTRACTSUMMARY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHRAH MINICIPAL MARKET ,AT SHILLONG -
MEGHALAYA**

Sl.no	CIVIL WORKS OF CONSTRUCTION	AMOUNT (in INR)	AMOUNT (in words)
1	Ground Floor		
2	First Floor		
3	Second Floor		
4	Third Floor		
5	Fourth Floor		
6	Terrace Floor		
7	Finishing Works		
8	Electrical Work		
9			
Total Cost of Civil Work =			

**BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHRAH MINICIPAL MARKET ,
AT SHILLONG - MEGHALAYA**

(GROUND FLOOR)

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
A		PILING WORKS						
		AUGER DRIVEN RCC PILES						
1	21.1	Providing cast in-situ machine driven reinforced cement concrete bored cast in Situ piles of required bore- diameter, lengths and with reinforcement as per specifications and drawings including using of Bentonite solution in regular circulation (Washboring, including use of MS casing (removable) type for first 3 meters. (Reinforcement to be measured and paid separately) including providing necessary cover blocks ring type as per standard norms.						
	(a) (vii)	Pile Dia 600mm	R.M.	7115.00				
B		REINFORCEMENT						
2	21.8	Supplying, fitting and fixing in position reinforcement bars conforming to relevant IS code, for reinforced cement concrete works in piles including straightening, cleaning, cutting and bending to proper shapes and length with welding of rings/ ties with vertical reinforcements as per IS codes of practice, all complete as per specifications and drawings.						
	(a)	TMT bar made of primary	Qntl.	1535.00				
3	23.17	Demolishing R.C.C / P.C.C. pile head of different diameters carefully without disturbing the remainingp portion of the pile including opening out of the pile head to be demolished by excavating the earth upto required depth and clearing the debris as directed.	Cum	215.00				

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
4	21.9	Routine test for test loading to 1.5 times the specified safe working load including construction of any test pile cap and dismantling the same after completion of test complete in accordance to IS - 2911. (Upto 50 tonne capacity)	MT	75.00				
5	21.11	Integrity testing of pile using Low Strain / Sonic Integrity Test / Sonic Echo Test method in accordance with IS 14893 including surface preparation of pile top by removing soil , mud , dust & chipping lean concrete lumps etc. and use of computerised equipment and high skill trained personal for conducting the test & sunmission of results , all complete as per direction of Engineer - in - charge.	Each	20.00				
C		EARTH WORK						
6	1.1	Earthwork in excavation upto a depth of 2m below the existing ground level for foundation trenches of foundation, footings of column/ Walls, retaining walls septic tank etc. including bailing out water where necessary and removal of surplus earth with all lead and lift as directed and specified for the following classification of soil						
	(a)	Ordinary Soil	Cum	2450.00				
D		PLAIN CEMENT WORKS						
7	2.1	Plain cement concrete works with coarse aggregate of sizes 13mm to 32mm in foundation bed for footing steps, walls, brick works etc. as directed and specified including dewatering if necessary, and curing complete (shuttering where necessary shall be measured and paid separately).						
	(b)	In prop. 1:4:8 (1 Cement: 4 Coarse Sand: 8 Coarse agg. By volume (using mixture machine).	Cum	165.48				
		REINFORCED CEMENT CONCRETE WORKS						

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	2.5	Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of formwork and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid searately)						
8	2.5.1	In Foundation and sub-structure including footing, columns with base, tie and plinth beam, pile cap, raft slab, base slab, RCC walls, retaining walls, walls of septic tank, inspection pit and the like and other works not less than 100 mm thick up to plinth level. (Without using admixture, plasticiser)						
	(b)	M20 grade concrete	Cum	1425.00				
9	(ii)	(B) In super structure from plinth level up to 1st floor level.						
	2.5.3	In Columns, pillars, posts, struts, suspended floor, roof, landing, shelf and support, balcony, lintel, sill band, beam, girder, bressumer, cantilever, staircase etc. above plinth level upto 1st floor level.(without using admixture, plasticiser)						
	(c)	M25 or Prop. Concrete	Cum	715.00				

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
E		REINFORCEMENT STEEL						
10	2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C. work/ R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, supports, chairs, spacers etc. complete. (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurements for the same is required)						
	(a)	From Primary Sources like TATA/SAIL/ESSAR/JINDAL/SHYAM/RINL						
	(i)	TMT corrosion resistant steel (CRS) reinforcement bar	Qntl.	3403.50				
F		SHUTTERING/ FORMWORK						
	2.10	Providing form work of ordinary timber planking of thickness not less than 25 mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0m as specified for the following items.						
11	(a)	Foundation, footings, bases of columns, pile cap, raft and mass concrete works etc.	Sqm	1113.63				
12	(b)	Sides of tie beams or strap beam, grade beams etc. at or below ground level requiring formwork at sides only.	Sqm	1051.68				
13	(c)	Columns, Pillars, Posts & Stut	Sqm	858.16				
14	(d) (i)	Sides and Soffits of Beams, beam haunchings, cantilever girders bressumers, lintels and horizontal ties. For depth not exceeding 1.0M	Sqm	1217.10				
15	(e) (i)	Flat surface such as soffits of suspended floors, roofs, landings cantilever slabs, chajjas, balconies and the like. Thickness of floors/slab upto 200mm.	Sqm	3309.00				

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
16	(g)	Vertical surface such as walls (any thickness) parapet walls, partitions, walls of septic tank, inspection pit etc.including attached pilasters, buttresses, plinth and string courses and the like	Sqm	199.68				
17	(i)	Staircase with sloping or stepped soffits including risers and stringers but excluding Landing	Sqm	168.00				
G		SOLING & BRICK WORK						
18	4.1	Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete.						
	(c)	Stone Soling of thk. 100mm	Sqm	3866.00				
	(d)	Stone Soling of thk. 150mm	Sqm	1654.11				
TOTAL =								
GST COMPONENT =								
GRAND TOTAL INCLUDING GST =								

**BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHRAH MINICIPAL MARKET ,
AT SHILLONG - MEGHALAYA.**

(FIRST FLOOR)

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
A		CEMENT CONCRETE WORKS						
		REINFORCED CEMENT CONCRETE WORKS						
1	2.5	Providing and laying Concrete in Reinforced Cemet Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of formwork and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid searately)						
	(ii)	(B) In super structure from 1st slab level to 2nd slab level.						
	2.5.3	In Columns, pillars, posts, struts, suspended floor, roof, landing, shelf and support, balcony, lintel, sill band, beam, girder, bressumer, cantilever, staircase etc. above plinth level upto 1st floor level.(without using admixture, plasticiser)						
	(c)	M25 or Prop. Concrete	Cum	379.00				
B		REINFORCEMENT STEEL						
2	2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C. work/ R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, supports, chairs, spacers etc. complete. (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurements for the same is required)						

Sl.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(a)	From Primary Sources like TATA/SAIL/ESSAR/JINDAL/SHYAM/RINL						
	(i)	TMT corrosion resistant steel (CRS) reinforcement bar	Qntl.	680.00				
C		SHUTTERING/ FORMWORK						
	2.10	Providing form work of ordinary timber planking of thickness not less than 25 mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0m as specified for the following items.						
3	(c)	Columns, Pillars, Posts & Sttut	Sqm	399.63				
4	(d) (i)	Sides and Soffits of Beams, beam haunchings, cantilever girders bressumers, lintels and horizontal ties. For depth not exceeding 1.0M	Sqm	696.90				
5	(e) (i)	Flat surface such as soffits of suspended floors, roofs, landings cantilever slabs, chajjas, balconies and the like. Thickness of floors/slab upto 200mm.	Sqm	1335.00				
6	(g)	Vertical surface such as walls (any thickness) parapet walls, partitions, walls of sepic tank, inspection pit etc.including attached pilasters, buttresses, plinth and string courses and the like	Sqm	199.68				
7	(i)	Staircase with sloping or stepped soffits including risers and stringers but excluding Landing	Sqm	168.00				
					TOTAL =			
					GST COMPONENT =			
					GRAND TOTAL INCLUDING GST =			

**BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHAH MUNICIPAL MARKET ,
AT SHILLONG - MEGHALAYA**

(SECOND FLOOR)

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
A		CEMENT CONCRETE WORKS						
		REINFORCED CEMENT CONCRETE WORKS						
1	2.5	Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of formwork and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid separately)						
	(ii)	(B) In super structure from 2nd slab level to 3rd slab level.						
	2.5.3	In Columns, pillars, posts, struts, suspended floor, roof, landing, shelf and support, balcony, lintel, sill band, beam, girder, bressumer, cantilever, staircase etc. above plinth level upto 1st floor level.(without using admixture, plasticiser)						
	(c)	M25 or Prop. Concrete	Cum	418.56				
B		REINFORCEMENT STEEL						
2	2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C. work/ R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, supports, chairs, spacers etc. complete. (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurements for the same is required)						
	(a)	From Primary Sources like TATA/SAIL/ESSAR/JINDAL/SHYAM/RINL						

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(i)	TMT corrosion resistant steel (CRS) reinforcement bar	Qntl.	705.00				
C		SHUTTERING/ FORMWORK						
	2.10	Providing form work of ordinary timber planking of thickness not less than 25 mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0m as specified for the following items.						
3	(c)	Columns, Pillars, Posts & Stut	sqm	399.63				
4	(d) (i)	Sides and Soffits of Beams, beam haunchings, cantilever girders bressumers, lintels and horizontal ties. For depth not exceeding 1.0M	sqm	735.00				
5	(e) (i)	Flat surface such as soffits of suspended floors, roofs, landings cantilever slabs, chajjas, balconies and the like. Thickness of floors/slab upto 200mm.	sqm	1539.00				
6	(g)	Vertical surface such as walls (any thickness) parapet walls, partitions, walls of sepic tank, inspection pit etc.including attached pilasters, buttresses, plinth and string courses and the like	sqm	199.68				
7	(i)	Staircase with sloping or stepped soffits including risers and stringers but excluding Landing	sqm	168.00				
TOTAL =								
GST COMPONENT =								
GRAND TOTAL INCLUDING GST =								

**BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHRAH MINICIPAL MARKET ,
AT SHILLONG - MEGHALAYA**

(THIRD FLOOR)

Sl.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
A		CEMENT CONCRETE WORKS						
		REINFORCED CEMENT CONCRETE WORKS						
1	2.5	Providing and laying Concrete in Reinforced Cemet Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate incuding dewatering if necessary, and curing complete but excluding cost of formwork and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid searately)						
	(ii)	(B) In super structure from 3rd slab level to 4th slab level.						
	2.5.3	In Columns, pillars, posts, struts, suspended floor, roof, landing, shelf and support, balcony, lintel, sill band, beam, girder, bressumer, cantilever, staircase etc. above plinth level upto 1st floor level.(without using admixture, plasticiser)						
	(c)	M25 or Prop. Concrete	Cum	420.56				
B		REINFORCEMENT STEEL						
2	2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C. work/ R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, supports, chairs, spacers etc. complete. (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurements for the same is required)						
	(a)	From Primary Sources like TATA/SAIL/ESSAR/JINDAL/SHYAM/RINL						

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(i)	TMT corrosion resistant steel (CRS) reinforcement bar	Qntl.	712.00				
C		SHUTTERING/ FORMWORK						
	2.10	Providing form work of ordinary timber planking of thickness not less than 25 mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0m as specified for the following items.						
3	(c)	Columns, Pillars, Posts & Sttut	sqm	399.63				
4	(d) (i)	Sides and Soffits of Beams, beam haunchings, cantilever girders bressumers, lintels and horizontal ties. For depth not exceeding 1.0M	sqm	755.00				
5	(e) (i)	Flat surface such as soffits of suspended floors, roofs, landings cantilever slabs, chajjas, balconies and the like. Thickness of floors/slab upto 200mm.	sqm	1580.00				
6	(g)	Vertical surface such as walls (any thickness) parapet walls, partitions, walls of sepic tank, inspection pit etc.including attached pilasters, buttresses, plinth and string courses and the like	sqm	199.68				
7	(i)	Staircase with sloping or stepped soffits including risers and stringers but excluding Landing	sqm	168.00				
TOTAL =								
GST COMPONENT =								
GRAND TOTAL INCLUDING GST =								

**BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHRAH MINICIPAL MARKET ,
AT SHILLONG - MEGHALAYA**

(THIRD FLOOR)

Sl.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
A		CEMENT CONCRETE WORKS						
		REINFORCED CEMENT CONCRETE WORKS						
1	2.5	Providing and laying Concrete in Reinforced Cemet Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate incuding dewatering if necessary, and curing complete but excluding cost of formwork and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid searately)						
	(ii)	(B) In super structure from 3rd slab level to 4th slab level.						
	2.5.3	In Columns, pillars, posts, struts, suspended floor, roof, landing, shelf and support, balcony, lintel, sill band, beam, girder, bressumer, cantilever, staircase etc. above plinth level upto 1st floor level.(without using admixture, plasticiser)						
	(c)	M25 or Prop. Concrete	Cum	420.56				
B		REINFORCEMENT STEEL						
2	2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C. work/ R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, supports, chairs, spacers etc. complete. (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurements for the same is required)						
	(a)	From Primary Sources like TATA/SAIL/ESSAR/JINDAL/SHYAM/RINL						

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(i)	TMT corrosion resistant steel (CRS) reinforcement bar	Qntl.	712.00				
C		SHUTTERING/ FORMWORK						
	2.10	Providing form work of ordinary timber planking of thickness not less than 25 mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0m as specified for the following items.						
3	(c)	Columns, Pillars, Posts & Sttut	sqm	399.63				
4	(d) (i)	Sides and Soffits of Beams, beam haunchings, cantilever girders bressumers, lintels and horizontal ties. For depth not exceeding 1.0M	sqm	755.00				
5	(e) (i)	Flat surface such as soffits of suspended floors, roofs, landings cantilever slabs, chajjas, balconies and the like. Thickness of floors/slab upto 200mm.	sqm	1580.00				
6	(g)	Vertical surface such as walls (any thickness) parapet walls, partitions, walls of sepic tank, inspection pit etc.including attached pilasters, buttresses, plinth and string courses and the like	sqm	199.68				
7	(i)	Staircase with sloping or stepped soffits including risers and stringers but excluding Landing	sqm	168.00				
TOTAL =								
GST COMPONENT =								
GRAND TOTAL INCLUDING GST =								

**BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHRAH MUNICIPAL MARKET ,
AT SHILLONG - MEGHALAYA**

(FOURTH FLOOR , MUMTY & HEAD ROOMS)

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
A		CEMENT CONCRETE WORKS						
		REINFORCED CEMENT CONCRETE WORKS						
1	2.5	Providing and laying Concrete in Reinforced Cemet Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate incuding dewatering if necessary, and curing complete but excluding cost of formwork and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid searately)						
	(ii)	(B) In super structure from 4th slab level to Terrace slab level.						
	2.5.3	In Columns, pillars, posts, struts, suspended floor, roof, landing, shelf and support, balcony, lintel, sill band, beam, girder, bressumer, cantilever, staircase etc. above plinth level upto 1st floor level.(without using admixture, plasticiser)						
	(c)	M25 or Prop. Concrete	Cum	420.56				
B		REINFORCEMENT STEEL						
2	2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C. work/ R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, supports, chairs, spacers etc. complete. (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurements for the same is required)						
	(a)	From Primary Sources like TATA/ SAIL/ESSAR/JINDAL/SHYAM/RINL						

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(i)	TMT corrosion resistant steel (CRS) reinforcement bar	Qntl.	712.00				
3	17.3	Providing, fitting, hoisting and fixing of any one or combination of following sections of (i) Square (ii) Rectangular hollow section of specification SHS/RHS and with enamel paint over the primer coat as per design complete as directed as per specifications.						
	(a)	Using TATA make RHS/SHS of Grade 310 conforming to relevant IS code 4923:1997	Qntl.	225.00				
C		SHUTTERING/ FORMWORK						
	2.10	Providing form work of ordinary timber planking of thickness not less than 25 mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0m as specified for the following items.						
4	(c)	Columns, Pillars, Posts & Stut	sqm	399.63				
5	(d) (i)	Sides and Soffits of Beams, beam haunchings, cantilever girders bressumers, lintels and horizontal ties. For depth not exceeding 1.0M	sqm	755.00				
6	(e) (i)	Flat surface such as soffits of suspended floors, roofs, landings cantilever slabs, chajjas, balconies and the like. Thickness of floors/slab upto 200mm.	sqm	1580.00				
7	(g)	Vertical surface such as walls (any thickness) parapet walls, partitions, walls of sepic tank, inspection pit etc.including attached pilasters, buttresses, plinth and string courses and the like	sqm	198.68				
8	(i)	Staircase with sloping or stepped soffits including risers and stringers but excluding Landing	sqm	168.00				
TOTAL =								
GST COMPONENT =								
GRAND TOTAL INCLUDING GST =								

**BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHRAH MINICIPAL MARKET ,
AT SHILLONG - MEGHALAYA**

Terrace floor (MACHINE ROOM AND STAIR HEAD ROOM)

SI.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
A		CEMENT CONCRETE WORKS						
		REINFORCED CEMENT CONCRETE WORKS						
1	2.5	Providing and laying Concrete in Reinforced Cemet Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate incuding dewatering if necessary, and curing complete but excluding cost of formwork and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid searately)						
	(ii)	(B) In super structure from 3rd slab level to 4th slab level.						
	2.5.3	In Columns, pillars, posts, struts, suspended floor, roof, landing, shelf and support, balcony, lintel, sill band, beam, girder, bressumer, cantilever, staircase etc. above plinth level upto 1st floor level.(without using admixture, plasticiser)						
	(c)	M25 or Prop. Concrete	Cum	26.65				

Sl.No.	Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
B		REINFORCEMENT STEEL						
2	2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C. work/ R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, supports, chairs, spacers etc. complete. (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurements for the same is required)						
	(a)	From Primary Sources like TATA/SAIL/ESSAR/JINDAL/SHYAM/RINL						
	(i)	TMT corrosion resistant steel (CRS) reinforcement bar	Qntl.	35.97				
C		SHUTTERING/ FORMWORK						
	2.10	Providing form work of ordinary timber planking of thickness not less than 25 mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0m as specified for the following items.						
3	(c)	Columns, Pillars, Posts & Sttut	sqm	45.60				
4	(d) (i)	Sides and Soffits of Beams, beam haunchings, cantilever girders bressumers, lintels and horizontal ties. For depth not exceeding 1.0M	sqm	60.00				
5	(e) (i)	Flat surface such as soffits of suspended floors, roofs, landings cantilever slabs, chajjas, balconies and the like. Thickness of floors/slab upto 200mm.	sqm	98.00				
TOTAL =								
GST COMPONENT =								
GRAND TOTAL INCLUDING GST =								

**FINISHING ITEMS BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHAH MUNICIPAL MARKET ,
AT SHILLONG - MEGHALAYA**

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
4.6	Brick nogged wall with 1st class brick in cement mortar including racking out joints and curing complete as directed in super structure above plinth up to 1st floor level (protruding M.S rod/Tor steel of column to be embedded in cement mortar and will be measured and paid separately)						
	(a) Half Brick (~112 mm) thick 1st class brick nogged wall						
	(ii) In proportion 1:4 (1 cement : 4 sand)						
	i) Ground Floor	Sqm	2408.60				
	ii) First Floor	Sqm	231.76				
	iii) Second Floor	Sqm	681.66				
	iv) Third Floor	Sqm	865.92				
	v) Fourth Floor	Sqm	665.38				
	vi) Terrace	Sqm	130.54				
4.10	Extra for brick walling for each subsequent floor or part thereof above the 1st floor level						
	(a) Half Brick (~112 mm) thick 1st class brick nogged wall						
	(ii) In proportion 1:4 (1 cement : 4 sand)						
	iii) Second Floor	Sqm	681.66				
	iv) Third Floor	Sqm	865.92				
	v) Fourth Floor	Sqm	665.38				
	vi) Terrace	Sqm	130.54				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
2.5	Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of form work and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid separately)						
2.5.3	In Columns, pillars, posts, struts, suspended floor, roof, landing, shelf and support, balcony, lintel, sill band, beam, girder, bressumer, cantilever, staircase etc. above plinth level upto 1st floor level. (Without using admixture, plasticiser)						
	(b) M20 or Prop 1:1.5:3						
	Sill & Lintels						
	i) Ground Floor	Cum	88.85				
	ii) First Floor	Cum	7.23				
	iii) Second Floor	Cum	11.48				
	iv) Third Floor	Cum	13.47				
	v) Fourth Floor	Cum	12.21				
	vi) Terrace	Cum	1.36				
2.5.4	Vertical and horizontal fins (thickness not more than 100mm) individually or forming box louvre and projected band above plinth level upto 1st floor level. (Without using admixture, plasticiser)						
	(b) M20 or Prop 1:1.5:3						
	Fins for box windows						
	iii) Second Floor	Cum	3.98				
	iv) Third Floor	Cum	3.98				
	v) Fourth Floor	Cum	2.48				
2.7	Extra over item no. 2.5.2, 2.5.3, 2.5.4, 2.5.5 above for each subsequent floor or part thereof above the 1st floor level						
	iii) Second Floor	Cum	15.46				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	iv) Third Floor	Cum	17.45				
	v) Fourth Floor	Cum	14.68				
	vi) Terrace	Cum	1.36				
2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for RCC work / R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, support, chairs, spacers etc. complete (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurement for the same is required)						
	(b) Other ISI approved TMT reinforcement bar (of SAI/ BISCON/ XTECH/ THERMAX make of equivalent)						
	i) Ground Floor	Qntl	160.76				
	ii) First Floor	Qntl	15.75				
	iii) Second Floor	Qntl	22.73				
	iv) Third Floor	Qntl	27.08				
	v) Fourth Floor	Qntl	22.80				
	vi) Terrace	Qntl	2.85				
2.9	Extra over item 2.8 (a, b, c) above for each subsequent floor or part thereof above first floor level.						
	iii) Second Floor	Qntl	22.73				
	iv) Third Floor	Qntl	27.08				
	v) Fourth Floor	Qntl	22.80				
	vi) Terrace	Qntl	2.85				
2.10	Providing form work of ordinary timber planking of thickness not less than 25mm and removal of the same for concrete members so as to give a rough finish including entering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0M as specified for the following items:						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(d) Sides and Soffits of Beams, beam haunchings, cantilever gorders, bressumers, lintels and horizontal ties						
	Sill & Lintels						
	i) Ground Floor	Sqm	920.36				
	ii) First Floor	Sqm	96.31				
	iii) Second Floor	Sqm	107.45				
	iv) Third Floor	Sqm	133.96				
	v) Fourth Floor	Sqm	117.09				
	vi) Terrace	Sqm	13.20				
	(h) Vertical ties, fins, sun breaker, louvers, bands, dropwalls etc						
	iii) Second Floor	Sqm	41.68				
	iv) Third Floor	Sqm	41.68				
	v) Fourth Floor	Sqm	23.55				
8.2	Providing wood work in frame (chowkats) of doors, windows, clerestory windows and other similar works wrought, framed and fixed in position in contact with C.C or brick masonry wall including supplying, fitting and fixing with M.S. hold fast (40mmx3mmx250mm) as per design embedded in cement concrete block in proportion 1:2:4 and with two coats of kiricide oiling to the timber faces in contact with C.C and masonry as directed and specified.						
	(b) 1st Class Local timber (Pooma/ Hollock/ Oak/ Gamari/ Diengrai and the like)						
	i) Ground Floor	Cum	0.58				
	ii) First Floor	Cum	0.48				
	iii) Second Floor	Cum	0.48				
	iv) Third Floor	Cum	0.48				
	v) Fourth Floor	Cum	0.58				
	vi) Terrace	Cum	0.10				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
8.43	Extra for wood work for each subsequent floor above 1st floor level						
	iii) Second Floor	Cum	0.48				
	iv) Third Floor	Cum	0.48				
	v) Fourth Floor	Cum	0.58				
	vi) Terrace	Cum	0.10				
8.29	Providing and fixing flush door shutters solid core construction with frame of 1st class hard wood with cross band and face veneered ply wood face panels conforming to relevant I.S code including oxidised iron butt hinges (100mm x 75mm x 3.5mm) with necessary wood screws.						
	(b) Non-decorative type face panels and block board core (ii) 35 mm thick						
	i) Ground Floor	Sqm	20.16				
	ii) First Floor	Sqm	15.96				
	iii) Second Floor	Sqm	15.96				
	iv) Third Floor	Sqm	15.96				
	v) Fourth Floor	Sqm	20.16				
	vi) Terrace	Sqm	4.20				
8.44	Extra for fitting and fixing door/ window/ cupboard shutters for each subsequent floor above 1st floor level						
	iii) Second Floor	Sqm	15.96				
	iv) Third Floor	Sqm	15.96				
	v) Fourth Floor	Sqm	20.16				
	vi) Terrace	Sqm	4.20				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
9.1	Providing, fitting and fixing anodised aluminium windows and ventilators of standard sections without horizontal glazing bars joints mitred and welded (manufactured to relevant IS specifications) fitted with 6mm x 3.15mm lugs 100mm long embedded in CC blocks 150mm x 100mm x 100mm in 1:3:6 mix including providing and fixing handles, frictions stays, joining cleat, bolting device, locking arrangement, spring catch as required complete as specified and directed for all levels. (Glass panes included, Cement concrete to be measured and paid separately)						
	(a) Side hung and Top hung openable windows and ventilators						
	(ii) 6mm clear glass						
	i) Ground Floor	Sqm	8.88				
	ii) First Floor	Sqm	5.88				
	iii) Second Floor	Sqm	9.92				
	iv) Third Floor	Sqm	9.92				
	v) Fourth Floor	Sqm	9.92				
9.2	Providing, fitting and fixing anodised aluminium sliding windows and ventilators of standard sections without horizontal glazing bars, joints mitred and welded (manufactured to relevant IS specifications) and providing and fixing handles, angle cleat, rubber gasket, roller, bolting device, locking arrangements, screws etc. as required complete as specified and directed for all levels. (Glass panes included) (b) 3 Track sliding window (ii) 6mm clear glass						
	iii) Second Floor	Sqm	92.40				
	iv) Third Floor	Sqm	151.36				
	v) Fourth Floor	Sqm	124.96				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
9.26	Providing, fitting and fixing aluminium curtain wall on the exterior face of building fitting to concrete member by drilling hole fixing by brass screw fabricated with coloured anodised aluminium section of size 101mm x 44.50mm by providing aluminium jointing angles including providing 6mm thick coloured reflector type glass fitted with aluminium at all levels.						
	iii) Second Floor	Sqm	70.76				
	iv) Third Floor	Sqm	70.76				
9.11	Providing, fitting and fixing anodised aluminium sliding glazed/laminated doors with anodised aluminium frames made of 100mm x 45mm x 2mm section with door style of size 81mm x 45mm x 2mm, top & bottom rails 50mm x 45mm x 2mm, lock rails 50mm x 45mm x 2mm, fitted with glazing clip, special type rubber gasket complete including roller, tower bolt, aluminium door handle, lock, angles, cleat etc. complete as specified and directed by the department at all levels (Glass panes/laminated board included) (b) 6mm clear glass						
	v) Fourth Floor	Sqm	71.68				
14.2	Providing, fitting and fixing M.S. grill of required pattern for windows/ clerestory windows/ opening/ railing with M.S. flats at required spacing in frame all round, square or round M.S. bars with round headed bolts and nuts or screws.						
	(a) Plain grill						
	(iii) Fixed to Brickwork/ P.C.C/ R.C.C.						
	i) Ground Floor	kg	5392.91				
	ii) First Floor	kg	1528.22				
11.7 (a)	Providing and fixing rolling shutters of approved make made of 80mm wide M.S. laths interlocked together through their entire length and jointed together at the ends by end-locks mounted on specially designed pipe shaft with bracket plates, guide channels and arrangements for inside and outside locking with push-pull operation complete including cost of wire, spring and hood cover for the shutters						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	i) Ground Floor	Sqm	1021.81				
	iii) Second Floor	Sqm	169.82				
	iv) Third Floor	Sqm	241.22				
	v) Fourth Floor	Sqm	116.90				
11.6	Providing and fixing in position collapsible M.S. shutters with vertical channels 20mmx10mmx2mm braced with flat iron diagonals 20mmx5mm size with top and bottom rails of T-iron 40mmx40mmx6mm with 38mm dia steel pulleys complete with bolts and nuts, locking arrangements, stoppers, handles including applying a priming coat of red lead paint.						
	i) Ground Floor	Sqm	239.88				
	Plastering, Wall tiles and Paintings:-						
5.2	15 mm thick Cement plaster in single coat on rough side of single or half brick wall for interior plastering up to 1st floor level including arises, internal rounded angles, not exceeding 80mm girth and finished even and smooth including curing complete as directed						
	b) In cement mortar 1:4						
	Interior plastering						
	ceilings						
	i) Ground Floor	Sqm	4407.48				
	ii) First Floor	Sqm	2027.24				
	iii) Second Floor	Sqm	2156.36				
	iv) Third Floor	Sqm	2156.36				
	v) Fourth Floor	Sqm	1906.48				
	interior vertical surfaces						
	i) Ground Floor	Sqm	2606.91				
	ii) First Floor	Sqm	671.53				
	iii) Second Floor	Sqm	1307.36				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	iv) Third Floor	Sqm	1628.71				
	v) Fourth Floor	Sqm	1298.21				
	vi) Terrace	Sqm	285.61				
	base for wall tiles						
	i) Ground Floor	Sqm	2882.72				
	ii) First Floor	Sqm	164.65				
	iii) Second Floor	Sqm	217.16				
	iv) Third Floor	Sqm	217.16				
	v) Fourth Floor	Sqm	251.74				
	exterior vertical surfaces						
	i) Ground Floor	Sqm	322.60				
	ii) First Floor	Sqm	278.19				
	iii) Second Floor	Sqm	428.67				
	iv) Third Floor	Sqm	465.23				
	v) Fourth Floor	Sqm	282.24				
	vi) Terrace	Sqm	194.82				
5.7	Extra over item no 5.1 to 5.6 for plastering on ceiling and soffits of stairs up to 1st floor level (instead of plastering on walls) including curing complete as directed						
	i) Ground Floor	Sqm	4407.48				
	ii) First Floor	Sqm	2027.24				
	iii) Second Floor	Sqm	2156.36				
	iv) Third Floor	Sqm	2156.36				
	v) Fourth Floor	Sqm	1906.48				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
5.8	Extra over item no 5.1 to 5.7 for interior plastering above 1st floor level for every addl. floor or part thereof including curing complete as directed (a) On Single coat plaster						
	iii) Second Floor	Sqm	3680.87				
	iv) Third Floor	Sqm	4002.23				
	v) Fourth Floor	Sqm	3456.43				
	vi) Terrace	Sqm	285.61				
5.9	Extra over item no 5.1 to 5.7 for exterior plastering up to a height of 1st floor level above ground level including curing complete as directed (a) On Single coat plaster						
	i) Ground Floor	Sqm	322.60				
	ii) First Floor	Sqm	278.19				
5.10	Extra over item no 5.1 to 5.7 for exterior plastering for every addl floor or part thereof beyond 1st floor level including curing complete as directed. (a) On Single coat plaster						
	iii) Second Floor	Sqm	428.67				
	iv) Third Floor	Sqm	465.23				
	v) Fourth Floor	Sqm	282.24				
	vi) Terrace	Sqm	194.82				
3.26	Providing polished ceramic wall tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8mm on walls and skirting over cement mortar bed 10 mm thick in prop. 1:3 (1 cement : 3 coarse sand) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey / Sika / Pidilite / Rouf) or white cement slurry mixed with approved pigment to match shade of tiles complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).						
3.26.1	Executive range- 1 (Sizes 200 mm x 300mm and above) (a) Regular Range						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	i) Ground Floor	Sqm	2882.72				
	ii) First Floor	sqm	164.65				
	iii) Second Floor	Sqm	217.16				
	iv) Third Floor	Sqm	217.16				
	v) Fourth Floor	Sqm	251.74				
3.9	Cement plaster skirting with cement mortar in prop. 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement including rounding of junctions with floor (a) 15 mm thick						
	ii) First Floor	Sqm	61.26				
15.39	Providing two coats of J.K Wall Putty (White Cement based putty for concrete/ mortar walls and ceiling both internal and external) after removing all loosely adhering material from the wall surface with the help of emery stone, putty blade or wire brush and moistening the wall with sufficient quantity of clean water as specified and directed by the department. (Total thickness of two coats is maximum 1.5mm)						
	i) Ground Floor	Sqm	7336.99				
	ii) First Floor	Sqm	2800.26				
	iii) Second Floor	Sqm	3722.92				
	iv) Third Floor	Sqm	4083.32				
	v) Fourth Floor	Sqm	3414.68				
	vi) Terrace	Sqm	480.43				
15.28	Applying one coat of cement primer of approved brand and manufacture on new wall surface after thoroughly brooming the surfaces free from mortar droppings and other foreign matter and including preparing the surface even and sand papered smooth						
	i) Ground Floor	Sqm	7336.99				
	ii) First Floor	Sqm	2800.26				
	iii) Second Floor	Sqm	1428.76				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	iv) Third Floor	Sqm	1163.24				
	v) Fourth Floor	Sqm	1056.68				
	vi) Terrace	Sqm	480.43				
15.29	Finishing wall with water proofing cement paint of approved brand and manufacture and of required shade on new wall surface (two coats) to give an even shade after thoroughly brooming the surfaces to remove all dirt and remains of loose powdered materials.						
	i) Ground Floor	Sqm	322.60				
	ii) First Floor	Sqm	258.12				
	iii) Second Floor	Sqm	259.20				
	iv) Third Floor	Sqm	298.25				
	v) Fourth Floor	Sqm	209.99				
	vi) Terrace	Sqm	194.82				
15.46	Wall painting (two coats) with Plastic emulsion paint of approved brand and manufacture (Asian paint / Berger paint / ICI paint / J & N paint / Nerolac) on new surface to give an even shade after thoroughly brushing the surfaces free from mortar droppings and other foreign matter and sand papered smooth						
	i) Ground Floor	Sqm	7014.39				
	ii) First Floor	Sqm	2542.14				
	iii) Second Floor	Sqm	1169.55				
	iv) Third Floor	Sqm	864.98				
	v) Fourth Floor	Sqm	846.69				
	vi) Terrace	Sqm	285.61				
15.50	Extra over item no 15.46 above for painting with Plastic emulsion paint of approved brand and manufacture (Asian paint/ Berger paint/ ICI paint/ J & N paint/ Nerolac) on ceiling and on sloping roof.						
	i) Ground Floor	Sqm	4407.48				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	ii) First Floor	Sqm	2027.24				
	iii) Second Floor	Sqm	829.46				
	iv) Third Floor	Sqm	529.83				
	v) Fourth Floor	Sqm	440.48				
15.62	Applying priming coat over new wood based surfaces including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter , sand papering and knotting.						
	(a) With ready mixed paint, wood primer (pink/ white)						
	i) Ground Floor	Sqm	52.42				
	ii) First Floor	Sqm	41.50				
	iii) Second Floor	Sqm	41.50				
	iv) Third Floor	Sqm	41.50				
	v) Fourth Floor	Sqm	52.42				
	vi) Terrace	Sqm	10.92				
15.63	Painting two coats (excluding priming coat) on new wood and wood based surface with enamel paint of approved brand and manufacture (Asian paint/. Berger paint/ ICI paint/ J & N paint/ Nerolac) to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matter sand papering and stopping						
	(a) Surfaces over 100mm in width or girth						
	(i) General purpose (Asian paint / Berger paint / ICI paint / J & N paint / Nerolac).						
	i) Ground Floor	Sqm	52.42				
	ii) First Floor	Sqm	41.50				
	iii) Second Floor	Sqm	41.50				
	iv) Third Floor	Sqm	41.50				
	v) Fourth Floor	Sqm	52.42				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	vi) Terrace	Sqm	10.92				
15.69	Painting two coats (excluding priming coat) on new steel and other metal surface with enamel paint of approved brand and manufacture(Asian paint/ Berger paint/ ICI paint/ J & N paint/ Nerolac) to give an even shade including cleaning the surface of all dirt, dust and other foreign matter						
	(a) Surfaces over 100mm in width or girth						
	(i) General purpose (Asian paint/ Berger paint/ ICI paint/ J & N paint/ Nerolac).						
	i) Ground Floor	Sqm	3445.99				
	ii) First Floor	Sqm	169.31				
	iii) Second Floor	Sqm	437.57				
	iv) Third Floor	Sqm	616.07				
	v) Fourth Floor	Sqm	305.27				
3.55	Providing, Supplying, fitting, fixing and laying of dressed stone block walling and tile slab (Cherra/local stoneblock) laid on 25mm thick base incement mortar 1:3 and jointed with grey cement slurry including clearing rubbing etc. complete as directed (d) Size 300mm x 150mm x 20mm						
	iii) Second Floor	Sqm	169.46				
	iv) Third Floor	Sqm	166.97				
	v) Fourth Floor	Sqm	72.25				
26.11	Providing and fixing Dura board HD-100 pre-moulded compressible filler board at all heights and depths of minimum density 95kg/cum, non-staining having less than 1% water absorption, compression recovery of 93% (minimum) as per manufactured specification with polysulphide sealant to seal the expansion joint including preparation of surface, Polymer Modified Mortar (PMM) (Proportion 1cement: 3 sand:1 acrylic polymer) nosing, carriage of materials, cutting and placing to the required size complete at all levels as per drawings and direction of Engineer-in-Charge (d) 50mm thick						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	i) Ground Floor	Sqm	14.20				
	ii) First Floor	Sqm	61.90				
	iii) Second Floor	Sqm	29.00				
	iv) Third Floor	Sqm	29.00				
	v) Fourth Floor	Sqm	29.00				
	vi) Terrace	Sqm	24.50				
	Floor finishes:-						
3.25	Providing Ceramic Tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8 mm on floors, skirting, treads and risers of steps over cement mortar bed 15 mm thick in prop. 1:3 (1 cement : 3 coarse sand) including cutting where necessary finished with flush pointing with fix-A Tile Choksey/ Sika/ Pidilite/ Rouf/ White cement slurry mixed with approved pigment to match the shade of tiles, complete at all levels as specified and directed (cement plastering to be measured and paid separately).						
3.25.1	Normal range (sizes 300mmx300mm and above)						
(a)	Regular Range						
	i) Ground Floor	Sqm	64.85				
	ii) First Floor	Sqm	43.38				
	iii) Second Floor	Sqm	66.22				
	iv) Third Floor	Sqm	66.22				
	v) Fourth Floor	Sqm	66.22				
3.35	18 mm thick marble stone slab in flooring including treads and risers of steps, skirting, laid over 20 mm thick base of cement plaster 1:6 (1 cement : 6 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with marble slabs of specified quality and shade at all levels. (a) Dungri Marble						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	toilet counter						
	i) Ground Floor	Sqm	20.67				
	ii) First Floor	Sqm	4.32				
	iii) Second Floor	Sqm	8.55				
	iv) Third Floor	Sqm	8.55				
	v) Fourth Floor	Sqm	8.55				
3.36	18 mm thick marble stone tiles in flooring including risers and treads of steps, skirting, dado, walls, pillars laid with 10 mm thick base of cement plaster in prop.1:3 (1 cement : 3 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with marble tiles of specified quality and shade at all levels (a) Dungri Marble						
	i) Ground Floor	Sqm	2369.70				
	ii) First Floor	Sqm	77.76				
	iii) Second Floor	Sqm	449.29				
	iv) Third Floor	Sqm	437.71				
	v) Fourth Floor	Sqm	370.12				
	vi) Terrace	Sqm	91.76				
3.2	25 mm thick cement concrete topping 1:2:4 (1 cement: 2 coarse sand: 4 coarse aggregate of 12 mm nominal size) finished with a floating coat of neat cement finish (base concrete to be measured and paid separately) to be laid in panels including curing complete as directed.						
	i) Ground Floor	Sqm	1426.20				
	ii) First Floor	Sqm	3160.18				
	iii) Second Floor	Sqm	910.96				
	iv) Third Floor	Sqm	1052.78				
	v) Fourth Floor	Sqm	1130.42				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	vi) Terrace	Sqm	1381.63				
22.1	Supplying, mixing, laying and applying the following waterproofing systems over Raft slabs, Roof slabs, Terraces etc. including curing complete as specified and directed by the Department at all levels (a) Using Master Crete M-81 of Choksey Chemicals /Dr. Sealkit Sealcrete (Asian Chemicals)						
	v) Fourth Floor	Sqm	297.68				
	vi) Terrace	Sqm	1381.63				
3.42	Providing polished granite slab of approved quality, size, shape and thickness not less than 18 mm on floors, skirting, treads and risers of steps over cement mortar bed 15 mm thick in prop. 1:3 (1 cement : 3 coarse sand) including cutting where necessary finished with flush pointing with Fix-A-Tile Choksey/Sika/Pidilite/Rouf) /white cement slurry mixed with approved pigment to match the shade of granite slab, complete at all levels as specified and directed. Cement plastering to be measured and paid separately). (Coloured pigment should be in conformity with colour of slab and as approved and directed by the Department). (a) Normal Quality						
	i) Ground Floor	Sqm	215.80				
4.2	Filling sunken floor with broken brick bats/ Stone aggregates and sand including compacting and supplying of materials complete as specified and directed for all levels. (b) Stone aggregates						
	ii) First Floor	Cum	9.35				
	iii) Second Floor	Cum	13.78				
	iv) Third Floor	Cum	13.78				
	v) Fourth Floor	Cum	13.78				
4.2.1	Extra cost for lifting of brickbats/Stone soling and sand for filling of sunk floor for each subsequent floors above the ground floor as directed and specified						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	ii) First Floor	Cum	9.35				
	iii) Second Floor	Cum	13.78				
	iv) Third Floor	Cum	13.78				
	v) Fourth Floor	Cum	13.78				
2.2	Plain cement concrete floor base in prop 1:3:6 laid in alternate bays as specified with coarse aggregate of size 13mm to 32mm including dewatering if necessary, and curing etc. complete (c) 100 mm thick in prop 1:3:6						
	ii) First Floor	Sqm	40.66				
	iii) Second Floor	Sqm	59.92				
	iv) Third Floor	Sqm	59.92				
	v) Fourth Floor	Sqm	59.92				
	Staircase railings:-						
17.1	Structural steel work in single sections including cutting, hoisting, fixing in position and applying a priming coat of red lead paint (up to 4.6m height) from plinth level including drilling holes, supplying, fitting and fixing with bolts and nuts or welding, if necessary as directed (c) In M.S. angles, channels, Tees etc						
	i) Ground Floor	Qntl	3.66				
	ii) First Floor	Qntl	3.66				
	iii) Second Floor	Qntl	1.83				
	iv) Third Floor	Qntl	1.83				
	v) Fourth Floor	Qntl	1.83				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
8.1	Providing dressed wood work in post, walls, battens, post plate bressumers etc. including supplying and fixing with spikes, nails, bolt and nuts of 12mm dia(M.S) and required length etc. complete with kiricide oiling two coats to faces in contact with C.C or masonry (M.S flats, angle cleats and bolt and nuts required for flats, angle cleats wherever use shall be measured and paid separately) (b) With 1st Class Local timber (Pooma/ Hollock/ Oak/ Gamari /Diengrai and the like)						
	i) Ground Floor	Cum	0.086				
	ii) First Floor	Cum	0.086				
	iii) Second Floor	Cum	0.044				
	iv) Third Floor	Cum	0.044				
	v) Fourth Floor	Cum	0.044				
	Glass Railings:-						
9.32	Providing, fitting and fixing anodised aluminium framed glazed doors with anodised aluminium frame made of 100mm x 45mm x 2.5mm section with door style of size 88mm x 45mm x 2.5mm, top rails 50mm x 45mm x 2mm and bottom rails 100mm x 45mm x 2.5mm fitted with glazing clip, special type rubber gasket complete etc. complete as specified and directed by the department at all levels (a) With 12 mm thick toughened glass						
	iii) Second Floor	sqm	76.44				
	iv) Third Floor	Sqm	28.91				
	v) Fourth Floor	Sqm	98.80				
	Roofing:-						
7.33	Providing plain Polycarbonate transparent sheet roofing at all levels including supplying, fitting and fixing necessary self drilling, self tapping screws etc. complete as specified and directed. (Roof trusses, purlins etc. to be measured and paid separately.) (c) 3.00 mm thick						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	vi) Terrace	Sqm	382.52				
	Water supply pipes:-						
36.2	Supplying fitting and fixing approved uPVC Pipes of SUPREME/ PRINCE/ SFMC BRAND or other equivalent ISI approved brand (High pressure pipe Sch-40), of following sizes, with all necessary 'R' brand or similar approved P.V.C. Fittings such as bend, tee, elbow, reducer, nipple, plug, long screw fitting, clamps etc. and fixing the pipe with clamps at 1.00m spacing/ cutting chases and making good the damages, testing of joints complete as directed (a) Exposed or in trenches						
	For all floors: inlet pipes from ground water tank						
	(i) 50 mm dia (inlet)	Rm	225.45				
	i) Ground Floor						
	(i) 50 mm dia (outlet)	Rm	145.50				
	(b) Concealed by chiselling or breaking brick wall/ C.C. wall/ R.C.C. wall and making good to the damaged structure						
	(v) 20mm dia	Rm	32.50				
	(vi) 15mm dia	Rm	15.60				
	ii) First Floor						
	(i) 50 mm dia (outlet)	Rm	21.66				
	(v) 20mm dia	Rm	14.35				
	(vi) 15mm dia	Rm	4.60				
	iii) Second Floor						
	(i) 50 mm dia (outlet)	Rm	46.50				
	(v) 20mm dia	Rm	23.85				
	(vi) 15mm dia	Rm	7.60				
	iv) Third Floor						
	(i) 50 mm dia (outlet)	Rm	47.50				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(v) 20mm dia	Rm	23.85				
	(vi) 15mm dia	Rm	7.60				
	v) Fourth Floor						
	(i) 50 mm dia (outlet)	Rm	41.80				
	(v) 20mm dia	Rm	23.85				
	(vi) 15mm dia	Rm	7.60				
36.8	Supplying fitting and fixing brass stopcock (heavy) of approved brand of size as mentioned below and directed and specified (G.I. & C.P. pipes will be measured and paid separately) (d) 32mm dia (wt. 1250gms)	Each	10.00				
36.9	Supplying fitting and fixing chrome plated (C.P.) stop-cock of approved brand and size as mentioned below as directed and specified.(G.I. & C.P pipes will be measured and paid separately) (b) 15mm dia (Angular)	Each	90.00				
36.11	Supplying, fitting and fixing C.P. pillar cock 15mm dia as directed (a) Normal type	Each	52.00				
36.13	Supplying fitting and fixing Chrome Plated (C.P.) flush cock of approved brand as directed and specified.(G.I. & C.P pipes will be measured and paid separately) (a) Normal type	Each	35.00				
36.15	Supplying fitting and fixing Health faucet with 1m long flexible tube with wall flange as directed and specified (a) Normal type	Each	40.00				
38.2	Supplying and placing plastic cylindrical vertical closed top (PCVC) tank of Sintex / Polycon / Patton make over the staging with manhole cover with locking and cleaning arrangement including providing pads of size as required for inlet and outlet pipes (a) 2000 litre capacity	Each	10.00				
	Soil, Waste, Rain & Shop's drain pipes:-						
34.36	Supplying, fitting and fixing PVC pipes/ bends/ Junctions etc. of Supreme/Prince or other ISI approved make, including joining ,fitting and fixing with clamps etc. as necessary complete at all levels including below G.L as directed and specified						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
34.36.1	PVC pipes of 6 Kg/cm2 as directed and specified						
	(a) 160mm dia	Rm	1071.11				
	(b) 110mm dia						
	i) Ground Floor	Rm	18.20				
	ii) First Floor	Rm	11.15				
	iii) Second Floor	Rm	8.80				
	iv) Third Floor	Rm	8.80				
	v) Fourth Floor	Rm	8.80				
	(d) 75mm dia						
	i) Ground Floor	Rm	54.10				
	ii) First Floor	Rm	27.90				
	iii) Second Floor	Rm	41.20				
	iv) Third Floor	Rm	41.20				
	v) Fourth Floor	Rm	49.20				
34.36.2	87.5 degree PVC bend as directed and specified						
	(a) 160mm dia	Each	167.00				
	(b) 110mm dia	Each	24.00				
	(d) 75mm dia	Each	110.00				
34.36.3	87.5 degree PVC bend with door as directed and specified	Each					
	(a) In exposed surfaces or in trenches						
	(ii) 110mm dia		12.00				
	(iv) 75mm dia	Each	12.00				
34.36.5	PVC Plain single tee as directed and specified						
	(a) In exposed surfaces or in trenches						
	(i) 160mm dia	Each	128.00				
	(ii) 110mm dia	Each	24.00				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(iv) 75mm dia	Each	87.00				
34.36.6	PVC single tee with door as directed and specified (a) In exposed surfaces or in trenches						
	(ii) 110mm dia	Each	9.00				
	(iv) 75mm dia	Each	11.00				
34.36.11	PVC plain cross 'T' as directed & specified (a) In exposed surfaces or in trenches						
	(i) 110mm x 110mm	Each	7.00				
	(ii) 75mm x 75mm	Each	11.00				
34.36.12	PVC cross 'T' with door as directed and specified (a) In exposed surfaces or in trenches						
	(i) 110mm x 110mm	Each	9.00				
	(ii) 75mm x 75mm	Each	9.00				
34.36.13	PVC coupler as directed and specified (a) In exposed surfaces or in trenches						
	(i) 110mm dia	Each	38.00				
	(ii) 75mm dia	Each	38.00				
34.36.15	PVC reducing Tee as directed & specified (a) In exposed surfaces or in trenches						
	(i) 160mm x 110mm	Each	9.00				
	(iii) 110mm x 75mm	Each	9.00				
34.36.17	PVC socket plug in exposed surface or trenches as necessary complete at all levels including below G.L. as directed and specified						
	(a) 110mm dia	Each	29.00				
	(b) 75mm dia	Each	29.00				
34.36.38	Providing fitting and fixing PVC cowl of ISI make complete as directed and specified (d) 75mm dia. PVC cowl of ISI make	Each	5.00				
34.41	Providing fitting & fixing C.P. Grating to the floors complete as directed and specified.						
	(a) 160mm dia	Each	157.00				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
	(c) 75mm dia	Each	58.00				
34.51	Construction of inspection pit inside measurement 450mm x450mm x 450mm flush with 100mm diameter HCI/PVC pipes and cement concrete base in proportion 1:3:6 over flat brick soling, 12cm brick wall in cement mortar in proportion 1:4 finished with 13mm cement plaster in proportion 1:2 in side wall and floor. 450mm x450mm air tight C.I. inspection pit cover and frame complete including supplying of materials, necessary excavation of pit as directed	Each	12.00				
34.49	Providing fitting and fixing (600x600)mm 90mm thick C.I. Man hole cover and frame of 25 Kg. weight complete as directed and specified	Each	12.00				
34.1.2	Providing fitting and fixing vitreous water closet squatting pan (Indian type W.C Orissa pattern) with all fittings and fixtures complete including cutting and making good to the walls and floors wherever required. (Flushing Cistern to be paid separately) Vitreous water closet squatting pan Indian type W.C Orissa pattern of size 580 x 450mm (a) White	Each	20.00				
34.2	Providing fitting and fixing vitreous china pedestal type water closet (European type W.C pan 400mm high) with seat and lead, CP brass hinges and rubber buffers, CI/MS brackets, 40 mm dia flush band with fittings including painting of fittings and brackets, required. (Flushing Cistern to be paid separately) (a) White (ii) Medium	Each	20.00				
34.5	Supplying, fitting and fixing PVC flushing cistern with all internal fittings with CI brackets including fitting and fixing standard size CP flush pipe, union clamps etc. compete as directed and specified (pipes will be measured separately) (a) White (ii) Medium	Each	40.00				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
34.9	Providing fitting and fixing vitreous china flat back type lipped front urinal basin with standard flush pipe and CP brass spreader and brass unions, etc. complete including painting of fittings and brackets, cutting and making good the walls & floors wherever required. (a) White (ii) Medium	Each	35.00				
34.11	Supplying fitting and fixing vitreous china division plate including fitting and fixing compete as directed and specified. (a) White (ii) Medium	Each	29.00				
34.13	Providing vitreous China wash basin with CI/MS brackets, C.P brass chain with plug, PVC waste pipe including painting of fittings and brackets, cutting and making good the walls wherever required. (Pillar cock, stop cocks, waste coupling are to be paid separately)						
34.13.6	Parryware Make (Under Counter Basin) (a) White (i) Normal	Each	52.00				
34.32	Providing, fitting and fixing Chrome Plated bottle trap complete as directed and specified	Each	83.00				
Market rate	Providing fitting and fixing 6mm Mirror over 19mm waterproof block board of size 335 x 60cm complete as directed and specified	Each	12.00				
34.22	Providing, fitting and fixing CP soap tray / soap dish complete as directed and specified (a) Normal	Each	40.00				
34.30	Providing, fitting and fixing Chrome Plated TOILET PAPER holder complete as directed and specified (b) Medium	Each	40.00				
	Septic tanks:-						
2.5	Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of form work and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid separately)						

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
2.5.1	In Foundation and sub - structure including footing, columns with base, tie and plinth beam, pile cap, raft slab, base slab, RCC walls, retaining walls, walls of septic tank, inspection pit and the like and other works not less than 100mm thick up to Plinth Level (b) M20 or Prop. 1:11/2:3	Cum	16.48				
2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for RCC work / R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, support, chairs, spacers etc. complete (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurement for the same is required)						
	(b) Other ISI approved TMT reinforcement bar (of SAI/ BISCON/ XTECH/ THERMAX make of equivalent)	Qntl	13.34				
2.10	Providing form work of ordinary timber planking of thickness not less than 25mm and removal of the same for concrete members so as to give a rough finish including entering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0M as specified for the following items:						
	(g) Vertical surface such as walls (any thickness), parapet walls, partitions, walls of septic tank, inspection pit etc. including attached pilasters, buttresses, plinth and string courses and the like	Sqm	143.14				
5.2	15 mm thick Cement plaster in single coat on rough side of single or half brick wall for interior plastering up to 1st floor level including arises, internal rounded angles, not exceeding 80mm girth and finished even and smooth including curing complete as directed b) In cement mortar 1:4	Sqm	88.74				
3.2	25 mm thick cement concrete topping 1:2:4 (1 cement: 2 coarse sand: 4 coarse aggregate of 12 mm nominal size) finished with a floating coat of neat cement finish (base concrete to be measured and paid separately) to be laid in panels including curing complete as directed.	Sqm	88.74				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
34.51	Construction of inspection pit inside measurement 450mm x450mm x 450mm flush with 100mm diameter HCI/PVC pipes and cement concrete base in proportion 1:3:6 over flat brick soling, 12cm brick wall in cement mortar in proportion 1:4 finished with 13mm cement plaster in proportion 1:2 in side wall and floor. 450mm x450mm air tight C.I. inspection pit cover and frame complete including supplying of materials, necessary excavation of pit as directed	Each	4.00				
34.49	Providing fitting and fixing (600x600)mm 90mm thick C.I. Man hole cover and frame of 25 Kg. weight complete as directed and specified	Each	10.00				
34.50.	Construction of filter bed in soak pit including earth work in excavation of soil and then filling up of the trench with brick bats/Charcoal covered with earth over a layer of A.C. plain sheet above brick bat filling complete as directed. (sizes of soak pit may vary depending on the sizes and capacities of the septic tank as well as the number of users as mentioned in the table	Each	2.00				
Water tank:-							
2.5	Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of form work and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid separately)						
2.5.1	In Foundation and sub - structure including footing, columns with base, tie and plinth beam, pile cap, raft slab, base slab, RCC walls, retaining walls, walls of septic tank, inspection pit and the like and other works not less than 100mm thick up to Plinth Level (b) M20 or Prop. 1:11/2:3	Cum	7.96				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
2.8	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for RCC work / R.B. walling including straightening, cleaning, cutting and bending to proper shapes and length as per details, supplying and binding with 20G annealed black wire and placing in position with proper blocks, support, chairs, spacers etc. complete (Rates inclusive of all wastage, lappage, hooks, chairs, anchorage etc. and no measurement for the same is required)						
	(b) Other ISI approved TMT reinforcement bar (of SAI/ BISCON/ XTECH/ THERMAX make of equivalent)	Qntl	6.44				
2.10	Providing form work of ordinary timber planking of thickness not less than 25mm and removal of the same for concrete members so as to give a rough finish including entering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0M as specified for the following items:						
	(g) Vertical surface such as walls (any thickness), parapet walls, partitions, walls of septic tank, inspection pit etc. including attached pilasters, buttresses, plinth and string courses and the like	Sqm	67.83				
5.2	15 mm thick Cement plaster in single coat on rough side of single or half brick wall for interior plastering up to 1st floor level including arises, internal rounded angles, not exceeding 80mm girth and finished even and smooth including curing complete as directed b) In cement mortar 1:4	Sqm	40.63				
3.2	25 mm thick cement concrete topping 1:2:4 (1 cement: 2 coarse sand: 4 coarse aggregate of 12 mm nominal size) finished with a floating coat of neat cement finish (base concrete to be measured and paid separately) to be laid in panels including curing complete as directed.	Sqm	40.63				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
3.26.1	Providing polished ceramic wall tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8mm on walls and skirting over cement mortar bed 10 mm thick in prop. 1:3 (1 cement : 3 coarse sand) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey / Sika / Pidilite / Rouf) or white cement slurry mixed with approved pigment to match shade of tiles complete at all levels as specified and directed. (Cement plastering to be measured and paid separately). Executive range- 1 (Sizes 200 mm x 300mm and above) (a) Regular Range	Sqm	40.63				
34.49	Providing fitting and fixing (600x600)mm 90mm thick C.I. Man hole cover and frame of 25 Kg. weight complete as directed and specified	Each	2.00				
	Open surface drain:-						
19.4	Providing CC/ Brick/ Stone Open Surface Drain with 15mm thick cement plastering in prop. 1:3 finished with a floating coat of cement slurry as directed with necessary shuttering for sides and earth work in excavation of foundation trenches and refilling the sides after completion of work etc. as specified						
	(a) With cement concrete (1:3:6) having 100mm thick sides and 100mm thick bed laid over brick flat soling (ii) 300mm wide and average 250mm deep	Rm	242.90				
	PCC for internal road:-						
4.1	Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete						
	(c) Stone soling of thickness 100mm	Sqm	192.24				
	(d) Stone soling of thickness 150mm	Sqm	501.71				

Item as per SOR 15-16 MPWD	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
2.1	Plain cement concrete works with coarse aggregate of sizes 13mm to 32mm in foundation bed for footing steps, walls, brick works etc. as directed and specified including dewatering if necessary, and curing complete (shuttering where necessary shall be measured and paid separately) (a) In prop. 1:3: 6 (1 cement:3 coarse sand : 6 coarse agg. by volume (using mixture machine)	Cum	50.17				
2.4	Plain cement concrete apron in prop 1:4:8 with 20mm down graded coarse aggregate Over soling including neat cement finish using cement slurry 2.75Kg. of cement per sq.m. of floor (soling to be measured separately) (b) 50 mm thick in proportion 1:4:8	Sqm	192.24				
	Door's fittings:-						
12.2	Supplying, fitting, fixing anodised aluminium fittings of approved make, reasonably smooth, free from sharp edges and corners, flaws and other defects and with counter sunk holes for screws including necessary aluminium screws etc. complete. (anodised to bright natural matt & satin finished)						
	(a) Sliding Door Bolt (ii) 250mm x 16mm	Each	16.00				
	(b) Tower Bolt (iv) 150mm x 10mm	Each	82.00				
	(c) Door Handle (iii) 150mm	Each	112.00				
	(l) Hydraulic door closure	Each	12.00				
TOTAL =							
GST COMPONENT =							
GRAND TOTAL INCLUDING GST =							

ELCTRICAL BILL OF QUANTITY FOR THE PROPOSED REDEVELOPMENT OF LAITUMKHAH MUNICIPAL MARKET , AT SHILLONG - MEGHALAYA

SI.No.	Item as per SOR	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
1	1	Wiring in looping system with copper PVC cable 250/440 volt grade of size 1.5 sqmm of approved quality using PVC casing capping including 5 amperes switch Indian best quality ceiling rose etc. capable to a highest						
		(a) Long point wiring upto 10mts						
		(i) With copper conductor	Each	752				
2	2	Wiring as in item No.1 complete to a light plug point when fixed elsewhere .						
		(a)Long point wiring upto 10mts						
		(i) With copper conductor	Each	18				
3	4	Wiring to a power plug as in item No.1 above with 2×4mm ² including supplying of 15 Amp 5 in 1/SS Combine with continous earth wire to a power point complete.						
		(b)Medium Point upto 6mts						
		(i) With copper conductor	Each	18				
4	5	Wiring as in item No.1 above to a Ceiling /Exhaust Fan Point						
		(b)Medium Point upto 6mts						
		(i) With copper conductor	Each	55				
5	9	Drawing of Main and Sub-main line with DGSD approved VIR or PVC 250/440 Volt grade in PVC casing capping complete with all accessories						
		(a)With 2×2.5mm ² Copper Conductor	rm	5600				
		(i) With copper conductor						

SI.No.	Item as per SOR	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
		(b)With 2×4mm ² Copper Conductor	rm	2500				
		(i) With copper conductor						
		(c)With 2×6mm ² Copper Conductor	rm	12000				
6	51	Supplying & fixing of Load Kontaket Miniature Circuit Breakers(MCBs)						
		(b) 6-32 Amp SP MCB Capacity	each	450				
7	53	Supplying fitting and fixing of Load Kontaket Miniature Circuit Breakers Double Pole (Isolator)						
		(a) 32-125 Amp DP Isolator	each	210				
8	56	Supplying fitting and fixing of SPN/ TPN MCB Metal Enclosure Distribution Board						
		(a) 4 Way (8+12) Modules	each	210				
9	67	Supplying fitting and fixing 15Amp FT Switches socket combined mounted on PVC board or concealed to the wall complete with all necessary accessories						
		(b) 16Amp Modular Concealed	each	1000				
10	86	Supplying fitting and fixing of Copper/Alluminium lightning Arrester with 5nos. Finger at the top & copper base plate at the bottom complete.						
		(a) With 3ft high copper rod	each	4				
11	104	Supplying and laying of 15mm ×5mm GI/Copper Strip at 0.50mts, below ground.						
		(b) With 20mm×5mm copper strip	pmtr	450				
		(c) With 20mm×5mm GI Strip	pmtr	500				

SI.No.	Item as per SOR	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
12	81	Supplying fitting and fixing of exhaust fan double bearing self lubricating type single phase 50Hz 250V AC operated complete with supporting frame, fan blades, nuts and bolts, fan regulator, capacitor, adjustable type lever and other petty accessories as required (Baiai)						
		(a)Light duty Exhaust fan	each	55				
13	108	Supplying fitting & fixing earthing with copper earth plate 600×600mm×6mm thick including accessories & providing masonry enclosure with cover plate having locking arrangement & watering pipe etc with charcoal , salts etc complete as required	P/Set	12				
14	100	Supplying, erection Testing & commissioning of floor cubical type Dust & vermin proof electrical LT control panel board of the following specification made with 16mm thick MS sheet built on MS angle iron frame work dudu painted with 2 coats of powder grey paints .						
		(b) 320 AMP TPN SDF with fuse	Each	12				
15	102	Providing laying connection testing and commissioning of the following sizes of cable of 1100 V grade aluminium conductor armoured undreground cable & over all PVC sheated cable as per ISI code in trenches sand cussioning with laying etc and refilling the same in layers or by supporting them in walls and all other accessories as required						
		(e) with 31/2 core 95 sqmm	rm	75				
		(f) with 31/2 core 95 sqmm	rm	400				
		(k) with 31/2 core 95 sqmm	rm	150				
		As per Market Rate						
16		Supplying and fitting Batten holder with 11W LED surface light as per Department direction and approved (Bajaj/Wipro/Havels/Phillips)	Each	70				

SI.No.	Item as per SOR	DESCRIPTION OF ITEMS	UNIT	QUANTITY	Unit Rate (in INR)	Unit Rate (in words)	AMOUNT (in INR)	AMOUNT (in words)
17		Supplying fitting and fixing LED batten as per Department direction and approved (Bajaj/Wipro/Havels/Phillips)						
		(b) 22watts	P/Set	1000				
18		Supplying fixing and commissioning of LED 45 W street light as per Department direction and approved (Bajaj/Wipro/Havels/Phillips)						
		(b) 45 Watts	each	125				
TOTAL =								
GST COMPONENT								
=								
GRAND TOTAL INCLUDING GST =								

Section-5

Work Specifications and Drawings

Section 5 - Work Specifications and Drawings

Table of Content

Specification and standards.....	Part 1
Drawings.....	Part 2

Part 1. Work Specifications

Specifications of Urban Affairs/ PWD, Govt. of Meghalaya in four parts namely

1. Water Supply, Sewerage and Tube Well Works
2. Building Water Supply, Drainage and Sanitary Installation
3. Roads & Bridge
4. Electrical Works shall form part of the technical specifications of this work & is available at Website (<http://www.smb.gov.in> or <http://meghalaya.gov.in>)

LIST OF IS CODES

Sl.No	BIS/BS/ISO CODE No. (YEAR)	Title
1	IS 5 (2007)	Colour for Ready Mixed Paints and Enamels
2	IS 269 (1989)	Specification for Ordinary Portland Cement (33 Grade)
3	IS 383 (1970)	Specification for Coarse and Fine Aggregates From Natural Sources For Concrete
4	IS 432-1 (1982)	Mild Steel and Medium Tensile steel bars and hard steel wire for concrete Reinforcement part-01 Mild Steel And Medium Tensile Steel Bars
5	IS 432-2 (1982)	Mild Steel and Medium Tensile Steel Bars and Hard Drawn Steel Wire for Concrete Reinforcement part-02 Hard Drawn Steel Wire
6	IS 456 (2000)	Plain and Reinforced Concrete
7	IS 516 (1959)	Method Of Tests For Strength OF Concrete
	IS 1200 Pt-1 (1992)	Method of measurement of earth work
	IS1200 Pt-27(1992)	Method of measurement of earth work (by Mechanical Appliances
8	IS 1489-1 (1991)	specification for Portland -Pozzolona Cement
9	IS 1489-2 (1991)	specification for Portland Pozzolona Cement, Part 2 (Calcined Clay Based)
10	IS 1786 (2008)	High strength deformed steel bars and wires for concrete
11	IS 2386-1 (1963)	Methods of test for aggregates for concrete
12	IS 2386-2 (1963)	Methods of test for aggregates for concrete
13	IS 2386-3 (1963)	Methods of test for aggregates for concrete

14	IS 2386-4 (1963)	Methods of test for aggregates for concrete Part 4 (Mechanical properties)
15	IS 2720-1 (1983)	Method Of Tests For Soils, Part 1(Preparation of Dry soil samples for various test)
16	IS 2720-7 (1980)	Method Of Tests For Soils, Part 7 (Determination of Water Content-Dry density relation using light compaction)
17	IS 2720-8 (1983)	Method Of Tests For Soils, Part 8 (Determination of Water Content-Dry density relation using heavy compaction)
18	IS 2720-15 (1965)	Method Of Tests For Soils, Part 15 (Determination of Consolidation Properties)
	IS 4081 (1986)	Safety code for Blasting and related drilling operation
19	IS 4926 (2003)	Code of Practice – Ready Mixed Concrete
20	IS 8112 (1989)	Specification for 43 grade ordinary Portland cement
21	IS 15658 (2006)	Precast Concrete Blocks for Paving
22	IRC SP-63 (2004)	Guidelines For The Use of Interlocking Concrete Block Pavement

The specifications for the various materials to be used for the project shall conform to BIS standards with up to date amendments as mentioned above.

Note: - Any other BIS standard as may be required will also be applicable. Quality Assurance Program of the manufacturer shall have to be followed.

Disclaimer: - Any specification not covered above shall be as per best Engineering practice or as directed by the Engineer-In-Charge. In the event of any disparity between the written specification and BIS provisions the provisions in BIS shall prevail

GENERAL NOTES:-

1. Rate for completed items includes the cost of followings:-

1.1 All material, Labour, workmanship, templates, tools, hire and running charges of plant and machinery required to complete the work, unless specified otherwise.

1.2 All lead and lift of materials required for execution of work are inclusive of charges like duties, Tax, royalty etc.

1.3 Provision for erection, removal of centring form works, scaffolding, benching ladders and all other applications etc, required for execution of the work, unless otherwise specified.

1.4 Provision for necessary covering to protect the work/ structure from inclement weather etc. and damage arising from falling of material or rains, fire etc. shall be the responsibility of the contractor.

1.5 Curing wherever required including arrangement of water and also including its lead or lift whatsoever

2. The mode of measurement shall be as per provision contained in the relevant chapters and in specifications/ relevant IS codes.

3. All materials shall conform to the relevant and prevailing Indian Standard Specifications. All material before use in works shall require approval of the Engineer in charge, who will get them sampled, tested as per relevant IS code at contractor's cost and samples so approved shall be taken and kept in the office of the concerned Engineer- in change till finalization of the work.

4. Material obtained from excavation shall be the property of the SMB.

5. Hard Rock available from excavation shall be used for conversion into coarse aggregates or other construction material and shall be issued to the contractor on the rate as decided by competent authority.

6. Cement:

6.1 Where contract provided for cement to be supplied by the contractor himself, only I.S.I. Marked Cement as per IS for 33 grade cement, IS 269 for 43 grade cement, IS 8112 for 53 grade cement, IS 12269 for Portland pozzolana cement, IS 1489 part – I & II specification shall be allowed to be used in the work subject to the prescribed tests.

6.2 Make of cement shall be got approved by the Engineer- in change. The engineer in charge shall get cement tested as per relevant IS codes, at the cost of the contractor, before use in work.

6.3 Pozzolona cement is now being widely produced all over the country this may be used in structures as per provisions of IS code.

6.4 When the strength of concrete required up to M-30 then O.P.C 33 grade conforming to IS 269- 1989 or P.P.C. conforming to IS 1489-1991 may be used.

6.5 When the strength of concrete required is more than M-30, the O.P.C. 43 grade conforming to IS 8112-1989 shall be used.

6.6 For prestressed concrete works where the strength of concrete required is more than M-30. Than O.P.C. 53 grade cement conforming to IS: 12269-1987 shall be used.

6.7 In specific cases required higher grade of strength, use of Ordinary Portland cement (OPC) should be invariably ensured.

6.8 The arrangement for necessary equipment and testing shall have to be made by the contractor himself at site, as decided by the Engineer – in – charge. All expenses shall be borne by the contractor.

6.9 Any lot of cement brought to site by the contractor, would be permitted to be in the work only after the satisfactory results of the tests, under the supervision of the Engineer- in – charge or his authorized representative. The record of the test result shall be maintained in register mentioned in subsequent para.

6.10 A duplicate register as prescribed by the competent authority of technical authority shall be maintained at the site of the work. Extract certified copies of the entries for each month shall be submitted to the Engineer- in- charge by the contractor

6.11 The original register shall also be submitted to the Engineer- in- charge on completion of the work by the contractor.

7. Nominal mix would be adopted be for cement concrete M-7.5, M-15 and M-20. Design mix shall have to be adopted for concrete of higher strengths as per IS 456-2008 Steel:-

7.1 Steel used for reinforcement shall conform as per under:-

a. Mild steel and medium tensile steel bars conform to IS: 432 (part- I)

b. Hot rolled deformed bars shall conform to IS: 1139,

c. Cold twisted bars shall conform to IS: 1786,

d. Rolled steel made from structural steel shall conform to IS: 226

7.2 All reinforcement shall be free from loose mill scales, loose rust and coats of paints, oil mud or other coatings which may destroy or reduce bond.

7.3 Only such steel obtained from main producers of steel i.e. SAIL, IISCO, TISCO or such steel rolling mills as having license from the B.I.S. to manufacture such steel for reinforcements shall be allowed to be used in the work. The maker of the steel shall be approved by Engineer-In-Charge.

7.4 The contractor shall have to produce test certificate in the Performa prescribed approved by B.I.S. from the manufacture for every batch of steel brought to the site of work.

7.5 Before commencement of use of steel from any batch brought to site of the work by the contractor. The Engineer shall arrange to get samples tested for nominal mass tensile strength. Bend test and rebend test from any Laboratory of his choice at the cost of contractor. The selection of test specimens and frequency shall be as per relevant IS specification of the steel used.

8. If any item of work is found not up to the prescribed standard but the Engineer- in – charge is of the opinion that same is structurally adequate and accepted at a reduced rate. Than in such case, that Engineer-in –charge shall submit proposal for the same, supported by an analysis in justification thereof, through proper channel to the higher authorities his approval expeditiously (ordinarily within 15 days). The approved analysis along with orders of competent authority should be appended to the final bill of the contractor.

9. In case of any contradiction in the provision of the specification and his schedule of rates, the decision of Engineer-In-Charge will be of precedence.

10. (A) Rates of items would apply for work order/ piece work system also.

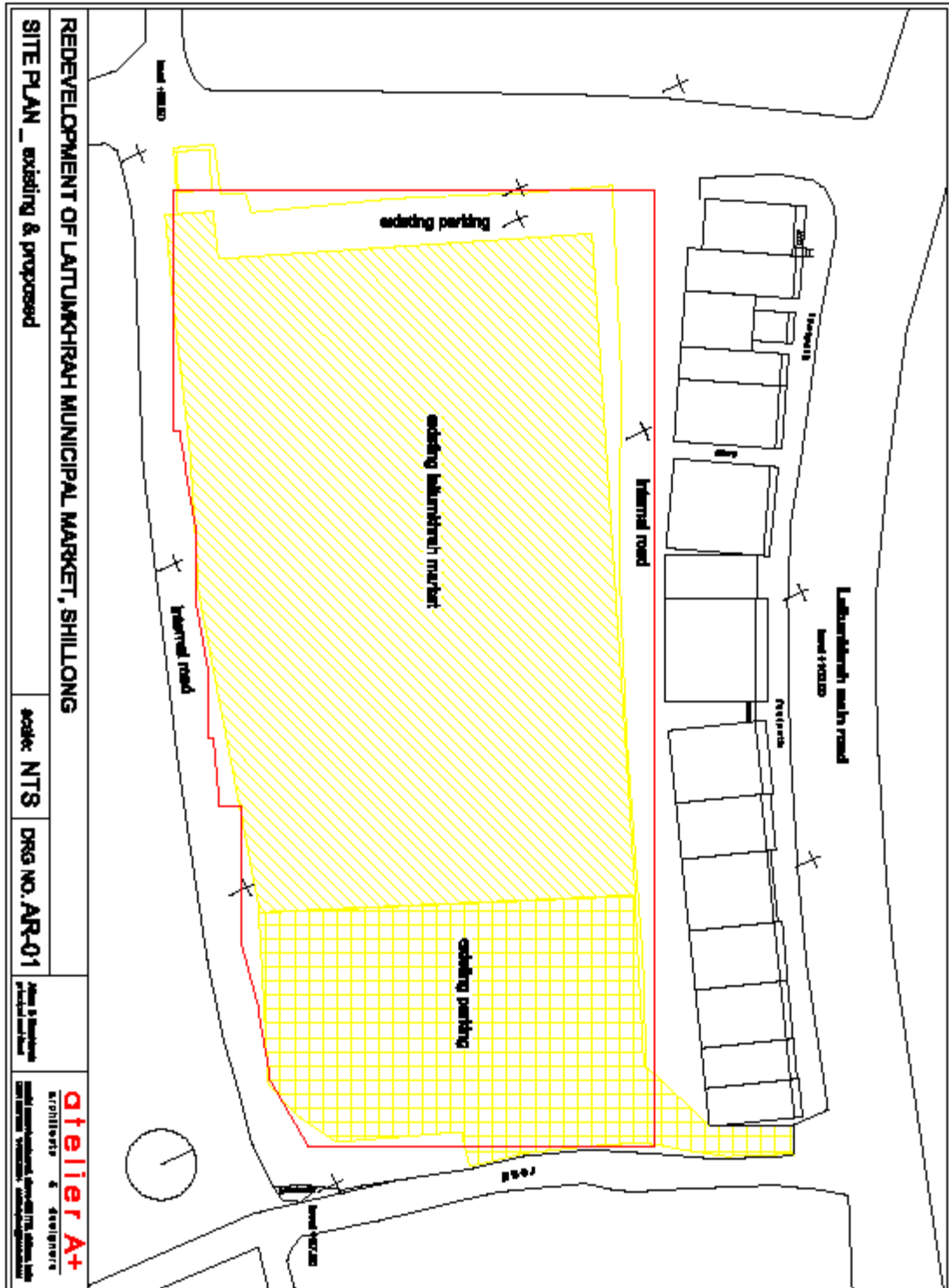
(b) Rates payable for any work to be completed departmentally then rates should be reduced by 10.434% [(contractor profit Item 10% + T&P charge 2%) i.c. $100 \times 12/115 = 10.434\%$]

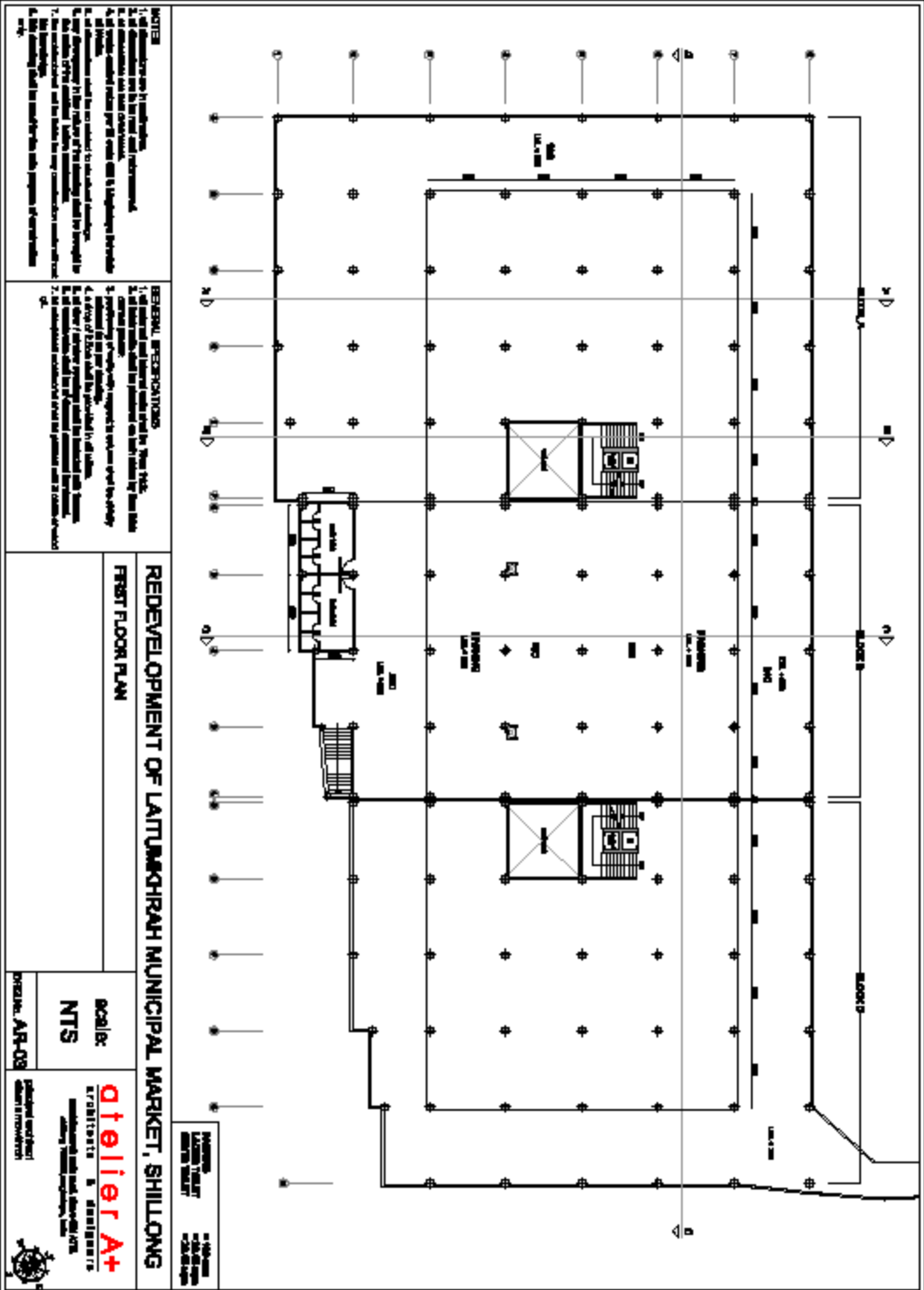
11. Interpretation:- The Chief Engineer shall be the deciding Authority as to the meaning, interpretation and implication of various provisions in schedule of rates. His decision shall be final and binding on all concerned.

12. Safety: - The contractor shall be wholly and solely responsible for making all the safety arrangements pertaining to the work. The contractor shall be fully responsible and liable in all respects for any accident and subsequent legal action initiated by any party including the department.

13. Latest IS codes with up to date amendment shall be applicable.

Part 2. Drawings





NOTE

1. All dimensions are in millimeters.
2. All dimensions are to be read with reference to the face of the wall unless otherwise stated.
3. All dimensions are to be read with reference to the center line of the wall unless otherwise stated.
4. All dimensions are to be read with reference to the center line of the wall unless otherwise stated.
5. All dimensions are to be read with reference to the center line of the wall unless otherwise stated.
6. All dimensions are to be read with reference to the center line of the wall unless otherwise stated.
7. All dimensions are to be read with reference to the center line of the wall unless otherwise stated.
8. All dimensions are to be read with reference to the center line of the wall unless otherwise stated.
9. All dimensions are to be read with reference to the center line of the wall unless otherwise stated.
10. All dimensions are to be read with reference to the center line of the wall unless otherwise stated.

GENERAL SPECIFICATIONS

1. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
2. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
3. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
4. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
5. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

REDEVELOPMENT OF LATUNGGRAH MUNICIPAL MARKET, SHILLONG

FIRST FLOOR PLAN

Scale: NTS

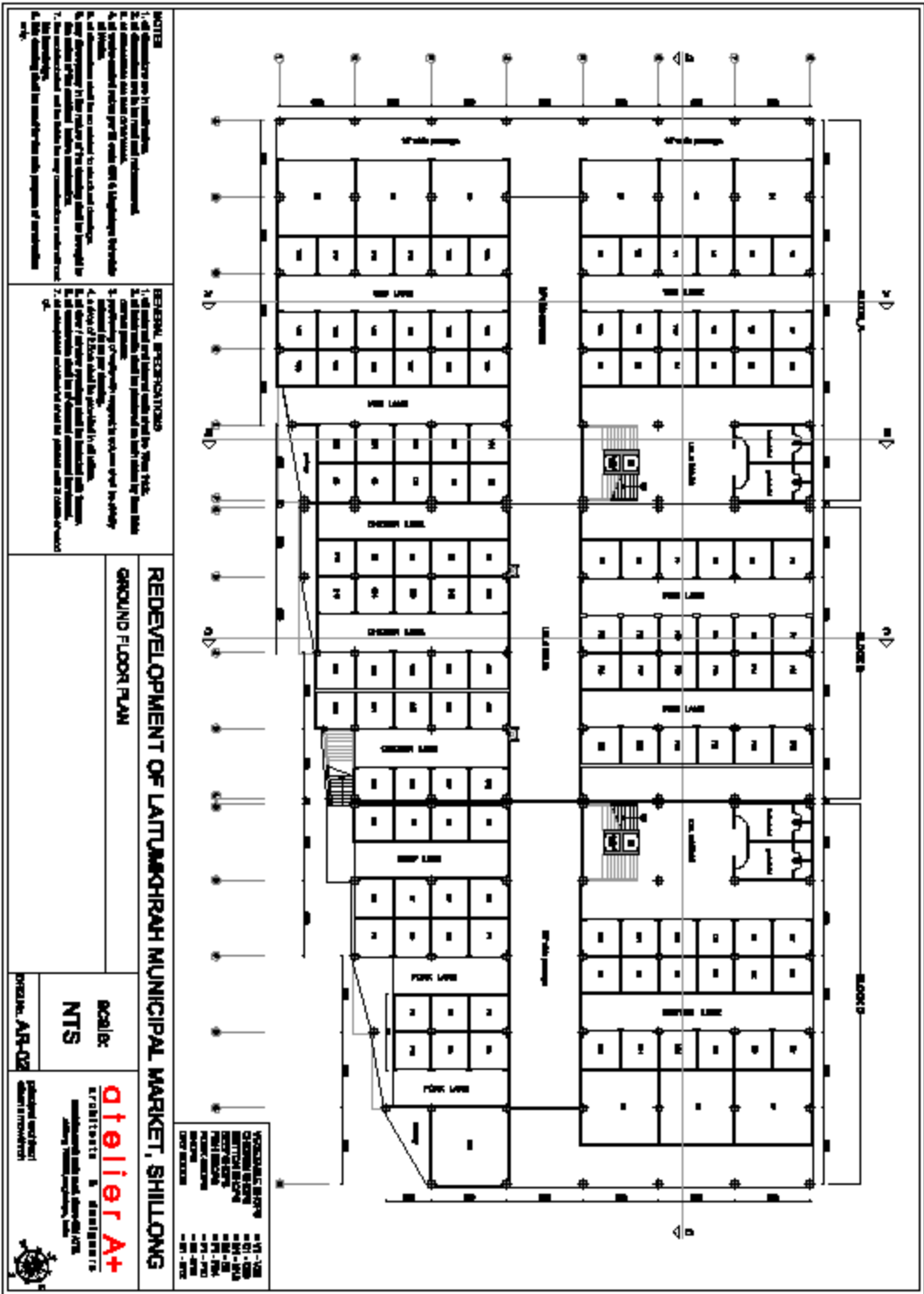
Project: AR-08

Architect: **Atelier A+**

Architects: **ARBITER & ASSOCIATES**

Address: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.





- NOTES**
1. All dimensions are in millimeters, unless otherwise stated.
 2. All dimensions are to face, unless otherwise stated.
 3. All dimensions are to centerline, unless otherwise stated.
 4. All dimensions are to the centerline of the wall, unless otherwise stated.
 5. All dimensions are to the centerline of the column, unless otherwise stated.
 6. All dimensions are to the centerline of the beam, unless otherwise stated.
 7. All dimensions are to the centerline of the slab, unless otherwise stated.
 8. All dimensions are to the centerline of the floor, unless otherwise stated.
 9. All dimensions are to the centerline of the ceiling, unless otherwise stated.
 10. All dimensions are to the centerline of the roof, unless otherwise stated.
 11. All dimensions are to the centerline of the foundation, unless otherwise stated.
 12. All dimensions are to the centerline of the wall, unless otherwise stated.
 13. All dimensions are to the centerline of the column, unless otherwise stated.
 14. All dimensions are to the centerline of the beam, unless otherwise stated.
 15. All dimensions are to the centerline of the slab, unless otherwise stated.
 16. All dimensions are to the centerline of the floor, unless otherwise stated.
 17. All dimensions are to the centerline of the ceiling, unless otherwise stated.
 18. All dimensions are to the centerline of the roof, unless otherwise stated.
 19. All dimensions are to the centerline of the foundation, unless otherwise stated.
 20. All dimensions are to the centerline of the wall, unless otherwise stated.

REDEVELOPMENT OF LATTAKSHRAHA MUNICIPAL MARKET, SHILLONG

GROUND FLOOR PLAN

Scale: NTS

Project: AR-02

Architect: **Atelier A+**

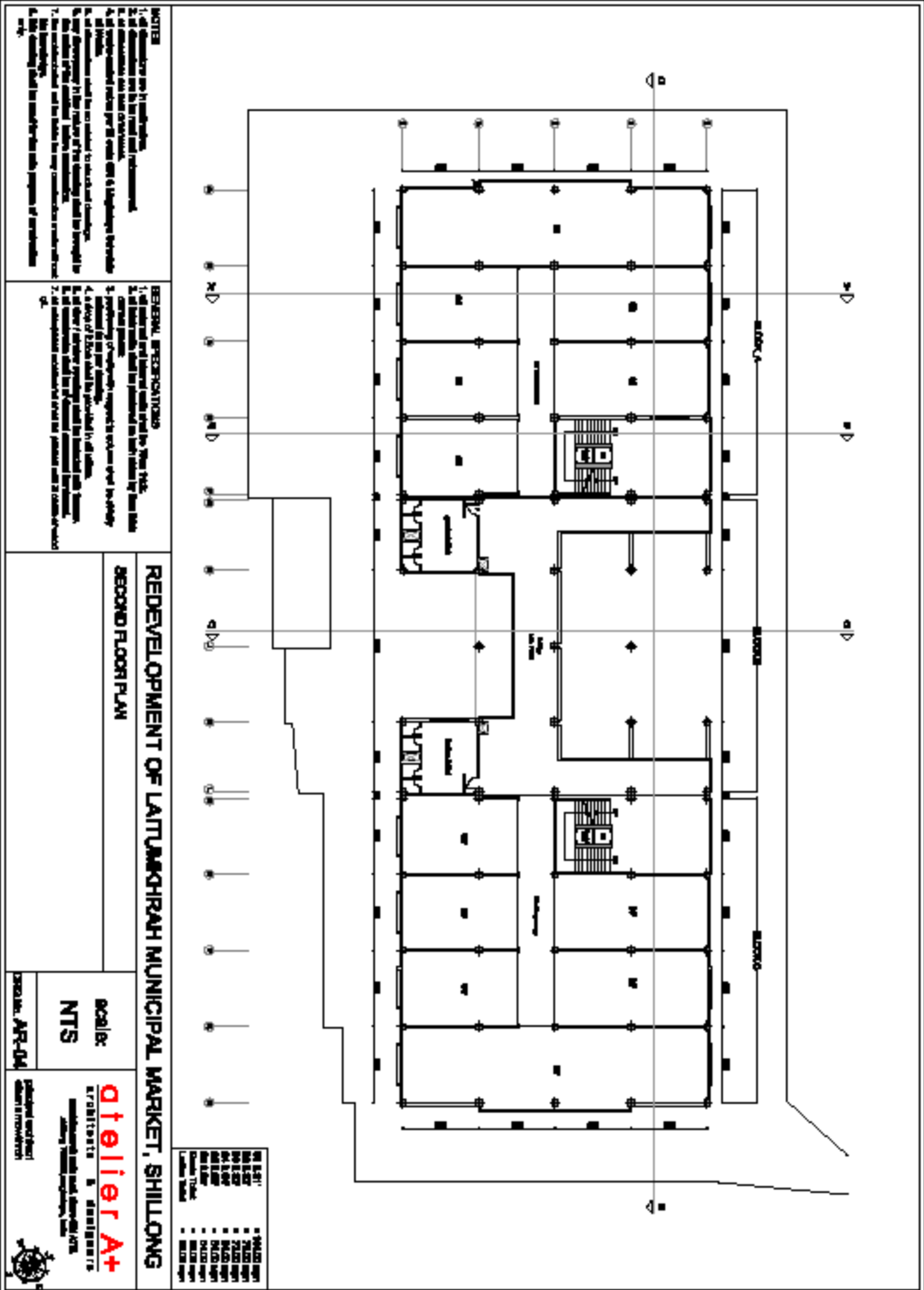
Architects: A. BANERJEE & ASSOCIATES

Address: 7, Market Street, Shillong, Meghalaya, India.

Phone: +91 94360 12345

Website: www.atelier-a.com

Year: 2023



NOTE

1. All dimensions are in millimeters.
2. All dimensions are to be read and understood as indicated on the drawings.
3. All dimensions are to be read and understood as indicated on the drawings.
4. All dimensions are to be read and understood as indicated on the drawings.
5. All dimensions are to be read and understood as indicated on the drawings.
6. All dimensions are to be read and understood as indicated on the drawings.
7. All dimensions are to be read and understood as indicated on the drawings.
8. All dimensions are to be read and understood as indicated on the drawings.
9. All dimensions are to be read and understood as indicated on the drawings.
10. All dimensions are to be read and understood as indicated on the drawings.

GENERAL SPECIFICATIONS

1. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
2. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
3. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
4. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
5. All material and labor shall conform to the S.P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

REDEVELOPMENT OF LATUMNGRAHA MUNICIPAL MARKET, SHILLONG

SECOND FLOOR PLAN

Scale: NTS

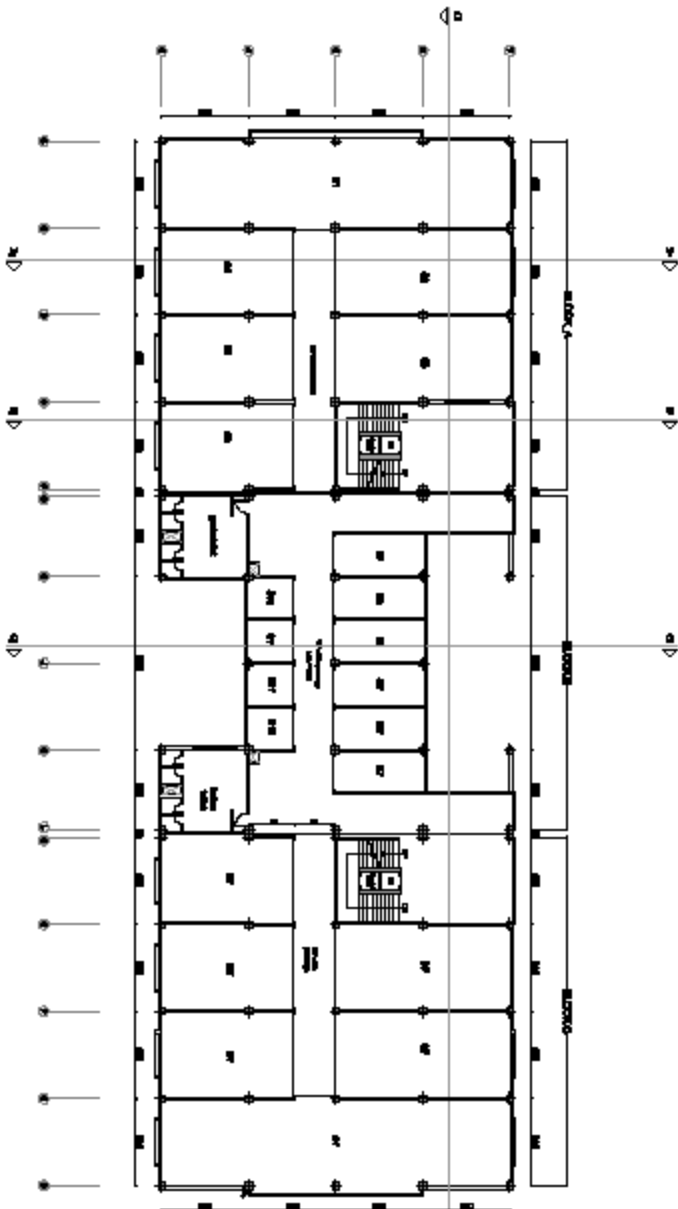
Project No: AR-04

Architect: atelierA+ ARCHITECTS & DESIGNERS

Address: 10, J. J. Salazar Road, Shillong, Meghalaya, India.

Registered Architect: Gaurav Kumar

100	1:100	1:100
200	1:200	1:200
300	1:300	1:300
400	1:400	1:400
500	1:500	1:500
600	1:600	1:600
700	1:700	1:700
800	1:800	1:800
900	1:900	1:900
1000	1:1000	1:1000



NOTE

- 1. All dimensions are to be maintained.
- 2. All materials are to be of good quality.
- 3. All workmanship is to be of the highest standard.
- 4. All work is to be done in accordance with the provisions of the relevant codes of practice.
- 5. All work is to be done in accordance with the provisions of the relevant codes of practice.
- 6. All work is to be done in accordance with the provisions of the relevant codes of practice.
- 7. All work is to be done in accordance with the provisions of the relevant codes of practice.
- 8. All work is to be done in accordance with the provisions of the relevant codes of practice.
- 9. All work is to be done in accordance with the provisions of the relevant codes of practice.
- 10. All work is to be done in accordance with the provisions of the relevant codes of practice.

GENERAL SPECIFICATIONS

- 1. All materials and labor shall conform to the standards specified in the relevant codes of practice.
- 2. All work shall be done in accordance with the provisions of the relevant codes of practice.
- 3. All work shall be done in accordance with the provisions of the relevant codes of practice.
- 4. All work shall be done in accordance with the provisions of the relevant codes of practice.
- 5. All work shall be done in accordance with the provisions of the relevant codes of practice.
- 6. All work shall be done in accordance with the provisions of the relevant codes of practice.
- 7. All work shall be done in accordance with the provisions of the relevant codes of practice.
- 8. All work shall be done in accordance with the provisions of the relevant codes of practice.
- 9. All work shall be done in accordance with the provisions of the relevant codes of practice.
- 10. All work shall be done in accordance with the provisions of the relevant codes of practice.

REDEVELOPMENT OF LATTUANGRAHA MUNICIPAL MARKET, SHILLONG

THIRD FLOOR PLAN

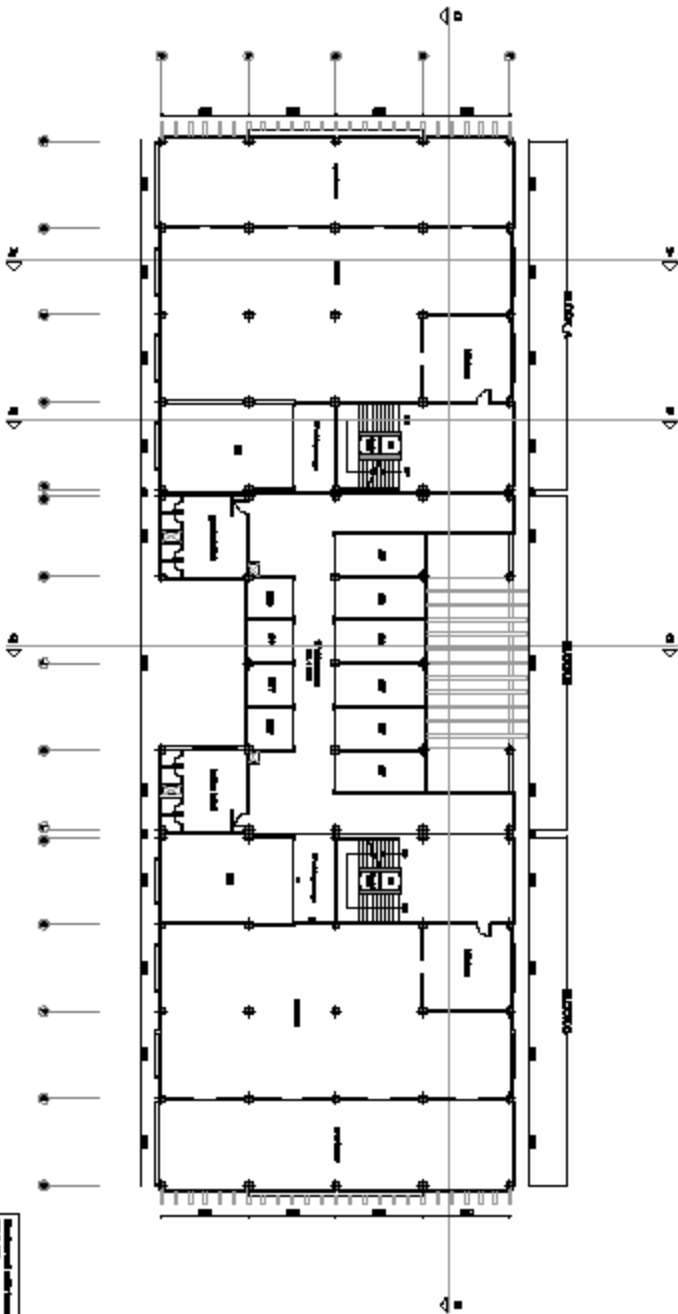
Scale:
NTS

atelier+
ARCHITECTS & ENGINEERS

10th Floor, The Heritage Building, 10th Floor
10th Floor, The Heritage Building, 10th Floor

Registered Architect
Chartered Engineer

①	200x200	①	200x200
②	300x300	②	300x300
③	400x400	③	400x400
④	500x500	④	500x500
⑤	600x600	⑤	600x600
⑥	800x800	⑥	800x800
⑦	1000x1000	⑦	1000x1000
⑧	1200x1200	⑧	1200x1200
⑨	1500x1500	⑨	1500x1500
⑩	2000x2000	⑩	2000x2000



Structural symbols	
○ 100mm dia	○ 100mm dia
○ 150mm dia	○ 150mm dia
○ 200mm dia	○ 200mm dia
○ 250mm dia	○ 250mm dia
○ 300mm dia	○ 300mm dia
○ 350mm dia	○ 350mm dia
○ 400mm dia	○ 400mm dia
○ 450mm dia	○ 450mm dia
○ 500mm dia	○ 500mm dia
○ 550mm dia	○ 550mm dia
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○ 650mm dia	○ 650mm dia
○ 700mm dia	○ 700mm dia
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○ 850mm dia	○ 850mm dia
○ 900mm dia	○ 900mm dia
○ 950mm dia	○ 950mm dia
○ 1000mm dia	○ 1000mm dia

REDEVELOPMENT OF LATUMNGRAHA MUNICIPAL MARKET, SHILLONG

FOURTH FLOOR PLAN

Scale: NTS

Project No: AR-08

Client: SHILLONG MUNICIPAL CORPORATION

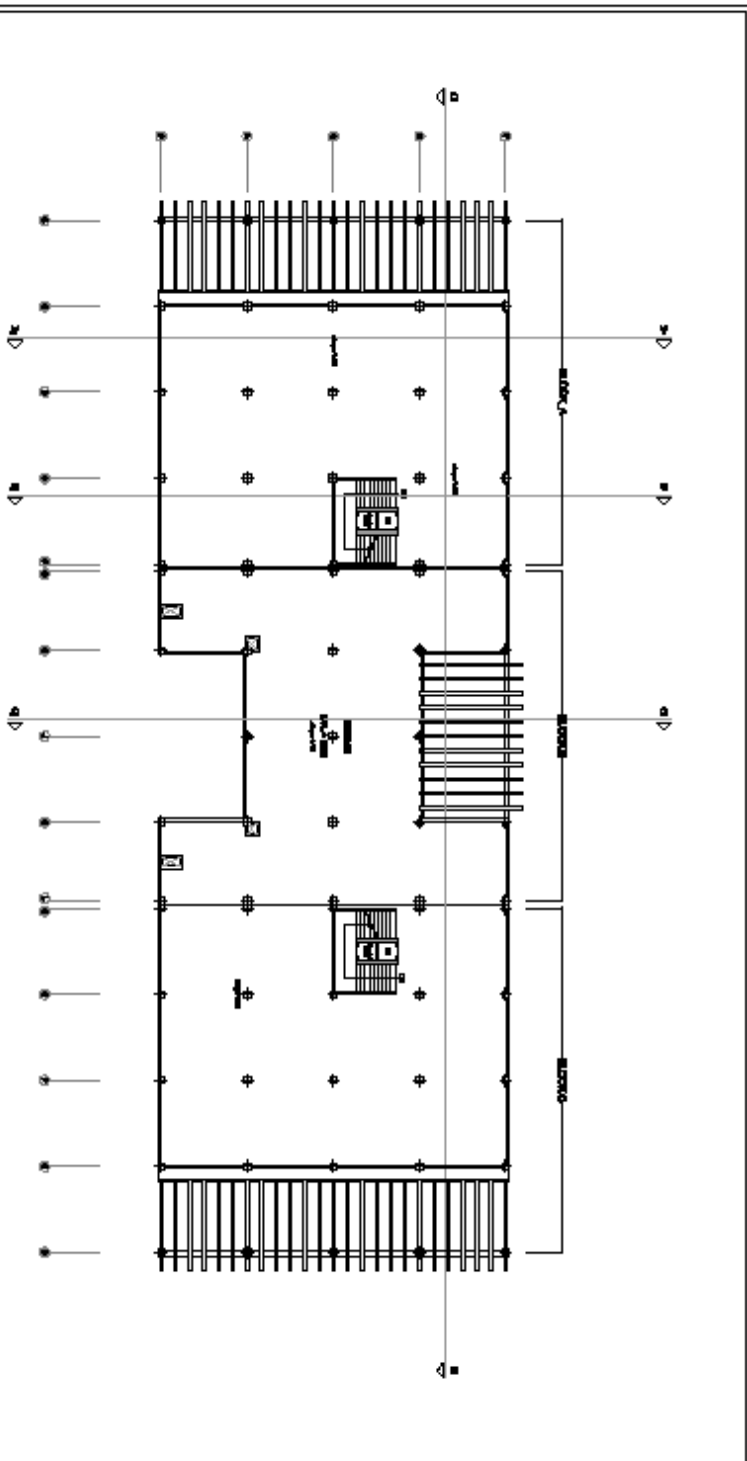
atelier A+
ARCHITECTS & ENGINEERS
100, JALPAIGUJI ROAD, SHILLONG, MIZORAM
www.atelier-a.com

NOTES

1. All dimensions are in millimeters.
2. All measurements are to be taken from the face of the work.
3. All measurements are to be taken from the face of the work.
4. All measurements are to be taken from the face of the work.
5. All measurements are to be taken from the face of the work.
6. All measurements are to be taken from the face of the work.
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9. All measurements are to be taken from the face of the work.
10. All measurements are to be taken from the face of the work.

GENERAL SPECIFICATIONS

1. All materials and workmanship shall conform to the IS: 10262.
2. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.
3. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.
4. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.
5. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.
6. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.
7. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.
8. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.
9. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.
10. All materials shall be of the best quality and shall be approved by the Engineer-in-Charge.



REDEVELOPMENT OF LAITUMKHAH MUNICIPAL MARKET, SHILLONG

TERRENCE COMMUNITY PLAN

Scale:
NTS

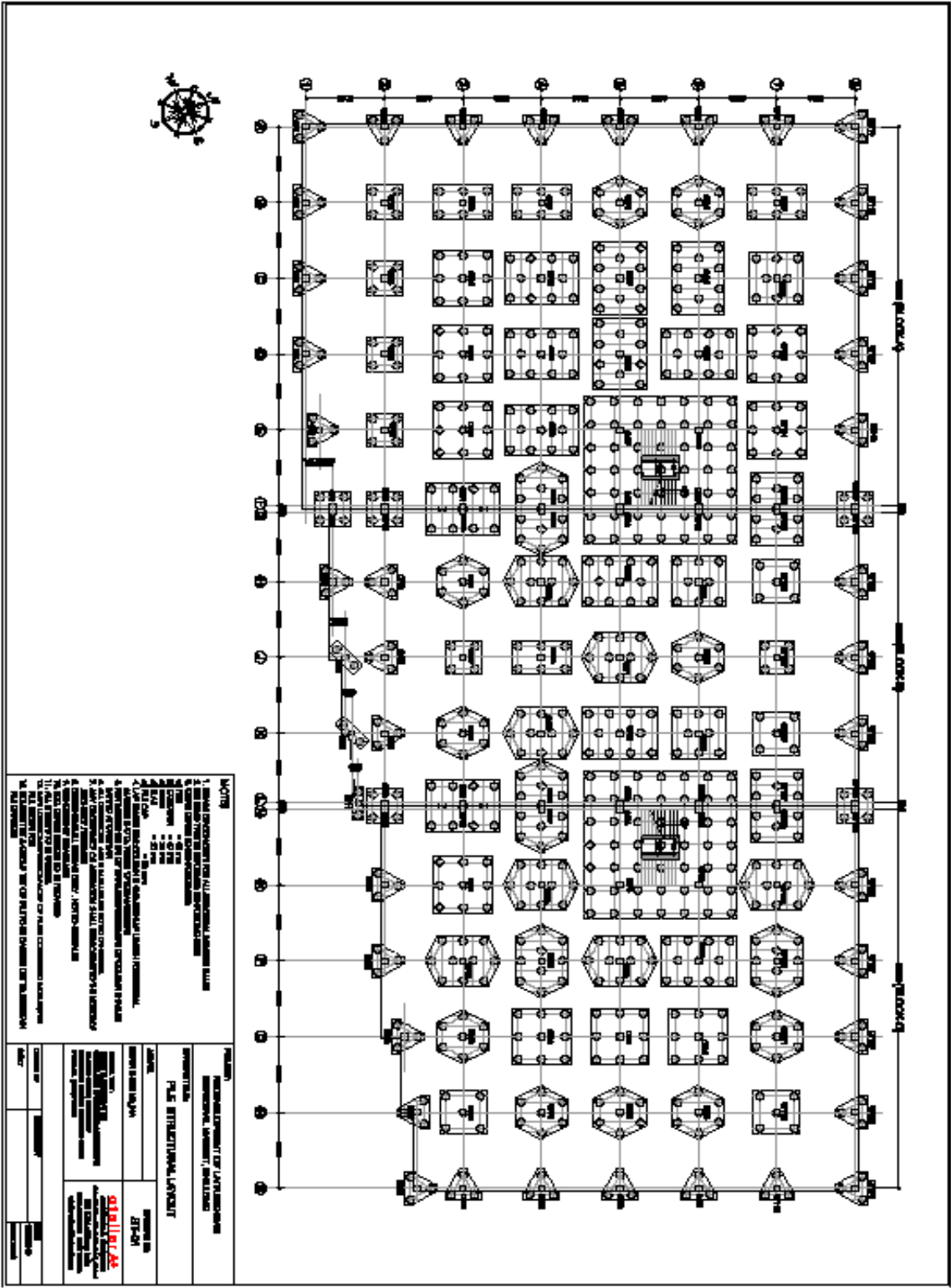
Project No. AR-07

dtelier A+
 ARCHITECTS & DESIGNERS
 100, Naraina, New Delhi, India
 www.dtelier.com

REGISTERED ARCHITECT
 SHILLONG

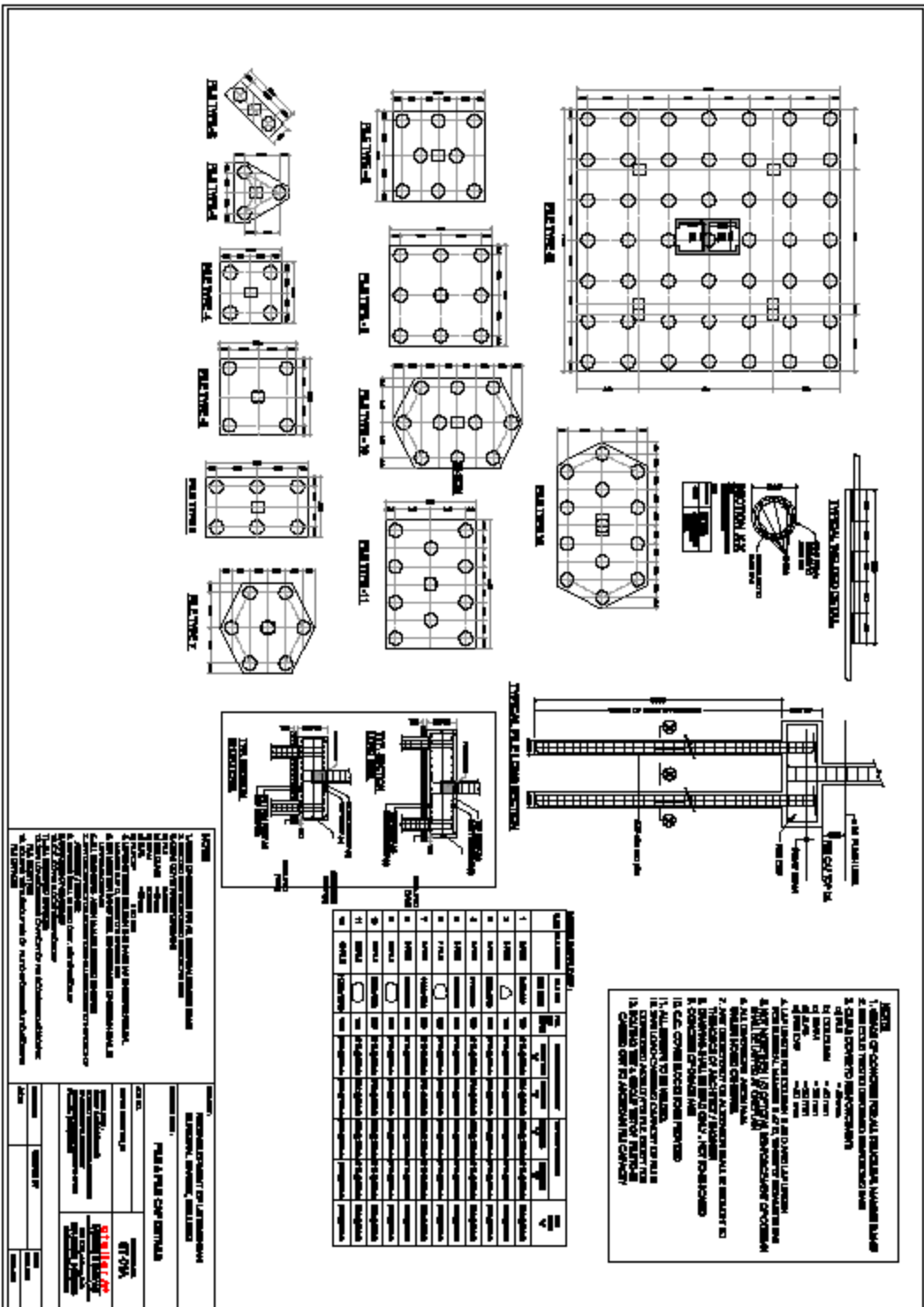
NOTES

1. All dimensions are in millimeters.
2. All dimensions are to the face and not to the centerline.
3. All elevations are to the face of the wall.
4. All elevations are to the face of the wall.
5. All elevations are to the face of the wall.
6. All elevations are to the face of the wall.
7. All elevations are to the face of the wall.
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18. All elevations are to the face of the wall.
19. All elevations are to the face of the wall.
20. All elevations are to the face of the wall.



- NOTES**
1. GENERAL DIMENSIONS ARE AS SHOWN UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 4. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE SPECIFIED.
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 11. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE SPECIFIED.
 12. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE SPECIFIED.

<p>PROJECT FEDERAL GOVERNMENT OF MALAYSIA MINISTRY OF DEFENSE DEFENSE BUILDING</p>	
<p>CLIENT FEDERAL GOVERNMENT OF MALAYSIA MINISTRY OF DEFENSE DEFENSE BUILDING</p>	
<p>DESIGNER SIAI IIRI A/S 11000 KUALA LUMPUR MALAYSIA</p>	
<p>DATE 2024</p>	
<p>SCALE 1:100</p>	

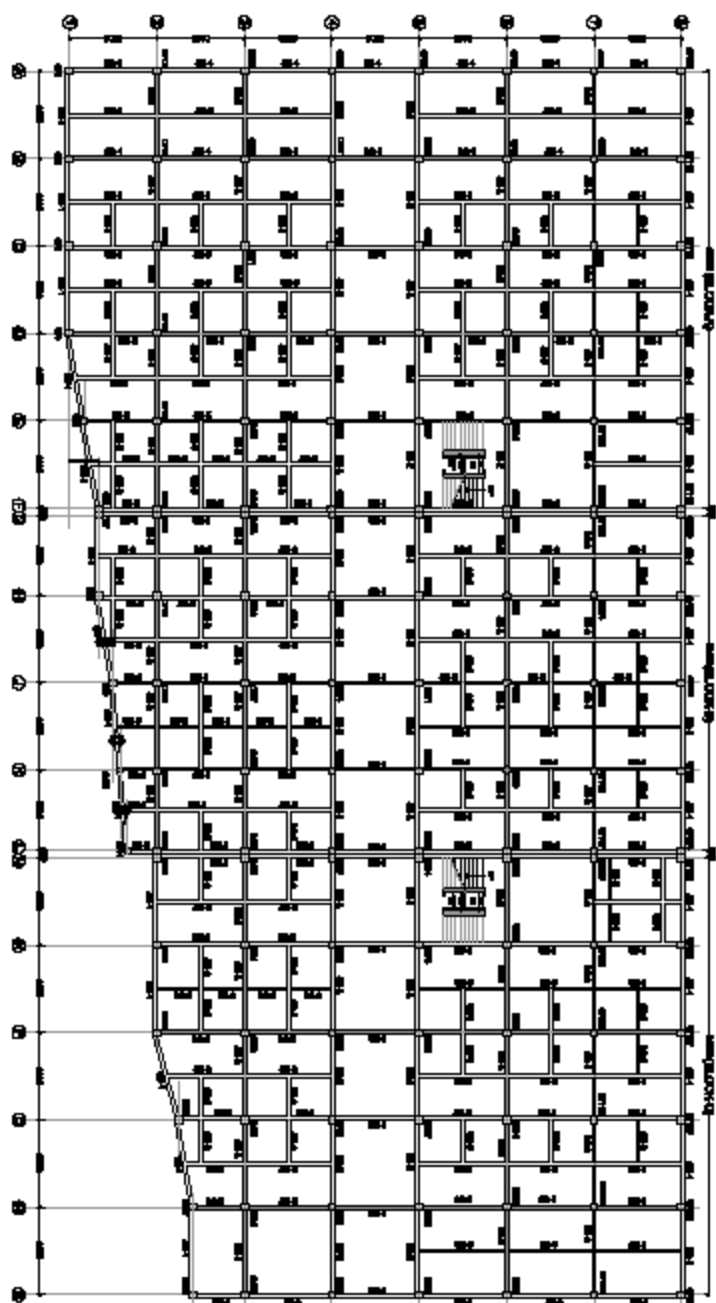


- NOTES**
1. SYMBOLS OF CONCRETE REINFORCING NUMBER SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
 2. SEE ALL DIMENSIONS AND DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
 3. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
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 7. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
 8. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
 9. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
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 18. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
 19. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
 20. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.

NO	DESCRIPTION	UNIT	QTY	REMARKS
1	CONCRETE	m ³	100	
2	REINFORCING	kg	5000	
3	FORMWORK	m ²	2000	
4	LABOR	man-days	1000	
5	STEEL	kg	1000	
6	WOOD	m ³	100	
7	CEMENT	kg	10000	
8	AGGREGATE	m ³	1000	
9	WATER	m ³	1000	
10	ELECTRICITY	kWh	1000	
11	FUEL	liters	1000	
12	PAINT	kg	1000	
13	GLASS	m ²	1000	
14	DOOR	unit	1000	
15	WINDOW	unit	1000	
16	ROOFING	m ²	1000	
17	INSULATION	m ³	1000	
18	PLASTER	m ²	1000	
19	CEILING	m ²	1000	
20	FLOORING	m ²	1000	

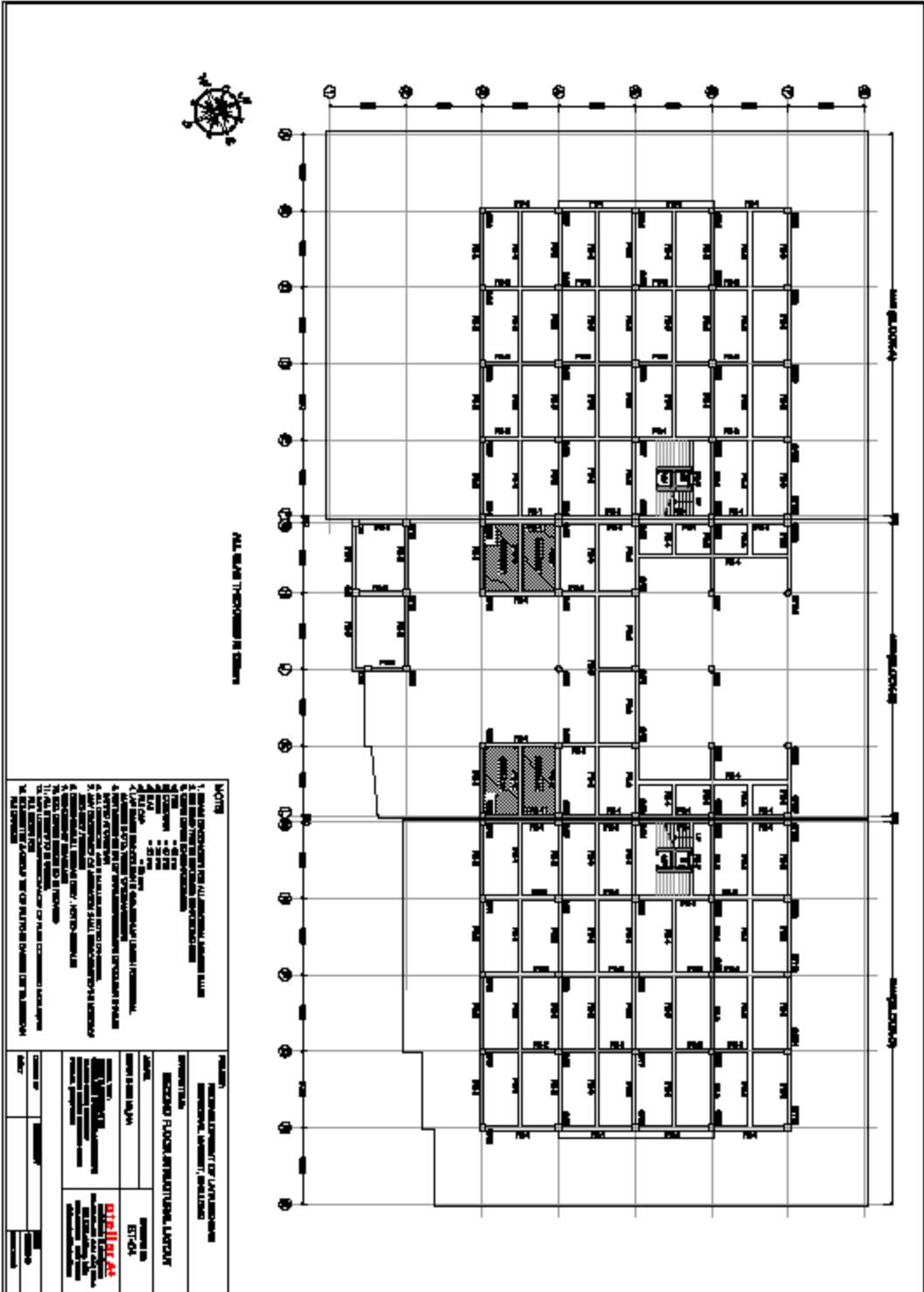
NOTES

1. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
2. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.
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20. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE NATIONAL STANDARD FOR CONCRETE REINFORCING NUMBER.



- LEGENDA**
- 1. BAWA PENGUNCIAN DAN KAWASAN PERAWATAN
 - 2. BAWA PERAWATAN DAN PERAWATAN
 - 3. BAWA PERAWATAN DAN PERAWATAN
 - 4. BAWA PERAWATAN DAN PERAWATAN
 - 5. BAWA PERAWATAN DAN PERAWATAN
 - 6. BAWA PERAWATAN DAN PERAWATAN
 - 7. BAWA PERAWATAN DAN PERAWATAN
 - 8. BAWA PERAWATAN DAN PERAWATAN
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 - 10. BAWA PERAWATAN DAN PERAWATAN
 - 11. BAWA PERAWATAN DAN PERAWATAN
 - 12. BAWA PERAWATAN DAN PERAWATAN
 - 13. BAWA PERAWATAN DAN PERAWATAN
 - 14. BAWA PERAWATAN DAN PERAWATAN

PROJEKSI PERENCANAAN STRUKTUR DAN LAYANAN PERENCANAAN STRUKTUR DAN LAYANAN	
PROJEKSI PERENCANAAN STRUKTUR DAN LAYANAN	
NO. PROJEKSI 01/2024	TANGGAL 15/08/2024
LOKASI PERENCANAAN STRUKTUR DAN LAYANAN	NO. PROJEKSI 01/2024
NO. PROJEKSI 01/2024	TANGGAL 15/08/2024



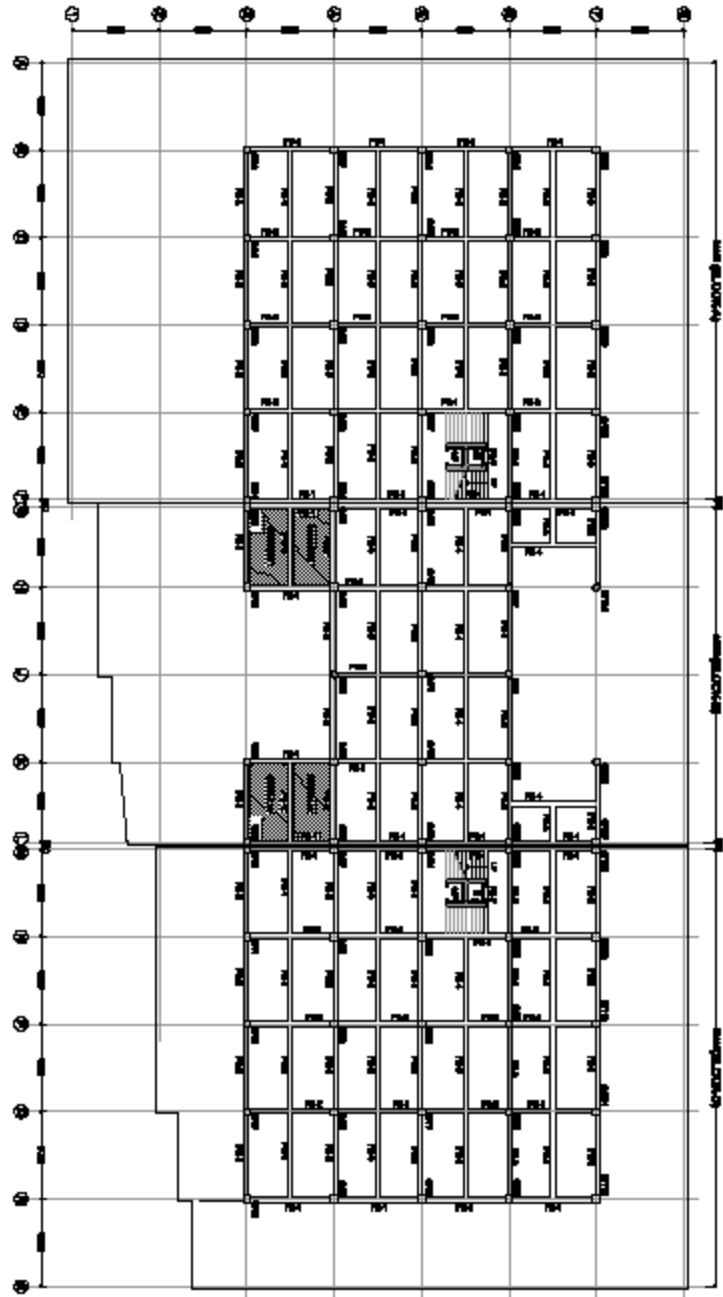
ALL WALL THICKNESSES IN MILLIMETERS

- NOTES**
1. REVISIONS TO BE MADE TO ALL DIMENSIONS, DIMENSIONS SHALL BE AS SHOWN ON THIS DRAWING.
 2. ALL DIMENSIONS SHALL BE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE SPECIFIED.
 4. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE SPECIFIED.
 5. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE SPECIFIED.
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 19. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE SPECIFIED.
 20. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE SPECIFIED.

PROJECT	
INDUSTRIAL BUILDING FOR LUMBER PROCESSING	
GENERAL CONTRACTOR: [REDACTED]	
PROPOSAL	
SECOND FLOOR ARCHITECTURAL LAYOUT	
DATE:	2024-10-24
SCALE:	1:100
PREPARED BY:	
[REDACTED]	
CHECKED BY:	
[REDACTED]	
DATE:	
[REDACTED]	

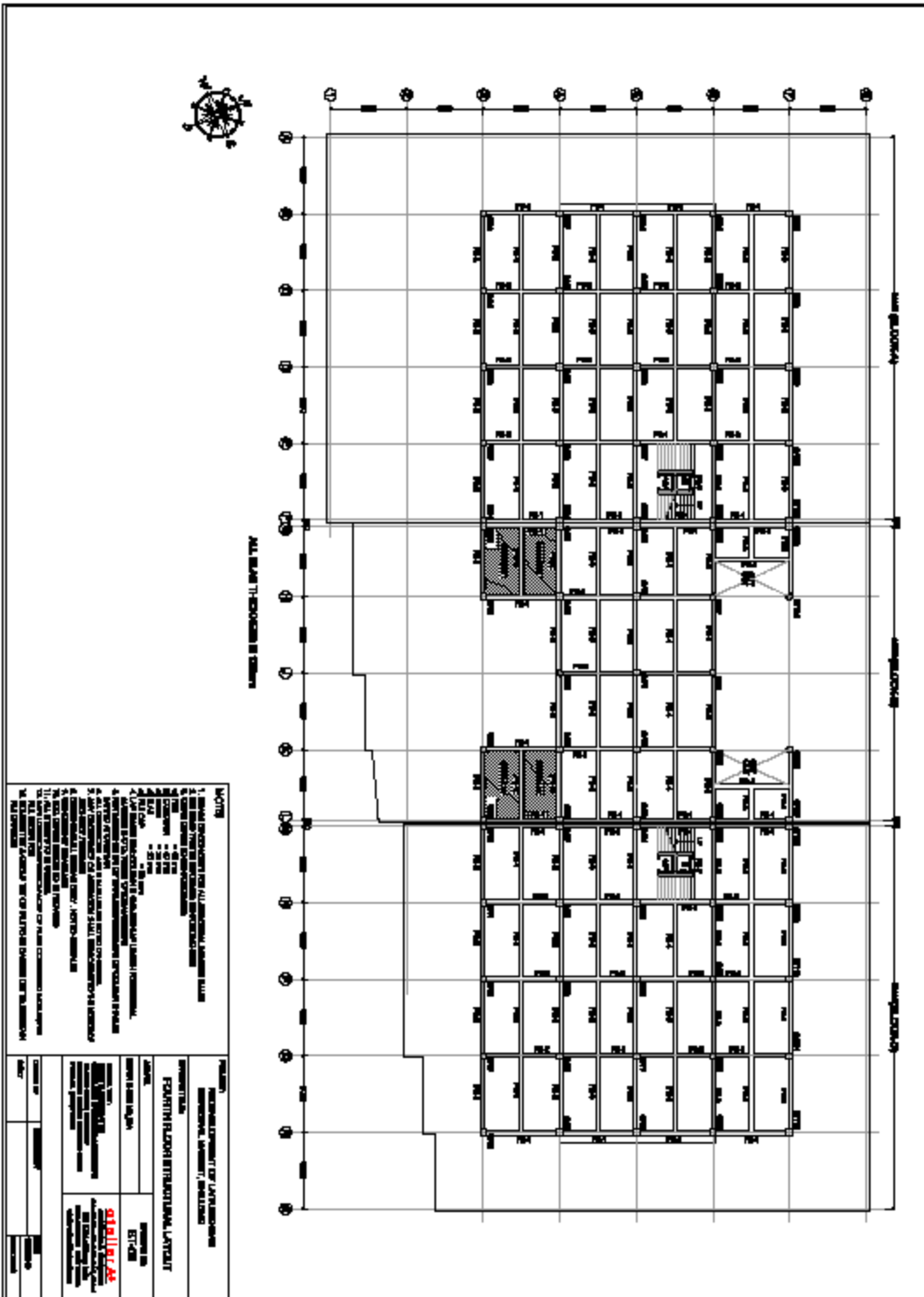


PLAN EN 0202/03 (1/2) 01.2003



- LEGENDA**
- 1. BEAM ENCONCRETO POR TUBO PERFORADO, ARMADO EM ALUMINIO
 - 2. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 3. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 4. BEAM ENCONCRETO EN ALUMINIO PERFORADO
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 - 30. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 31. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 32. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 33. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 34. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 35. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 36. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 37. BEAM ENCONCRETO EN ALUMINIO PERFORADO
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 - 43. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 44. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 45. BEAM ENCONCRETO EN ALUMINIO PERFORADO
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 - 53. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 54. BEAM ENCONCRETO EN ALUMINIO PERFORADO
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 - 56. BEAM ENCONCRETO EN ALUMINIO PERFORADO
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 - 77. BEAM ENCONCRETO EN ALUMINIO PERFORADO
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 - 79. BEAM ENCONCRETO EN ALUMINIO PERFORADO
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 - 93. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 94. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 95. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 96. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 97. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 98. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 99. BEAM ENCONCRETO EN ALUMINIO PERFORADO
 - 100. BEAM ENCONCRETO EN ALUMINIO PERFORADO

PROYECTO			
CONSTRUCCIÓN DE EDIFICIO DE HABITACIONES DE CARÁCTER RESIDENCIAL EN LA CALLE TIBURCIA DE CÁDIZ			
ESTUDIO DE CÁLCULO ESTRUCTURAL DE LA PARTE DE BASTIDO			
AUTOR: INGENIERO DE CÁLCULO Y DISEÑO ESTRUCTURAL			
NOMBRE:		DIRECCIÓN:	
CALLE:		TELÉFONO:	
CÓDIGO POSTAL:		E-MAIL:	
FECHA DE EMISIÓN:			
FECHA DE REVISIÓN:			
AUTOR:			
REVISOR:			
APROBADO:			
CALIFICACIÓN:			



ALL DIMENSIONS IN METERS (1:100)

- LEGEND**
1. ROOMS DESIGNATED FOR ALL PURPOSES, EXCEPT BATH
 2. ROOMS DESIGNATED FOR BATH PURPOSES
 3. ROOMS DESIGNATED FOR KITCHEN PURPOSES
 4. ROOMS DESIGNATED FOR OFFICE PURPOSES
 5. ROOMS DESIGNATED FOR STORAGE PURPOSES
 6. ROOMS DESIGNATED FOR SERVICE PURPOSES
 7. ROOMS DESIGNATED FOR CORRIDOR PURPOSES
 8. ROOMS DESIGNATED FOR STAIR PURPOSES
 9. ROOMS DESIGNATED FOR LIFT PURPOSES
 10. ROOMS DESIGNATED FOR COMMON PURPOSES
 11. ROOMS DESIGNATED FOR OTHER PURPOSES
 12. ROOMS DESIGNATED FOR UNASSIGNED PURPOSES

PROJECT	
GENERAL CONTRACTOR FOR 4TH FLOOR	
GENERAL CONTRACTOR FOR 4TH FLOOR	
GENERAL CONTRACTOR FOR 4TH FLOOR	
FOURTH FLOOR STRUCTURAL LAYOUT	
DATE:	15/11/2023
SCALE:	1:100
DESIGNER:	ALFRED
CHECKED BY:	ALFRED
DATE:	15/11/2023

COLUMN SCHEDULE BLOCK : A (AS PER SPECIFICATIONS)

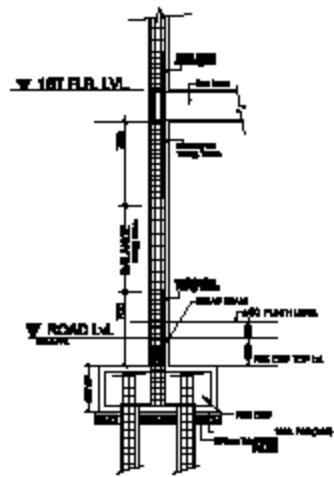
SL. NO.	REMARKS	UPPER REINFORCE Ld.		TYPICAL TRANSVERSE Ld.		DOWNWARDS Ld.		REMARKS
		SIZE IN MM	NO. OF BARS	SIZE IN MM	NO. OF BARS	SIZE IN MM	NO. OF BARS	
1	4Ø16, 4Ø12, 4Ø10, 4Ø8, 4Ø6, 4Ø4, 4Ø3	16	4	16	4	16	4	□ ◇
2	4Ø17, 4Ø16, 4Ø15	17	4	16	4	16	4	□ ◇
3	4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	18	4	16	4	16	4	□ ◇
4	4Ø19, 4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	19	4	16	4	16	4	□ ◇
5	4Ø20, 4Ø19, 4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	20	4	16	4	16	4	□ ◇
6	4Ø21, 4Ø20, 4Ø19, 4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	21	4	16	4	16	4	□ ◇
7	4Ø22	22	4	16	4	16	4	□ ◇

COLUMN SCHEDULE BLOCK : B (AS PER SPECIFICATIONS)

SL. NO.	REMARKS	UPPER REINFORCE Ld.		TYPICAL TRANSVERSE Ld.		DOWNWARDS Ld.		REMARKS
		SIZE IN MM	NO. OF BARS	SIZE IN MM	NO. OF BARS	SIZE IN MM	NO. OF BARS	
1	4Ø16, 4Ø12, 4Ø10, 4Ø8, 4Ø6, 4Ø4, 4Ø3, 4Ø2, 4Ø1, 4Ø0, 4Ø-1, 4Ø-2, 4Ø-3, 4Ø-4, 4Ø-5, 4Ø-6, 4Ø-7, 4Ø-8, 4Ø-9, 4Ø-10, 4Ø-11, 4Ø-12, 4Ø-13, 4Ø-14, 4Ø-15, 4Ø-16, 4Ø-17, 4Ø-18, 4Ø-19, 4Ø-20, 4Ø-21, 4Ø-22, 4Ø-23, 4Ø-24, 4Ø-25, 4Ø-26, 4Ø-27, 4Ø-28, 4Ø-29, 4Ø-30, 4Ø-31, 4Ø-32, 4Ø-33, 4Ø-34, 4Ø-35, 4Ø-36, 4Ø-37, 4Ø-38, 4Ø-39, 4Ø-40, 4Ø-41, 4Ø-42, 4Ø-43, 4Ø-44, 4Ø-45, 4Ø-46, 4Ø-47, 4Ø-48, 4Ø-49, 4Ø-50, 4Ø-51, 4Ø-52, 4Ø-53, 4Ø-54, 4Ø-55, 4Ø-56, 4Ø-57, 4Ø-58, 4Ø-59, 4Ø-60, 4Ø-61, 4Ø-62, 4Ø-63, 4Ø-64, 4Ø-65, 4Ø-66, 4Ø-67, 4Ø-68, 4Ø-69, 4Ø-70, 4Ø-71, 4Ø-72, 4Ø-73, 4Ø-74, 4Ø-75, 4Ø-76, 4Ø-77, 4Ø-78, 4Ø-79, 4Ø-80, 4Ø-81, 4Ø-82, 4Ø-83, 4Ø-84, 4Ø-85, 4Ø-86, 4Ø-87, 4Ø-88, 4Ø-89, 4Ø-90, 4Ø-91, 4Ø-92, 4Ø-93, 4Ø-94, 4Ø-95, 4Ø-96, 4Ø-97, 4Ø-98, 4Ø-99, 4Ø-100	16	4	16	4	16	4	□ ◇
2	4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	17	4	16	4	16	4	□ ◇
3	4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	18	4	16	4	16	4	□ ◇
4	4Ø19, 4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	19	4	16	4	16	4	□ ◇
5	4Ø20, 4Ø19, 4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	20	4	16	4	16	4	□ ◇
6	4Ø21, 4Ø20, 4Ø19, 4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	21	4	16	4	16	4	□ ◇
7	4Ø22, 4Ø21, 4Ø20, 4Ø19, 4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	22	4	16	4	16	4	□ ◇

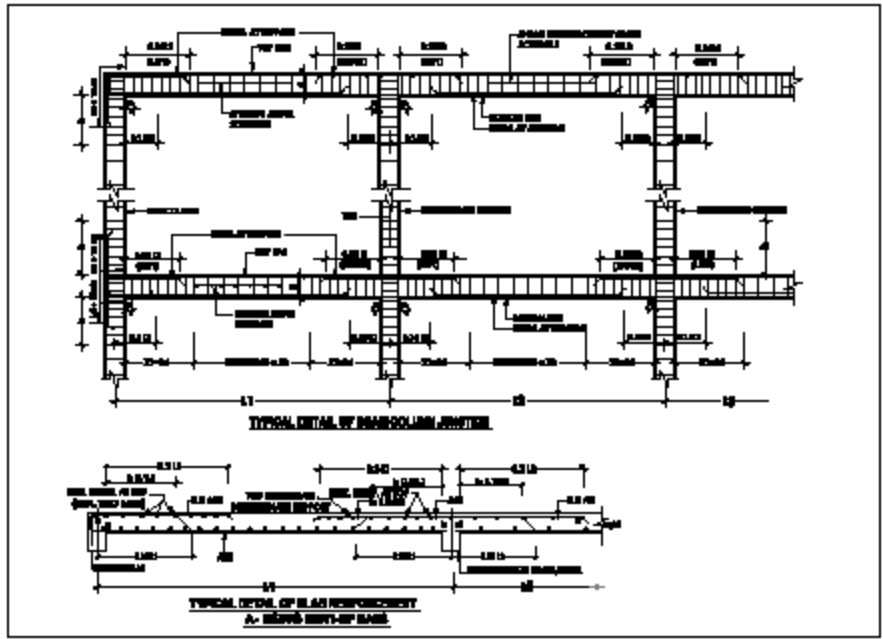
COLUMN SCHEDULE BLOCK : C (AS PER SPECIFICATIONS)

SL. NO.	REMARKS	UPPER REINFORCE Ld.		TYPICAL TRANSVERSE Ld.		DOWNWARDS Ld.		REMARKS
		SIZE IN MM	NO. OF BARS	SIZE IN MM	NO. OF BARS	SIZE IN MM	NO. OF BARS	
1	4Ø16, 4Ø12, 4Ø10, 4Ø8, 4Ø6, 4Ø4, 4Ø3, 4Ø2, 4Ø1, 4Ø0, 4Ø-1, 4Ø-2, 4Ø-3, 4Ø-4, 4Ø-5, 4Ø-6, 4Ø-7, 4Ø-8, 4Ø-9, 4Ø-10, 4Ø-11, 4Ø-12, 4Ø-13, 4Ø-14, 4Ø-15, 4Ø-16, 4Ø-17, 4Ø-18, 4Ø-19, 4Ø-20, 4Ø-21, 4Ø-22, 4Ø-23, 4Ø-24, 4Ø-25, 4Ø-26, 4Ø-27, 4Ø-28, 4Ø-29, 4Ø-30, 4Ø-31, 4Ø-32, 4Ø-33, 4Ø-34, 4Ø-35, 4Ø-36, 4Ø-37, 4Ø-38, 4Ø-39, 4Ø-40, 4Ø-41, 4Ø-42, 4Ø-43, 4Ø-44, 4Ø-45, 4Ø-46, 4Ø-47, 4Ø-48, 4Ø-49, 4Ø-50, 4Ø-51, 4Ø-52, 4Ø-53, 4Ø-54, 4Ø-55, 4Ø-56, 4Ø-57, 4Ø-58, 4Ø-59, 4Ø-60, 4Ø-61, 4Ø-62, 4Ø-63, 4Ø-64, 4Ø-65, 4Ø-66, 4Ø-67, 4Ø-68, 4Ø-69, 4Ø-70, 4Ø-71, 4Ø-72, 4Ø-73, 4Ø-74, 4Ø-75, 4Ø-76, 4Ø-77, 4Ø-78, 4Ø-79, 4Ø-80, 4Ø-81, 4Ø-82, 4Ø-83, 4Ø-84, 4Ø-85, 4Ø-86, 4Ø-87, 4Ø-88, 4Ø-89, 4Ø-90, 4Ø-91, 4Ø-92, 4Ø-93, 4Ø-94, 4Ø-95, 4Ø-96, 4Ø-97, 4Ø-98, 4Ø-99, 4Ø-100	16	4	16	4	16	4	□ ◇
2	4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	17	4	16	4	16	4	□ ◇
3	4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	18	4	16	4	16	4	□ ◇
4	4Ø19, 4Ø18, 4Ø17, 4Ø16, 4Ø15, 4Ø14, 4Ø13, 4Ø12, 4Ø11, 4Ø10, 4Ø9, 4Ø8, 4Ø7, 4Ø6, 4Ø5, 4Ø4, 4Ø3, 4Ø2, 4Ø1	19	4	16	4	16	4	□ ◇



TYP. COLUMN ELEVATION

<p>REVISIONS</p> <p>1. DATE: 10/10/2023</p> <p>2. BY: [Signature]</p> <p>3. BY: [Signature]</p> <p>4. BY: [Signature]</p> <p>5. BY: [Signature]</p> <p>6. BY: [Signature]</p> <p>7. BY: [Signature]</p> <p>8. BY: [Signature]</p> <p>9. BY: [Signature]</p> <p>10. BY: [Signature]</p>	<p>DETAILS OF WORK</p> <p>PROJECT: [Project Name]</p> <p>CLIENT: [Client Name]</p> <p>DESIGNER: [Designer Name]</p> <p>CHECKER: [Checker Name]</p> <p>DATE: [Date]</p> <p>SCALE: [Scale]</p> <p>PROJECT NO: [Project No]</p> <p>DRAWING NO: [Drawing No]</p> <p>REVISIONS:</p> <p>1. [Revision Description]</p> <p>2. [Revision Description]</p> <p>3. [Revision Description]</p> <p>4. [Revision Description]</p> <p>5. [Revision Description]</p> <p>6. [Revision Description]</p> <p>7. [Revision Description]</p> <p>8. [Revision Description]</p> <p>9. [Revision Description]</p> <p>10. [Revision Description]</p>
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TRAP ROOM TECHNICAL SPEC: A. R.C. REINFORCEMENT

ITEM NO.	REV.	DESCRIPTION	REINFORCEMENT												SPACING		BOW POSITION		
			BARS		TOP BARS		TOP BARS AT SUPPORT		BOTT. REINFORCEMENT		CLEARS		MESH SPACING		MESH AT SUPPORT				
			BY	#	BY	#	BY	#	BY	#	BY	#	BY	#	BY	#	BY	#	
1		100-4	800	800	14	3	14	3	14	2	14	2		100	100	100	100		
2		100-8	300	300	20	3	20	4	18	2	14	2		100	100	100	100		
3		100-9	300	300	20	3	20	4	18	2	14	2		100	100	100	100		
4		100-4	800	800	14	3	14	3	18	2	14	2		100	100	100	100		
5		100-8	300	300	20	3	20	4	18	2	14	2		100	100	100	100		
6		100-8	300	400	14	3	14	3						100	100	100	100		

REVISIONS

1. CHECK FOR CORRECTIONS TO THE DRAWING
2. CHECK FOR CORRECTIONS TO THE DRAWING
3. CHECK FOR CORRECTIONS TO THE DRAWING
4. CHECK FOR CORRECTIONS TO THE DRAWING
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8. CHECK FOR CORRECTIONS TO THE DRAWING
9. CHECK FOR CORRECTIONS TO THE DRAWING
10. CHECK FOR CORRECTIONS TO THE DRAWING

APPROVALS

DESIGNED BY: _____

CHECKED BY: _____

DATE: _____

PROJECT INFORMATION

PROJECT NAME: _____

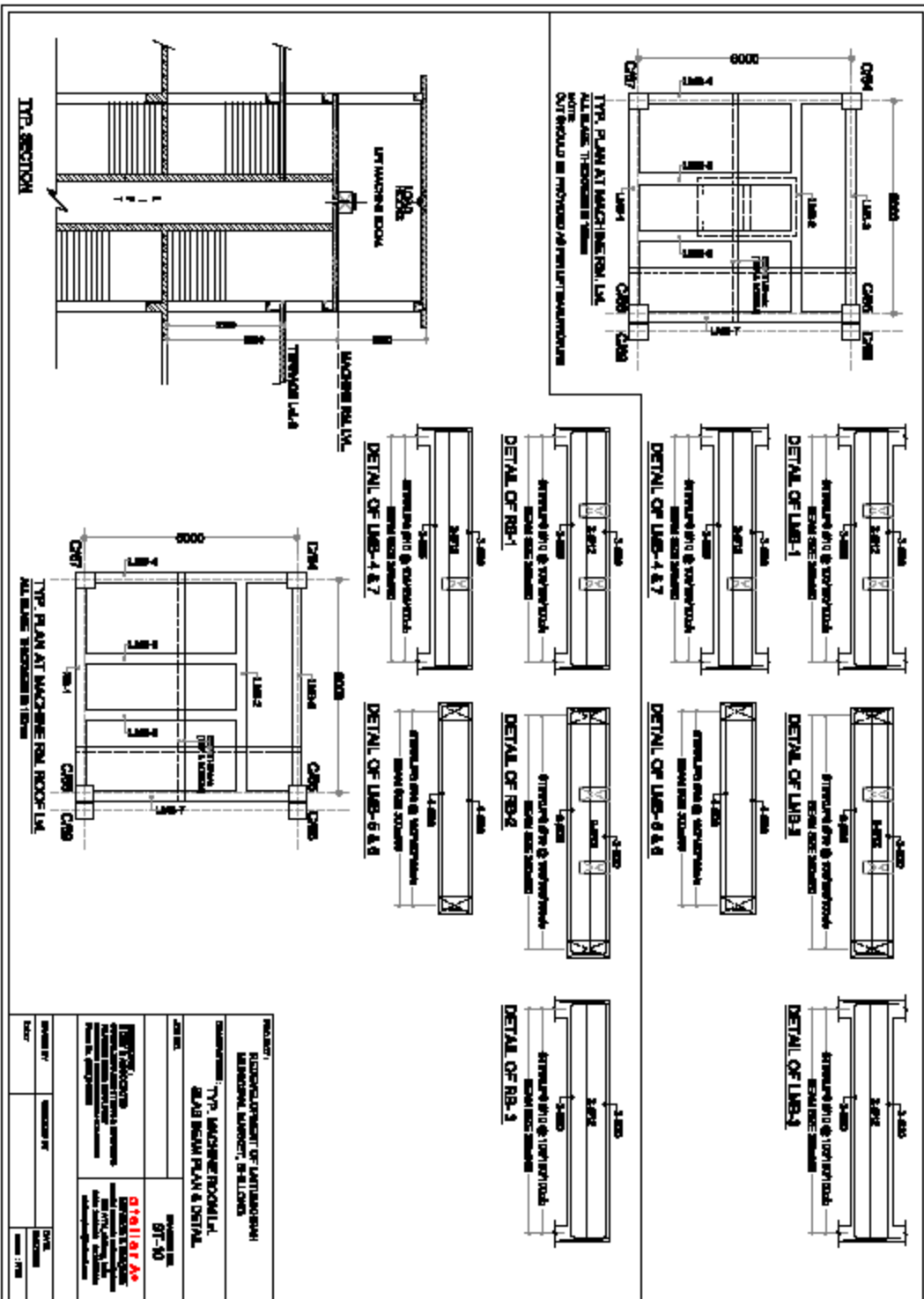
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LOCATION: _____

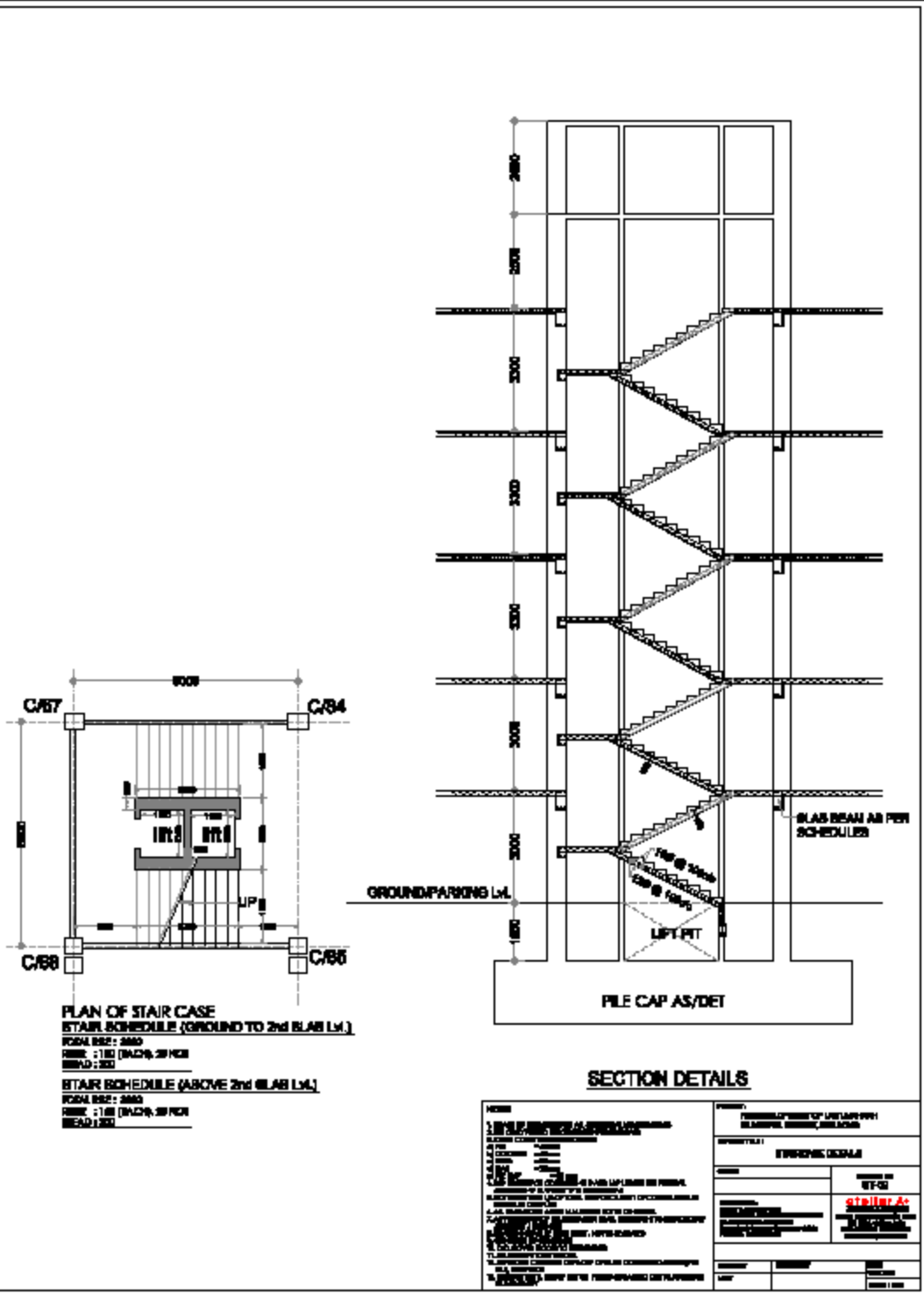
DATE: _____

SCALE

AS SHOWN



PROJECT: ELIZABETH STATE UNIVERSITY MEMORIAL LIBRARY - BELOVED	
CONTRACT: TYP. MACHINE ROOM LVL. SLAB BEAM PLAN & DETAIL	
DATE:	ISSUE NO.: 07-10
DESIGNER:	
CHECKER:	
SCALE:	
DATE:	

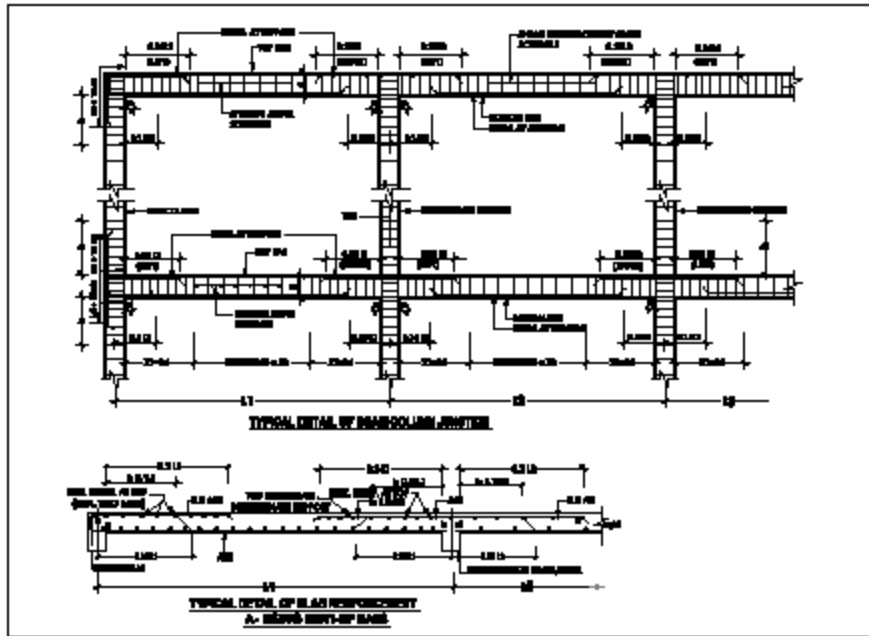


PLAN OF STAIR CASE
STAIR SCHEDULE (GROUND TO 2nd BLAB Lvl.)
 FLOOR RISE : 2000
 RISE : 180 (RACH), 20 RICH
 RISPLO : 300

STAIR SCHEDULE (ABOVE 2nd BLAB Lvl.)
 FLOOR RISE : 2000
 RISE : 180 (RACH), 20 RICH
 RISPLO : 300

SECTION DETAILS

ITEM	REMARKS
1. 100mm concrete	100mm concrete
2. 150mm concrete	150mm concrete
3. 200mm concrete	200mm concrete
4. 250mm concrete	250mm concrete
5. 300mm concrete	300mm concrete
6. 350mm concrete	350mm concrete
7. 400mm concrete	400mm concrete
8. 450mm concrete	450mm concrete
9. 500mm concrete	500mm concrete
10. 550mm concrete	550mm concrete
11. 600mm concrete	600mm concrete
12. 650mm concrete	650mm concrete
13. 700mm concrete	700mm concrete
14. 750mm concrete	750mm concrete
15. 800mm concrete	800mm concrete
16. 850mm concrete	850mm concrete
17. 900mm concrete	900mm concrete
18. 950mm concrete	950mm concrete
19. 1000mm concrete	1000mm concrete
20. 1050mm concrete	1050mm concrete
21. 1100mm concrete	1100mm concrete
22. 1150mm concrete	1150mm concrete
23. 1200mm concrete	1200mm concrete
24. 1250mm concrete	1250mm concrete
25. 1300mm concrete	1300mm concrete
26. 1350mm concrete	1350mm concrete
27. 1400mm concrete	1400mm concrete
28. 1450mm concrete	1450mm concrete
29. 1500mm concrete	1500mm concrete
30. 1550mm concrete	1550mm concrete
31. 1600mm concrete	1600mm concrete
32. 1650mm concrete	1650mm concrete
33. 1700mm concrete	1700mm concrete
34. 1750mm concrete	1750mm concrete
35. 1800mm concrete	1800mm concrete
36. 1850mm concrete	1850mm concrete
37. 1900mm concrete	1900mm concrete
38. 1950mm concrete	1950mm concrete
39. 2000mm concrete	2000mm concrete
40. 2050mm concrete	2050mm concrete
41. 2100mm concrete	2100mm concrete
42. 2150mm concrete	2150mm concrete
43. 2200mm concrete	2200mm concrete
44. 2250mm concrete	2250mm concrete
45. 2300mm concrete	2300mm concrete
46. 2350mm concrete	2350mm concrete
47. 2400mm concrete	2400mm concrete
48. 2450mm concrete	2450mm concrete
49. 2500mm concrete	2500mm concrete
50. 2550mm concrete	2550mm concrete
51. 2600mm concrete	2600mm concrete
52. 2650mm concrete	2650mm concrete
53. 2700mm concrete	2700mm concrete
54. 2750mm concrete	2750mm concrete
55. 2800mm concrete	2800mm concrete
56. 2850mm concrete	2850mm concrete
57. 2900mm concrete	2900mm concrete
58. 2950mm concrete	2950mm concrete
59. 3000mm concrete	3000mm concrete
60. 3050mm concrete	3050mm concrete
61. 3100mm concrete	3100mm concrete
62. 3150mm concrete	3150mm concrete
63. 3200mm concrete	3200mm concrete
64. 3250mm concrete	3250mm concrete
65. 3300mm concrete	3300mm concrete
66. 3350mm concrete	3350mm concrete
67. 3400mm concrete	3400mm concrete
68. 3450mm concrete	3450mm concrete
69. 3500mm concrete	3500mm concrete
70. 3550mm concrete	3550mm concrete
71. 3600mm concrete	3600mm concrete
72. 3650mm concrete	3650mm concrete
73. 3700mm concrete	3700mm concrete
74. 3750mm concrete	3750mm concrete
75. 3800mm concrete	3800mm concrete
76. 3850mm concrete	3850mm concrete
77. 3900mm concrete	3900mm concrete
78. 3950mm concrete	3950mm concrete
79. 4000mm concrete	4000mm concrete
80. 4050mm concrete	4050mm concrete
81. 4100mm concrete	4100mm concrete
82. 4150mm concrete	4150mm concrete
83. 4200mm concrete	4200mm concrete
84. 4250mm concrete	4250mm concrete
85. 4300mm concrete	4300mm concrete
86. 4350mm concrete	4350mm concrete
87. 4400mm concrete	4400mm concrete
88. 4450mm concrete	4450mm concrete
89. 4500mm concrete	4500mm concrete
90. 4550mm concrete	4550mm concrete
91. 4600mm concrete	4600mm concrete
92. 4650mm concrete	4650mm concrete
93. 4700mm concrete	4700mm concrete
94. 4750mm concrete	4750mm concrete
95. 4800mm concrete	4800mm concrete
96. 4850mm concrete	4850mm concrete
97. 4900mm concrete	4900mm concrete
98. 4950mm concrete	4950mm concrete
99. 5000mm concrete	5000mm concrete
100. 5050mm concrete	5050mm concrete
101. 5100mm concrete	5100mm concrete
102. 5150mm concrete	5150mm concrete
103. 5200mm concrete	5200mm concrete
104. 5250mm concrete	5250mm concrete
105. 5300mm concrete	5300mm concrete
106. 5350mm concrete	5350mm concrete
107. 5400mm concrete	5400mm concrete
108. 5450mm concrete	5450mm concrete
109. 5500mm concrete	5500mm concrete
110. 5550mm concrete	5550mm concrete
111. 5600mm concrete	5600mm concrete
112. 5650mm concrete	5650mm concrete
113. 5700mm concrete	5700mm concrete
114. 5750mm concrete	5750mm concrete
115. 5800mm concrete	5800mm concrete
116. 5850mm concrete	5850mm concrete
117. 5900mm concrete	5900mm concrete
118. 5950mm concrete	5950mm concrete
119. 6000mm concrete	6000mm concrete
120. 6050mm concrete	6050mm concrete
121. 6100mm concrete	6100mm concrete
122. 6150mm concrete	6150mm concrete
123. 6200mm concrete	6200mm concrete
124. 6250mm concrete	6250mm concrete
125. 6300mm concrete	6300mm concrete
126. 6350mm concrete	6350mm concrete
127. 6400mm concrete	6400mm concrete
128. 6450mm concrete	6450mm concrete
129. 6500mm concrete	6500mm concrete
130. 6550mm concrete	6550mm concrete
131. 6600mm concrete	6600mm concrete
132. 6650mm concrete	6650mm concrete
133. 6700mm concrete	6700mm concrete
134. 6750mm concrete	6750mm concrete
135. 6800mm concrete	6800mm concrete
136. 6850mm concrete	6850mm concrete
137. 6900mm concrete	6900mm concrete
138. 6950mm concrete	6950mm concrete
139. 7000mm concrete	7000mm concrete
140. 7050mm concrete	7050mm concrete
141. 7100mm concrete	7100mm concrete
142. 7150mm concrete	7150mm concrete
143. 7200mm concrete	7200mm concrete
144. 7250mm concrete	7250mm concrete
145. 7300mm concrete	7300mm concrete
146. 7350mm concrete	7350mm concrete
147. 7400mm concrete	7400mm concrete
148. 7450mm concrete	7450mm concrete
149. 7500mm concrete	7500mm concrete
150. 7550mm concrete	7550mm concrete
151. 7600mm concrete	7600mm concrete
152. 7650mm concrete	7650mm concrete
153. 7700mm concrete	7700mm concrete
154. 7750mm concrete	7750mm concrete
155. 7800mm concrete	7800mm concrete
156. 7850mm concrete	7850mm concrete
157. 7900mm concrete	7900mm concrete
158. 7950mm concrete	7950mm concrete
159. 8000mm concrete	8000mm concrete
160. 8050mm concrete	8050mm concrete
161. 8100mm concrete	8100mm concrete
162. 8150mm concrete	8150mm concrete
163. 8200mm concrete	8200mm concrete
164. 8250mm concrete	8250mm concrete
165. 8300mm concrete	8300mm concrete
166. 8350mm concrete	8350mm concrete
167. 8400mm concrete	8400mm concrete
168. 8450mm concrete	8450mm concrete
169. 8500mm concrete	8500mm concrete
170. 8550mm concrete	8550mm concrete
171. 8600mm concrete	8600mm concrete
172. 8650mm concrete	8650mm concrete
173. 8700mm concrete	8700mm concrete
174. 8750mm concrete	8750mm concrete
175. 8800mm concrete	8800mm concrete
176. 8850mm concrete	8850mm concrete
177. 8900mm concrete	8900mm concrete
178. 8950mm concrete	8950mm concrete
179. 9000mm concrete	9000mm concrete
180. 9050mm concrete	9050mm concrete
181. 9100mm concrete	9100mm concrete
182. 9150mm concrete	9150mm concrete
183. 9200mm concrete	9200mm concrete
184. 9250mm concrete	9250mm concrete
185. 9300mm concrete	9300mm concrete
186. 9350mm concrete	9350mm concrete
187. 9400mm concrete	9400mm concrete
188. 9450mm concrete	9450mm concrete
189. 9500mm concrete	9500mm concrete
190. 9550mm concrete	9550mm concrete
191. 9600mm concrete	9600mm concrete
192. 9650mm concrete	9650mm concrete
193. 9700mm concrete	9700mm concrete
194. 9750mm concrete	9750mm concrete
195. 9800mm concrete	9800mm concrete
196. 9850mm concrete	9850mm concrete
197. 9900mm concrete	9900mm concrete
198. 9950mm concrete	9950mm concrete
199. 10000mm concrete	10000mm concrete



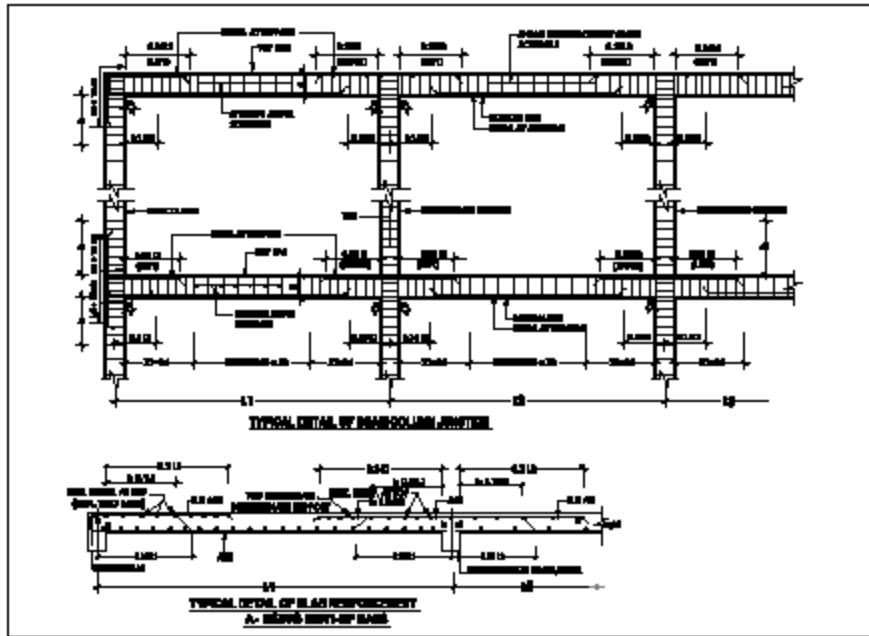
1R SLAB BEAM SCHEDULE BLOCK: A. R.C. COLUMN BRIDGE CONCRETE

SCHEDULE NO.	SL. NO.	TYPE OF SLAB	NOTATION	SIZE OF BEAM		SLAB REINFORCEMENT								STIRRUPS				BEAM POSITION		
				W	D	BOTTOM BARS		TOP BARS		TOP REINFORCEMENT				SHAPE		SPACING		SECTION	AS SUPPORT	
				NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS			
1		FB-1	300	300	30	2	30	5	16	2	16	2			100	100	700	900		
2		FB-2	300	300	30	4	20	4	20	4	20	4			100	100	700	900		
3		FB-3	300	300	30	2	20	2							100	100	700	900		
4		FB-4	300	300	16	4	10	2			10	2			100	100	700	900		
5		FB-5	300	300	16	3	16	2	16	2	16	2			100	100	700	900		
6		FB-6	300	300	30	2	30	5	30	2	30	2			100	100	700	900		
7		FB-7	300	300	25	4	25	4							100	100	700	900		

SCHEDULE OF THE SLAB:

SL. NO.	NAME OF SLAB	THICKNESS	BOTTOM REINFORCEMENT				TOP REINFORCEMENT				
			ALONG SHORT SPAN	ALONG LONG SPAN	ALONG SHORT SPAN	ALONG LONG SPAN	ALONG SHORT SPAN	ALONG LONG SPAN	ALONG SHORT SPAN	ALONG LONG SPAN	
1	FB-1	150	20 @ 100	20 @ 100	20 @ 100	20 @ 100	20 @ 100	20 @ 100	20 @ 100	20 @ 100	20 @ 100
2											

<p>REVISIONS</p> <p>1. DATE: 10/10/2018</p> <p>2. BY: [Signature]</p> <p>3. BY: [Signature]</p> <p>4. BY: [Signature]</p> <p>5. BY: [Signature]</p> <p>6. BY: [Signature]</p> <p>7. BY: [Signature]</p> <p>8. BY: [Signature]</p> <p>9. BY: [Signature]</p> <p>10. BY: [Signature]</p>	<p>APPROVALS</p> <p>DESIGNER: [Signature]</p> <p>CHECKER: [Signature]</p> <p>ENGINEER: [Signature]</p> <p>DATE: 10/10/2018</p> <p>PROJECT: [Project Name]</p> <p>SCALE: 1:100</p> <p>PROJECT NO: [Project No]</p> <p>DATE OF ISSUE: 10/10/2018</p> <p>ISSUED BY: [Signature]</p> <p>DATE OF ISSUE: 10/10/2018</p>
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SECOND FLOOR SLAB BEAM SCHEDULE BLOCK - A, B, C (25-35 GRADE CONCRETE)

BLOCK NO.	SL. NO.	SECTION	BEAM DIMENSIONS										BETWEEN BEAM SPANS	STRENGTH				BEAM POSITION	
			WIDE OF BEAM		TOP FLANGE		TOP FLANGE AT SUPPORT		WIDE OF BEAM		DEPTH			REINFORCEMENT		LEFT / RIGHT			
			W	D	W ₁	H ₁	W ₂	H ₂	W ₃	H ₃	W ₄	D ₁		D ₂	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS
1		FB-1	300	450	20	30	2	16	2	16	2		10 #	400-oh	400	400oh			
2		FB-2	300	450	20	4	25	4	30	4	30	4	10 #	400-oh	400	400oh			
3		FB-3	300	450	20	8	30	8				10 #	400-oh	400	400oh				
4		FB-4	300	450	14	4	16	8			10	2	8 #	400-oh	400	400oh			
5		FB-5	300	450	14	2	16	2	16	2	16	2	8 #	400-oh	400	400oh			
6		FB-6	300	450	20	2	20	2	20	2	20	2	10 #	400-oh	400	400oh			
7		FB-7	300	450	20	4	20	4					8 #	400-oh	400	400oh			
8		FB-8	300	450	20	4	25	4					10 #	400-oh	400	400oh			

SCHEDULE OF 2nd FLOOR :

BLOCK NO.	SECTION	SECTION REINFORCEMENT				TOP REINFORCEMENT			
		ALONG BEAM SPAN	ALONG LONG SPAN	ALONG BEAM SPAN	ALONG LONG SPAN	ALONG BEAM SPAN	ALONG LONG SPAN	ALONG BEAM SPAN	ALONG LONG SPAN
1	FB-1	10 # @ 100oh	10 # @ 100oh	10 # @ 100oh	10 # @ 100oh	CONCENTRICALLY	CONCENTRICALLY	CONCENTRICALLY	CONCENTRICALLY
2									

REVISIONS

1. CHECKED BY: [Signature]
2. [Signature]
3. [Signature]
4. [Signature]
5. [Signature]
6. [Signature]
7. [Signature]
8. [Signature]
9. [Signature]
10. [Signature]

DETAILS

1. ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

2. ALL DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.

3. ALL DIMENSIONS TO CENTERLINE UNLESS OTHERWISE SPECIFIED.

4. ALL DIMENSIONS TO OUTLINE UNLESS OTHERWISE SPECIFIED.

5. ALL DIMENSIONS TO CENTERLINE OF REINFORCEMENT UNLESS OTHERWISE SPECIFIED.

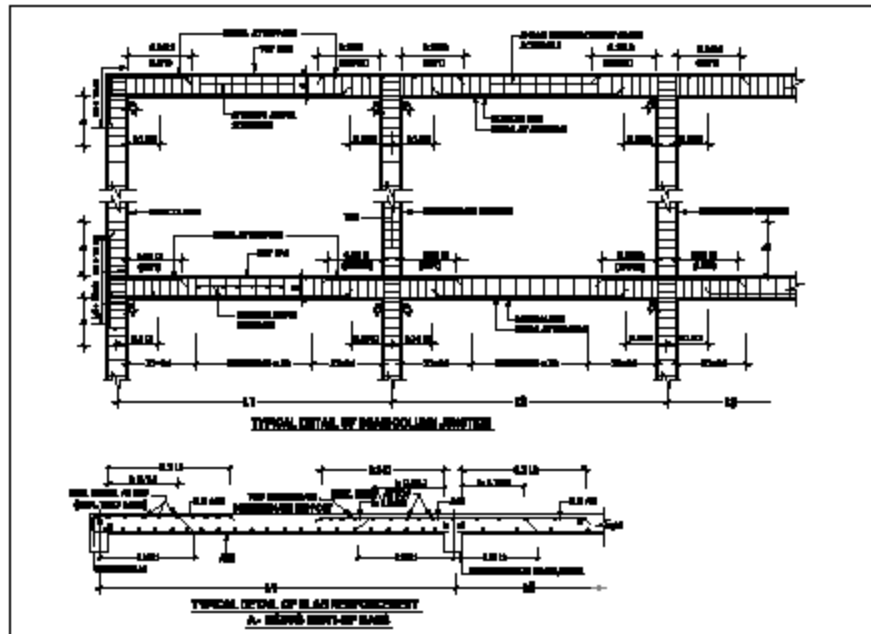
6. ALL DIMENSIONS TO CENTERLINE OF COLUMN UNLESS OTHERWISE SPECIFIED.

7. ALL DIMENSIONS TO CENTERLINE OF BEAM UNLESS OTHERWISE SPECIFIED.

8. ALL DIMENSIONS TO CENTERLINE OF WALL UNLESS OTHERWISE SPECIFIED.

9. ALL DIMENSIONS TO CENTERLINE OF SLAB UNLESS OTHERWISE SPECIFIED.

10. ALL DIMENSIONS TO CENTERLINE OF DECK UNLESS OTHERWISE SPECIFIED.



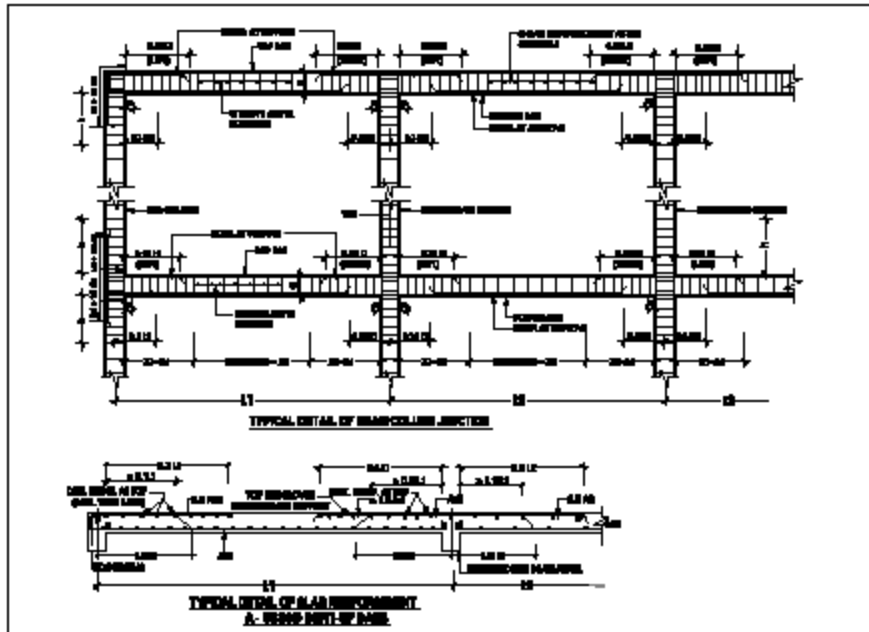
THIRD FLOOR BEAM SCHEDULE BLOCK: A. R. C. IN-SITU CONCRETE

SCHEDULE NO.	BEAM NO.	SECTION	SIZE OF BEAM		BOTH REINFORCEMENT								STIRRUPE				BEAM POSITION		
			W	D	BOT. BARS		TOP BARS		TOP BARS AT SUPPORT		BOT. BARS		SHAPE	SPACING	SHAPE	SPACING	ANCHOR	AT SUPPORT	
			NO.	SIZE	NO.	SIZE	NO.	SIZE	NO.	SIZE	NO.	SIZE	NO.	SIZE					
1	FB-1	250	450	20	9	20	3	16	3	16	3			100	100	100	100		
2	FB-2	350	450	28	4	25	4	30	4	25	4			100	100	100	100		
3	FB-3	300	400	20	8	20	3							100	100	100	100		
4	FB-4	300	400	16	4	16	3			16	2			100	100	100	100		
5	FB-5	300	400	16	3	16	3	16	2	16	3			100	100	100	100		
6	FB-6	300	400	20	9	20	3	20	3	20	3			100	100	100	100		
7	FB-7	400	450	20	4	25	4							100	100	100	100		

SCHEDULE OF THE SLAB :

SCHEDULE NO.	SECTION OF SLAB	THICKNESS (mm)	BOTH REINFORCEMENT				TOP REINFORCEMENT			
			ALONG SHORT SPAN		ALONG LONG SPAN		ALONG SHORT SPAN		ALONG LONG SPAN	
			NO.	SIZE	NO.	SIZE	CIRCUMFERENTIAL BARS	SPACING	CIRCUMFERENTIAL BARS	SPACING
1	F ₃	150	10 @ 150	10 @ 150	10 @ 150	10 @ 150	10 @ 150	100	10 @ 150	100
2										

<p>SCALE</p> <p>1:20</p> <p>1:50</p> <p>1:100</p> <p>1:200</p> <p>1:500</p> <p>1:1000</p> <p>1:2000</p> <p>1:5000</p> <p>1:10000</p> <p>1:20000</p> <p>1:50000</p> <p>1:100000</p> <p>1:200000</p> <p>1:500000</p> <p>1:1000000</p> <p>1:2000000</p> <p>1:5000000</p> <p>1:10000000</p> <p>1:20000000</p> <p>1:50000000</p> <p>1:100000000</p> <p>1:200000000</p> <p>1:500000000</p> <p>1:1000000000</p> <p>1:2000000000</p> <p>1:5000000000</p> <p>1:10000000000</p> <p>1:20000000000</p> <p>1:50000000000</p> <p>1:100000000000</p> <p>1:200000000000</p> <p>1:500000000000</p> <p>1:1000000000000</p> <p>1:2000000000000</p> <p>1:5000000000000</p> <p>1:10000000000000</p> <p>1:20000000000000</p> <p>1:50000000000000</p> <p>1:100000000000000</p> <p>1:200000000000000</p> <p>1:500000000000000</p> <p>1:1000000000000000</p> <p>1:2000000000000000</p> <p>1:5000000000000000</p> <p>1:10000000000000000</p> <p>1:20000000000000000</p> <p>1:50000000000000000</p> <p>1:100000000000000000</p> <p>1:200000000000000000</p> <p>1:500000000000000000</p> <p>1:1000000000000000000</p> <p>1:2000000000000000000</p> <p>1:5000000000000000000</p>	<p>REVISIONS</p> <p>NO. DATE DESCRIPTION</p> <p>1. 10/10/2023</p> <p>2. 11/10/2023</p> <p>3. 12/10/2023</p> <p>4. 01/11/2023</p> <p>5. 02/11/2023</p> <p>6. 03/11/2023</p> <p>7. 04/11/2023</p> <p>8. 05/11/2023</p> <p>9. 06/11/2023</p> <p>10. 07/11/2023</p> <p>11. 08/11/2023</p> <p>12. 09/11/2023</p> <p>13. 10/11/2023</p> <p>14. 11/11/2023</p> <p>15. 12/11/2023</p> <p>16. 01/12/2023</p> <p>17. 02/12/2023</p> <p>18. 03/12/2023</p> <p>19. 04/12/2023</p> <p>20. 05/12/2023</p> <p>21. 06/12/2023</p> <p>22. 07/12/2023</p> <p>23. 08/12/2023</p> <p>24. 09/12/2023</p> <p>25. 10/12/2023</p> <p>26. 11/12/2023</p> <p>27. 12/12/2023</p> <p>28. 01/01/2024</p> <p>29. 02/01/2024</p> <p>30. 03/01/2024</p> <p>31. 04/01/2024</p> <p>32. 05/01/2024</p> <p>33. 06/01/2024</p> <p>34. 07/01/2024</p> <p>35. 08/01/2024</p> <p>36. 09/01/2024</p> <p>37. 10/01/2024</p> <p>38. 11/01/2024</p> <p>39. 12/01/2024</p> <p>40. 01/02/2025</p> <p>41. 02/02/2025</p> <p>42. 03/02/2025</p> <p>43. 04/02/2025</p> <p>44. 05/02/2025</p> <p>45. 06/02/2025</p> <p>46. 07/02/2025</p> <p>47. 08/02/2025</p> <p>48. 09/02/2025</p> <p>49. 10/02/2025</p> <p>50. 11/02/2025</p> <p>51. 12/02/2025</p> <p>52. 01/03/2026</p> <p>53. 02/03/2026</p> <p>54. 03/03/2026</p> <p>55. 04/03/2026</p> <p>56. 05/03/2026</p> <p>57. 06/03/2026</p> <p>58. 07/03/2026</p> <p>59. 08/03/2026</p> <p>60. 09/03/2026</p> <p>61. 10/03/2026</p> <p>62. 11/03/2026</p> <p>63. 12/03/2026</p> <p>64. 01/04/2027</p> <p>65. 02/04/2027</p> <p>66. 03/04/2027</p> <p>67. 04/04/2027</p> <p>68. 05/04/2027</p> <p>69. 06/04/2027</p> <p>70. 07/04/2027</p> <p>71. 08/04/2027</p> <p>72. 09/04/2027</p> <p>73. 10/04/2027</p> <p>74. 11/04/2027</p> <p>75. 12/04/2027</p> <p>76. 01/05/2028</p> <p>77. 02/05/2028</p> <p>78. 03/05/2028</p> <p>79. 04/05/2028</p> <p>80. 05/05/2028</p> <p>81. 06/05/2028</p> <p>82. 07/05/2028</p> <p>83. 08/05/2028</p> <p>84. 09/05/2028</p> <p>85. 10/05/2028</p> <p>86. 11/05/2028</p> <p>87. 12/05/2028</p> <p>88. 01/06/2029</p> <p>89. 02/06/2029</p> <p>90. 03/06/2029</p> <p>91. 04/06/2029</p> <p>92. 05/06/2029</p> <p>93. 06/06/2029</p> <p>94. 07/06/2029</p> <p>95. 08/06/2029</p> <p>96. 09/06/2029</p> <p>97. 10/06/2029</p> <p>98. 11/06/2029</p> <p>99. 12/06/2029</p> <p>100. 01/07/2030</p>
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FOURTH FLOOR SLAB BEAM SCHEDULE BLOCK : A, B, C IS IN GRADE CONCRETE

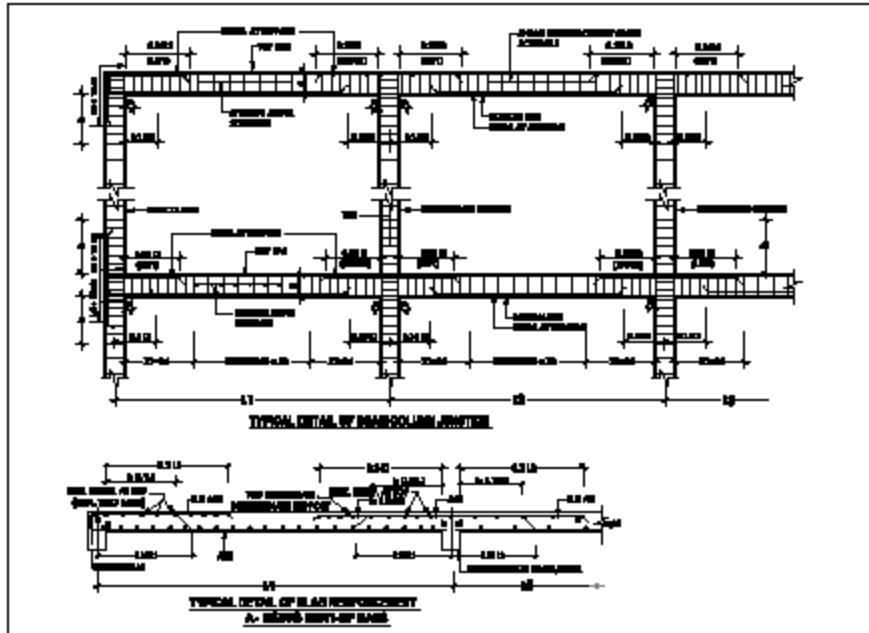
BLOCK NO.	BLOCK TYPE	BLOCK IDENTIFICATION	BOTH REINFORCEMENTS										INTERPOLATE		FORM POSITION			
			SIZE OF BEAM		BOTTOM BARS		TOP BARS		TOP BARS AT SUPPORT		BETWEEN JOINTS		CONCRETE		ANGLE AT SUPPORT			
IN	OUT		W	D	NO. OF BARS	SIZE OF BARS	NO. OF BARS	SIZE OF BARS	NO. OF BARS	SIZE OF BARS	NO. OF BARS	SIZE OF BARS	CONC.	SPACING	IN	OUT	IN	OUT
1		FB-4	300	300	20	3	20	3	16	3	16	3	100	100	100	100		
2		FB-4	300	300	20	4	20	4	20	4	20	4	100	100	100	100		
3		FB-4	300	300	20	3	20	3					100	100	100	100		
4		FB-4	300	300	20	4	20	3			16	3	100	100	100	100		
5		FB-4	300	300	20	3	20	3	16	3	16	3	100	100	100	100		
6		FB-4	300	300	20	3	20	3	20	3	20	3	100	100	100	100		
7		FB-7	400	300	20	4	20	4					100	100	100	100		

SCHEDULE OF 4th SLAB:

#	NAME OF SLAB	THICKNESS (mm)	BOTH REINFORCEMENTS				TOP REINFORCEMENT			
			ALONG X-DIR		ALONG Y-DIR		ALONG X-DIR		ALONG Y-DIR	
			NO. OF BARS	SIZE	NO. OF BARS	SIZE	CIRCUMFERENTIAL BARS	CONTRIBUTION	CIRCUMFERENTIAL BARS	CONTRIBUTION
1	FA	150	10 @ 150	10 @ 150	10 @ 150	10 @ 150	10 @ 150	10 @ 150	10 @ 150	10 @ 150
2										

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE SPECIFIED.
 4. ALL DIMENSIONS ARE TO SURFACE UNLESS OTHERWISE SPECIFIED.
 5. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE UNLESS OTHERWISE SPECIFIED.
 6. ALL DIMENSIONS ARE TO CENTERLINE OF CHANNEL UNLESS OTHERWISE SPECIFIED.
 7. ALL DIMENSIONS ARE TO CENTERLINE OF RIB UNLESS OTHERWISE SPECIFIED.
 8. ALL DIMENSIONS ARE TO CENTERLINE OF RIB UNLESS OTHERWISE SPECIFIED.
 9. ALL DIMENSIONS ARE TO CENTERLINE OF RIB UNLESS OTHERWISE SPECIFIED.
 10. ALL DIMENSIONS ARE TO CENTERLINE OF RIB UNLESS OTHERWISE SPECIFIED.

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE SPECIFIED.
 4. ALL DIMENSIONS ARE TO SURFACE UNLESS OTHERWISE SPECIFIED.
 5. ALL DIMENSIONS ARE TO CENTERLINE OF PIPE UNLESS OTHERWISE SPECIFIED.
 6. ALL DIMENSIONS ARE TO CENTERLINE OF CHANNEL UNLESS OTHERWISE SPECIFIED.
 7. ALL DIMENSIONS ARE TO CENTERLINE OF RIB UNLESS OTHERWISE SPECIFIED.
 8. ALL DIMENSIONS ARE TO CENTERLINE OF RIB UNLESS OTHERWISE SPECIFIED.
 9. ALL DIMENSIONS ARE TO CENTERLINE OF RIB UNLESS OTHERWISE SPECIFIED.
 10. ALL DIMENSIONS ARE TO CENTERLINE OF RIB UNLESS OTHERWISE SPECIFIED.



TERRACE SLAB BEAM SCHEDULE BLOCK : A, B, C (6-M IN GRADE CONCRETE)

BLOCK NO.	SL. NO.	TYPE OF BEAM	REINFORCEMENT	TOP REINFORCEMENT										BOTTOM REINFORCEMENT				REMARKS		
				SIZE OF BEAM		VERTICAL SPACING		TOP BARS		TOP BARS AT SUPPORT		SIZE OF BARS		CENTRE		NEAR SUPPORT			NEAR SUPPORT	
				W	H	CP	SP	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO. OF BARS	NO.	NO.	NO.	NO.	NO.	NO.		NO.	NO.
1			FB-4	300	300	30	6	30	2	14	2	14	2	100	100	100	100			
2			FB-4	300	300	30	4	20	4	20	4	20	4	100	100	100	100			
3			FB-4	300	300	30	3	20	2				100	100	100	100				
4			FB-4	300	400	18	4	16	2			14	2	100	100	100	100			
5			FB-4	300	300	18	3	16	2	14	2	14	2	100	100	100	100			
6			FB-4	300	300	30	6	20	2	20	2	20	2	100	100	100	100			
7			FB-7	400	300	25	4	25	4				100	100	100	100				
8			FB-4	300	300	30	4	20	4	14	2	14	2	100	100	100	100			

SCHEDULE OF TERRACE SLAB :

BLOCK NO.	FRAME NO.	THICK. OF SLAB (mm)	SECTION REINFORCEMENT				TOP REINFORCEMENT				
			ALONG SHORT SPAN	ALONG LONG SPAN	ALONG SHORT SPAN	ALONG LONG SPAN	ALONG SHORT SPAN	ALONG LONG SPAN	ALONG SHORT SPAN	ALONG LONG SPAN	
1	P-1	150	FB @ 150mm	FB @ 200mm	FB @ 150mm	FB @ 200mm	FB @ 150mm	FB @ 150mm	FB @ 150mm	FB @ 150mm	FB @ 150mm

- 1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- 2. ALL REINFORCEMENT SHALL BE AS PER IS: 456-1978.
- 3. ALL REINFORCEMENT SHALL BE AS PER IS: 1786-1983.
- 4. ALL REINFORCEMENT SHALL BE AS PER IS: 1786-1983.
- 5. ALL REINFORCEMENT SHALL BE AS PER IS: 1786-1983.
- 6. ALL REINFORCEMENT SHALL BE AS PER IS: 1786-1983.
- 7. ALL REINFORCEMENT SHALL BE AS PER IS: 1786-1983.
- 8. ALL REINFORCEMENT SHALL BE AS PER IS: 1786-1983.
- 9. ALL REINFORCEMENT SHALL BE AS PER IS: 1786-1983.
- 10. ALL REINFORCEMENT SHALL BE AS PER IS: 1786-1983.

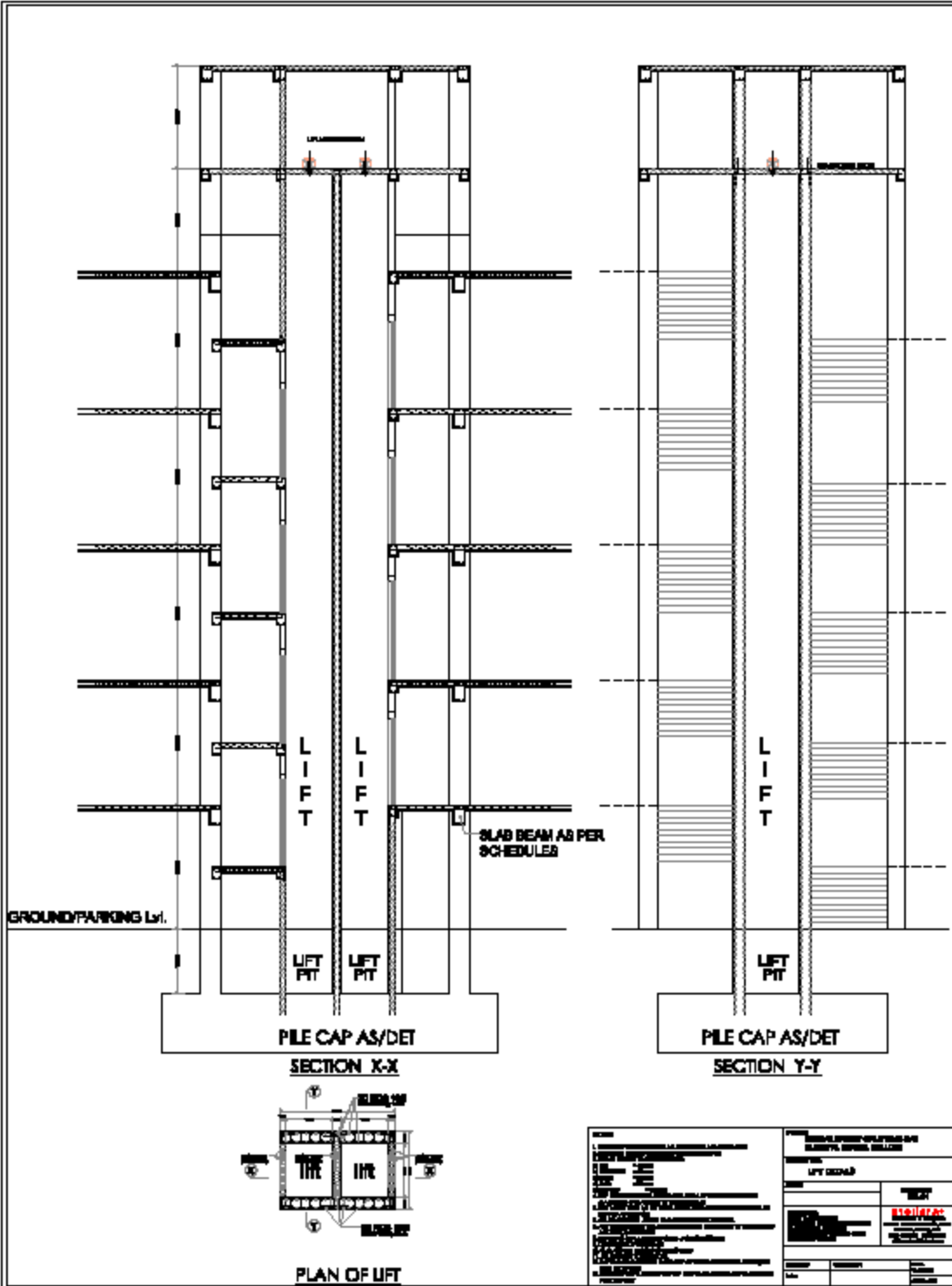
REVISIONS

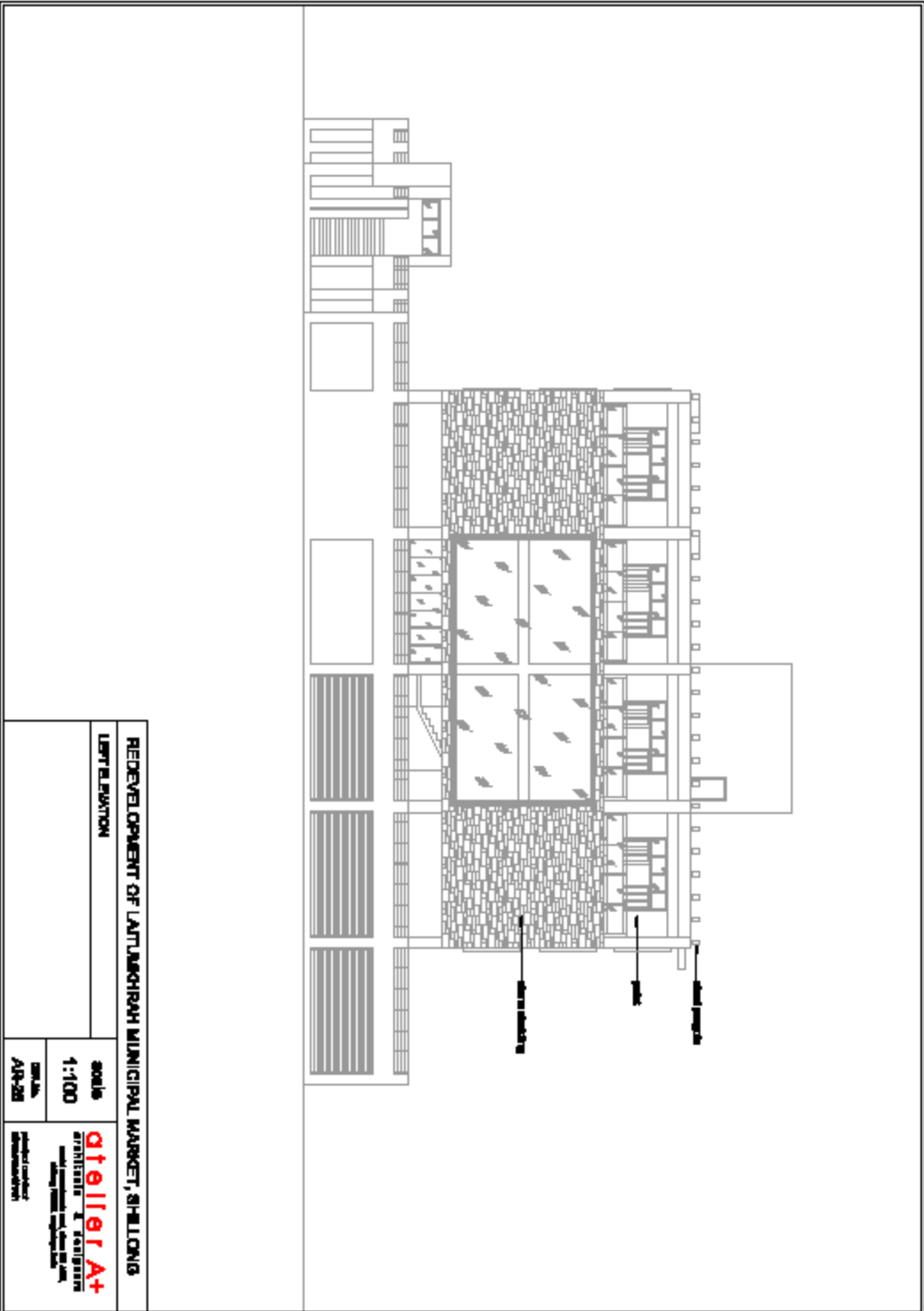
NO.	DATE	DESCRIPTION

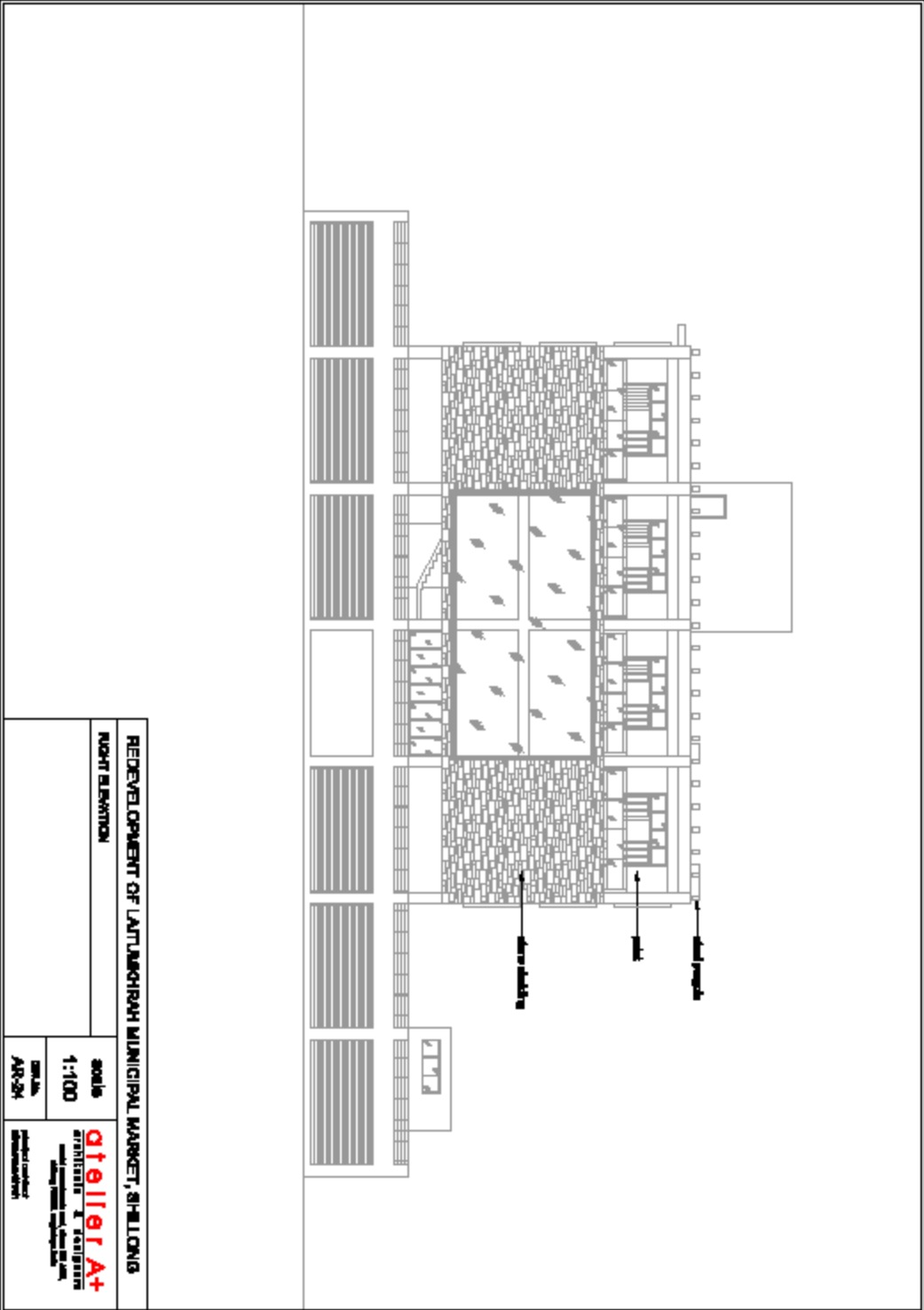
DESIGNED BY: **STAIRS**

CHECKED BY: **STAIRS**

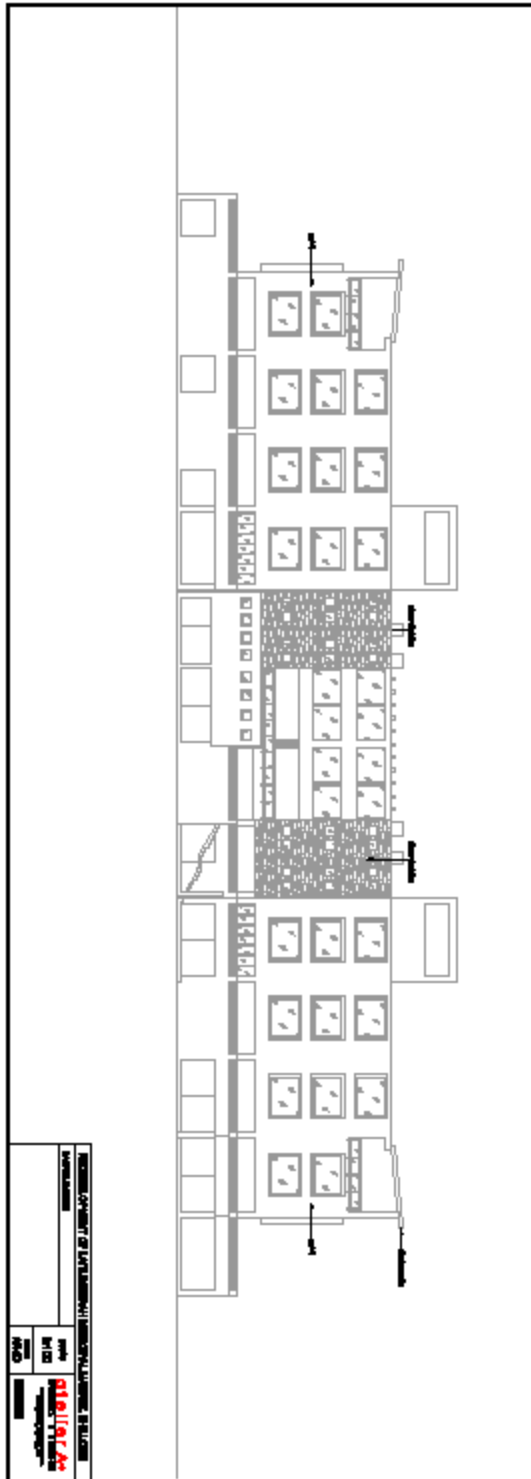
DATE: **STAIRS**

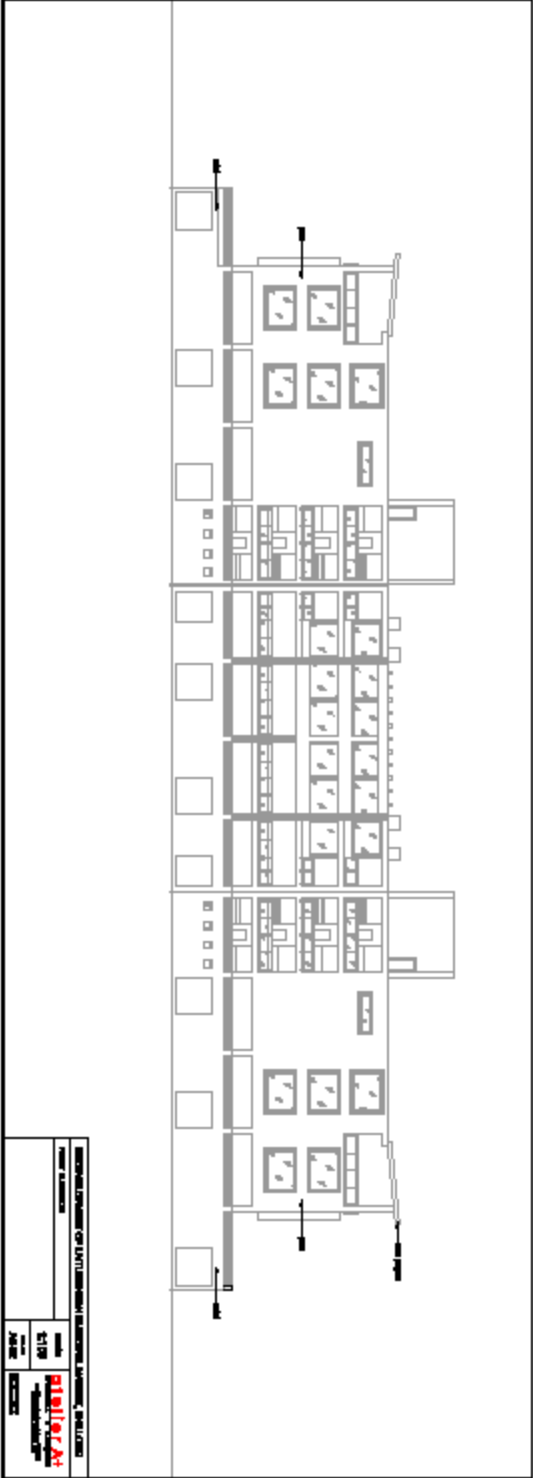


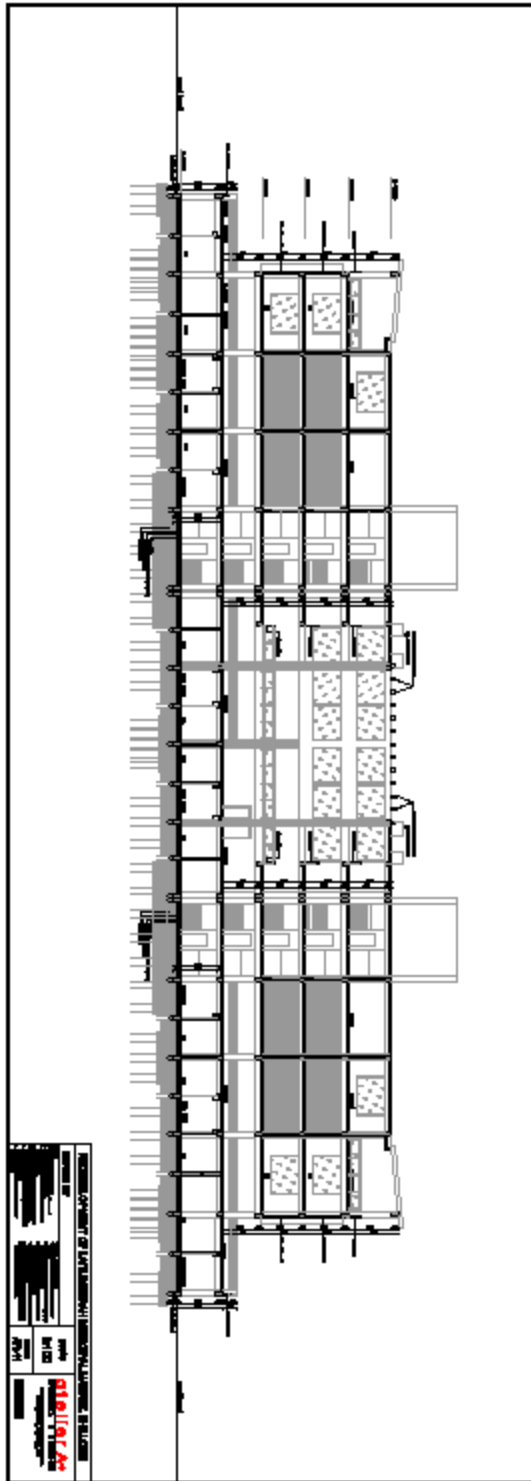


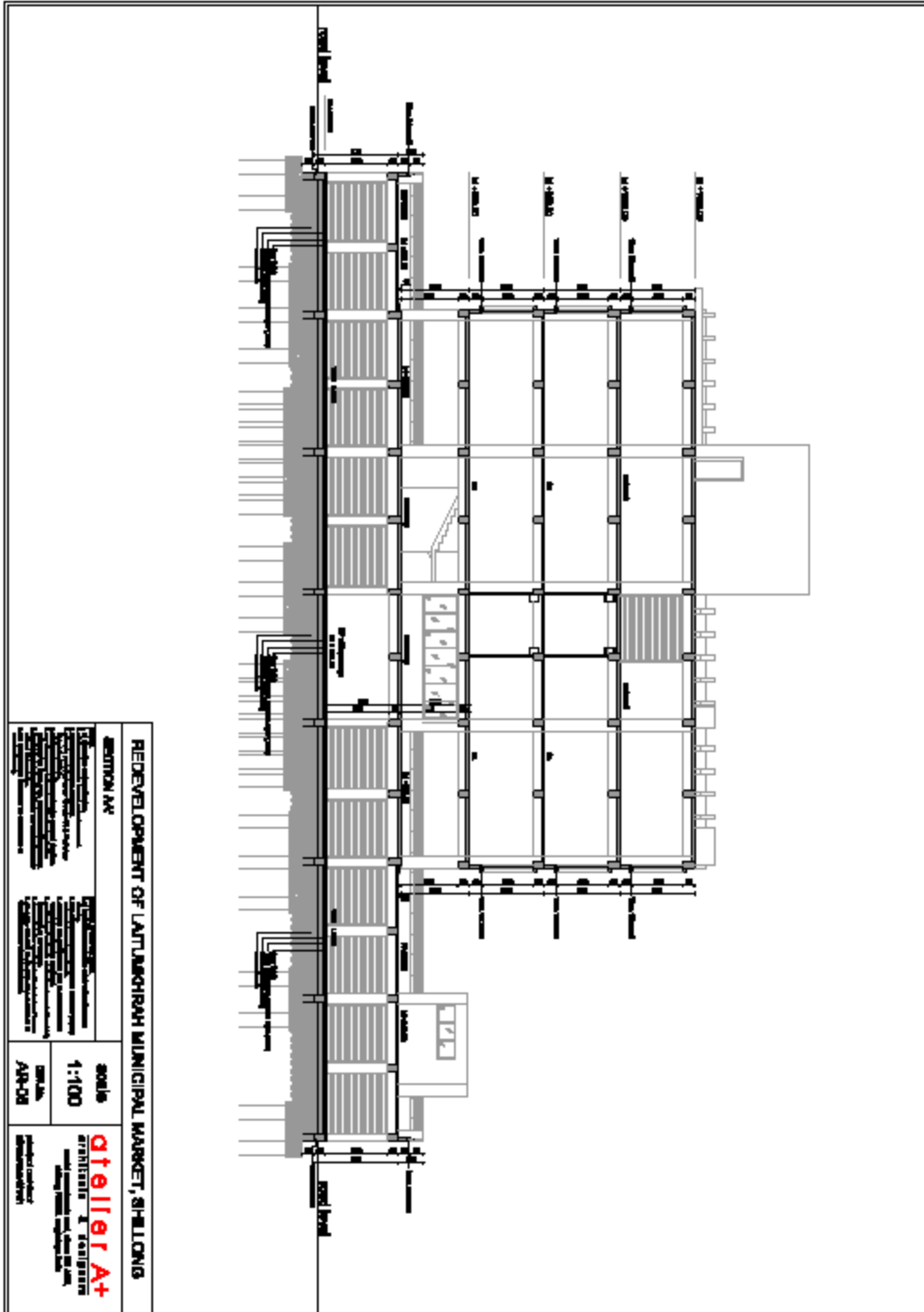


REDEVELOPMENT OF LATTINBOROUGH MUNICIPAL MARKET, SHILLONG		NOCT ELEVATION	
scale	1:100	DATE	AN-24
qtaller A+ ARCHITECTS & ENGINEERS 100, Market Street, Shillong, Meghalaya www.qtaller.com 0364-2531111			









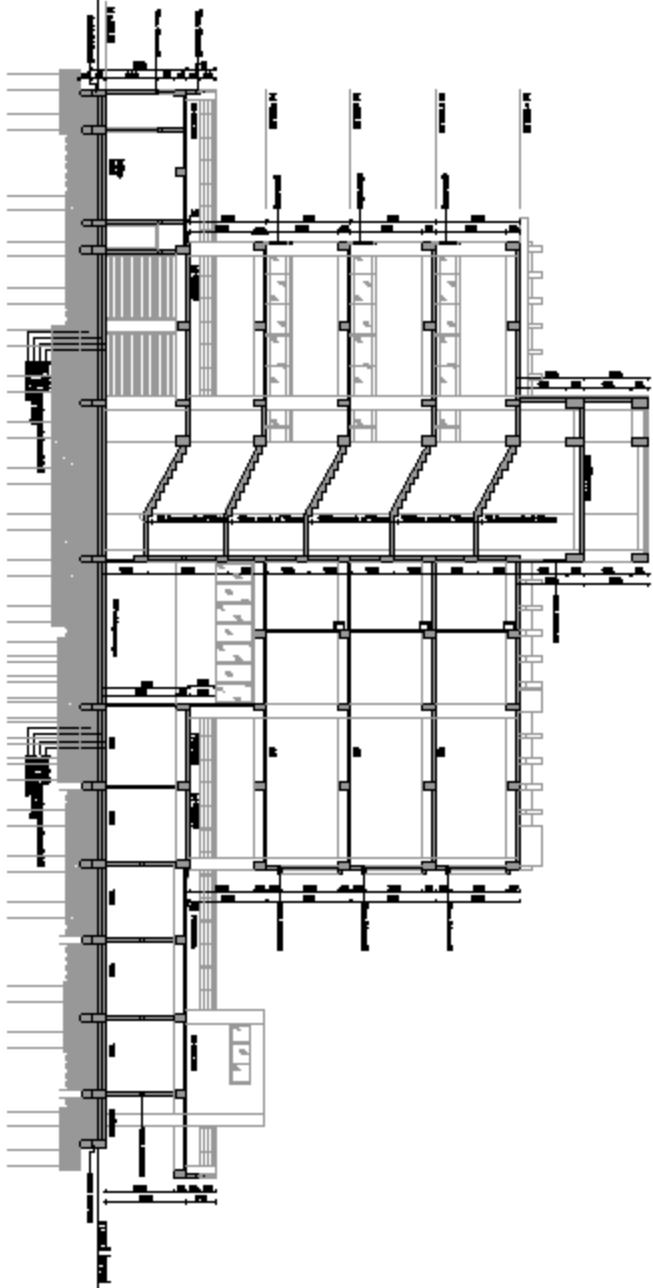
REDEVELOPMENT OF LAJTLARCIH MUNICIPAL MARKET, SHILLONG

SECTION A-A'

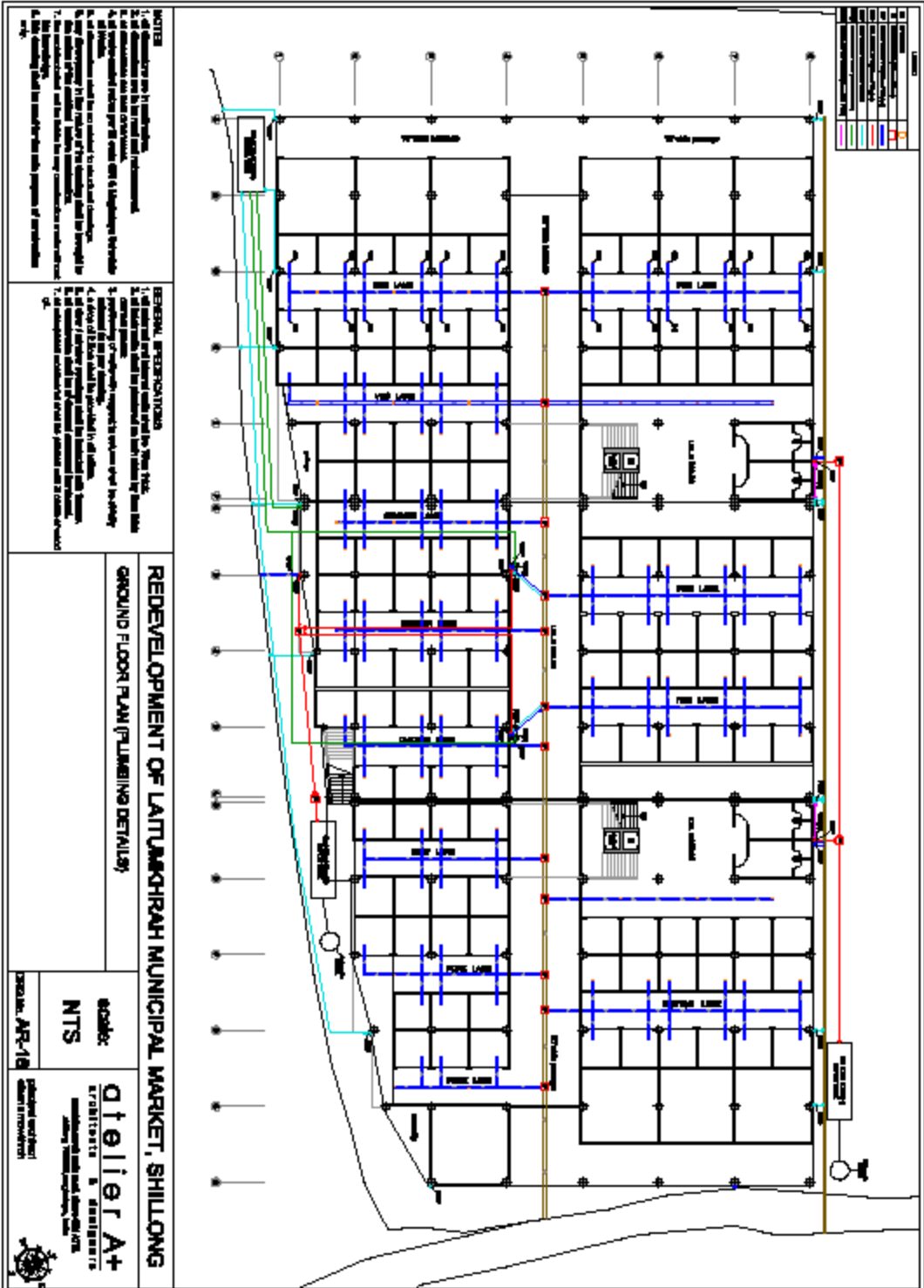
THE ARCHITECTS:
 Q+A+ ARCHITECTS
 100, LAJTLARCIH MUNICIPAL MARKET,
 SHILLONG, MIZORAM
 CONTACT: 0360 253 2532
 WWW.Q+A+.IN

Scale
 1:100
 DATE: 2018
 A/A-03

Q+A+
 Q+A+ ARCHITECTS
 100, LAJTLARCIH MUNICIPAL MARKET,
 SHILLONG, MIZORAM
 CONTACT: 0360 253 2532
 WWW.Q+A+.IN



REDEVELOPMENT OF LATJUMBUKHA MUNICIPAL MARKET, SHILLONG		
SECTION 107	<p>Scale 1:100</p> <p>DATE 2023</p> <p>PROJECT NUMBER 2023/2023</p>	
<p>DESIGNED BY ATUL K. BHARGAVA ARCHITECT</p> <p>CHECKED BY ATUL K. BHARGAVA ARCHITECT</p> <p>DATE 2023</p>	<p>SCALE 1:100</p> <p>DATE 2023</p>	<p>PROJECT NUMBER 2023/2023</p>
<p>Atelier A+ ARCHITECTS & CONSULTANTS 10, LALBAZAR, SHILLONG, MIZORAM</p>		



- NOTES**
1. All dimensions are in millimeters.
 2. All dimensions are to be read and interpreted as indicated.
 3. All dimensions are to be read and interpreted as indicated.
 4. All dimensions are to be read and interpreted as indicated.
 5. All dimensions are to be read and interpreted as indicated.
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 8. All dimensions are to be read and interpreted as indicated.
 9. All dimensions are to be read and interpreted as indicated.
 10. All dimensions are to be read and interpreted as indicated.
- GENERAL SPECIFICATIONS**
1. All work shall be in accordance with the latest edition of the relevant codes and standards.
 2. All work shall be in accordance with the latest edition of the relevant codes and standards.
 3. All work shall be in accordance with the latest edition of the relevant codes and standards.
 4. All work shall be in accordance with the latest edition of the relevant codes and standards.
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 9. All work shall be in accordance with the latest edition of the relevant codes and standards.
 10. All work shall be in accordance with the latest edition of the relevant codes and standards.

REDEVELOPMENT OF LATTUANGGRAH MUNICIPAL MARKET, SHILLONG

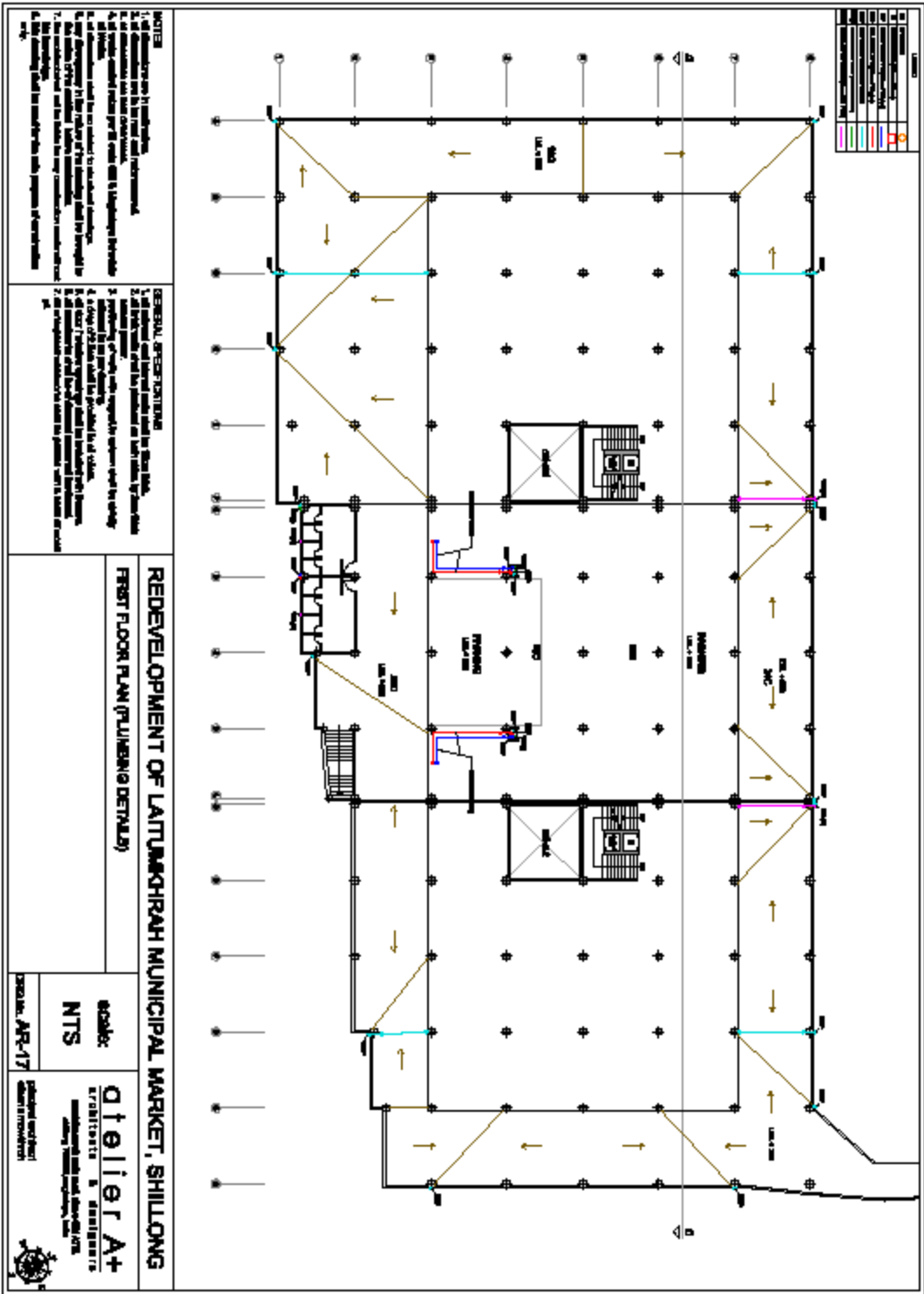
GROUND FLOOR PLAN (PLUMBING DETAILS)

scale: NTS

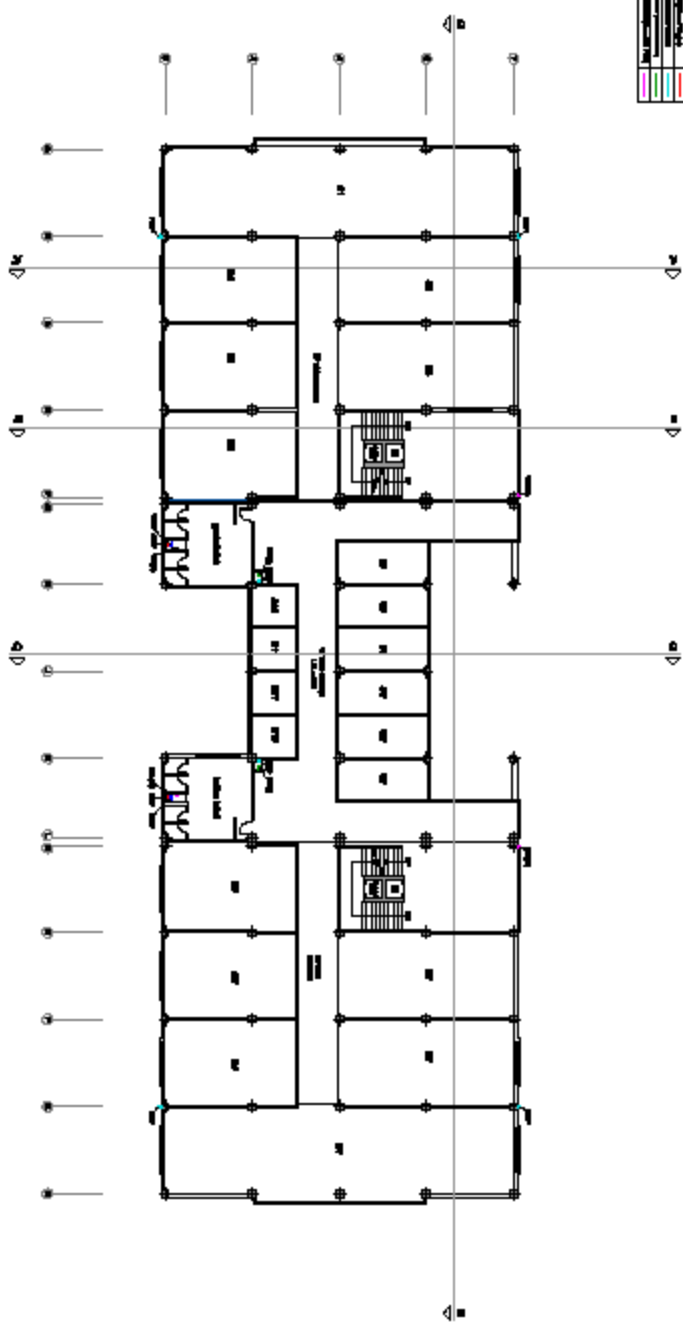
Qtelier A+
 ARCHITECTS & ENGINEERS
 10, BANGKOK ROAD, SHILLONG
 TEL: 0360 251 1111

Project: AR-18

Issued on: 10/10/2023



1	As Shown
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49	As Shown
50	As Shown



NOTE:

1. All dimensions are in millimeters.
2. All dimensions are to face unless otherwise indicated.
3. All dimensions are to centerline unless otherwise indicated.
4. All dimensions are to the centerline of the pipe unless otherwise indicated.
5. All dimensions are to the centerline of the pipe unless otherwise indicated.
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50. All dimensions are to the centerline of the pipe unless otherwise indicated.

REDEVELOPMENT OF LATJAKHRAH MUNICIPAL MARKET, SHILLONG

THIRD FLOOR PLAN (PLUMBING DETAILS)

Scale: **NTS**

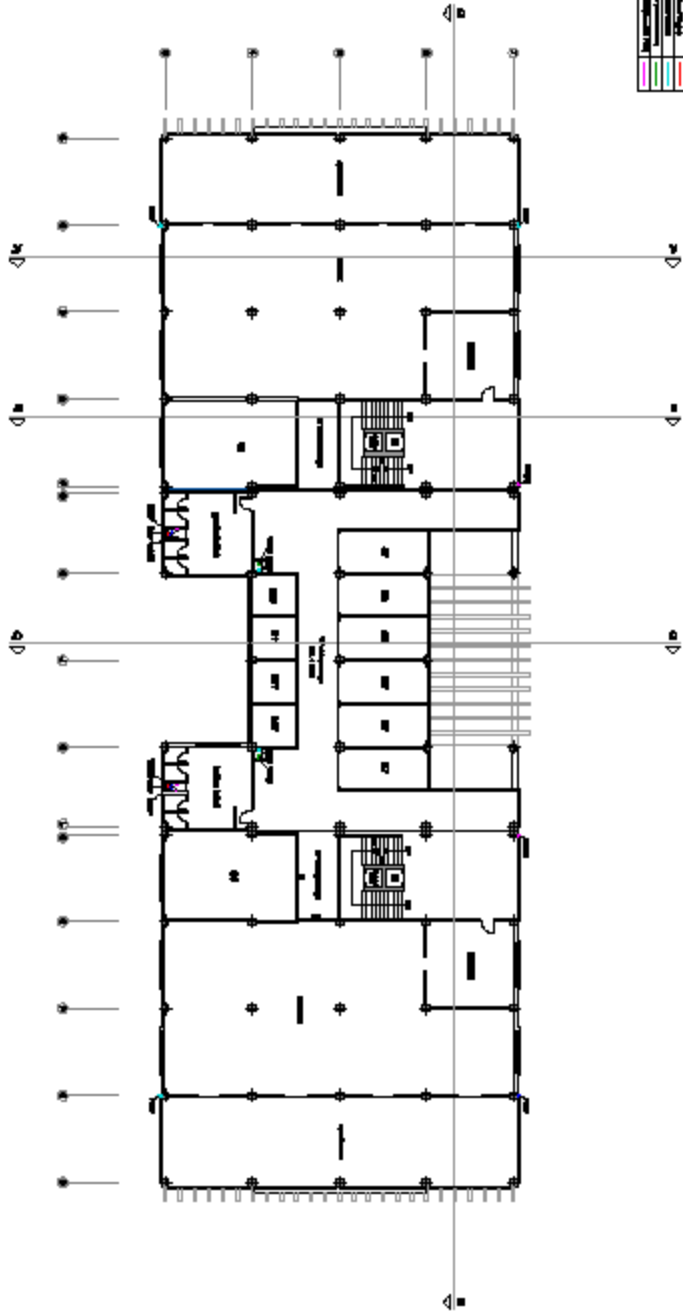
Q Teller & Associates
 ARCHITECTS & ENGINEERS
 10, JALPAIGANJ ROAD, SHILLONG-791 004, INDIA
 TEL: 0360-2534000, FAX: 0360-2534001
 WWW.QTELLER.COM

Project No: **3303A, APR-19**

Client: **SHILLONG MUNICIPAL CORPORATION**



NO.	DESCRIPTION	COLOR
1	EXISTING	Black
2	NEW	Red
3	ALTERED	Green
4	REMOVED	Blue
5	PROPOSED	Yellow
6	REVISION	Pink
7	REVISION	Light Blue
8	REVISION	Light Green
9	REVISION	Light Purple
10	REVISION	Light Orange



REDEVELOPMENT OF LATJAKHRAH MUNICIPAL MARKET, SHILLONG
FOURTH FLOOR PLAN (PLUMBING DETAILS)

SCALE:
 NTS

DATE: APR-20

DESIGNED BY:
 QTELIER A+ ARCHITECTS & ENGINEERS
 100, THE GRAND CENTRAL, SHILLONG, MIZORAM

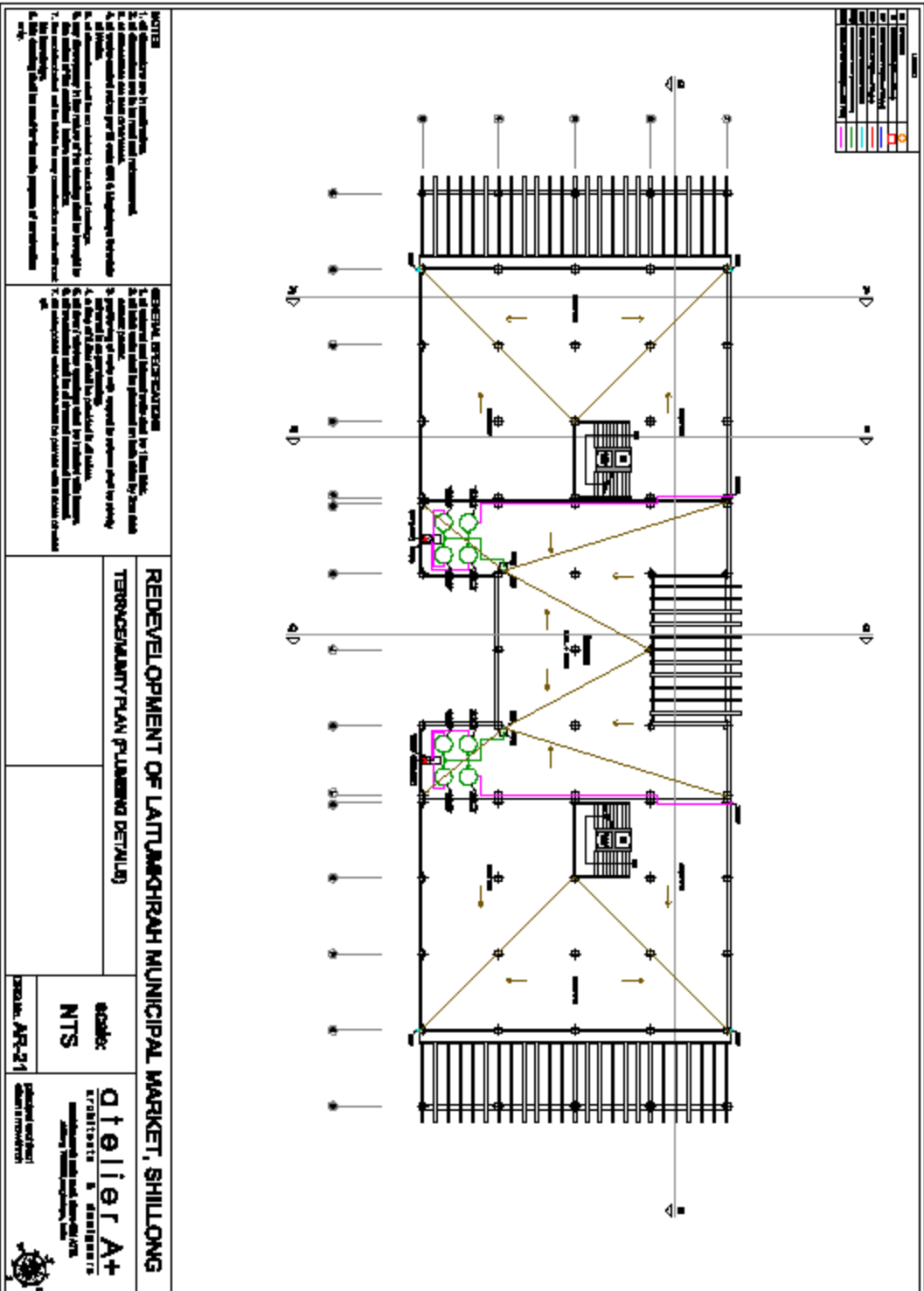
PROJECT NO.: 2019/20

NOTES:

1. All dimensions are in millimeters.
2. All dimensions are to face unless otherwise specified.
3. All dimensions are to centerline unless otherwise specified.
4. All dimensions are to the centerline of the pipe unless otherwise specified.
5. All dimensions are to the centerline of the pipe unless otherwise specified.
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8. All dimensions are to the centerline of the pipe unless otherwise specified.
9. All dimensions are to the centerline of the pipe unless otherwise specified.
10. All dimensions are to the centerline of the pipe unless otherwise specified.

GENERAL SPECIFICATIONS:

1. All work shall be done in accordance with the latest specifications of the Government of India.
2. All work shall be done in accordance with the latest specifications of the Government of India.
3. All work shall be done in accordance with the latest specifications of the Government of India.
4. All work shall be done in accordance with the latest specifications of the Government of India.
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9. All work shall be done in accordance with the latest specifications of the Government of India.
10. All work shall be done in accordance with the latest specifications of the Government of India.



NOTE:

1. of dimensions are to be maintained.
2. of dimensions are to be maintained.
3. of dimensions are to be maintained.
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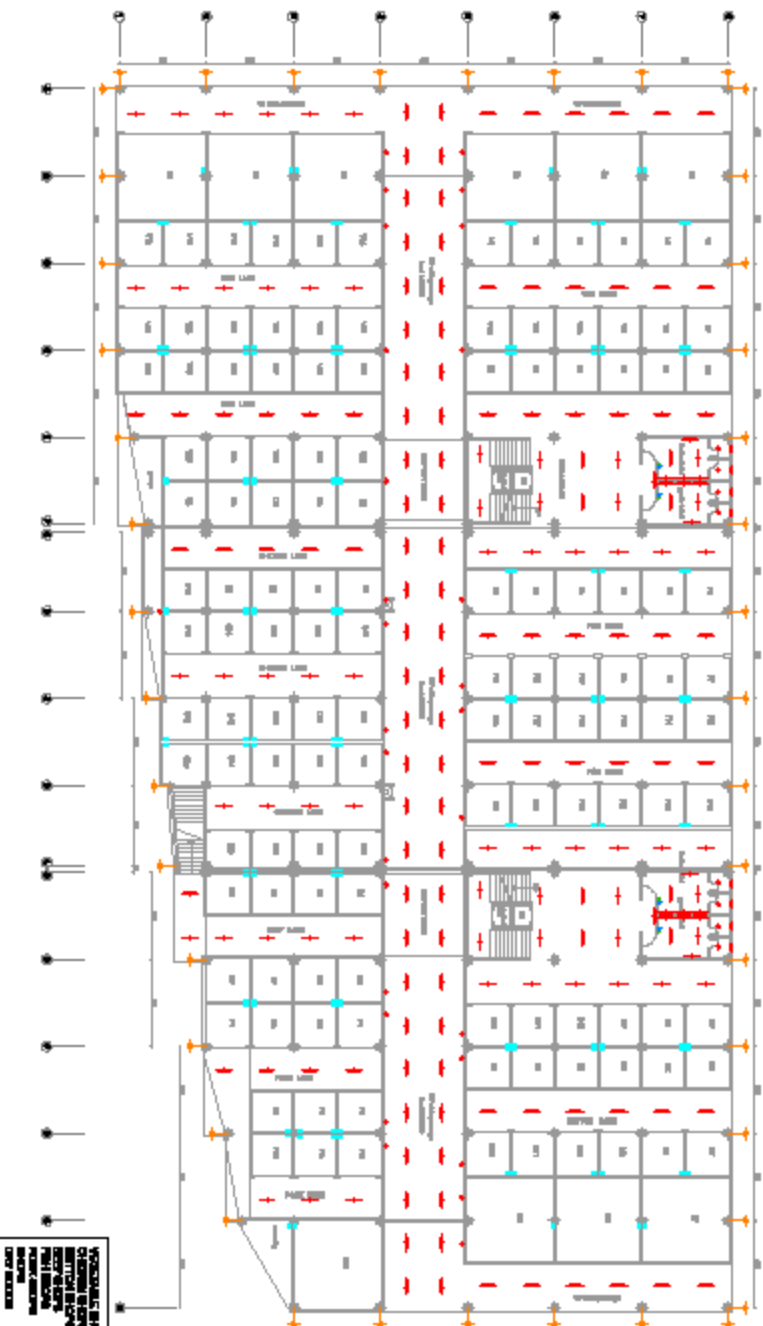
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REDEVELOPMENT OF LALTUKHRAH MUNICIPAL MARKET, SHILLONG

TERMINOLOGY PLAN (PLUMBING DETAIL)

Scale: 1:100
 NTS
 APR-21

Project Engineer:
 Otlier A+
 ENGINEERS & ARCHITECTS
 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100



SYMBOLS	
○	15-15W
○	20-20W
○	30-30W
○	40-40W
○	50-50W
○	60-60W
○	75-75W
○	90-90W
○	100-100W
○	150-150W
○	200-200W

- NOTE:**
1. All dimensions are in millimeters.
 2. All dimensions are to face unless otherwise stated.
 3. All dimensions are to be maintained.
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 10. All dimensions are to be maintained.

- GENERAL SPECIFICATIONS:**
1. All materials and labor shall conform to the latest specifications of the Government of India.
 2. All materials shall be of the best quality available in the market.
 3. All materials shall be of the best quality available in the market.
 4. All materials shall be of the best quality available in the market.
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 7. All materials shall be of the best quality available in the market.
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 9. All materials shall be of the best quality available in the market.
 10. All materials shall be of the best quality available in the market.

REDEVELOPMENT OF LATTAKSHRAHA MUNICIPAL MARKET, SHILLONG

GROUND FLOOR ELECTRICAL LAYOUT

LEGEND:

- 15-15W
- 20-20W
- 30-30W
- 40-40W
- 50-50W
- 60-60W
- 75-75W
- 90-90W
- 100-100W
- 150-150W
- 200-200W

SCALE:

NTS

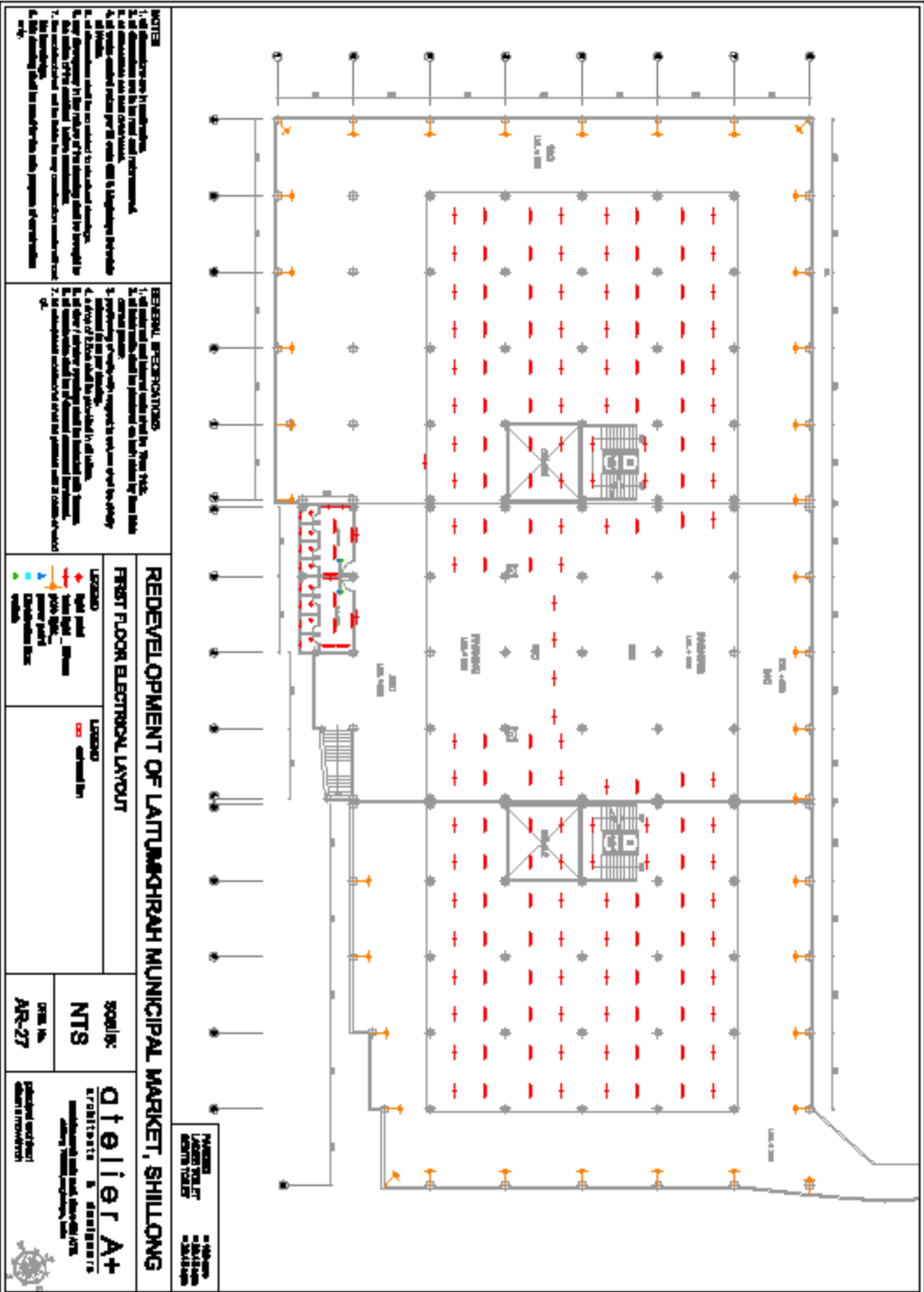
DATE: AR-26

DESIGNED BY: Ateliers+

ENGINEERS: K. B. BISHAYI & ASSOCIATES

ADDRESS: 7, Market Street, Shillong, Meghalaya, India.





NOTES

1. All dimensions are in millimeters.
2. All dimensions are to be read and interpreted as indicated.
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GENERAL SPECIFICATIONS

1. All material and labor shall conform to the specifications of the Government of India.
2. All material and labor shall conform to the specifications of the Government of India.
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10. All material and labor shall conform to the specifications of the Government of India.

REDEVELOPMENT OF LATUNGGRAH MUNICIPAL MARKET, SHILLONG

FIRST FLOOR ELECTRICAL LAYOUT

LEGEND

Spot level: Red cross

Water level: Blue cross

Power point: Orange cross

Water supply line: Green cross

Electrical symbols: Various symbols for switches, outlets, etc.

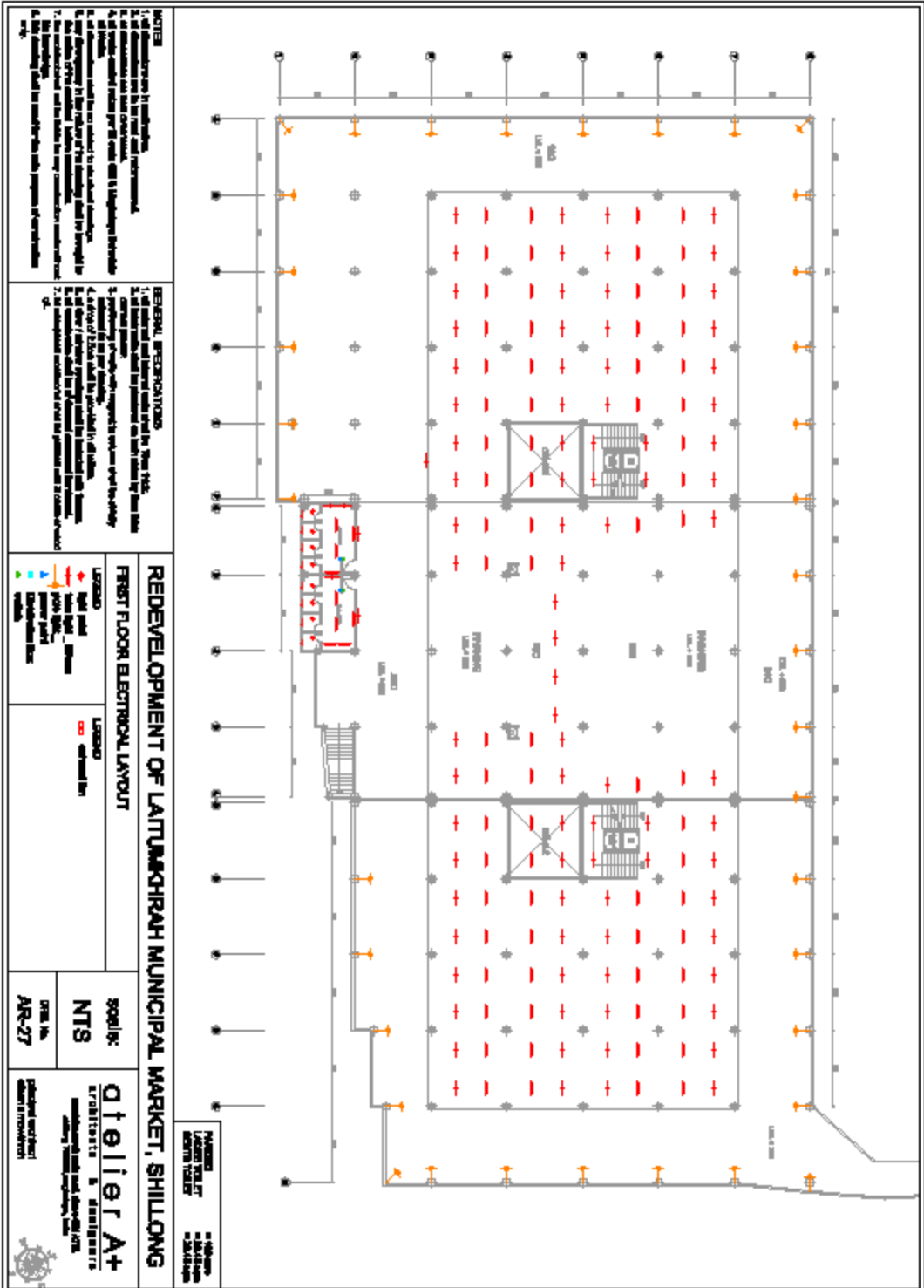
Scale: NTS

DRAW. No. AR-27

Atelier A+

ARCHITECTS & DESIGNERS

10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100



NOTE

1. All dimensions are in millimeters.
2. All dimensions are to be used for construction.
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GENERAL SPECIFICATIONS

1. All work shall be done in accordance with the specifications of the relevant codes of practice.
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FIRST FLOOR ELECTRICAL LAYOUT

LEGEND

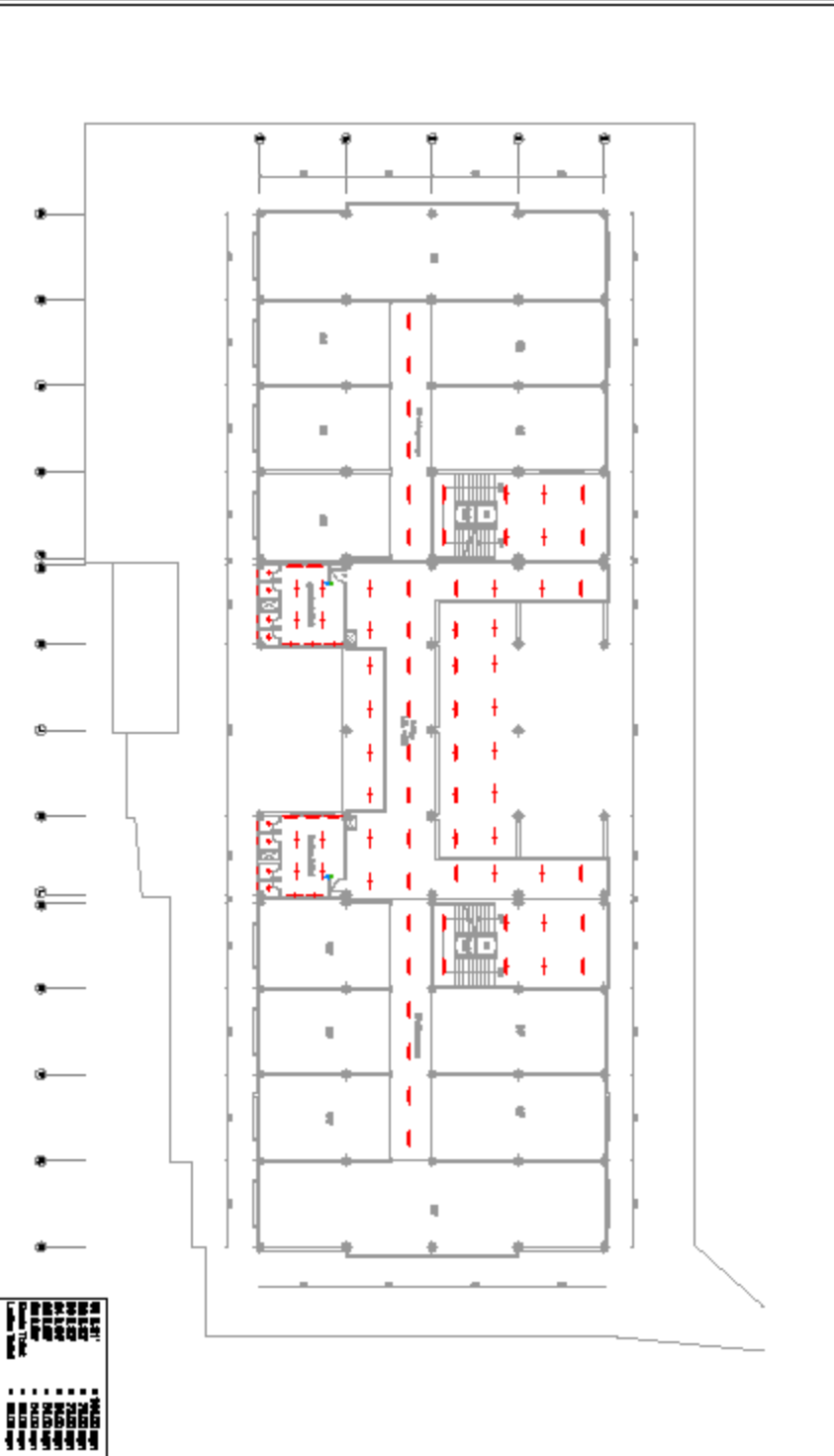
- UPPER FLOOR ELECTRICAL LAYOUT
- GENERAL SPECIFICATIONS

REDEVELOPMENT OF LATTUANGGRAH MUNICIPAL MARKET, SHILLONG

Scale: NTS

Qtelier A+ CONSULTANTS & ENGINEERS

AR-27



NOTES 1. of dimension and in building, reinforcement 2. of dimension and in wall and reinforcement 3. of dimension and in concrete 4. of dimension and in slab 5. of dimension and in column 6. of dimension and in beam 7. of dimension and in foundation 8. of dimension and in other parts of structure 9. of dimension and in other parts of structure 10. of dimension and in other parts of structure 11. of dimension and in other parts of structure 12. of dimension and in other parts of structure 13. of dimension and in other parts of structure 14. of dimension and in other parts of structure 15. of dimension and in other parts of structure 16. of dimension and in other parts of structure 17. of dimension and in other parts of structure 18. of dimension and in other parts of structure 19. of dimension and in other parts of structure 20. of dimension and in other parts of structure		GENERAL SPECIFICATIONS 1. of material and brand name to be used 2. of material and brand name to be used 3. of material and brand name to be used 4. of material and brand name to be used 5. of material and brand name to be used 6. of material and brand name to be used 7. of material and brand name to be used 8. of material and brand name to be used 9. of material and brand name to be used 10. of material and brand name to be used 11. of material and brand name to be used 12. of material and brand name to be used 13. of material and brand name to be used 14. of material and brand name to be used 15. of material and brand name to be used 16. of material and brand name to be used 17. of material and brand name to be used 18. of material and brand name to be used 19. of material and brand name to be used 20. of material and brand name to be used	
REDEVELOPMENT OF LATTARAKPURA MUNICIPAL MARKET, SHILLONG SECOND FLOOR ELECTRICAL LAYOUT		LEGEND ■ 16.5m switch ■ 15.0m switch ■ 14.0m switch ■ 13.0m switch ■ 12.0m switch ■ 16.5m outlet ■ 15.0m outlet ■ 14.0m outlet ■ 13.0m outlet ■ 12.0m outlet ■ 16.5m lighting ■ 15.0m lighting ■ 14.0m lighting ■ 13.0m lighting ■ 12.0m lighting	
SCALE: NTS 1:50		DATE: 15/05/2023	
DESIGNER: K. S. BHARADWAJ LATTARAKPURA MUNICIPAL MARKET, SHILLONG		CHECKED BY: (Signature) 15/05/2023	



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REDEVELOPMENT OF LATTARAKHRAH MUNICIPAL MARKET, SHILLONG

THIRD FLOOR ELECTRICAL LAYOUT

LEGEND

Symbol	Description
Red circle with cross	Light point
Red diamond	Switch
Red square	Socket
Blue circle	Power point
Green circle	Telephone box
Yellow circle	Water meter
Red square	Estimated fit

NOTES

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GENERAL SPECIFICATIONS

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Scale: 1:100

NTS

DATE: 15/05/2024

Project Engineer: [Signature]

Client: Lattarakhrah Municipal Market, Shillong

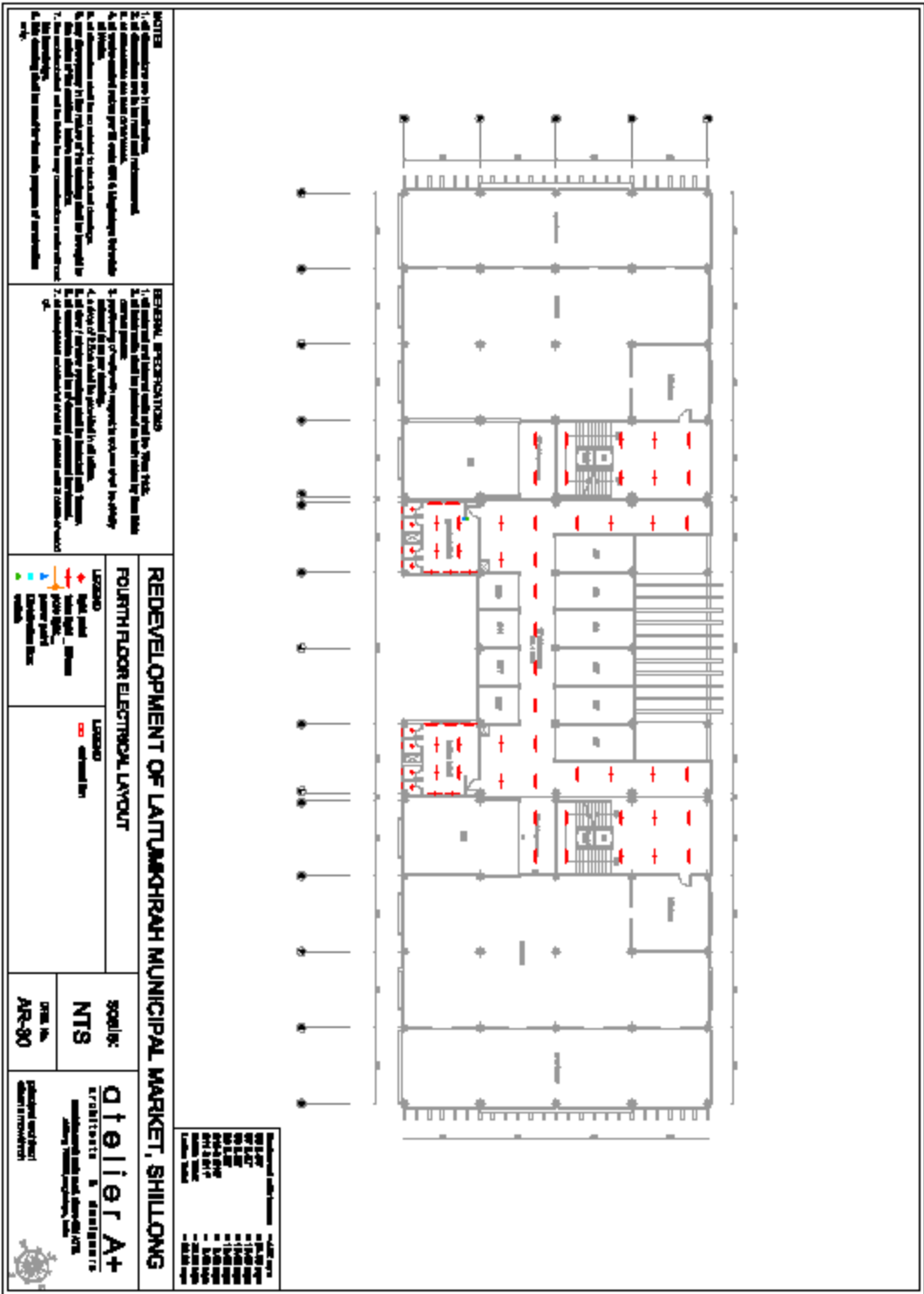
Scale: 1:100

NTS

DATE: 15/05/2024

Project Engineer: [Signature]

Client: Lattarakhrah Municipal Market, Shillong



NOTE:

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GENERAL SPECIFICATIONS:

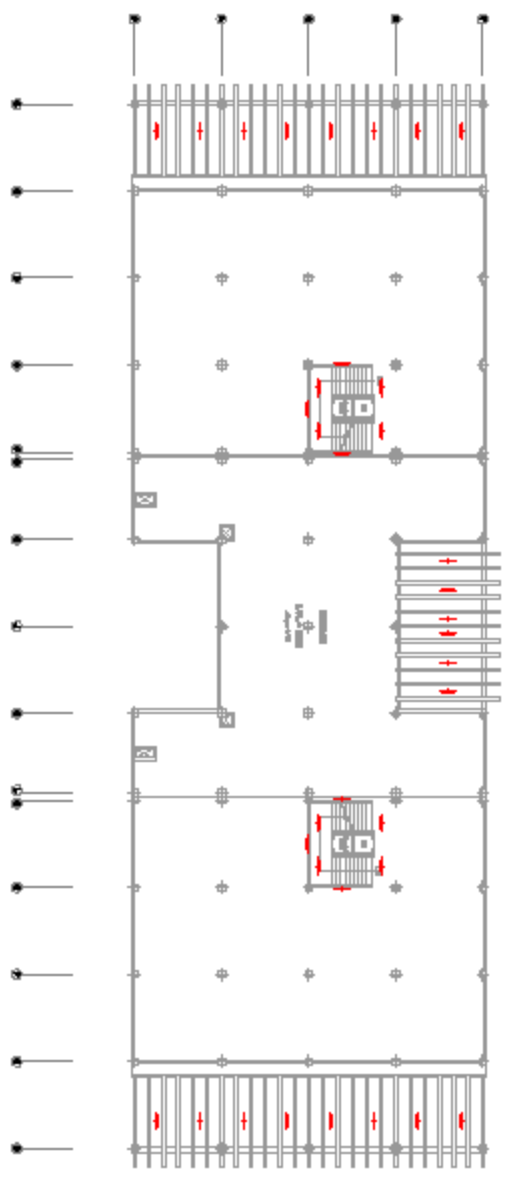
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FOURTH FLOOR ELECTRICAL LAYOUT	
LEGEND:	LEGEND:
<ul style="list-style-type: none"> Red arrow: Main cable Blue arrow: Main cable - 25mm Green arrow: Main cable - 16mm Yellow arrow: Power point Red square: Telephone box Blue square: Telephone box 	<ul style="list-style-type: none"> Red square: estimated for

Scale:
NTS

Drawn by: **AR-30**

Atelier A+
 ARCHITECTS & ENGINEERS
 10, JALPAIGANJ ROAD, SHILLONG-793001
 Ph: 98560 11111, 98560 11112
 Email: atelier.a+@gmail.com



<p>NOTES</p> <ol style="list-style-type: none"> 1. of dimensions and in accordance. 2. of dimensions and in accordance. 3. of dimensions and in accordance. 4. of dimensions and in accordance. 5. of dimensions and in accordance. 6. of dimensions and in accordance. 7. of dimensions and in accordance. 8. of dimensions and in accordance. 9. of dimensions and in accordance. 10. of dimensions and in accordance. 	<p>GENERAL SPECIFICATIONS</p> <ol style="list-style-type: none"> 1. of dimensions and in accordance. 2. of dimensions and in accordance. 3. of dimensions and in accordance. 4. of dimensions and in accordance. 5. of dimensions and in accordance. 6. of dimensions and in accordance. 7. of dimensions and in accordance. 8. of dimensions and in accordance. 9. of dimensions and in accordance. 10. of dimensions and in accordance. 	<p>TERACE FLOOR ELECTRICAL LAYOUT</p> <p>LEGEND</p> <ul style="list-style-type: none"> Red arrow: Main cable Blue arrow: Main cable - 25mm Green arrow: Main cable - 16mm Yellow arrow: Power point Orange arrow: Telephone line Light blue arrow: Water Light green arrow: Sewer 	<p>LEGEND</p> <ul style="list-style-type: none"> Red square: electrical fan 	<p>Scale: NTS</p> <p>Drawn by: AR-31</p>	<p>Checked and approved: [Signature]</p>

Section-6
Conditions of Contract

Table of Clauses

1. Definitions
2. Interpretation
3. Language and Law
4. Project Manager's Decisions
5. Delegation
6. Communications
7. Subcontracting
8. Other Contractors
9. Personnel and Equipment
10. SMB's and Contractor's Risks
11. SMB's Risks
12. Contractor's Risks
13. Insurance
14. Site Investigation Reports
15. Contractor to Construct the Works
16. The Works to Be Completed by the **EDC** 7
17. Designs by Contractor and Approval by the Project Manager
18. Safety
19. Discoveries
20. Possession of the Site
21. Access to the Site
22. Instructions, Inspections and Audits
23. Appointment of the Adjudicator
24. Procedure for Disputes

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27. Acceleration
28. Delays Ordered by the Project Manager
29. Management Meetings
30. Early Warning

C. Quality Control

31. Identifying Defects
32. Tests
33. Correction of Defects
34. Uncorrected Defects

D. Cost Control

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36. Changes in the Contract Price
37. Variations
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39. Payments
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41. Retention
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43. Bonus 7-17
44. Advance Payment
45. Securities
46. Cost of Repairs 7-18

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47. Completion
48. Taking Over
49. Final Account
50. Operating and Maintenance Manuals
51. Termination
52. Fraud and Corruption
53. Payment upon Termination
54. Property
55. Release from Performance

1. Definitions

1.1. Boldface type is used to identify defined terms.

- (a) The **Adjudicator** is the person appointed jointly by the SMB and the Contractor to resolve disputes in the first instance, as provided for in Clause 23.1 of these conditions of contract.
- (b) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- (c) **Compensation Events** are those defined in provided for in Clause 41.1 of these conditions of contract.
- (d) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with provided for in Clause 52.1 of these conditions of contract..
- (e) The **Contract** is the Contract between the SMB and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in Clause 2.3 below.
- (f) The **Contract Amount** means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.
- (g) The **Contractor** is the party whose Bid to carry out the Works has been accepted by the SMB.
- (h) The **Contractor's Bid** is the completed bidding document submitted by the Contractor to the SMB.
- (i) The **Contract Price** is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.
- (j) **Days** are calendar days; months are calendar months.
- (k) A **Defect** is any part of the Works not completed in accordance with the Contract.
- (l) The **Defects Liability Certificate** is the certificate issued by Project Manager upon correction of defects by the Contractor.
- (m) The **Defects Liability Period** is the period calculated from the Completion Date where the Contractor remains responsible for remedying defects.
- (n) **Drawings** include calculations and other information provided or approved by the Project Manager for the execution of the Contract.
- (o) The **SMB is the Shillong Municipal Board which is the primary agency** who employs the Contractor on behalf of the Government of Meghalaya to carry out the Works, as specified in the **SCC**.
- (p) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- (q) The **Estimated Date of Completion (EDC)** is the date on which it is intended that the Contract or shall complete the Works. The **EDC** is specified in the **SCC**. The **EDC** may be revised only by the Project Manager by issuing an extension of time or an acceleration order.
- (r) **Force Majeure** means an exceptional event or circumstance: which is beyond a Party's control; which such Party could not reasonably have provided against before entering into the Contract; which, having arisen, such Party could not reasonably have avoided or overcome; and, which is not substantially attributable to the other Party.
- (s) The **Initial Contract Price** is the Contract Price listed in the SMB's Letter of Acceptance.
- (t) **Letter of Acceptance** means the formal acceptance by the SMB of the Bid and denotes the formation of the Contract at the date of acceptance.
- (u) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (v) **"Party"** means the SMB or the Contractor, as the context requires.
- (w) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

- (x) The **Project Manager** is the person named in the **SCC** (or any other competent person appointed by the SMB and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
- (y) **Retention Money** means the aggregate of all monies retained by the SMB pursuant to Clause 45.1.
- (z) **SCC** means Special Conditions of Contract
- (aa) The **Site** is the area defined as such in the **SCC**.
- (bb) **Site Investigation Reports** are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (cc) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (dd) The **Start Date** is given in the **SCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- (ee) A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- (ff) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (gg) A **Variation** is an instruction given by the Project Manager which varies the Works.
- (hh) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the SMB, as defined in the **SCC**.

2. Interpretation

- 2.1. In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these Conditions of Contract.
- 2.2. If sectional completion is specified in the **SCC**, references in the **Conditions of Contract** to the Works, the Completion Date, and the **EDC** apply to any Section of the Works (other than references to the Completion Date and **EDC** for the whole of the Works).
- 2.3. The documents forming the Contract shall be interpreted in the following order of priority:
 - (a) Agreement,
 - (b) Letter of Acceptance,
 - (c) Contractor's Bid,
 - (d) Special Conditions of Contract,
 - (e) General Conditions of Contract,
 - (f) Specifications,
 - (g) Drawings,
 - (h) Bill of Quantities (or Schedules of Prices for lump sum contracts), and any other document listed in the **SCC** as forming part of the Contract.

3. Language and Law

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

4. Project Manager's Decisions

- 4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the SMB and the Contractor in the role representing the SMB.

5. Delegation

5.1 The Project Manager may delegate any of his duties and responsibilities to other people except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.

6. Communications

6.1. Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

7.1. The Contractor may subcontract parts of the works specified in the Contract Data with the approval of the Project Manager, but may not assign the Contract without the approval of the SMB in writing. Subcontracting shall not alter the Contractor's obligations.

8. Other Contractors

8.1. The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the SMB as and when directed to do so by the SMB. The Contractor shall also provide facilities and services for them as shall be directed in which case the SMB shall notify the Contractor in writing.

9. Personnel and Equipment

9.1. The Contractor shall employ the key personnel and use the equipment identified in its Bid to carry out the Works, or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

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

10. SMB's and Contractor's Risks

10.1. The SMB carries the risks which this Contract states are SMB's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. SMB's Risks

11.1. From the Start Date until the Defects Liability Certificate has been issued, the following are SMB's risks:

- (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or
 - (ii) negligence, breach of statutory duty, or interference with any legal right by the SMB or by any person employed by or contracted to it except the Contractor.
- (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the SMB or in the SMB's design, or due to war or radioactive contamination directly affecting the area where the Works are to be executed.

11.2. From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an SMB's risk except loss or damage due to

- (a) a Defect which existed on the Completion Date,
- (b) an event occurring before the Completion Date, which was not itself an SMB's risk, or
- (c) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

- 12.1. From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not SMB's risks are Contractor's risks.

13. Insurance

- 13.1. The Contractor shall provide, in the joint names of the SMB and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the SCC for the following events which are due to the Contractor's risks:
- (a) loss of or damage to the Works, Plant, and Materials;
 - (b) loss of or damage to Equipment;
 - (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
 - (d) personal injury or death.
- 13.2. Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.
- 13.3. If the Contractor does not provide any of the policies and certificates required, the SMB may effect the insurance which the Contractor should have provided and recover the premiums the SMB has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
- 13.4. Alterations to the terms of insurance shall not be made without the approval of the Project Manager.
- 13.5. Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports

- 14.1. The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the SCC, supplemented by any information available to the Bidder.

15. Contractor to Construct the Works

- 15.1. The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

16. The Works to Be Completed by the Estimated Completion Date

- 16.1. The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Estimated Completion Date.

17. Designs by Contractor and Approval by the Project Manager

- 17.1. The Contractor shall carry out design to the extent specified in the SCC. The Contractor shall promptly submit to the SMB all designs prepared by him. Within 14 days of receipt, the SMB shall notify any comments. The Contractor shall not construct any element of the permanent work designed by him within 30 days after the design has been submitted to the SMB or where the design for that element has been rejected. Design that has been rejected shall be promptly amended and resubmitted. The Contractor shall resubmit all designs commented on taking these comments into account as necessary.
- 17.2. The Contractor shall be responsible for design of Temporary Works.
- 17.3. The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, who is to approve them if they comply with the Specifications and Drawings.
- 17.4. The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 17.5. All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

18. Safety

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

19. Discoveries

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

20. Possession of the Site

20.1. The SMB shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the SCC, the SMB shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

21. Access to the Site

21.1. The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions, Inspections and Audits

22.1. The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

23. Appointment of the Adjudicator

23.1. The Adjudicator shall be appointed jointly by the SMB and the Contractor, at the time of the SMB's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the SMB does not agree on the appointment of the Adjudicator, the SMB will request the Appointing Authority **designated in the SCC**, to appoint the Adjudicator within 30 days of receipt of such request.

23.2. Should the Adjudicator resign or die, or should the SMB and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the SMB and the Contractor. In case of disagreement between the SMB and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority at the request of either party, within 30 days of receipt of such request.

24. Procedure for Disputes

24.1. If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 10 days of the notification of the Project Manager's decision.

The Adjudicator shall give a decision in writing within 30 days of receipt of a notification of a dispute.

24.2. The Adjudicator shall be paid at the rate specified in the SCC, together with reimbursable expenses of the types specified in the Contract Data, and the cost shall be divided equally between the SMB and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 30 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 30 days, the Adjudicator's decision shall be final and binding.

24.3. **The arbitration shall be conducted in accordance with the Arbitration Act 1996 (As amended upto).**

B. Time Control

25. Program

- 25.1. Within the time stated in the SCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works
- 25.2. An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 25.3. The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the SCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the SCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.
- 25.4. The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

26. Extension of the Estimated Completion Date

- 26.1. The Project Manager shall extend the EDC if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the EDC without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
- 26.2. The Project Manager shall decide whether and by how much to extend the EDC within 30 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Estimated Completion Date.

27. Acceleration

- 27.1. When the SMB wants the Contractor to finish before the Estimated Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the SMB accepts these proposals, the EDC shall be adjusted accordingly and confirmed by both the SMB and the Contractor.
- 27.2. If the Contractor's priced proposals for acceleration are accepted by the SMB, they are incorporated in the Contract Price and treated as a Variation.

28. Delays Ordered by the Project Manager

- 28.1. The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

29. Management Meetings

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

30. Early Warning

- 30.1. The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.
- 30.2. The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

31. Identifying Defects

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

32. Tests

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

33. Correction of Defects

- 33.1.** The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the **SCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 33.2.** Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

34. Uncorrected Defects

- 34.1.** If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

35. Contract Price

- 35.1.** The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

36. Changes in the Contract Price

- 36.1.** If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change.
- 36.2.** The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 5 percent, except with the prior approval of the SMB.
- 36.3.** If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

37. Variations

- 37.1.** All Variations shall be included in updated Programs produced by the Contractor.
- 37.2.** The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

- 37.3. If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.
- 37.4. If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 37.5. The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 37.6. If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Clause 36.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.

38. Payment Certificates

- 38.1. The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 38.2. The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 38.3. The value of work executed shall be determined by the Project Manager.
- 38.4. The value of work executed shall comprise, the value of the quantities of work in the Bill of Quantities that have been completed; or
- 38.5. The value of work executed shall include the valuation of Variations and Compensation Events.
- 38.6. The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information

39. Payments

- 39.1. Payments shall be adjusted for deductions for advance payments and retention. The SMB shall pay the Contractor the amounts certified by the Project Manager within 60 days of the date of each certificate
- 39.2. Unless otherwise stated, all payments and deductions shall be paid or charged in the currency comprising the Contract Price.
- 39.3. Items of the Works for which no rate or price has been entered in shall not be paid for by the SMB and shall be deemed covered by other rates and prices in the Contract.

40. Compensation Events

- 40.1. The following shall be Compensation Events:
 - a) The SMB does not give access to a part of the Site by the Site Possession Date pursuant to Clause 20.1.
 - b) The SMB modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
 - c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
 - d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
 - e) The Project Manager unreasonably does not approve a subcontract to be let.

- f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the SMB, or additional work required for safety or other reasons.
- h) Other contractors, public authorities, utilities, or the SMB does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- i) The advance payment is delayed.
- j) The effects on the Contractor of any of the SMB's Risks.
- k) The Project Manager unreasonably delays issuing a Certificate of Completion.

- 40.2. If a Compensation Event would cause additional cost or would prevent the work being completed before the Estimated Completion Date, the Contract Price shall be increased and/or the EDC shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the EDC shall be extended.
- 40.3. As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.
- 40.4. The Contractor shall not be entitled to compensation to the extent that the SMB's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

41. Retention

- 41.1. The SMB shall retain from each payment due to the Contractor the proportion stated in the SCC until Completion of the whole of the Works.
- 41.2. Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with Clause 46.1 of the Conditions of Contract, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" bank guarantee.

42. Liquidated Damages

- 42.1. The Contractor shall pay liquidated damages to the SMB at the rate per day stated in the SCC for each day that the Completion Date is later than the Estimated Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the SCC. The SMB may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.
- 42.2. If the EDC is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate.

43. Advance Payment

- 43.1. The SMB shall make advance payment to the Contractor of the amounts stated in the SCC by the date stated in the SCC, against provision by the Contractor of an unconditional bank guarantee in a form and by a bank acceptable to the SMB in amounts equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

- 43.2. The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.
- 43.3. The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

44. Securities

- 44.1. The Performance Security shall be provided to the SMB no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in the SCC, by a bank acceptable to the SMB, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 30 days from the date of issue of the Certificate of Completion in the case of a bank guarantee.

45. Cost of Repairs

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

E. Finishing the Contract

46. Completion

- 46.1. The Contractor shall request the Project Manager to issue a certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the work is completed.

47. Taking Over

- 47.1. The SMB shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

48. Final Account

- 48.1. The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 60 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 60 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

49. Operating and Maintenance Manuals

- 49.1. The Contractor shall supply "As built" Drawings and/or operating and maintenance manuals by the dates stated in the SCC.
- 49.2. If the Contractor does not supply the Drawings and/or manuals by the dates stated in the SCC pursuant to Clause 49.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount stated in the SCC from payments due to the Contractor.

50. Termination

- 50.1. The SMB or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 50.2. Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- a. the Contractor stops work for 30 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
 - b. the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;
 - c. the SMB or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
 - d. a payment certified by the Project Manager is not paid by the SMB to the Contractor within 120 days of the date of the Project Manager's certificate;
 - e. the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
 - f. the Contractor does not maintain a Security, which is required; and
 - g. the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the SCC.
 - h. if the Contractor, in the judgment of the SMB has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, pursuant to Clause 51.1.
- 50.3.** When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under Clause 50.2 above, the Project Manager shall decide whether the breach is fundamental or not.
- 50.4.** Notwithstanding the above, the SMB may terminate the Contract for convenience.
- 50.5.** If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

51. Fraud and Corruption

51.1. It shall be required of the Contractor, Subcontractors, and all manufacturers under this contract to observe the highest standard of ethics and not involve in any form of corrupt, fraudulent, coercive or collusive practices during competing for or in executing of the contract. Any violation will attract penalties under relevant Indian Laws which may include sanctioning of the firm or individual, including declaring them ineligible, either indefinitely or for a stated period of time, to be awarded future contracts.

52. Payment upon Termination

- 52.1.** If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the SCC. Additional Liquidated Damages shall not apply. If the total amount due to the SMB exceeds any payment due to the Contractor, the difference shall be a debt payable to the SMB.
- 52.2.** If the Contract is terminated for the SMB's convenience or because of a fundamental breach of Contract by the SMB, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

53. Property

- 53.1.** All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the SMB if the Contract is terminated because of the Contractor's default.

54. Release from Performance

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

Section 7 - Special Conditions of Contract

Special Conditions of Contract

A. General	
CC 1.1 (o)	The Employer is Shillong Municipal Board
CC 1.1 (q)	The Estimated Date of Completion (EDC) for the whole of the Works shall be 24 months from the date of signing the Agreement.
CCs 1.1 (x) & 4.1	The Project Manager is: Executive Engineer Shillong Municipal Board
CC 1.1 (cc)	The Site is located at Laitumkhrach market Shillong and is defined in drawings at Part 2 of Section 5
CC 1.1 (ff)	The Start Date shall be 7 days from the date of signing the Agreement.
CC 1.1 (jj)	The Works consist of civil engineering works in development of sanitary landfill site including retaining wall, fencing and drains and supply of equipments.
CC 3.1	The language of the contract is English. The law that applies to the Contract is the law of Union of India and State of Meghalaya. Where there is a conflict between the two, the laws of The Union of India shall prevail..
CC 8.1	Schedule of other contractors: Nil.
CC 13.1	The minimum insurance amounts and deductibles shall be: (a) for the Works, Plant and Materials: `10.00 lacs (Deductible `1.00 lac). (b) For loss or damage to Equipment: ` 3.00 lacs(Deductible ` . 50,000). (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract `10.00 lacs (Deductible `1.00 lac). (d) for personal injury or death: (i) of the Contractor's employees: `10.00 lacs (Deductible `1.00 lac).. (i) of other people: `10.00 lacs (Deductible `1.00 lac).
CC 14.1	Site Investigation Reports are: (1) Geotechnical Investigation Report at selected boreholes attached hereto as Annexure-I and (2) Soil investigation Report (for amended soil) attached hereto as Annexure-II.

CC 17.1	The following shall be designed by the Contractor: Nil
CC 20.1	The Site Possession Date(s) shall be: 75% of the site free from encroachment and impediment shall be handed over to the contractor within 3 days from the date of issue of instruction of work commencement.
CC 23.1	Appointing Authority for the Adjudicator: Principal Secretary to Government of Meghalaya, Urban Affairs Department.
CC 24.3	The Adjudicator shall be paid at the rate of: ` 2000/-. Per day
CC 24.3	Any dispute between the Employer and the Contractor arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of India. The place of arbitration shall be: Shillong, Meghalaya.
B. Time Control	
CC 25.1	The Contractor shall submit for approval a Program for the Works within 15 days from the date of the Letter of Acceptance.
CC 25.3	The period between Program updates is 10 days. The amount to be withheld for late submission of an updated Program is `50,000.00
C. Quality Control	
CC 33.1	The Defects Liability Period is: 365 days.
D. Cost Control	
CC 41.1	The proportion of payments retained is: 5%.
CC 42.1	The liquidated damages for the whole of the Works are 0.10% per day. The maximum amount of liquidated damages for the whole of the Works is 10% of the final Contract Price.
CC 43.1	The Advance Payments shall be: 10% of the Contract Price and shall be paid to the Contractor no later than 30 days of receipt of Advance security.
CC 44.1	The Performance Security amount is 10% of Contract Price.

E. Finishing the Contract

CC 49.1	<p>The date by which operating and maintenance manuals are required is on or before the day of handing over of complete work..</p> <p>The date by which “as built” drawings are required is on or before the day of handing over of complete work.</p>
CC 49.2	<p>The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required in CC 49.1 is ` . 50,000</p>
CC 50.2 (g)	<p>The maximum number of days is: 100 days.</p>
CC 52.1	<p>The percentage to apply to the value of the work not completed, representing the SMB’s additional cost for completing the Works, is 20%.</p>
	<p>The Contractor shall comply with all applicable national and local environmental laws and regulations.</p> <p>The Contractor shall (a) establish an operational system for managing environmental impacts, (b) carry out al the monitoring and mitigating measures set forth in the Project’s Environmental Management Plan (EPM), attached hereto as Appendix 1 (the actual cost for the implementation of such measured shall be reimbursed by the Employer from the provisional Sums) . The Contractor shall submit to the Employer quarterly report on the carrying out of such measures.</p>
	<p>The Contractor Shall :(a) comply with all applicable labor laws, and (b) provide equal pay for men and women for work of equal value or type.</p>
	<p>The Contractor shall not employ child labor, as defined in national legislation for construction and maintenance activities.</p>
	<p>The Contractor shall give priority to the employment of local people, who meet the job and efficiency requirements, for the Contract works.</p>
	<p>The Contractor shall obtain the local trading licenses as applicable in the State.</p>

Section-8 - Contract Forms

Section 8 - Contract Forms

Table of Forms

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Letter of Acceptance

[On SMB's letterhead]

No:SMB.....

..... date.....

To: name and address of the Contractor

Subject: Notification of Award of Contract

This is to notify you that your Bid dated date consisting of the Technical Bid and the Financial Bid for Construction for Re-Development of Laitumkhrah Municipal Market at Laitumkhrah, Shillong, and State of Meghalaya, India. for the Accepted Contract Amount of the equivalent of amount in figures and words and name of currency , as corrected and modified in accordance with the Instructions to Bidders is hereby accepted.

You are requested to furnish the Performance Security within 30 days in accordance with the Conditions of Contract, using for that purpose the Performance Security Form included in Section 8 (Contract Forms) of the Bidding Document.

Authorized Signature:

Name and Title of Signatory:

For and on behalf of the Shillong Municipal Board

Attachment: Contract Agreement

Contract Agreement

(to be typed on a Non-judicial Stamped paper of `1000/-)

THIS AGREEMENT made theday of,, between The Shillong Municipal Board (hereinafter "the SMB"), of the one part, and name of the Contractor.(hereinafter "the Contractor"), of the other part:

WHEREAS the SMB desires that the Works known as Construction for Re-Development of Laitumkhrach Municipal Market at Laitumkhrach, Shillong, and State of Meghalaya, India should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The SMB and the Contractor agree as follows:

1. *In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.*
2. *The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.*

- (b) **the Contract Agreement,**
- (c) **the Letter of Acceptance**
- (d) **the Letter of Technical Bid**
- (e) **the Letter of Financial Bid**
- (f) **the Variation Nos insert variation numbers if any.**
- (g) **the Special Conditions of Contract**
- (h) **the Conditions of Contract;**
- (i) **the Specifications**
- (j) **the Drawings; and**
- (k) **the completed Schedules**

(l) **3. In consideration of the payments to be made by the SMB to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the SMB to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.**

4. *The SMB hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.*

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of India on the day, month and year indicated above.

Signed by

Signed by.....

for and on behalf of the **SMB**
in the presence of

for and on behalf the Contractor
in the presence of

Witness, Name, Signature, Address, Date

Witness, Name, Signature, Address, Date

Performance Security

..... *Bank's Name, and Address of Issuing Branch or Office*

Beneficiary: *Name and Address of SMB*

Date:

Performance Guarantee No.:

We have been informed that *name of the Contractor*. (hereinafter called "the Contractor") has entered into Contract No. *reference number of the Contract*. dated with you, for the execution of *name of contract and brief description of Works*. (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we *name of the Bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in figures*. (. *amount in words*.) such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of , ², and any demand for payment under it must be received by us at this office on or before that date.

The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the **SMB**'s written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee

.....
Seal of Bank and Signature(s)

All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.

Advance Payment Security

.....*Bank's Name, and Address of Issuing Branch or Office*.....

Beneficiary: *Name and Address of SMB*

Date:.....

Advance Payment Guarantee No.:.....

We have been informed that *name of the Contractor*. (hereinafter called "the Contractor") has entered into Contract No. *reference number of the Contract*. dated with you, for the execution of *name of contract and brief description of Works*. (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum *name of the currency and amount in figures*¹. (. *amount in words*.) is to be made against an advance payment guarantee.

At the request of the Contractor, we *name of the Bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in figures*¹. (. *amount in words*.) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number *Contractor's account number*. at *name and address of the Bank*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Contract Price has been certified for payment, or on the . . day of, . . .², whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date..

The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the **SMB's** written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee

.....

Seal of Bank and Signature(s)

All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.