

**Shillong Smart City Limited
Shillong, Meghalaya**

**Bidding Document
for
Retrofitting and Upgradation of 3 Multi-
level Parking at various locations in
Shillong, East Khasi Hills District,
Meghalaya
under Smart Cities Mission**

Tender No.: SSCL/Tender/2020-21/MEG-SHI-025

Office of the Shillong Smart City Limited

House No. C/B-037, Top Floor,
Centre Nongrim Hills, Near JJ Cables, Shillong,
East Khasi Hills District, Meghalaya – 793003

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SECTION 1

CONTENT OF BIDDING DOCUMENTS

The set of bidding documents comprises the documents listed below and addenda issued in accordance with Clause 9:

1. SECTION 1:
 - Content of Bidding Documents
 - Notice inviting Bid
 - List of Important Dates
 - Document Checklist
2. SECTION 2: Instruction to Bidders
3. SECTION 3: Qualification Information
4. SECTION 4: GCC and SCC
5. SECTION 5: Scope of Work & Technical Specifications
6. SECTION 6: Drawings
7. SECTION 7: Forms of Bid
8. SECTION 8: Bill of Quantities
9. SECTION 9: Other Forms

NOTICE INVITING TENDER SHILLONG SMART CITY LIMITED

NIT: SSCL/Tender/2021-22/MEG-SHI-25

Dated: 19/02/2022

1. The Chief Executive Officer (CEO), Shillong Smart City Limited (SSCL) invites Bids for the following work:

| Tender No. | Name of the Work | Approx. Estimated project Cost | Tender Fee (non-refundable) | Earnest Money Deposit | Period of Completion | Defect Liability Period |
|--------------------------------|---|--------------------------------|---|--|--|-------------------------|
| SSCL/Tender/2021-22/MEG-SHI-25 | Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong, East Khasi Hills District, Meghalaya under Smart Cities Mission | Rs. 46.00 Crore | Rs. 15,000 (Rupees Fifteen Thousand Only) | Rs. 92.00 Lakhs (Rupees Ninety-Two Lakhs Only) | Twelve (12) Calendar Months for construction from the date of issue of Notice to Proceed | 1 Year |

2. Bidding Documents can be downloaded from 21.02.2022 at 10:00 Hrs. to 14.03.2022 at 15:00 Hrs. from the following websites: <http://megurban.gov.in> or <http://meghalaya.gov.in/megportal/tender>.
3. Bidders are requested to submit the Tender Fee in the form of DD and Earnest Money Deposit (EMD) in the form of DD/FDR/BG in the favour of Chief Executive Officer, Shillong Smart City Limited (SSCL), Shillong.
4. The deadline of bid-submission (hard copy submission only) is 15:00 Hrs. on 14/03/2022.
5. For more details contact Chief Executive Officer, Shillong Smart City Limited (SSCL), House No. C/B-037, Top Floor, Centre Nongrim Hills, Near JJ Cables, Shillong, East Khasi Hills District, Meghalaya – 793003, Contact No. +91-9669827940 and through email at shillongsmartcitylimitedp25@gmail.com

Chief Executive Officer,
Shillong Smart City Limited

LIST OF IMPORTANT DATES

| | | |
|----|--|--|
| 1 | Name of Work: | Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong, East Khasi Hills District, Meghalaya under Smart Cities Mission |
| 2 | Tender Fee (Non-Refundable) | Rs. 15,000 (Rupees Fifteen Thousand only) |
| 3 | Tender Security Amount (EMD) | Rs. 92.00 Lakhs (Rupees Ninety-Two Lakhs Only) |
| 4 | Completion Period for construction | 12 Months (Including Monsoon Period) |
| 5 | Date of Issue of Notice Inviting Bid | 19/02/2022 |
| 6 | Period and Site for downloading of Bidding Documents | From 21/02/2022 at 10.00 Hrs to 14/03/2022 at 15.00 hrs Website: http://http://megurban.gov.in http://meghalaya.gov.in/megportal/tender |
| 7 | Last date of seeking clarifications | 27/02/2022 (up to 18.00 Hrs.) |
| 8 | Bid Clarification and Queries Addressed to | Shillongsmartcitylimitedp25@gmail.com |
| 9 | Pre-bid Conference | Date: 28/02/2022 Time: 15:00 Hrs Venue: Conference Hall, Office of the Shillong Smart City Limited House No. C/B-037, Top Floor, Centre Nongrim Hills, Near JJ Cables, Shillong, East Khasi Hills District, Meghalaya - 793003 |
| 10 | Uploading replies to Pre-bid queries | 03/03/2022 |
| 11 | Deadline for Receiving Bids | Date: 14/03/2022 Time: 15.00 hrs |
| 12 | Time and Date for opening Technical Bid/Bids | Date: 14/03/2022 Time: 15.30 hrs |
| 13 | Date of opening of Financial Bid (of technically qualified bidders only) | To be notified |
| 14 | Place of opening of technical bids | Conference Hall, Office of the Shillong Smart City Limited House No. C/B-037, Top Floor, Centre Nongrim Hills, Near JJ Cables, Shillong, East Khasi Hills District, Meghalaya - 793003 |
| 15 | Last Date of Bid Validity | 180 days from the last date of submission of bid |
| 16 | Officer Inviting Bids | Chief Executive Officer (CEO), Shillong Smart City Limited (SSCL) |

Note: If the date of submission of tenders happens to be a public holiday for the Employer, Tenders will be received and opened on the next working day at the same venue and time. Bidders are requested to check the website for regular updates

DOCUMENT CHECKLIST

| SN | DOCUMENTS |
|----|--|
| 1 | Tender Fee in the form of DD |
| 2 | Earnest Money Deposit (EMD)/ Bid Security |
| 3 | Power of Attorney (PoA) and MoU between the members of Joint Venture or Consortium or Association (if applicable) |
| 4 | <p>Affidavit certifying the following:</p> <ul style="list-style-type: none"> • That the information furnished with the bid documents is correct in all respects and authorise SSCL to verify, if necessary; • That the Bidder has not been convicted by a court of law for criminal activities • That the Bidder does not have in employment the following persons: <ul style="list-style-type: none"> ○ The near relation (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons listed in the Appendix 'to ITB; and ○ Without Government permission, any person who retired as gazetted officer within the last two years of the rank and from the departments listed in the Appendix to ITB. |
| 5 | Registration Certificate (s) with Government (Central Government or State Government or Urban Local Body, etc. as specified in the Bidding Document) |
| 6 | <p>Documents on legal status of the Bidder such as:</p> <ul style="list-style-type: none"> • In case of Companies: Memorandum of Association (MoA) and Articles of Association (AoA), Certificate of incorporation/ registration, etc; • In case of Partnership Firms: Partnership Deed for firms registered under Indian Partnership Act, 1932 or Limited Liability Partnership Act, 2008, Certificate of Registration, etc.; • In case of Proprietorship Firms: GST Registration Certificate, MSME Registration Certificate (if applicable) and Income Tax Returns for last 3 financial years (i.e., 2018-19, 2019-20 and 2020-21 corresponding to AY 2019-20, 2020-21 and 2021-22 respectively). |
| 7 | PAN Card |
| 8 | GST Registration Certificate |
| 9 | <p>All pages of following documents signed, sealed, and enclosed with Technical Bid:</p> <ol style="list-style-type: none"> i. Notice Inviting Tender ii. Bid Document iii. Latest Corrigendum iv. Pre-bid Minutes v. Addendum (if any) |
| 10 | <p>Information in prescribed format as under:</p> <ul style="list-style-type: none"> • Tech Form 1: Letter of Technical Bid • Tech Form 2: Bidders Information Sheet • Tech Form 2A: JV Agreement (or Consortium/ Association, as applicable) • Tech Form 2B: Power of Attorney • Tech Form 3A: Financial Capacity • Tech Form 3B: Average Annual Turnover from MLCP Projects (including O&M) • Tech Form 4A: Availability of Financial Resources |

| SN | DOCUMENTS |
|-----------|--|
| | <ul style="list-style-type: none"> • Tech Form 4B: Evidence of access to or availability of credit facilities • Tech Form 4C: Solvency Certificate from Bank • Tech Form 5: Current Contract Commitments / Works in Hand • Tech Form 6: Bidding Capacity Information & Declaration • Tech Form 7: General Construction Experience • Tech Form 7A: Similar Work Experience • Tech Form 8A: Site Organization • Tech Form 8B: Method Statement • Tech Form 8C: Mobilization Schedule • Tech Form 8D: Work Plan and Construction Schedule • Tech Form 8E: Equipment • Tech Form 8F: Resume of Proposed Personnel • Tech Form 9: Pending Litigations • Tech Form 10: Format for Declaration by the bidder for not being Blacklisted / Debarred • Tech Form 11: Integrity Pact • Tech Form 12: Certificate from the Bidders regarding compliance of orders from Department of Expenditure, Ministry of Finance, Government of India with respect to Procurement from a Bidder of a Country which shares a Land Border with India • Fin Form 1: Letter of Financial Bid (to be submitted in Financial Bid Envelope) |
| 11 | Duly numbered, signed and sealed Technical & Financial bids (including all drawings, BOQ, Bidding document, Technical Specifications, Corrigenda/Addenda, etc.) all pages. |

SECTION 2

Instructions to Bidders (ITB)

| Clause | A. General | Clause | D. Submission of Bids |
|--|------------------------------------|-----------------------------|--|
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| 2 | Source of Funds | 21 | Late Bids |
| 3 | Eligible Bidders | 22 | Modification & withdrawal of tenders |
| 4 | Qualification of the Bidder | E. Bid Opening | |
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| 7 | Site Visit | 25 | Clarification of Bids and Contracting the Employer |
| B. Bidding Documents and Evaluation | | 26 | Examination of bids and Determination of Responsiveness |
| 8 | Content of Bidding Documents | 27 | Correction of Errors |
| 9 | Clarification of Bidding Documents | 28 | Evaluation and Comparison of Bids |
| 10 | Amendment of Bidding Documents | 29 | Price Preference |
| C. Preparation of Bids | | F. Award of Contract | |
| 11 | Language of Bid | 30 | Award Criteria |
| 12 | Documents Comprising the Bid | 31 | Employer's Right to accept any Bid and to Reject any or all Bids |
| 13 | Bid Prices | 32 | Notification of Award |
| 14 | Currencies of Bid and Document | 33 | Performance Security |
| 15 | Bid Validity | 34 | Advances |
| 16 | Bid Security/ Earnest Money | 35 | Corrupt or Fraudulent Practices |
| 17 | Alternative Proposals by Bidders | | |
| 18 | Format and Signing of Bid | | |
| 19 | Sealing and Marking of Bids | | |

Instructions to Bidders (ITB)

A. GENERAL

1. Scope of Bid

- 1.1. The Government of India has announced creation of 100 Smart cities to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens. Shillong is one of the selected cities for the smart city initiative under Ministry of Housing and Urban Affairs (MoHUA), Government of India. Shillong Smart City Limited (SSCL) has been set up as a Special Purpose Vehicle (SPV) to implement the 'Smart Cities Mission' in Shillong city. As part of the said Mission, SSCL ("Employer") invites bids for carrying out "*Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong, East Khasi Hills District, Meghalaya*" as described in these documents and referred to as "**The Works**". The name and identification number of the works is provided in the Appendix to ITB. The bidders are required to submit bids for all the works detailed in the table given in the Notice Inviting Tender.
- 1.2. The successful Bidder will be expected to complete the Works by the Intended Completion Date specified in the *Part I General Conditions of Contract*.
- 1.3. Throughout these documents, the terms "**Bid**" and "**Tender**" and their derivatives (bidder/tenderer, bid/tender, bidding/tendering, etc.) are synonymous.
- 1.4. Throughout these documents, the terms "**Engineer**" and "**Engineer in Charge**" and their derivatives are synonymous.

2. Source of Funds

- 2.1. The **Shillong Smart City Ltd.** has decided to undertake the work.
- 2.2. The funding will be as per the **Smart City Mission Guidelines**.

3. Eligible Bidders

- 3.1. A Bidder may be a private Entity, government-owned Entity or, where permitted in the Bidding Document, 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], Consortium or Association.
- 3.2. This Invitation for Bids is open to all eligible bidders as defined in the Appendix to ITB.
- 3.3. Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices by the Central Government, the State Government or any Public Sector Undertaking, Autonomous Body, Authority, Agency by whatever name called under the Central Government, any State Government, Union Territory or Urban Local Body.
- 3.4. Any bidder who has been convicted by a court of law for criminal activities including but not limited to organized crime or gangster activities or Mafia or Goonda or Anti-social activity in the last 7 years (till the date of NIT) is not eligible to bid. If it is established that any bidder has been convicted by a court of law, his bid shall be automatically cancelled. A self-certified affidavit is to be submitted by bidder.
- 3.5. The bidder must have solvency of **minimum 15%** of the Estimated Project Cost. A solvency certificate, duly certified by the Banker of any nationalized bank or scheduled commercial bank is to be submitted by the bidder. The certificate should not be more than 06 months old prior to the date of submission of tender or should have validity as on last date of submission of tender.
- 3.6. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the following conditions are met¹:

¹ Provisions of this Clause will be applicable throughout this Bidding Document and will override anything mentioned in other parts of this Bidding Document that is at a deviation or in contradiction of this Clause (i.e. in other applicable provisions such as relating to Joint Venture/Consortium/Association, sub-contracting, etc.).

- I. Any Bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority as defined in Order (Public Procurement No. 1) bearing reference No. 6/18/2019-PPD dated 23rd July 2020 of the Public Procurement Division, Department of Expenditure, Ministry of Finance, Govt. of India. The said Order as amended from time to time or any other Order by Govt. of India in this regard till the last day of month previous to the one in which proposals/applications are invited will have to be complied with by the Bidder.
- II. **"Bidder"** (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means:
 - a. An entity incorporated, established, or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established, or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established, or registered in such a country; or
 - d. An entity whose beneficial owner is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The beneficial owner for the purpose of (iii) above will be as under:
 - a. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation-

- i. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company.
 - ii. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements,
- b. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership,
 - c. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals.
 - d. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official,
 - e. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

- f. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- g. The bidder shall be required to submit a Certificate as per TECH FORM – 12

4. Qualification of the Bidder

- 4.1. All bidders shall provide in Section 3, Forms of Bid and Qualification information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 4.2. All bidders shall include the following information and documents with their bids in Section 3, Qualification Information unless otherwise stated in the Appendix to ITB:
 - a. Copies of original documents defining the constitution (MoA, AoA and Certificate of Incorporation/Registration for companies registered under the Companies Act, 1956 or Companies Act, 2013; Partnership Deed for firms registered under Indian Partnership Act, 1932 or Limited Liability Partnership Act, 2008.) or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bid.
 - b. Total monetary value of similar works performed for each of the last seven years.
 - c. Experience in works of a similar nature i.e., Construction of Multi-storied building works (Residential/ Commercial/ Industrial) including electrical, fire-fighting and plumbing works in last Ten (10) years, and details of works completed (with supporting proof as specified in the Bidding Document) or contractually committed with certificates from the concerned officer of the rank of Executive Engineer or equivalent;
 - d. Evidence of ownership of major items of construction equipment named in Clause 4.4.3 (a) of ITB or evidence of arrangement of possessing them on hire/lease/buying as defined therein.
 - e. Details of the technical personnel proposed to be employed for the Contract having the qualifications defined in Clause 4.4.3 (b) of ITB for the construction.
 - f. Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past seven years.
 - g. An undertaking that the bidder will be able to invest a minimum amount of up to the percentage (defined in the Appendix to ITB) of the contract price of works, during the implementation of the works,
 - h. Evidence of access to line(s) of credit and availability of other financial resources/ facilities (10 percent of the contract value) certified by banker (the certificate being not more than 3 months old).
 - i. Authority for the Employer to seek references from the Bidder's bankers,
 - j. Information regarding any litigation or arbitration during the last seven years in which the Bidder is involved, the parties concerned, the disputed amount, and the matter,
 - k. Bidders shall provide a declaration stating that they become ineligible if they are found corrupt and fraudulent for their malpractices as defined by Government in accordance with Clause 3.3 ITB.
 - l. The proposed methodology and program of construction, backed with equipment and material planning and deployment, duly supported with broad calculations and Quality Management Plan proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications and within the stipulated period of completion.

4.3. Bids from Single Bidder or Joint Venture (JV) or Consortium or Association

4.3.1. In case of Bids from Joint Venture (JV) or Consortium or Association:

- a. All members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. However, the prime responsibility and accountability will rest on the lead partner.
- b. The JV or Consortium or Association shall authorize (through Power of Attorney as per format prescribed at TECH FORM – 2B) the lead partner to conduct all business for and on behalf of any and all the members of the JV or Consortium or Association during the bidding process and, in the event the JV or Consortium or Association is awarded the Contract, during contract execution. The maximum number of members in a JV or Consortium or Association shall be 2 (Two), (i.e., the lead partner plus one member) and the share of the lead member in the JV or Consortium or Association shall not be less than 50%.

All members of the JV or Consortium or Association put together should satisfy the conditions ITB 4.4.1(a) and 4.4.1(b) as specified under ITB.

- c. All members of Joint Venture (JV) or Consortium or Association shall enter into a Joint Venture Agreement/ Consortium Agreement/ Association Agreement as per format prescribed at TECH FORM – 2A: JV AGREEMENT.
- d. All payments will be made to the lead partner only.
- e. Bidders are encouraged to include Micro, Small and Medium Enterprises (MSMEs) in the delivery of the project. The Bidders are required to submit a MSME inclusion plan in their proposal.
- f. The members of the JV or Consortium or Association shall comply with the requirements stipulated at Clause 3.6 of the ITB.

4.4. Qualifications:

4.4.1. To qualify for award of the Contract, each bidder should have:

- a. Experience of having successfully completed similar works during last 10 (Ten) years ending last day of month before the one in which applications are invited should be either of the following:

One similar² completed³ work costing⁴ not less than the amount equal to **80% of the estimated cost.**

Or

Two similar completed works each costing not less than the amount equal to **50% of the estimated cost.**

² “Similar works” will mean Construction of Multi-storied building works (Residential/ Commercial/ Industrial) including electrical, fire-fighting and plumbing works in last Ten (10) years

³ Only those works will be considered as “completed”, for which either Completion Certificate has been issued by the concerned Competent Authority clearly indicating completion of similar works till last day of month previous to the one in which applications are invited or 90% of the works are completed till last day of month previous to the one in which applications are invited, provided proof of receipt of payment and a certificate from the concerned employer to this effect is produced.

⁴ “Cost of work” will mean gross value of the completed work including the cost of materials supplied by the Employer /Client.

Or

Three similar completed works each costing not less than the amount equal to **40% of the estimated cost.**

Note: In case the similar completed works of the bidders happen to be completed in a JV or Consortium or Association, then the extent of works proportionate to the participation of the bidder in that JV or Consortium or Association will be considered.

- b. Average **annual financial turnover** from construction works should be **at least 30%** of the estimated cost during last 3 financial years (2018-19, 2019-20, 2020-2021) ended on **31st March** of the previous financial year to be supported by certificate by Chartered Accountant and Audited Annual Accounts for the said period.
 - c. The Net Worth⁵ of the Bidder should be positive ending on **31st March** of the previous financial year. Certificate to this effect issued by registered statutory Chartered Accountant should be submitted along with the bid.
- 4.4.2. Each bidder must produce:
- a. Certificate of incorporation / registration, PAN Card, GST registration certificate of the firm,
 - b. Latest ESI, EPF and Group insurance registration certificates.
 - c. Details required as per Form in Section 7 – Forms of Bid and Section 3 – Qualification Information.
 - d. An affidavit that the information furnished with the bid documents is correct in all respects; and
 - e. Such other certificates as defined in the Appendix to ITB. Failure to produce the certificates shall make the bid non-responsive.
- 4.4.3. Each bidder must demonstrate:
- a. Availability for construction work, of the owned, key equipment/machinery for construction of works and laboratory equipment required for to perform mandatory tests as specified in the Appendix to ITB.
 - b. Availability for construction work of technical personnel as stated in the Appendix to ITB.
 - c. Credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of not less than the amount specified in the Appendix to ITB.
- 4.4.4. The bidder must not have in his employment:
- a. The near relation (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons listed in Appendix to ITB.
 - b. Without Government permission, any person who retired as gazetted officer within the last two years of the rank and from the departments listed in the Appendix to ITB.
- 4.5. Experience of works undertaken as sub-Contractor shall not be considered in determining the bidder's compliance with the qualifying criteria.
- 4.6. Bidders (JV put together) who meet the minimum qualification criteria will be qualified only if their available bid capacity for construction work is equal to or more than the total bid value. The available bid capacity will be calculated as under:

$$\text{Assessed Available Bid capacity} = (A * N * M - B)$$

⁵ Net worth is the difference between total assets and liabilities.

Where,

A = Maximum value of civil engineering works executed in any one year during the last seven years (updated to the price level of the last year at the rate of 5 percent a year) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited (period up to 6 months to be taken as half-year and more than 6 months as one year). M is as specified in Appendix to ITB.

B = Value, at the current price level, of existing commitments and on-going works to be completed during the period of completion of the works for which bids are invited.

Note:

- i. The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.
- ii. In the case of a JV or Consortium or Association, the above formula will be applied to each member to the extent of the proposed participation in the JV or Consortium or Association. If the proposed % participation is not mentioned, then equal participation will be assumed.

Example for calculation of bid capacity in case of JV or Consortium or Association

Suppose there are 'P' and 'Q' members of the JV or Consortium or Association with their participation as 70% and 30% respectively and available bid capacity of these members as per above formula individually works out 'X' and 'Y' respectively, then Bid Capacity of the JV or Consortium or Association shall be as under:

$$\text{Bid Capacity of the JV or Consortium or Association} = 0.7X + 0.3Y$$

- 4.7. Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:
- a. Made misleading or false representations in the forms, statements, affidavits, and attachments submitted in proof of the qualification requirements; and/or
 - b. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion or financial failures etc.
 - c. Participated in the previous bidding for the same work and had quoted unreasonably high or low bid prices and could not furnish rational justification for it to the Employer.

5. One Bid per Bidder

- 5.1. Each bidder, either as a single applicant or as partner of any JV or Consortium or Association, shall submit only one bid for the work. A Bidder who submits more than one Bid will cause the bids with the Bidder's participation to be disqualified.

6. Cost of Bidding

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

7. Site Visits

- 7.1. The Bidder, at own cost, responsibility and risk, is encouraged to visit, examine and familiarize himself with the Site of Works and its surroundings including source of construction materials and obtain all information that may be necessary for preparing the Bid and entering into a

contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense. The bidder may contact the person as given in the Appendix to ITB.

B. BIDDING DOCUMENTS

8. Content of Bidding Documents

- 8.1. The set of bidding documents comprises the documents listed below, and addenda issued in accordance with Clause 10 of ITB.
- i. Notice Inviting Tender
 - ii. Instructions to Bidders
 - iii. Qualification Information
 - iv. Conditions of Contract (Part I General Conditions of Contract, and Contract Data; Part II Special Conditions of Contract)
 - v. Scope of Work and Technical Specifications
 - vi. Drawings
 - vii. Bill of Quantities
 - viii. Forms of Bid
 - ix. Form for Letter of Acceptance
 - x. Form for Agreement
 - xi. Form for Issue of Notice to Proceed with the Work
 - xii. Form for Performance Bank Guarantee.
 - xiii. Form for EMD Bank Guarantee
- 8.2. Bid document can be downloaded from the website(s) mentioned under "List of Important Dates".
- 8.3. The Bidder shall be deemed to have carefully examined the Instructions, conditions of contract, contract data, forms, bill of quantities and drawings in the Bid Document. If bidder has any doubts/clarifications as to the meaning of any portion of the Conditions or the specifications he shall, before the last date for Submission of Pre-Bid Queries, set forth the particulars thereof and submit them to Authority/Employer in writing in order that such doubt may be removed or clarifications are provided. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to Clause 26 of the ITB, bids, which are not substantially responsive to the requirements of the Bid Documents, shall be liable for rejection.

9. Pre-bid meeting & Clarification

9.1. Bidders Queries

- 9.1.1. Any clarification regarding the RFP document and any other item related to this project can be submitted to Authority as per the submission mode and timelines mentioned in the Fact Sheet. The pre-bid queries should be submitted in excel sheet format, along with name and details of the organization submitting the queries.
- 9.1.2. Authority/Employer shall not be responsible for ensuring that the bidders' queries have been received by them. Any requests for clarifications post the indicated date and time shall not be entertained by Authority.
- 9.1.3. Bidders must submit their queries as per the format specified at FORMAT A:

9.2. Responses to Pre-Bid Queries and Issue of Corrigendum

- 9.2.1. Authority will organize a pre-bid conference and will respond to any request for clarification or modification of the bidding documents. Authority shall formally respond to the pre-bid queries after the pre-bid conference. No further clarifications shall be entertained after the date and time of submission of queries.
- 9.2.2. Authority shall endeavour to provide timely response to all queries. However, Authority makes no representation or warranty as to the completeness or accuracy of any response made in good faith. Authority does not undertake to answer all the queries that have been posed by the bidders.
- 9.2.3. Any modifications of the RFP Documents, which may become necessary as a result of the Pre-Bid Conference, shall be made by Authority exclusively through a corrigendum. Any such corrigendum shall be deemed to be incorporated into this RFP. However, in case of any such amendment, the bid submission date may be extended at the discretion of Authority.
- 9.2.4. Any corrigendum/notification issued by Authority, subsequent to issue of RFP, shall only be available/hosted on the website URL mentioned in the fact sheet. Any such corrigendum shall be deemed to be incorporated into this RFP.
- 9.2.5. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. Amendment of Bidding Documents

- 10.1. Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing corrigenda/addenda.
- 10.2. Any corrigendum or addendum thus issued shall be part of the bidding documents. The same shall be uploaded on the websites/web portals specified in the Bidding Document and no other communication will be made by the Employer to any bidder.
- 10.3. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend, as necessary, the deadline for submission of bids, in accordance with **Clause 20 of ITB**.

C. PREPARATION OF BIDS

11. Language of Bid

- 11.1. All documents relating to the Bid shall be in the language specified in the APPENDIX TO INSTRUCTIONS TO BIDDERS (ITB).

12. Documents Comprising the Bid

- 12.1. The Bid submitted by the Bidder shall be in two separate parts:

Part I This shall be named Technical Bid to be placed in a sealed envelope as per procedure specified in Clause 19 and shall comprise of:

- i. The Demand Draft for the Tender Fee placed in a separate cover, marked “**Tender Fee**”,
- ii. DD/BG/FDR for the Earnest Money in a separate cover marked “Earnest Money”;
- iii. Authorized Address and contact details of the bidder having the following information: Address of communication: Telephone No.(s): Office telephone no.: Mobile No.: Facsimile (Fax) No.: Electronic Mail Identification (E-mail ID).
- iv. Qualification information, supporting documents, affidavit and undertaking as specified in **Clause 4 of ITB**.
- v. Undertaking that the bid shall remain valid for the period specified in clause **15 of ITB**.
- vi. Any other information/documents required to be completed and submitted by bidders, as specified in the APPENDIX TO INSTRUCTIONS TO BIDDERS (ITB)
- vii. An affidavit affirming that information that has been furnished by the bidder in the bidding document is correct to the best of his knowledge and belief.
- viii. Power of Attorney by the firm in favour of the authorised signatory for submitting the bid; In case of JV or Consortium or Association, Power of Attorney by the JV firm in favour of the lead partner authorising the lead partner for submitting the bid.
- ix. MoU for JV or Consortium or Agreement, if applicable, as per the prescribed format.
- x. The Technical Bid shall not include any financial information.

Part II. It shall be named Financial Bid to be placed in a sealed envelope as per procedure specified in Clause 19 and shall comprise of:

- i. Form of Bid as specified in Section 7.
 - ii. Priced Bill of Quantities for items specified in Section 8;
- 12.2. Each part shall be separately sealed and marked in accordance with Sealing and Marking instructions in clause 19 of ITB.
- 12.3. The following documents, which are not submitted with the bid, will be deemed to be part of the bid.

| SECTION | PARTICULARS |
|---------|---|
| 1. | Notice inviting Tender |
| 2. | Instruction to the Bidders |
| 3. | General Conditions of Contract and Special Conditions of Contract |
| 4. | Contract Data |
| 5. | Scope of Work and Technical Specifications |
| 6. | Drawings |
| 7. | Bill of Quantities |

13. Bid Prices

- 13.1. The Contract shall be for the Works (*Including 1 year of DLP*), as described in **Clause 1 of ITB**, based on the bidder’s price bid as per the Appendix to Instructions to Bidder.
- 13.2. The bidder shall have to submit the bid price in format as per FIN FORM – 1, in overall percentage rate, and not item wise BoQ, if the bid is in absolute amount, overall percentage would be arrived at in relation to the probable amount of contract given in Bill of Quantities (BoQ) in Section 8 of this RFP. The overall percentage rate would apply to each of the BoQ items under the work.

- 13.3. Percentage shall be quoted in figures as well as in words. If any difference in figures and words is found, lower of the two shall be taken as valid and correct.
- 13.4. The bidder shall have to quote rates inclusive of all duties, taxes including applicable Goods & Services Tax (GST), royalties and other levies payable, third-party inspections (TPI) fees or charges etc. by the Contractor under the Contract, or for any other charges as caused, shall be included in the bid price submitted by the bidder.
- 13.5. The bid price quoted by the bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment on any account.

14. Currencies of Bid

- 14.1. The prices shall be quoted by the bidder entirely in Indian Rupees (INR).

15. Bid Validity

- 15.1. Bids shall remain valid for a period of **180 days (one hundred and eighty days)** after the deadline date for bid submission specified in **Clause 20 of ITB**. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.
- 15.2. In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing. A bidder may refuse the request. A bidder agreeing to the request will not be required or permitted to modify his bid but will be required to extend the validity of his bid for a period of the extension, and in compliance with **Clause 16 of ITB** in all respects.

16. Bid Security / Earnest Money Deposit

- 16.1. The Bidder shall furnish, as part of the Bid, Earnest Money of the amount specified in the Appendix to ITB.
- 16.2. The Earnest Money shall, at the Bidder's option, be in the form of DD/FDR/BG of a nationalized bank or scheduled commercial bank, in favour of the name given in the Appendix to ITB. The DD/FDR/BG shall be valid for 180 days from the last date of receipt of bids. The BG for EMD should be in the format prescribed at FORMAT G: EARENST MONEY DEPOSIT/ BID SECURITY BANK GUARANTEEFORMAT. Other forms of Earnest Money acceptable to the Employer are stated in the Appendix to ITB.
- 16.3. Any bid not accompanied by an acceptable Earnest Money, unless exempted in terms given in the Appendix to ITB, shall be rejected by the Employer as non-responsive.
- 16.4. The Earnest Money of unsuccessful bidders will be returned within 28 days of the end of the Bid validity period specified in Clause 15.1 of ITB.
- 16.5. The Earnest Money of the successful Bidder will be discharged when the successful Bidder has signed the Agreement and furnished the required Performance Security.
- 16.6. The Earnest Money may be forfeited:
 - a. if the Bidder withdraws the Bid after bid opening (technical bid) during the period of Bid validity;
 - b. in the case of a successful Bidder, if the Bidder fails within the specified time limit to
 - i. sign the Agreement; and/or
 - ii. Furnish the required Performance Security.

17. Alternative Proposals by Bidders

- 17.1. Bidders shall submit offers that comply with the requirements of the bidding documents, including the Bill of Quantities and the basic technical design as indicated in the drawings and specifications. Alternative proposals will be **rejected as non-responsive**.

18. Format and Signing of Bid

- 18.1. All pages of the Technical and Financial Bid shall be duly signed and sealed by the Bidder or authorized signatory on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the Bidding Document and shall be attached to the Bid.
- 18.2. The bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialled by the person signing the Tender.

19. Sealing and Marking of Bids

- 19.1. The bidder shall **sign and seal** every page of the Bid.
- 19.2. If every page is not signed and sealed, the Bids may be liable for rejection.
- 19.3. The **Original Bids** (Technical Bid and Financial Bid) shall be prepared in indelible ink. Any corrections must be initialled by the person or persons who have been duly authorized.
- 19.4. **Technical Bid**, including **original** and **one copy** shall be placed in a sealed envelope clearly marked "**Technical Bid**" and the **Original Financial Bid** in a sealed envelope clearly marked "**Financial Bid**" and **warning: "Do not open with the Technical Proposal."** **Technical (Original & One Copy)** and **Financial (Original)** envelopes shall be placed into an **outer envelope and sealed**. This outer envelope shall bear the title "**Technical and Financial Proposal**", sealed and clearly showing the name of the assignment and the address of the Bidder, so that it can be returned unopened in case of late or withdrawn bids.
- 19.5. In the event of any discrepancy between the original and the copy of Technical Proposal, the original shall prevail.
- 19.6. Any financial bid received in any other form apart from the above shall make the Bid liable for rejection.

D. SUBMISSION OF BIDS

20. Deadline for Submission of Bids

- 20.1. Bids consisting of **one (1) original plus one (1) copy of Technical Proposal** and **one (1) Original Financial Proposal** must be submitted in sealed envelope in the Tender Box maintained at the address and on or before the date and time as specified in the NIT.
- 20.2. The Envelope must indicate the **name and address of the Bidder** to enable the Bid to be returned unopened in case it is declared as received after the due date and time or otherwise unacceptable.
- 20.3. In the event of the specified date for the submission of bids being declared a holiday for the Employer, the Bids will be received up to the specified time on the next working day.
- 20.4. The Employer *may extend the deadline for submission of bids* by issuing an amendment in *accordance with Clause 10.3 of ITB*, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

- 21.1. The Bidders shall not be allowed to submit the Bids after the date & time of deadline for submission of Bids.

22. Withdrawal, Substitution and Modification of Tender

- 22.1. A Bidder may withdraw, substitute, or modify its Tender only before the last date of submission.
- 22.2. A written Withdrawal/Substitutions/Modifications etc. Notice duly signed by the Bidder or his authorized representative and shall include a copy of the authorization. The corresponding Withdrawal, Substitution or Modification of the Tender must accompany the respective written Notice.
- 22.3. All Notices must be received by the Employer prior to the deadline specified for submission of Tender in accordance with Clause 20 of the ITB.
- 22.4. No Withdrawal and/or Substitution and/or Modification are permitted after last date of submission.
- 22.5. Withdrawal, Substitution, or modification of a Tender between the deadline for submission of Tender and the expiration of the original period of Tender validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in the suspension of the Bidder for a period of one (1) year in all projects by Shillong Smart City Limited.

E. BID OPENING AND EVALUATION

23. Bid Opening

- 23.1. The Employer will open the Technical Bids of all the Tenders received (*except those received late or withdrawn*), including modifications made pursuant to Clause 22, in the presence of the bidders or their representatives who choose to attend at the date, time and the place specified in respective Clause(s). In the event of the specified date of Tender opening being declared a holiday for the Employer, the Tenders will be opened at the appointed time and location on the next working day.
- 23.2. Bids which have been **“WITHDRAWN”** through notice of withdrawal (*pursuant to Clause 22 above*) shall be read out first.
- 23.3. The Bidder’s Names, the presence or absence of Tender Fee, Bid Security Declaration, the submission of qualification information and such other information as the Employer may consider appropriate will be announced by the Employer at the opening. Late and withdrawn Tenders will not be opened.
- 23.4. The Employer shall prepare minutes of the Tender opening, including the information disclosed to those present in accordance with Clause 23.3.
- 23.5. The Employer will evaluate and determine whether each tender
 - a. meets the eligibility criteria defined in ITB Clause 3;
 - b. is accompanied by the required Tender Fee and Bid Security Declaration as per stipulations in ITB Clause 16; and
 - c. meets the minimum qualification criteria stipulated in ITB Clause 4. The Employer will draw out a list of qualified Tenderers.
- 23.6. Financial Bids shall be kept unopened until the time of opening of the Financial Bids. The date, time, and location of opening of the Financial Bids shall be intimated to the bidders who are found qualified. In the event of the specified date being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day through they or their representative, may attend the meeting of opening of financial bids.
- 23.7. At the time of the opening of the **“Financial Bid”**, only those bids found responsive and technically qualified will be opened. The remaining bids will not be opened. The responsive bidders’ names, the Bid prices, the total amount of each bid, and such other details as the Employer may consider appropriate will be announced by the Employer at the time of bid opening. Any Bid price, which is not read out and recorded, will not be considered in Bid Evaluation.

23.8. The Employer shall prepare the minutes of the opening of the **Financial Bids**.

24. Process to be Confidential

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

25. Clarification of Bids and Contacting the Employer

25.1. To assist in the examination and evaluation of Tenders, the Employer may, at his discretion, ask any bidder for clarification of his Technical Bid. The request for clarification and the response shall be in writing (letter/email). If a bidder does not provide clarifications of its Tender by the date and time set in the Employer's request for clarification, its Bid may be rejected by the Employer.

25.2. No Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded.

25.3. Any attempt by the bidder to influence the Employer's bid evaluation, bid comparison or contract award decision may result in the rejection of his bid.

26. Examination of Bids and Determination of Responsiveness

26.1. During the detailed evaluation of "Technical Bids", the Employer will determine whether each

- a. Bid meets the eligibility criteria defined in Clauses 3 and 4,
- b. Bid has been properly signed and sealed,
- c. Bid is accompanied by the required Tender Fee and Bid Security Declaration; and
- d. Bid is responsive to the requirements of the bidding documents.

26.2. During the detailed evaluation of the **"Financial Bids"**, the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specifications, and drawings.

26.3. A responsive "Financial Bid" is one that conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one

- a. which affects in any substantial way the scope, quality, or performance of the Works,
- b. which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights, or the Bidder's obligations under the Contract; or
- c. whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

26.4. If a **"Financial Bid"** is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

27. Correction of Errors

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

- a. If a discrepancy is found in the rates written in figures and words, the rates which correspond with the amount worked out by the Contractor shall unless otherwise proved be taken as correct.
- b. If the amount of an item is not worked out by the Contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the Contractor in words shall be taken as correct.

- c. Where the rates quoted by the Contractor in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the Contractor will unless otherwise proved be taken as correct and not the amount.
 - d. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the Contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.
- 27.2. The amount stated in the Tender will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount, the Tender will be rejected, and necessary action in accordance with Clause 22 of ITB may be taken by the Employer.

28. Evaluation and Comparison of Bids

- 28.1. The Employer will evaluate and compare only the bids determined to be responsive in accordance with Clause 26 of ITB. Evaluation will be carried out in accordance with the criteria as specified in the Appendix to ITB.
- 28.2. In evaluating the bids, the Employer will determine for each Bid the evaluated Bid price by adjusting the Bid price by making correction, if any, for errors pursuant to **Clause 27 of ITB**.
- 28.3. In case the Bid of the successful Bidder is "Abnormally Low Bid", i.e. a Bid in which the bid price, in combination with other elements of the Bid, appears so low that raises material concerns as to the capability of the bidder to perform the contract at the offered price, the Employer may in such cases seek written clarifications from the bidder, including detailed price analyses of its bid price in relation to scope, schedule, allocation of risks and responsibilities, and any other requirements of the bids document. If, after evaluating the price analyses, the Employer determines that the bidder has substantially failed to demonstrate its capability to deliver the contract at the offered price, the Employer may reject the bid.

29. Price Preference

- 29.1. There will be no price preference to any bidder.

F. AWARD OF CONTRACT

30. Award Criteria

- 30.1. Subject to Clause 32 of ITB, the Employer will award the Contract to the Bidder on following basis:
- 30.1.1. The bidder will be initially evaluated for Minimum Eligibility Criteria, which are mandatory to qualify. Bidders who do not qualify will be summarily rejected and will not be further evaluated. The bidder who qualifies **Minimum Eligibility Criteria** will be further evaluated for **Technical Scores (TS)**. The bidders who qualify the Minimum **Technical Score of 70** as per criteria specified in Appendix to ITB will be finally qualified. The Financial Bids of technically qualified bidders will only be opened.
- 30.1.2. Method of selection and determination of successful financial bid as specified in Appendix to ITB.

31. Employer's Right to Accept any Bid and to Reject any or all Bids

- 31.1. Notwithstanding Clause 30 above, the Employer reserves the right to accept or reject any or all the Bids, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Employer's action.

- 31.2. The employer reserves the right of accepting the bid for the whole work or for a distinct part of it.

32. Notification of Award and Signing of Agreement

- 32.1. The bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by letter/email. This letter (hereinafter and in the **Part I General Conditions of Contract** called the **“Letter of Acceptance”**) will state the sum that the Employer will pay to the Contractor in consideration of the execution, completion by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the **“Contract Price”**).
- 32.2. The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 33.
- 32.3. The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and the successful Bidder after the performance security is furnished.
- 32.4. Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

33. Performance Security

- 33.1. Within **10 (ten) days** after receipt of the **Letter of Acceptance**, the successful Bidder shall deliver to the Employer a **Performance Security of three percent (3%)** of the Contract Price, for the period as specified in *Clause 43 and 46* of General Conditions of Contract.
- 33.2. The **Performance Security** shall be either in the form of a **Bank Guarantee** or **Fixed Deposit Receipts**, in favour of **Chief Executive Officer, Shillong Smart City Limited payable at Shillong, Meghalaya**, from a Nationalized Bank or Scheduled Commercial Bank in the format prescribed at **FORMAT** .
- 33.3. Failure of the successful Bidder to comply with the requirements of Clause 33.1 shall constitute sufficient grounds for cancellation of the award and suspension of the Bidder for a period of one (1) year in all projects by the Shillong Smart City Limited.

34. Advances

- 34.1. The Employer will provide mobilization advances and advance against security of equipment as provided in *Clause 45 of Part I of the General Conditions of Contract*.

35. Corrupt or Fraudulent Practices

- 35.1. The Employer requires the bidders/Contractors to strictly observe the laws against fraud and corruption in force in India, namely, *Prevention of Corruption Act, 1988*.
- 35.2. The Bidder shall furnish an Integrity Pact as per Tech Form 11.

APPENDIX TO INSTRUCTIONS TO BIDDERS (ITB)

| Instructions to Bidders Clause Reference | | | | | | |
|---|--|--|---|-------------|---|--------------|
| (1.1) | Name of the work: Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong, East Khasi Hills District, Meghalaya Identification Number of the work: SSCL/Tender/2020-21/MEG-SHI-025 | | | | | |
| (3.2) | The eligible bidders are: <i>All bidders registered with Central/State Government Ministries/Departments/Organizations and meeting the eligibility criteria</i> | | | | | |
| (4.2) (g) | The percentage is Ten | | | | | |
| (4.4.2) (e) | Other certificates required with the bid are: None | | | | | |
| (4.4.3) (a) | A) The key equipment/machinery for construction of works shall be: | | | | | |
| | SN | Name of the Equipment | Capacity | Unit | Minimum Required (Evidence of Ownership to be furnished) | Total |
| | | | | | Owned / Leased/Hired | |
| | 1 | Excavator cum Loader | Minimum size Bucket 0.3 cum/shovel 1.0cum, Capacity 75cum/hr | Nos. | 1 | 1 |
| | 2 | Concrete Batching Plant with concrete pump | Minimum 20 cum/hr | Nos | 1 | 1 |
| | 3 | Concrete Mixer | Minimum 450 liter, (10/7) Concrete Mixer With Mechanical Hopper and digital weigh batch load cell base weighing system with automatic water meter | Nos | 3 | 3 |
| | 4 | Concrete Breaker | Heavy duty, minimum impact energy 62J @ 1000bpm, 28mm internal hexagonal tool holder | Nos | 1 | 1 |
| | 5 | Concrete Vibrator | 25mm concrete vibrator needle (electric) | Nos | 1 | 1 |
| 6 | Water Pumps and Mud pumps | Minimum 5 HP capacity | Nos | 5 | 5 | |

| | | | | | |
|----|---|---|------|---|---|
| 7 | Generator | Captive power generator of 75KVA minimum capacity | Nos | 1 | 1 |
| 8 | Reinforcement cutting and Bending Machine | Minimum 5 HP capacity | Nos | 1 | 1 |
| 9 | Welding Machine | | Nos | 1 | 1 |
| 10 | Materials lifting equipment | Rope pully/ Tower Crane | Nos | 1 | 1 |
| 11 | Water Tankers | 2,000 litre | Nos | 5 | 5 |
| 12 | Trucks/ Tippers | Minimum 7.5 cum capacity | Nos | 5 | 5 |
| 13 | Pressure Grouting Machine | | Nos. | 2 | 2 |
| 14 | Total station survey equipment set | | Nos. | 2 | 2 |
| 15 | Electrical Testing Kit (Megger, Voltmeter etc. of Various ranges) | | Nos. | 2 | 2 |

B) Equipment for testing of materials & concrete at site laboratory (to be established at a location within the limit of Shillong Municipal Board)

(Note: The number of laboratory equipment however as per requirement it can be increased)

All necessary equipment for conducting all necessary tests shall be provided at the site laboratory by the contractor at his own cost. The following minimum laboratory equipment shall be set up at site office (land is to be arranged by the Contractor) laboratory:

| Sl. No. | Name of the Laboratory Equipment | Minimum numbers required |
|---------|--|--------------------------|
| 1 | Cube testing machine | 01 No |
| 2 | Slump Cone | 01 No |
| 3 | Tensile Briquette testing machine | 01 No |
| 4 | Vicats apparatus with Desk Pot | 01 No |
| 5 | Megger & earth resistance tester | 01 No |
| 6 | Pumps and Pressure gauges for hydraulic testing of pipes | 02 Nos |
| 7 | Weighing scale platform type 100 Kg capacity | 02 Nos |
| 8 | Graduated glass cylinder | As per requirement |

| | | |
|---|--|--------------------------|
| 9 | Sets of sieves for coarse aggregate [40; 20;10;4.75mm] | 04 Nos |
| 10 | Sets of sieves for fine aggregate [4.75;2.36;1.18;600;300 & 150 micron | 04 Nos |
| 11 | Core cutter for soil compaction with accessories | 02 Nos |
| 12 | Cube mould size 70mm X 70mm X 70mm | 18 Nos |
| 13 | Cube mould size 150mmX150mmX150mm | 60 Nos |
| 14 | Moisture Content Rapid moisture meter standard | 04 Nos |
| 15 | Hot Air Oven Temp. Range 50°C to 300°C | 02 Nos |
| 16 | Electronic balance 600g x 0.01g. 10kg and 50kg | 03 Nos |
| 17 | Physical balance weight upto 5 kg | 01 No |
| 18 | Digital Thermometer upto 150°C | 02 Nos |
| 19 | Poker Thermometer (Concrete Road) 0°C to 50°C &150°C | 02 Nos. Each |
| 20 | Measuring Jars 100ml,200ml,500ml | 02 Nos. set of each size |
| 21 | Gauging trowels 100mm & 200mm with wooden handle | 04 Nos |
| 22 | Spatula 100mm & 200mm with long blade wooden handle | 02 Nos. each size |
| 23 | Vernier callipers 12" and 6" sizes | 02 Nos. each |
| 24 | Digital PH motor least count .01mm | 01 No |
| 25 | Digital Micrometre least count of .01mm | 01 No |
| 26 | Digital paint thickness meter for steel 500-micron range | 02 Nos |
| 27 | GI tray 600 x450x50mm., 450x300x40mm, 300x250x40mm | 02 Nos. each |
| 28 | Electric Mortar mixer 0.25 CUM capacity | 01 No |
| 29 | Rebound hammer test Digital rebound hammer | 01 No |
| 30 | Screw Gauge 0.1mm-10mm, least count 0.05 | 02 No |
| 31 | Water testing Kit | 02 Nos |
| 32 | Aggregate impact value testing machine with blow counter | As per Requirement |
| 33 | Crushing value apparatus | As per Requirement |
| 34 | Thickness gauge for measuring flakiness index | As per Requirement |
| 35 | Elongation gauge | As per Requirement |
| 36 | Measuring Cylinder 3,5,10 & 15 Litre cylinder | As per Requirement |
| 37 | Pycnometer | 02 Nos |
| 38 | Motorized Sieve shaker | 02 Nos |
| 39 | Any other equipment for site tests as outlined in BIS and as directed by the Engineer. | |
| <p>All relevant IS codes, CPWD manual, specifications, schedule of rates, etc in hard as well as soft copy shall be made available at site by the Contractor at his own cost.</p> | | |

| | SN | Position | Minimum Number of Staff | Minimum Qualification | Total Work Experience (years) |
|-------------|---|---|-------------------------|--|-------------------------------|
| (4.4.3) (b) | 1 | Project Manager | 1 | B. E (Civil) with 10 years of experience or BE(Civil) with MTech in Structure Engineering with 7 years of experience after post-graduation | 10 or 7 as specified |
| | 2 | Civil cum Utility/ Planning Engineer | 2 | Degree with 7 years of experience or Diploma with 10 years of in Civil Engineering with project planning experience | 7 or 10 as specified |
| | 3 | Quality Control/ Material Engineer | 2 | Degree in Civil Engineering with 5 years of experience in Quality Control or Quality Management in construction works | 5 |
| | 4 | Electrical Engineer | 1 | Degree with 5 years of experience or Diploma in Electrical Engineering with 7 years of experience | 5 or 7 as specified |
| | 5 | Topographical Surveyor | 1 | Degree with 3 years of experience or Diploma with 5 years of experience in Civil Engineering or Surveying | 3 or 5 as specified |
| | 6 | Quantity Surveyor | 1 | Degree with 3 years of experience/ Diploma with 5 years of experience in Civil/ Mechanical Engineering | 3 or 5 as specified |
| | 7 | Environment, Health and Safety Engineer | 1 | Degree with 3 years of experience/ Diploma with 5 years of experience in Safety/work safety | 3 or 5 as specified |
| | <p>As proof of employment of Technical Personnel, the Bidders would require to furnish an Affidavit on non-judicial Stamp Paper certifying employment of the above-mentioned personnel with the organization for the preceding one year ending on the last day of the month previous to the one in which bids are invited.</p> <p>The Bidders may add additional manpower as per requirement.</p> <p>CVs for the above positions will be evaluated as per criteria given in this Appendix to ITB.</p> | | | | |
| (4.4.3) (c) | The minimum amount of credit facilities net of other contractual commitments of the successful Bidder shall be 10% of the contract value. | | | | |

| (4.4.4) (a) | The bidder must produce an affidavit stating that the near relations of the following departmental officers are not in his employment: Any staffs under SSCL, DUA and all Authorities/Agencies under its jurisdiction or control, and the PMC for Shillong Smart City Limited | | | | | | | | | |
|--------------------|---|-----------|-------------------------------|-------|---|--|-----------|---|---|-----------|
| (4.4.4) (b) | The bidder must produce an affidavit stating that no retired gazetted officer is in employment who retired within the last two years (starting from the date of submission of Bids) from the departments listed below: SSCL, DUA and all Authorities/Agencies under its jurisdiction or control, PWD, SMB and the PMC for Shillong Smart City Limited. In case there is no such person in his employment, his affidavit should clearly state this fact. | | | | | | | | | |
| (4.6) | M=2.5 | | | | | | | | | |
| (7.1) | The contact person is: Chief Executive Officer (CEO) Shillong Smart City Limited House No. C/B-037, Top Floor, Centre Nongrim Hills, Near JJ Cables, Shillong, East Khasi Hills District, Meghalaya - 793003 | | | | | | | | | |
| (11.1) | Language of the bid is: English | | | | | | | | | |
| (12.1) Part I (vi) | The other documents required are: NONE | | | | | | | | | |
| (13.1) | The bidder shall submit price bid in overall percentage rate, and not item wise on Bill of Quantities. | | | | | | | | | |
| (16.1) | The amount of Earnest Money Deposit: Rs. 92.00 Lakhs (Rupees Ninety-Two Lakhs Only) | | | | | | | | | |
| (30.1.1) | <table border="1"> <thead> <tr> <th>SN</th> <th>Technical Evaluation Criteria</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td> <p>Similar work⁶ experience of the bidders, quantified in terms of number of completed projects during last 10 years (till last day of month previous to the one in which applications are invited)</p> <p>(a) Completed similar works with value of 100% of estimated cost or more: 10 marks each capped at a maximum of 3 such projects</p> <p align="center">Or</p> <p>(b) Completed similar works with value of 70% to 99% of estimated cost: 7.5 marks each capped at a maximum of 4 such projects</p> <p align="center">Or</p> <p>(c) Completed similar works with value of 40% to 69% of estimated cost: 6 marks each capped at a maximum of 5 such projects</p> </td> <td align="center">30</td> </tr> <tr> <td>2</td> <td>Prior work experience of the bidders in similar works in</td> <td align="center">10</td> </tr> </tbody> </table> | SN | Technical Evaluation Criteria | Marks | 1 | <p>Similar work⁶ experience of the bidders, quantified in terms of number of completed projects during last 10 years (till last day of month previous to the one in which applications are invited)</p> <p>(a) Completed similar works with value of 100% of estimated cost or more: 10 marks each capped at a maximum of 3 such projects</p> <p align="center">Or</p> <p>(b) Completed similar works with value of 70% to 99% of estimated cost: 7.5 marks each capped at a maximum of 4 such projects</p> <p align="center">Or</p> <p>(c) Completed similar works with value of 40% to 69% of estimated cost: 6 marks each capped at a maximum of 5 such projects</p> | 30 | 2 | Prior work experience of the bidders in similar works in | 10 |
| SN | Technical Evaluation Criteria | Marks | | | | | | | | |
| 1 | <p>Similar work⁶ experience of the bidders, quantified in terms of number of completed projects during last 10 years (till last day of month previous to the one in which applications are invited)</p> <p>(a) Completed similar works with value of 100% of estimated cost or more: 10 marks each capped at a maximum of 3 such projects</p> <p align="center">Or</p> <p>(b) Completed similar works with value of 70% to 99% of estimated cost: 7.5 marks each capped at a maximum of 4 such projects</p> <p align="center">Or</p> <p>(c) Completed similar works with value of 40% to 69% of estimated cost: 6 marks each capped at a maximum of 5 such projects</p> | 30 | | | | | | | | |
| 2 | Prior work experience of the bidders in similar works in | 10 | | | | | | | | |

⁶ Similar works” will mean Construction of Multi-storied building works (Residential/ Commercial/ Industrial) including electrical, fire-fighting and plumbing works in last Ten (10) years

| | | |
|---|--|-----------|
| | <p>similar geographies {limited to other parts of North East India (including Meghalaya), J&K, Ladakh, Uttarakhand and Himachal Pradesh} during last 10 years (till last day of month previous to the one in which applications are invited)</p> <p>(a) Completed similar works with value of 80% of estimated cost or more: 10 marks each capped at maximum of 1 such project.</p> <p>(b) Completed similar works with value of 40% of estimated cost or more: 5 marks each capped at maximum of 2 such projects.</p> | |
| 3 | <p>Average Annual Turnover from construction works of the Firm for Last 3 financial years ending on 31st March of the previous year</p> <p>Rs 15.00 Cr to 30.00 Cr: 5 marks Between Rs 30.00 Cr to 50.00 Cr: 10 marks Above Rs 50.00 Cr: 15 marks</p> | 15 |
| 4 | Valid Class-I registration with PWD, Meghalaya | 05 |
| 5 | <p>Approach & Methodology</p> <p>a) Understanding of the Project; (6 Marks)</p> <p style="padding-left: 20px;">a. Sequencing and activity time schedule b. Detailed methodology for construction c. Risk mitigation plan;</p> <p>b) Resource mobilization plan; (2 Marks) and c) Construction schedule (bar chart and work plan); (2 marks)</p> | 10 |
| 6 | <p>Manpower (details of manpower on payroll of the bidder for the past 1 year till the last day of month previous to the one in which applications are invited. Minimum qualification will be as specified in the Appendix to ITB. The bidder will provide an undertaking supporting the same)</p> <p>a) The Bidder must have on its roll at least 1 Graduate Civil Engineer [BE(Civil)] with 10 years of relevant experience or BE(Civil) with M.Tech in Structure Engineering with 7 years of experience (Project Manager category) (capped at maximum 3 marks). Detailed marking criteria based on number of manpower of this category are as under:</p> <ul style="list-style-type: none"> o 6 and above: 3 marks o 3 to 5: 2 marks o 1 to 2: 1 marks <p>b) The Bidder must have on its roll at least 1 Graduate Civil Engineer with 5 to 7 years of relevant experience: (Civil/Utility/Planning Engineer category) (capped at maximum 2 marks). Detailed marking criteria based on number of manpower of this category are as under:</p> <ul style="list-style-type: none"> o 6 to 9: 2 marks o 1 to 5: 1 marks <p>c) The Bidder must have on its roll at least 1 Quality Control/Material Engineer with at least 5 years of</p> | 15 |

| | | | |
|---|--|---|----|
| | | <p>relevant experience (capped at maximum 2 marks). Detailed marking criteria based on number of manpower of this category are as under:</p> <ul style="list-style-type: none"> ○ 3 and above: 2 marks ○ 1 to 2: 1 marks <p>d) The Bidder must have on its roll at least 1 Electrical Engineer with at least 7 years of relevant experience (capped at maximum 2 marks). Detailed marking criteria based on number of manpower of this category are as under:</p> <ul style="list-style-type: none"> ○ 3 and above: 2 marks ○ 1 to 2: 1 marks <p>e) The Bidder must have on its roll at least 1 Quantity Surveyor with 3 to 5 years of relevant experience (capped at maximum 2 marks). Detailed marking criteria based on number of manpower of this category are as under:</p> <ul style="list-style-type: none"> ○ 3 and above: 2 marks ○ 1 to 2: 1 marks <p>f) The Bidder must have on its roll at least 1 Topographical Surveyor with 5 to 7 years of relevant experience: (Plant Engineer category) (capped at maximum 2 marks). Detailed marking criteria based on number of manpower of this category are as under:</p> <ul style="list-style-type: none"> ○ 3 and above: 2 marks ○ 1 to 2: 1 marks <p>g) The Bidder must have on its roll at least 1 Environment, Health and Safety (EHS) Engineer with at least 3 years of relevant experience (capped at maximum 2 marks). Detailed marking criteria based on number of manpower of this category are as under:</p> <ul style="list-style-type: none"> ○ 3 and above: 2 marks ○ 1 to 2: 1 marks | |
| 7 | | <p>Machinery List (with specifications/capacity as specified in Appendix to ITB) in possession of the Bidder to be provided with the copy of the Bill or undertaking of the bidder (capped at 1.00 marks per category)</p> <ul style="list-style-type: none"> a) Excavator cum Loader b) Concrete Batching Plant with concrete pump c) Concrete Mixer d) Concrete Breaker e) Concrete Vibrator f) Reinforcement cutting and Bending Machine g) Pressure Grouting Machine h) Welding Machine i) Materials lifting equipment j) Water Pumps and Mud pumps k) Generator l) Water Tankers m) Trucks/ Tippers | 15 |

| | | |
|----------|--|------------|
| | <p>n) Total station survey equipment set</p> <p>o) Electrical Testing Kit (Megger, Voltmeter etc. of Various ranges)</p> <p>Detailed marking criteria for each category:</p> <ul style="list-style-type: none"> o More than 3: 1.00 mark o 2 to 3 of the above equipment: 0.75 mark o 1 of the above equipment: 0.5 mark | |
| | Total Marks | 100 |
| (30.1.2) | <p>Method of selection shall be Least Cost Based Selection (LCS). The bid with least Percentage rate quoted by the bidder in FIN FORM 1: LETTER OF FINANCIAL BID, Section 7 towards the Works (Including 1 year of DLP) as described in Clause 1 of ITB shall be the winning bid.</p> <p>Note: In case the lowest amount amongst the financial bids between two or more bidders amounts to same, then the bidder with highest technical score as per clause 30.1.1 of ITB shall be the winning bidder.</p> | |

Signature of Employer / Authorized Signatory
 Date:

SECTION 3

QUALIFICATION INFORMATION

The information to be filled in by bidders in the following pages will be used for evaluation as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract. Attach additional pages, as necessary.

- 1.1 Constitution or legal status of Tenderer, Place of Registration, Principal place of business and other details in the format provided as Bidder information sheet at **Tech Form 2**.
- 1.2 **Financial reports** for the last three years: balance sheets, profit and loss statements, auditors' reports, etc. duly certified by registered statutory Chartered Accountant shall be submitted. In addition, the summarized financial information in the format provided at **Tech Form 3A**. Also, **Tech Form 3B certified** by Chartered Accountant to show Average Annual Turnover.
- 1.3 Evidence of access to lines of credit, etc. will be provided in the format provided at **Tech Form 4B**.
- 1.4 Solvency certificate will be provided in the format provided at **Tech Form 4C**.
- 1.5 Name, address, and telephone, telex, and facsimile numbers of banks that may provide references if contacted by the Employer.
- 1.6 Information on **on-going works** that are yet to be completed as on the date of this Tender in the format provided at **Tech Form 5**.
- 1.7 Bidder's experience of execution of the similar works (Construction of Multi-storied building works (Residential/ Commercial/ Industrial) including electrical, fire-fighting and plumbing works in last Ten (10) years) in the **Last Ten years (in Rs. Lakhs)** in the format provided at **Tech Form 7**. Separate forms for each of the member, if in JV/ Association/Consortium.
- 1.8 Details of the specific project/ work performed on works of similar nature over during the last 10 (Ten) years specified in **1.7** above in the format provided at **Tech Form 7A**.
- 1.9 The **Proposed Approach & Methodology** and **program of construction**, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones in the format provided at **Tech Form 8 (A-D)**.
- 1.10 The equipment specified in **Clause 4.4.3 (a)** of the ITB are considered essential for successfully carrying out the works. The Tenderer should furnish the information in the format provided at **Tech Form 8E**.
- 1.11 The Personnel specified in **Clause 4.4.3 (b)** of the ITB are considered essential for successfully carrying out the works. The Tenderer should furnish the information in the format provided at **Tech Form 8F**. The detailed resume of professionals are to be provided at Tech Form 8F(i).
- 1.12 Information on current litigation in which the bidder is involved in the format provided at **Tech Form 9**.
- 1.13 The bidder has to submit a declaration for not being Blacklisted / Debarred in the format provided at Tech Form 10.
- 1.14 Undertaking cum certificate as specified in Clause 3.6 of ITB to be provided in the format provided at Tech Form 12.

SECTION 4

PART I GENERAL CONDITIONS OF CONTRACT (GCC)

A. GENERAL

1. Definitions

1.1. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:

- i. **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- ii. **Compensation Events** are those defined in **Clause 40** hereunder.
- iii. The **Completion Date** is the date of completion of the Works as certified by the **Engineer**, in accordance with **Clause 48.1 of GCC**.
- iv. The **Contract** is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in **Clause 2.3**.
- v. The **Contract Data** defines the documents and other information, which comprise the Contract.
- vi. The **Contractor** is a person or corporate body or a Joint Venture who's Bid to carry out the Works, including routine maintenance, has been accepted by the Employer.
- vii. The **Contractor's Bid** is the completed bidding document submitted by the Contractor to the Employer.
- viii. The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.
- ix. **Days** are calendar days; months are calendar months.
- x. A **Defect** is any part of the Works not completed in accordance with the Contract.
- xi. The **Defects Liability Certificate** is the certificate issued by **Engineer**, after the Defect Liability Period has ended and upon correction of Defects by the Contractor.
- xii. The **Defects Liability Period** is one year calculated from the Completion Date.
- xiii. **Drawings** include calculations and other information provided or approved by the Engineer for the execution of the Contract.
- xiv. The **Employer** is the party as defined in the **Contract Data**, who employs the Contractor to carry out the Works. The Employer may delegate any or all functions to a person or body nominated by him for specified functions.
- xv. The **Engineer** is the Employer or his authorized representative.
- xvi. **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- xvii. The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.
- xviii. The **Intended Completion Date** is as specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.
- xix. **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- xx. **The Site** is the area defined as such in the Contract Data.
- xxi. **Site Investigation Reports** are those that were included in the bidding documents and are reports about the surface and subsurface conditions at the Site.
- xxii. **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer.

- xxiii. The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- xxiv. A **Sub-Contractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the construction work in the Contract, which includes work on the Site.
- xxv. **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- xxvi. A **Variation** is an instruction given by the Engineer, which varies the Works.
- xxvii. The **Works**, as defined in the Contract Data, are what the Contract requires the Contractor to construct, install, maintain, and turn over to the Employer. Routine maintenance is defined separately.
- xxviii. **Plant** is any integral part of the Works that shall have a mechanical, electrical, electronic, chemical, or biological function.

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 Engineer will provide instructions clarifying queries about these Conditions of Contract.

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

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

- i. Agreement,
- ii. Notice to Proceed with the Work,
- iii. Letter of Acceptance,
- iv. Contractor's Bid,
- v. Contract Data,
- vi. Special Conditions of Contract Part II,
- vii. General Conditions of Contract Part I,
- viii. Scope of Work and Technical Specifications,
- ix. Drawings,
- x. Bill of Quantities, and
- xi. Any other document listed in the Contract Data.

3. Language and Law

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

4. Engineer's Decisions

4.1. Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer. However, if the Engineer is required under the rules and regulations and orders of the Employer to obtain approval of some other authorities for specific actions, he will so obtain the approval.

4.2. Except as expressly stated in the Contract, the Engineer shall not have any authority to relieve the Contractor of any of his obligations under the contract.

5. Delegation

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

6. Communications

- 6.1. All Certificate, notices, or instructions to be given to the Contractor by Employer / Engineer shall be sent on the address or contact details given by the Contractor in Section 7 - Form of Bid. The address and contact details for communication with the Employer/ Engineer shall be as per the details given Contract Data to GCC. Communications between parties that are referred to in the conditions shall be in writing. The Notice sent by Facsimile (fax) or other electronic means shall be effective on confirmation of the transmission. The Notice sent by Registered post or Speed post shall be effective on delivery or at the expiry of the normal delivery period as undertaken by the postal service.

7. Subcontracting

- 7.1. No sub-contracting is allowed.

8. Other Contractors

- 8.1. The Contractor shall co-operate and share the site with other Contractors. Public authorities' utilities, and the Employer between the dates given in the schedule of other Contractors, as referred to in the contract data. The Contractor shall also provide facilities and services for them as described in the schedule. The Employer may modify the schedule of other Contractor and shall notify the Contractor of any such modification.
- 8.2. The Contractor should take up the work in convenient reaches as decided by the Engineer to ensure there is least hindrance to the smooth flow of traffic including movement of vehicles and equipment of other Contractors till the completion of the works.

9. Personnel

- 9.1. The Contractor shall employ for the construction work and routine maintenance the technical personnel named in the Appendix to ITB or other technical persons approved by the Engineer. The Engineer will approve any proposed replacement of technical personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel stated in the Contract Data.
- 9.2. If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the Works in the Contract.
- 9.3. The Contractor shall not employ any retired Gazetted officer who has worked in the Engineering Department of the State Government and has either not completed two years after the date of retirement or has not obtained State Government's permission to employment with the Contractor.

10. Employer's and Contractor's Risks

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

11. Employer's Risks

- 11.1. The Employer is responsible for the excepted risks which are (a) to provide drawings; b) provide hindrance/encumbrance free site; and (c) financing the project.

12. Contractor's Risks

12.1. All other risks not covered under Clause 11.1 are the Contractor's risks.

13. Insurance

- 13.1. The Contractor at his cost shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the date of completion, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:
- a. loss of or damage to the Works, Plant and Materials,
 - b. loss of or damage to Equipment,
 - c. loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
 - d. Personal injury or death.
- 13.2. Insurance policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the completion date/ Start Date. All such insurance shall provide for compensation to be payable in Indian Rupees to rectify the loss or damage incurred.
- 13.3. The Contractor at his cost shall also provide, in the joint names of the Employer and the Contractor, insurance cover from the date of completion to the end of defect liability period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:
- a. Personal injury or death.
 - b. Insurance policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the completion date/ start date. All such insurance shall provide for compensation to be payable in Indian Rupees.
- 13.4. Alterations to the terms of insurance shall not be made without the approval of the Engineer.
- 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, may rely on any Site Investigation Reports referred to in the Contract Data, supplemented by any other information available to him, before submitting the bid.

15. Queries about the Contract Data

15.1. The Engineer will clarify queries on the Contract Data.

16. Contractor to Construct the Works

- 16.1. The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.
- 16.2. The Contractor shall construct the works by using the equipment as specified (but not limited to) in the Contract Data to ensure the quality of works as per specifications.

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

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

18. Approval by the Engineer

- 18.1. The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them.
- 18.2. The Contractor shall be responsible for design of Temporary Works.

- 18.3. The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 18.4. The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.
- 18.5. All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

19. Safety

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

20. Discoveries

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

21. Possession of the Site

- 21.1. The Employer shall handover complete or part possession of the site to the Contractor 7 days in advance of construction program. At the start of the work, the Employer shall handover the possession of at-least 50% of the site.

22. Access to the Site

- 22.1. The Contractor shall allow 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 to the engineer and any person/persons/agency authorized by:
 - a. The Engineer
 - b. The Employer
 - c. The Ministry of Housing and Urban Affairs, Government of India.
 - d. Department of Urban Affairs (DUA), Govt. of Meghalaya;
 - e. Shillong Municipal Board (SMB)
 - f. Project Management Consultant for Shillong Smart City project
 - g. Any other person/agency authorised by the Employer.

23. Instructions

- 23.1. The Contractor shall carry out all instructions of the Engineer, which comply with the applicable laws where the Site is located.

24. Dispute Redressal System

- 24.1. If any dispute or difference of any kind what-so-ever shall arise in connection with or arising out of this Contract or the execution of Works, whether before its commencement or during the progress of Works or after the termination, abandonment or breach of the Contract, it shall, in the first instance, be referred for settlement to the Competent Authority (As appointed by Urban Affairs Department, Government of Meghalaya). The Competent Authority shall, within a period of forty-five days after being requested in writing by the Contractor to do so, convey his decision to the Contractor. Such decision in respect of every matter so referred shall, subject to review as hereinafter provided, be final and binding upon the Contractor. In case the Works is already in progress, the Contractor shall proceed with the execution of the Works, including maintenance thereof if applicable, pending receipt of the decision of the competent authority as aforesaid, with all due diligence.
- 24.2. Either party will have the right of appeal, against the decision of the Competent Authority, to the Court of Law in Shillong, Meghalaya, India, if the amount appealed exceeds 5% of the contract price.

25. Procedure for Resolution of Disputes

- 25.1. The Competent Authority mentioned in clause 24.1 shall give a decision in writing within 45 days of receipt of a notification of a dispute.
- 25.2. Either party may refer a decision of the Competent Authority to a Court of Law in Shillong, Meghalaya, India within 28 days of the Competent Authority's written decision.
- 25.3. Deleted
- 25.4. Performance under the contract shall continue even after reference to the Court of Law and payments due to the Contractor by the Employer shall not be withheld unless they are the subject matter of the Court proceedings.

B. TIME CONTROL

26. Programme

- 26.1. Within the time stated in the Contract Data, the Contractor shall submit to the Engineer for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works, along with monthly cash flow forecasts for the construction of works.
- 26.2. The Contractor shall submit the list of equipment and machinery being brought to site, the list of key personnel being deployed, the list of machinery/ equipment being placed in field laboratory and the location of field laboratory along with the Program. The Engineer shall cause these details to be verified at each appropriate stage of the program.
- 26.3. 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 Works, including any changes to the sequence of the activities.
- 26.4. The Contractor shall submit to the Engineer for approval an updated Program at intervals of 30 Days no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.
- 26.5. The Engineer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Engineer again at any time. A revised Program shall show the effect of Variations and Compensation Events.

27. Extension of the Intended Completion Date

- 27.1. The Engineer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining Works, which would cause the Contractor to incur additional cost.
- 27.2. The Engineer shall decide whether and by how much time to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Delays Ordered by the Engineer

- 28.1. The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works. Delay/delays totalling more than 30 days will require prior written approval of the Employer.

29. Management Meetings

- 29.1. The Engineer may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the plans for the Works.
- 29.2. The Engineer shall record the business of management meetings and provide copies of the record to those attending the meeting. The responsibility of the parties for actions to be taken shall be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all those who attended the meeting.

C. QUALITY CONTROL

30. Identifying Defects

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

31. Tests

- 31.1. For Carrying out mandatory tests as prescribed in the specifications, the Contractor shall establish field laboratory at the location decided by Engineer. The field laboratory will have minimum equipment as specified in Appendix to ITB. The Contractor shall be solely responsible for: (a) Carrying out the mandatory tests prescribed in the Specifications, and (b) For the correctness of the test results, whether performed in his laboratory or elsewhere.
- 31.2. If the Engineer instructs the Contractor to carry out a test not specified in the Specifications 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.

32. Correction of Defects noticed during the Defect Liability Period for one year

- 32.1. The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion of work. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 32.2. Every time notice of Defect/Defects is given; the Contractor shall correct the notified Defect/Defects within the duration of time specified by the Engineer's notice.
- 32.3. The request for inspection (RFI) system will be followed for execution of work.

33. Uncorrected Defects

- 33.1. If the Contractor has not corrected a Defect pertaining to the Defect Liability Period under Clause 32.1 and of these Conditions of Contract, to the satisfaction of the Engineer, within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount, on correction of the Defect.

D. COST CONTROL

34. Bill of Quantities

- 34.1. The Bill of Quantities shall contain items for the construction, supply, installation, testing, and commissioning, to be done by the Contractor.
- 34.2. The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item for the construction works.

35. Variations/Deviations and Extra Items

- 35.1. The Engineer shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the Contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the Contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the Contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.
- 35.2. The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the Contractor, as follows:
- i. In the proportion which the additional cost of the altered, additional, or substituted work, bears to the original tendered value plus
 - ii. 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer.
- 35.3. Extra items:
- a. In the case of extra item(s) (items that are completely new, and are in addition to the items contained in the contract), that are available in the latest Meghalaya PWD or MePDCL or PHED or any Government of Meghalaya Department/Agency Schedule of Rates, the rate shall be governed by those specified in the latest SoR as mentioned after applying appropriate adjustment as per procedure specified in Clause 36, GCC.
 - b. In the case of extra item(s) that are not available in the latest SoR as mentioned, the Contractor may within fifteen days of receipt of order or occurrence of the item(s) submit market rate, claim rates, supported by proper analysis which shall include invoices, vouchers etc. and Manufacturer's specification for the work failing which the rate approved later by the Engineer- in- charge shall be binding and the Engineer shall within prescribed time limit of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the Contractor, determine the rates on the basis of the market rates and the Contractor shall be paid in accordance with the rates so determined, failing which it will be deemed to have been approved Deviation.
- 35.4. Substituted Items: In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para:
- a. If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the Contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
 - b. If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the Contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent

of the difference between the market rates of substituted item and the agreement item (to be substituted).

- 35.5. The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Clause 35.6, and the Engineer shall after giving notice to the Contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.
- 35.6. Any operation incidental to or necessarily has to be in contemplation of tenderer while quoting tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.
- 35.7. In reference to the preceding paragraphs (35.1 to 35.5), the variation duly approved by the Engineer shall be as stipulated in the contract data.

36. Payments for Variations

- 36.1. In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in the contract data, the Contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the Contractor, determine the rates on the basis of the market rates (as per invoice, vouchers from the manufacturers or suppliers submitted by the agency and duly verified by the Engineer or his representative) and the Contractor shall be paid in accordance with the rates so determined.
- 36.2. The prescribed time limit for finalizing rates for Extra Item(s), Substitute Item(s) and Deviated Quantities of contract items is within 45 days after submission of proposal by the Contractor without observation of the Engineer.

37. Cash Flow Forecasts

- 37.1. When the Program is updated, the Contractor shall provide the Engineer with an updated cash flow forecast.

38. Payment Certificates

- 38.1. The payment to the Contractor will be as follows for construction work:
- The Contractor shall submit to the Engineer fortnightly/ monthly statements of the value of the work executed less the cumulative amount certified previously supported with detailed measurement of the items of work executed in measurement books authorized by CEO-Shillong Smart City Limited.
 - The Engineer shall check the Contractor's fortnightly/monthly statement within 14 days and certify the amount to be paid to the Contractor.
 - The value of work executed shall be determined, based on measurements by the Engineer.
 - The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
 - The value of work executed shall also include the valuation of Variations and Compensation Events.

- f. The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
- g. The Payment of final bill shall be governed by the provisions of clause 50 of GCC.

39. Payments

- 39.1. Payments shall be adjusted for deductions for advance payments security deposit, other recoveries in terms of the Contract and taxes at source, as applicable under the law. The Engineer shall pay the Contractor the amounts he had certified within 21 days of the date of each certificate.
- 39.2. The Employer may appoint another authority, as specified in the Contract Data (or any other competent person appointed by the Employer and notified to the Contractor) to make payment certified by the Engineer.
- 39.3. Items of the Works for which no rate or price has been entered in the Bill of Quantities, will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

40. Compensation Events

- 40.1. The following shall be Compensation Events unless they are caused by the Contractor:
 - a. The Engineer orders a delay or delays exceeding a total of 30 days.
 - b. The effects on the Contractor of any of the Employer's Risks.
- 40.2. If a Compensation Event would prevent the Works being completed before the Intended Completion Date, the Intended Completion Date shall be extended. The Engineer shall decide whether and by how much the Intended Completion Date shall be extended.

41. Tax

- 41.1. The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other levies, duties, royalties, cess, toll, taxes (including GST) of Central and State Governments, local bodies and authorities that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

42. Price adjustment and Currencies

- 42.1. Price adjustment will be applicable only after the scheduled period for completion and on the balance works. Bidders are required to quote accordingly. Price adjustment after the scheduled completion period⁷ shall be governed by the subsequent clause.
- 42.2. Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants and other inputs to the works in accordance with the principles and procedures outlined below. A table of adjustment data is included in the Contract Data which indicates the coefficients of various inputs and the sources of indices for various schedules of BOQ. If the Contract Data does not include a table of adjustment data, this sub clause shall not apply and there shall be no price adjustment.
 - a. The price adjustment according to sub para (d) below, shall apply for the work done from the scheduled completion date upto a date as approved by the Engineer. If there is delay in completion beyond such date for reasons attributable to the contractor, the Price Adjustment for the work carried out during such period, for reasons attributable to the Contractor, shall be regulated by sub-para (f) below.

⁷ subject to such extension are granted by the Employer and the delay is not attributable to the Contractor, in which case, sub-para (a) and (g) under para 42.2 shall be applicable

- b. The Contract Price shall be adjusted to take account of any increase or decrease in cost after the base date, which affect the Contractor in performance of obligations under the Contract.
- c. The total value (R) of the work done during the specified period shall be as under:

$$R = \text{SUM} (RS1 + RS2 + RS3 + \dots \dots \dots RSn),$$

Where,

'**RSn**' is the value of work done during the specified period to which the price adjustment shall be applied for the relevant schedule of Bill of Quantities (BOQ) specified in the Contract Data during the specified period, and represented as under:

RSn = (**VS_n** + **SS_n**) minus (amount of secured advance recovered in the same period + value of works executed under variations for which price adjustments will be worked separately based on terms mutually agreed between the Engineer and the Contractor)

Where,

VS_n is the total value of work done during the specified period for the respective schedule of BOQ, and

SS_n is the secured advance paid during the specified period for the respective schedule of BOQ.

- d. The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate schedule of BOQ and certified in Payment Certificates, shall be determined from formulae which shall be of the following general type:

$$P_n = a + b L_n/L_o + c E_n/E_o + d M_n/M_o + \dots \dots \dots$$

Where,

"**P_n**" is the adjustment multiplier to be applied to the value of the work done during the period "n", this period being a month unless otherwise stated in the Contract Data.

"**a**" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments.

"**b**", "**c**", "**d**",... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labor, equipment and materials;

"**Ln**"[**Labor**], "**En**"[**Equipment**], "**Mn**"[**Material**], ...are the current cost indices or reference prices for period "n", each of which is applicable to the relevant tabulated cost element [**Labor**, **Equipment**, **Steel**, **Cement**, **Fuel/Lubricants**, **Bitumen**, **others**] on the date, specified in the Table-2 of Adjustment Data, prior to the last day of the period (to which the particular Payment Certificate relates);

and

"**Lo**", "**Eo**", "**Mo**" are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

- e. The cost indices or reference prices stated in the tables of adjustment data given in Contract Data shall be used. The base date shall be the deadline for the submission of bids.

- f. If the Contractor fails to complete the Works within the Intended Completion date, adjustment of prices thereafter shall be made using either:
 - i. index or price applicable for each cost element tabulated in the tables of adjustment data on the specified date prior to the expiry of the Intended Completion Date, or
 - ii. the current index or price applicable for the period in question whichever is more favourable to the Employer.
- g. The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be varied by the Engineer if they have been rendered unreasonable, unbalanced, or inapplicable, as a result of Variations.
- h. Unless otherwise stated in the Contract Data, the Price adjustment shall be done in each monthly Interim Payment Certificate [IPC]. The coefficients and indices are given in the Tables of Adjustment Data in Contract Data.

42.3. All payments will be made in Indian Rupees.

43. Security Deposit/ Retention and Release of Performance Security and Security Deposit/ Retention

- 43.1. The Employer shall retain security deposit of 5% of the amount from each payment due to the Contractor until completion of the whole of the construction Work.
- 43.2. On the completion of the whole of the construction Work half of the total amount retained as Security Deposit is repaid and half when the defect liability period has passed and the Engineer has certified that all defects notified by the Engineer to the Contractor before the end of his period have been corrected.
- 43.3. The performance security as specified in Clause 33 of ITB will be repaid to the Contractor when the defect liability period is over and the Engineer has certified that the Contractor has satisfactorily carried out the Works.

44. Liquidated Damages

- 44.1. The Contractor shall pay liquidated damages to the Employer at the rate per week or part thereof stated in the Contract Data for the period that the Completion Date is later than the Intended Completion Date. Liquidated damages at the same rate shall be withheld if the Contractor fails to achieve the milestones prescribed in the Contract Data. However, in case the Contractor achieves the next milestone the amount of the liquidated damages already withheld shall be restored to the Contractor by adjustment in the next payment certificate. The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's other liabilities.
- 44.2. If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate.

45. Advance Payment

- 45.1. The Employer will make the following advance payment to the Contractor against provision by the Contractor of an Unconditional Bank Guarantee in the prescribed format specified in the Bidding Document by a nationalized bank/scheduled commercial bank acceptable to the Employer in amounts equal to the advance payment and valid till the period of recovery:
 - a) **Mobilization Advance:** Mobilization Advance up to 10% (Ten Percent) of the contract price may be given, if requested by the contractor in writing within one month from the date of issue of notice to proceed. Such advance shall be in two or more instalments to be determined by

the Engineer at his sole discretion. The first instalment of such advance shall be released by the Engineer to the contractor on a request made by the contractor to the Engineer. The second and subsequent instalments shall be released by the Engineer only after the contractor furnishes a proof of the satisfactory utilization of the earlier instalment to the entire satisfaction of the Engineer.

- b) **Equipment advance:** up to 75% (seventy-five) percent of the cost of the new equipment brought to the site, after due approval of the Engineer. Such advance shall be recovered from the next running account bill of the Contractor in proportionate to the equipment incorporated in the work.

The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee may be progressively reduced by the amounts repaid by the Contractor.

Before any instalment of advance is released, the contractor shall execute an Unconditional Bank Guarantee in the prescribed format specified in the Bidding Document by a Nationalized Bank/Scheduled Commercial Bank acceptable to the Employer in amounts equal to the advance payment and valid till the period of recovery. The said Bank Guarantee shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery.

Recovery of such sums advanced shall be made by the deduction from the contractor's bills commencing after first ten percent (10%) of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty percent (80%) of the gross value of the contract is executed and paid.

No account shall be taken of the advance payment or the repayment in assessing valuation of work done, variations, price adjustments, Compensation events or liquidated damages.

If the circumstances are considered reasonable by the Engineer, the period mentioned above may be extended at the discretion of the Engineer, upon request by the contractor in writing for grant of mobilization advance.

The Contractor is to use the mobilization advance payment only for mobilization purpose. The Contractor shall demonstrate that the advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.

- 45.2. **Secured Advance on materials:** The contractor, on signing an indenture in the form to be specified by the Engineer, shall be entitled to be paid during the progress of the execution of the work up to 75% (seventy-five) percent of the cost of any materials on submission of invoices, which are in the opinion of the Engineer non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.

The Contractor is to use the advance payment only to pay for materials required specifically for execution of works. The Contractor shall demonstrate that the advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.

- 45.3. The equipment and materials advance for the materials brought to the site, are subjects to a maximum of Ten (10) percent of the contract price and after due approval of the Engineer. Subsequent advances for the item against which the Contractor has already claimed the advance are applicable subject to 90% (Ninety percent) recovery of already paid advance against the same material/ equipment.
- 45.4. The Contractor is to use the advance payment only to pay for Equipment, materials and mobilization expenses required specifically for execution of works. The Contractor shall demonstrate the advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.

46. Securities

The Performance Security as specified in Clause 33 of ITB shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in the form given in Section 7 and by a Nationalized Bank or Scheduled Commercial Bank. The Performance Security shall be valid until a date 45 days from the date of expiry of Defect Liability Period.

47. Cost of Repairs

- 47.1. 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 his cost if the loss or damage arises from the Contractor's acts or omissions.
- 47.2. Any future interventions by any other agencies working in the subject area, SSCL will assist the Contractor to recover the resurfacing/repairing costs incurred due to additional interventions from the respective department.

E. FINISHING THE CONTRACT

48. Completion of Construction

- 48.1. The Contractor shall request the Engineer to issue a certificate of completion of the construction of the works, and the Engineer will do so upon deciding that the works is completed.

49. Taking Over

- 49.1. The Employer shall take over the works within seven days of the Engineer issuing a certificate of completion of works.

50. Final Account

- 50.1. The Contractor shall supply the Engineer with a detailed account of the total amount that the Contractor considers payable for works under the contract within 21 days of issue of certificate of completion of construction of works. The Engineer shall certify any payment that is due to the correct and complete. If the account is not correct or complete, the engineer shall issue within 42 days a schedule that states the scope of the corrections or additions that are necessary. If the account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate within 28 days of receiving the Contractor's revised account.

The payment of final bill for construction of works will be made within 21 days thereafter.

- 50.2. In case the account is not received within 21 days of issue of Certificate of Completion as provided in clause 50.1 above, the engineer shall proceed to finalise the account and issue a

payment certificate within 28 days. The payment of final bill for construction of works will be made within 21 days thereafter.

51. Operating and Maintenance Manuals

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

52. Termination

- 52.1. The Employer may terminate the Contract if the Contractor causes a fundamental breach of the Contract.
- 52.2. Fundamental breaches of Contract shall include, but shall not be limited to, the following:
 - a. The Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Engineer,
 - b. The Contractor is declared as bankrupt or goes into liquidation other than for approved reconstruction or amalgamation,
 - c. The Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer,
 - d. 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 clause 44.1,
 - e. The Contractor fails to provide insurance cover as required under Clause 13,
 - f. If the Contractor, in the judgement of the Employer, has engaged in the corrupt or fraudulent practice in competing for or in executing the Contract. For the purpose of this clause, "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution. "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid process at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition. The Contractor shall execute the Integrity Pact as per format given in Tech Form 11,
 - g. If the Contractor has not completed at least thirty percent of the value of construction Work required to be completed after half of the completion period has elapsed, and
 - h. Any other fundamental breaches as specified in the Contract Data.
 - i. If the Contractor fails to deploy machinery and equipment or personnel as specified in the contract Data at the appropriate time.
- 52.3. Notwithstanding the above, the Employer may terminate the Contract for convenience or for other reasons beyond its control.
- 52.4. 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.

53. Payment upon Termination

- 53.1. If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done and Materials ordered less liquidated damages, if any 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 Contract Data. If the total amount due to the Employer exceeds any payment due to the

Contractor, the difference shall be recovered from the security deposit, and performance security. If any amount is still left un-recovered it will be a debt payable to the Employer.

- 53.2. If the Contract is terminated at the Employer's convenience, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the Contract, and less taxes due to be deducted at source as per applicable law.

54. Property

- 54.1. All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer for use for completing balance construction work if the Contract is terminated because of the Contractor's default, till the Works is completed after which it will be transferred to the Contractor and credit, if any, given for its use.

55. Releases from Performance

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

F. OTHER CONDITIONS OF CONTRACT

56. Labour

- 56.1. The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.
- 56.2. The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

57. Compliance with Labour Regulations

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

57.2. The employees of the Contractor in no case shall be treated as the employees of the Employer at any point of time.

58. Drawings and Photographs of the Works

58.1. The Contractor shall do photography/video photography of the site firstly before the start of the work, secondly mid-way in the execution of different stages of work and lastly after the completion of the work. No separate payment will be made to the Contractor for this.

58.2. The Contractor shall not disclose details of Drawings furnished to him and works on which he is engaged without the prior approval of the Engineer in writing. No photograph of the works or any part thereof or plant employed thereon, except those permitted under clause 58.1, shall be taken by the Contractor without the prior approval of the Engineer in writing. No photographs/ Video photography shall be published or otherwise circulated without the approval of the Engineer in writing.

59. The Apprentices Act 1961

59.1. The Contractor shall duly comply with the provisions of the Apprentices Act 1961 (Ill of 1961), the rules made there under and the orders that may be issued from time to time under the said Act and the said Rules and on his failure or neglect to do so he shall be subject to all liabilities and penalties provided by the said Act and said Rules.

60. Criminals are prohibited from bidding

60.1. Any bidder who has been convicted by a court of law for criminal activities including but not limited to organized crime or gangster activities or Mafia or Goonda or Anti-social activity in the last 5 years (till the date of NIT) is not eligible to bid. If it is established that any bidder has been convicted by a court of law, his bid shall be automatically cancelled.

60.2. The bidder has to produce Solvency certificate, self-declaration affidavit (on the prescribed proforma, which is attached with the bid document) etc., issued by the competent authority in original with bid document.

61. Force Majeure (FM) Clause

61.1. Conditions beyond control of either parties like war, hostility, acts of public enemy, civil commotion, sabotage, serious loss or damage by fire, explosions, epidemics, strikes, lockouts or acts of God come under the legal concept of Force Majeure (FM). Delays in performance of contractual obligations under influence of FM conditions are condonable by the other party without any right to termination or damages, provided, notice of the happening of any such event is given by the affected party to the other within 30 (thirty) days from the date of occurrence. Works under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. However, if such event continues for a period exceeding 120 days, either party may at its option terminate the contract by giving notice to the other party.

CONTRACT DATA TO GENERAL CONDITIONS OF CONTRACT

| Clause Reference of GCC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|-----------------------------------|-----------------------------|-----------------------------------|----|--------------------------|--------------------------|-------------------------|----|-----------------------------|------------------------|-------------------------|----|--|-----------------------|-------------------------|--|--|--|--|----|---|-----------|---|----|-------------------------------|---|--|
| CI 1.1(xiv) | <p>The Employer is CEO, Shillong Smart City Limited, Shillong House No. C/B-037, Top Floor, Centre Nongrim Hills, Near JJ Cables, East Khasi Hills District, Meghalaya - 793003 Electronic mail: shillongsmartcitylimited@gmail.com</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 1.1(xviii) | The Intended Completion Date for the whole of the Works is Twelve (12) Months (including monsoon period) from the date of issue of Notice to Proceed. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 1.1(xx) | The Sites are located: within Shillong Urban Agglomeration boundary | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 1.1(xxiii) | The Start Date shall be as defined in the Notice to Proceed with the work | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 1.1(xxvii) | The Works: Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong, East Khasi Hills District, Meghalaya | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 3.1 | (a) The law which applies to the Contract is the law of Union of India. (b) The language of the Contract documents is English. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 8.1 | The Schedule of Other Contractors – NA | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 13.1 | <p>Amount and deductible for insurance are:</p> <table border="1"> <thead> <tr> <th>SN</th> <th>Particulars</th> <th>Minimum Cover for Insurance</th> <th>Maximum Deductibles for Insurance</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Work & Plant & Materials</td> <td>Equal to Contract Amount</td> <td>0.4% of Contract Amount</td> </tr> <tr> <td>2.</td> <td>Loss or Damage to Equipment</td> <td>10% of Contract Amount</td> <td>0.4% of Contract Amount</td> </tr> <tr> <td>3.</td> <td>Other Property (unlimited occurrences)</td> <td>5% of Contract Amount</td> <td>0.4% of Contract Amount</td> </tr> <tr> <td colspan="4">Personal Injury or death insurance:</td> </tr> <tr> <td>4.</td> <td>a) For other people (unlimited occurrences)</td> <td>₹ 25 lacs</td> <td>-</td> </tr> <tr> <td>5.</td> <td>b) For Contractor's employees</td> <td colspan="2">In accordance with the statutory requirements applicable to India</td> </tr> </tbody> </table> | SN | Particulars | Minimum Cover for Insurance | Maximum Deductibles for Insurance | 1. | Work & Plant & Materials | Equal to Contract Amount | 0.4% of Contract Amount | 2. | Loss or Damage to Equipment | 10% of Contract Amount | 0.4% of Contract Amount | 3. | Other Property (unlimited occurrences) | 5% of Contract Amount | 0.4% of Contract Amount | Personal Injury or death insurance: | | | | 4. | a) For other people (unlimited occurrences) | ₹ 25 lacs | - | 5. | b) For Contractor's employees | In accordance with the statutory requirements applicable to India | |
| SN | Particulars | Minimum Cover for Insurance | Maximum Deductibles for Insurance | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. | Work & Plant & Materials | Equal to Contract Amount | 0.4% of Contract Amount | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. | Loss or Damage to Equipment | 10% of Contract Amount | 0.4% of Contract Amount | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. | Other Property (unlimited occurrences) | 5% of Contract Amount | 0.4% of Contract Amount | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Personal Injury or death insurance: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. | a) For other people (unlimited occurrences) | ₹ 25 lacs | - | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. | b) For Contractor's employees | In accordance with the statutory requirements applicable to India | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 14.1 | Site Investigation Reports: Report of the Geotechnical Investigation as contained in the Detailed Project Report | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 26.1 | The Contractor shall submit for approval a Program for the Works within Fifteen days (15) from the date of the Letter of Acceptance. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 26.4 | The period between Program updates is Thirty (30) days. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 26.4 | The amount that may be withheld for late submission of an updated Program is ₹5,000/- per day | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 35.6 | The Employer to decide deviation up to 1.5 times of tendered amount. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CI 39.2 | The authorized person to make payments is Chief Executive Officer, Shillong Smart City Limited, Shillong | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|------------|--|
| CI 42 | <p>Price Adjustment</p> <p>The Price Adjustment shall be done in accordance with Tables 1&2 of Adjustment Data given in Appendix 2 to Part-I: GCC. The base and current price of the following items shall be based on the source indicated below:</p> <ol style="list-style-type: none"> i. Diesel: Selling price of IOC depot at Guwahati. ii. Bitumen: Selling Price of Bitumen from the IOC refinery at Guwahati. <p>The price Adjustment will be done monthly.</p> |
| CI 44.1 | <p>Liquidated Damages:</p> <p>(a) Amount of liquidated damages for delay in completion works</p> <p>For whole of work, 1 percent of the Initial Contract Price, rounded off to the nearest thousand, per week.</p> <p>(b) Maximum limit of liquidated damages for delay in completion work.</p> <p>10 percent of the Initial Contract Price rounded off to the nearest thousand.</p> |
| CI 44.1 | <p>Milestones to be achieved during the contract period</p> <ul style="list-style-type: none"> • 1/8th of the value of entire contract work up to ¼ of the period allowed for completion of construction • 3/8th of the value of entire contract work up to ½ of the period allowed for completion of construction • 3/4th of the value of entire contract work up to ¾ of the period allowed for completion of construction |
| CI 51.1 | <p>(a) "As-built" drawings and the Schedule of Operating and Maintenance Manuals shall be provided by the Contractor</p> <p>(b) The date by which "as-built" drawings (in scale as directed) in electronic copy (AutoCAD and PDF format) and hard copy (2 sets) are required is within 28 days of issue of certificate of completion of whole or section of the work, as the case may be.</p> |
| CI 51.2 | <p>The amount to be withheld for non-compliance to the Clause 51 by the date required is Rs. One Lakh. Thereafter, one lakh per week subject to maximum of Rs. 15 lakhs.</p> |
| CI 52.2(i) | <p>As per Clause 9.1 and 16.2 of GCC</p> |
| CI 53.1 | <p>The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works shall be 20%.</p> |

Appendix 1 to Part I General Condition of Contract

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.

- a) **Workmen Compensation Act 1923:** - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) **Payment of Gratuity Act 1972:** - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed the prescribed minimum years (say, five years) of service or more or on death the rate of prescribed minimum days" (say, 15 days) wages for every completed year of service. The Act is applicable to all establishments employing the prescribed minimum number (say, 10) or more employees.
- c) **Employees P.F. and Miscellaneous Provision Act 1952:** The Act Provides for monthly contributions by the Employer plus workers at the rate prescribed (say, 10% or 8.33%). The benefits payable under the Act are:
 1. Pension or family pension on retirement or death as the case may be.
 2. Deposit linked insurance on the death in harness of the worker.
 3. Payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1951:** - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract Labour (Regulation & Abolition) Act 1970:** - The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ prescribed minimum (say 20) or more contract labour.
- f) **Minimum Wages Act 1948:** - The Contractor is to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Constructions of buildings, roads, runways are scheduled employment.
- g) **Payment of Wages Act 1936:** - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) **Equal Remuneration Act 1979:** - The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against female employees in the matters of transfers, training and promotions etc.
- i) **Payment of Bonus Act 1965:** - The Act is applicable to all establishments employing prescribed minimum (say, 20) or more workmen. The Act provides for payments of annual bonus within the prescribed range of percentage of wages to employees drawing up to the prescribed amount of wages, calculated in the prescribed manner. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. States may have different number of employment size.
- j) **Industrial Disputes Act 1947:** - The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) **Industrial Employment (Standing Orders) Act 1946:** - It is applicable to all establishments employing prescribed minimum (say, 100, or 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get these certified by the designated Authority.
- l) **Trade Unions Act 1926:** - The Act lays down the procedure for registration of trade unions of workmen and Employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) **Child Labour (Prohibition & Regulation) Act 1986:** - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulations of

employment of children in all other occupations and processes. Employment of child labour is prohibited in building and construction industry.

- n) **Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979:** - The Act is applicable to an establishment which employs prescribed minimum (say, five) or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as Housing, Medical-Aid, Travelling expenses from home up to the establishment and back etc.
- o) **The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:** - All the establishments who carry on any building or other construction work and employs the prescribed minimum (say, 10) or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodations for workers near the workplace etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) **Factories Act 1948:** - The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing the prescribed minimum (say, 10) persons or more with aid of power or another prescribed minimum (say, 20) or more persons without the aid of power engaged in manufacturing process.

SALIENT FEATURES OF SOME OF THE MAJOR LAWS THAT ARE APPLICABLE FOR PROTECTION OF ENVIRONMENT AND CONSERVATION OF HERITAGE

1. ***The Environment (Protection) Act, 1986 and as amended:*** This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.
2. ***The Forest Conservation Act, 1980, as amended, and Forest (Conservation) Rules, 1981 as amended:*** These provides for protection of forests by restricting conversion of forested areas into non- forested areas and prevention of deforestation, and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also stipulate the norms and compliance requirements of the employer and any contractor on behalf of the employer.
3. ***State Tree Preservation Acts*** as may be in force: These provide for protection of trees of important species. Contractors will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees.
4. ***The Wildlife (Protection) Act, 1972, and as amended:*** This provides for protection of wildlife through notifying National Parks and Sanctuaries and buffer areas around these zones; and to protect individuals of nationally important species listed in the Annex of the Act.
5. ***The Biological Diversity Act, 2002:*** This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.
6. ***The Public Liability Insurance Act, 1991 as amended and The Public Liability Insurance Rules, 1991 as amended:*** These provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986 and exceeding such quantity as may be specified by notification by the Central Government.
7. ***The Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, the Ancient Monuments and Archaeological Sites and Remains Rules, 1959 amended 2011, the National Monuments Authority Rules, 2011 and the similar State Acts:*** These provide for conservation of cultural and historical remains found in India. Accordingly, area within the radii of 100m and 300m from the "protected property" are designated as "protected area" and "controlled area" respectively. No development activity (including building, mining, excavating, blasting) is permitted in the "protected area" and development activities likely to damage the protected property is not permitted in the "controlled area" without prior permission of the Archaeological Survey of India (ASI) or the State Departments of Art and Culture or Archaeology as applicable.
8. ***The Environmental Impact Assessment Notification, 2006 and as amended:*** This provides for prior environmental clearance for new, modernization and expansion projects listed in Schedule 1 of the Notification. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any environmental management plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.
9. ***The Water (Prevention and Control of Pollution) Act, 1974 as amended, and the Water (Prevention and Control of Pollution) Rules, 1975 as amended:*** These provide for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water(whether directly or indirectly) as may, or is likely to,

create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates waste water, and observe the required standards of establishment and operation of these items of work or installations; as well as install and operate all required waste water treatment facilities.

10. ***The Water (Prevention and Control of Pollution) Cess Act, 1977 and The Water (Prevention and Control of Pollution) Cess Rules, 1978:*** These provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.
11. ***The Air (Prevention and Control of Pollution) Act, 1981 as amended, and the Air (Prevention and Control of Pollution) Rules, 1982:*** These provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates air pollution such as, hot mix plants, power generators, backup power generation, material handling processes, and observe the required standards of establishment and operation of these items of work or installations.
12. ***Noise Pollution (Control and Regulation) Rules, 2000, and as amended:*** This provides for standards for noise for day and night for various land uses and specifies special standards in and around sensitive receptors of noise such as schools and hospitals. Contractors will need to ensure compliance to the applicable standards and install and operate all required noise control devices as may be required for all plants and work processes.
13. ***Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996:*** This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.
14. ***The Explosives Act 1884 and the Explosives Rules, 2008:*** These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, Oil and lubricants etc.; and also for regulating the use of any explosives used in blasting and/or demolition. All applicable provisions will need compliance by the contractors.
15. ***The Petroleum Rules, 2002:*** This provides for safe use and storage of petroleum products and will need to be complied by the contractors.
16. ***The Gas Cylinder Rules 2004 and amendments:*** This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity. Contractors should comply with all the requirements of this Rule.
17. ***Manufacture, Storage, and Import of Hazardous Chemical Rules of 1989 and as amended:*** These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety audits and other reporting requirements as prescribed in the Rules.
18. ***Hazardous & Other Wastes (Management and Trans boundary Movement) Rules, 2016:*** These provide for protection of general public from improper handling storage and disposal of hazardous waste. The rules prescribe the management requirement of hazardous wastes from its generation to final disposal. Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material; and will to ensure full compliance to these rules and any conditions imposed in the permit.
19. ***The Bio Medical Waste Management Rules, 2016:*** This provides for control, storage, transportation and disposal of bio-medical wastes. As and where the contractor has any first aid

facility and dispensaries, established in either temporary or permanent manner, compliance to these Rules are mandatory.

20. **Construction and Demolition Waste Management Rules, 2016:** This provides for management of construction and demolition waste (such as building materials possible to be reused, rubble and debris or the like); and applies to all those wastes resulting from construction, re-modelling, repair or demolition of any civil structure. Contractor will need to prepare a waste disposal plan and obtain required approval from local authorities, if waste generation is more than 20 tons in any day or 300 tons in any month during the contract period; and ensure full compliance to these rules and any conditions imposed in the regulatory approval.
21. **The E-Waste (Management) Rules, 2016:** This provides for management of E-wastes (but not covering lead acid batteries and radio-active wastes) aiming to enable the recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. This Rule applies to every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbishes, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational.
22. **Plastic waste Management Rules, 2016:** This provides for control and management of the plastic waste generated from any activity. Contractors will ensure compliance to this Rule.
23. **The Batteries (Management and Handling) Rules 2001:** This provides for ensuring safe disposal and recycling of discarded lead acid batteries likely to be used in any equipment during construction and operation stage. Rules require proper control and record keeping on the sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries. Contractors will ensure compliance to this Rule.
24. **The Ozone Depleting Substances (Regulation and Control) Rules, 2000 and as amended:** This provides for regulation of production and consumption of ozone depleting substances in the country, and specifically prohibits export to or import from countries not specified in the Rules, and prohibits unless specifically permitted, any use of ozone depleting substance.
25. **The Coastal Regulation Zone Notifications, 1991 and as amended: Not applicable.**
26. **The Motor Vehicle Act 1988 as amended (and State Motor Vehicle Acts as may be in force) and the Motor Vehicle Rules, 1989, and as amended (and State Motor Vehicle Rules as may be in force):** To minimize the road accidents, penalizing the guilty, provision of compensation to victim and family and check vehicular air and noise pollution. Contractors will be required to ensure full compliance to these rules.
27. **Easement Act, 1882:** This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.
28. **State Groundwater Acts and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/Infrastructure project proposals in Non-Notified areas, 2012:** These provide for purposes. Contractors will need to obtain permission from Central/State Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will ensure full compliance to these rules and any conditions imposed in the permit.
29. **The Mines Act, 1952 as amended;** the Minor Mineral and concession Rules as amended; and the State Mineral (Rights and Taxation) Acts as may be in force: These provide for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the State Departments of Minerals and Geology will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.

30. **The Insecticides Act, 1968 and Insecticides Rules, 1971 and as amended:** These provide for regulates the manufacture, sale, transport, distribution, export, import and use of pesticides to prevent risk to human beings or animals, and for matters connected therewith. No one should import or manufacture; sell, stock or exhibit for sale; distribute, transport, use: (i) any misbranded insecticides, (ii) any insecticide the sale, distribution or use of which is for the time being prohibited under the Act; and (iii) any insecticide except in accordance with the condition on which it was registered under the Act.
31. **National Building Codes of India, 2016 and as amended:** This provides guidelines for regulating the building construction activities in India. The code mainly contains administrative regulations, development control rules and general building requirements; stipulations regarding materials, structural design and construction; and building and plumbing services. Contractors will be required to comply with all Bureau of Indian Standards Codes dealing with: (i) use and disposal of asbestos containing materials in construction; (ii) paints containing lead; (iii) permanent and temporary ventilations in workplace; (iv) safety, and hygiene at the workplace; (v) prevention of fire; (vi) prevention of accidents from faulty electrical gadgets, equipment and accessories; and all other such codes incidental to the Contract.

Appendix-2 to Part I General Condition of Contract

Tables of Adjustment Data

(Cl. 42 of GCC)

TO BE WORKED OUT PACKAGE TO PACKAGE, Employer may work out for 4 – 5 packages

Table 1: Coefficients governing the adjustment for changes in cost.

| S. No. | Coefficients Name | Symbol | | | | | | | | | | |
|--------|-----------------------------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 |
| 1. | Fixed | a | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| 2. | Labour [L] | b | 20 | 35 | 20 | 10 | 10 | 10 | 25 | 15 | 20 | 25 |
| 3. | Steel [S] | c | - | - | - | - | - | 5 | - | 2 | 3 | - |
| 4. | Cement [C] | d | - | - | - | 2 | - | 10 | - | 5 | 7 | - |
| 5. | Plant & Equipment spares [E] | e | 20 | 15 | 28 | 25 | 20 | 15 | - | 8 | 25 | - |
| 6. | Diesel and Petroleum Products [D] | f | 30 | 15 | 25 | 18 | 15 | 10 | - | 5 | 10 | - |
| 7. | Bitumen [B] | g | - | - | - | - | 15 | - | - | - | - | - |
| 8. | Others [O] | o | 15 | 20 | 12 | 30 | 25 | 35 | 60 | 50 | 20 | 60 |
| | Total | | 100% |

[Fixed element is normally 15%]

BOQ SCHEDULES

[The following Schedules are for example only. The schedules may be modified and specified as appropriate for each work]

Schedule 1: General Item

Schedule 2: Site Clearance, Dismantling,

Schedule 3: Earthwork

Schedule 4: Road Works – Non-Bituminous

Schedule 5: Road Works – Bituminous

Schedule 6: Drainage and protection works

Schedule 7: Road safety Measures

Schedule 8: Bus Bay and truck lay Bye.

Schedule 9: Non-Schedule/Special Provisions (For the Purpose of current project i.e. Rainwater Harvesting System)

Schedule 10: Environmental Works

Table 2: Cost Indices and Reference Prices (applicable for specific items) for adjustment in contract prices [as per GCC 42].

WPI with base 2004-2005 = 100 on the Base Date

Base Date = Quarter of the calendar year falling just after the Deadline for submission of bids

| S. No. | Cost Element | Symbol | Indices or Cost on the Base Date | Index for adjustment | Sources of Index |
|--------|--------------------------|--------|---|--|---|
| [1] | [2] | [3] | [4] | [5] | [6] |
| 1. | Fixed | a | | | |
| 2. | Labour | b | Lo- all India average Consumer Price Index (CPI) Number for Industrial Workers for Guwahati Centre ⁸ (Base 2001 = 100) on the base date. | Ln-CPI for the quarter end for which the IPC is related | Labour Bureau, Ministry of Labour and Employment, Government of India. |
| 3. | Steel | c | So – Whole-sale Price Index (WPI) for Steel [Steel Long] | Sn-WPI for the quarter end which is two months prior to the month to which IPC is related | Economic Advisor, Ministry of Commerce and Industry, Government of India. |
| 4. | Cement | d | Co-WPI for Grey Cement | Cn-WPI for the quarter end to which IPC is related, | Economic Advisor, Ministry of Commerce and Industry, Government of India |
| 5. | Plant & Equipment spares | e | Eo-WPI for “Construction machinery” | En – WPI for the quarter end to which IPC is related | Economic Advisor, Ministry of Commerce and Industry, Government of India |
| 6. | Diesel ⁹ | f | D _o -Unit Cost from the identified depot on the base date | D _n -Unit Cost for on the first day of the quarter to which the IPC relates | From the Guwahati Depot |
| 7. | Bitumen ¹⁰ | g | B _o -Unit Cost from the identified refinery on the base date | B _n - Cost per unit quantity on the first day of the quarter in which the material is brought to site or two months prior to the date to which IPC is related | From Guwahati Refinery |
| 8. | Others | h | O _o - All India Wholesale Price Index (WPI) for all commodities | O _n - All India WPI for all commodities for the quarter end to which IPC is related | Economic Advisor, Ministry of Commerce and Industry, Government of India |

⁸ The Centre to be specified should be the relevant one for which CPI is published by the Labour Bureau.

⁹ The Contract Data specifies the identified depot for the rate of diesel for the base date and the applicable date for price adjustment.

¹⁰ The Contract Data specifies the identified refinery for the rate of Bitumen for the base date and the applicable date for price adjustment.

PART – II SPECIAL CONDITIONS OF CONTRACT

These Special Conditions of Contract (SCC) shall be read in conjunction with General Conditions of Contract including Contract Data and all Appendix, Instructions to Bidders (ITB) including Appendix to ITB, Notice Inviting Tenders (NIT), Bill of Quantities (BOQ), Tender Drawings, Scope of Work and Technical Specifications and other Documents as part of the Bidding Documents.

1. Difference in description of items:

In case it is found that there is difference in description of items between the Schedule of Rates (SOR) by Meghalaya PWD or Delhi Schedule of Rates (DSR) published by CPWD and the one as specified in the Bill of Quantities (BOQ) or any other part of the Bidding Document, the ones mentioned in SOR/DSR will prevail.

2. Procurement of materials

While procuring a particular material, the Contractor shall comply with the provisions of the following Order(s) by the Department of Promotion of Industry and Industrial Trade (DPPIT), (Public Procurement Section), Ministry of Commerce and Industry, Government of India:

Public Procurement (Preference to Make In India) Order 2017 (PPP-MII) on 15th June 2017 as amended vide DPPIT Order No. P-45021/2/2017-PP (BE-II) dated 4th June 2020.

3. Labour:

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

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

4. Compliance with labour regulations:

During continuance of the contract, the Contractor shall abide at all times by all existing labour enactments and rules made thereunder, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Among other things as mandated by various Acts/Rules & Regulations/Notifications, the Contractor shall provide labour hutment with proper water supply and sanitation system including toilet (water closet and bath) and kitchen facility. All labour records/registers are to be maintained at site as per norms. The same shall be made available to the Employer as and when directed. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, Employer shall have the right to deduct any money due to the Contractor including his amount of security deposit. The Employer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

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

5. Protection of Environment:

The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. The Contractor shall submit Environmental Management Plan (EMP) and its monthly compliances.

Monitoring Requirement & Specifications

| SN | Monitoring Requirements | Specification | Responsible agency |
|----|--|--|--|
| 1. | Noise levels at the construction sites (only during construction period) | Monitoring at all location's hourly basis for 24-hour period. Once every season of the year during construction period. | Contractor |
| 2. | Disposal of construction debris | Periodic inspection at sites for construction debris for safe collection and disposal to identified land fill sites. | Contractor |
| 3. | Traffic and Transportation | Measures for diverting the traffic during construction across roads adjacent to the construction site (if required) | Contractor in consultation with SSCL and Shillong Traffic Police |
| 4. | Domestic sewage and refuse management at the labour camps and construction sites | Check for adequacy of sanitation arrangements at the labour camps | Contractor |
| 5. | Water Pollution | Check for: Blockage of flowing water which may lead to stagnation of water Soil erosion due to construction activities leading to contamination and siltation of water bodies. Water contamination due to use of fuel and lubricants at the construction sites. | Contractor |
| 6. | Procurement of construction material | Check that procurement of construction materials should be only from permitted sites and quarries. | Contractor |

Location of Noise monitoring shall be wherever the Contractor decides to locate the equipment yard. In case of noise levels causing disturbance to the sensitive receptors, management measures as suggested in the EMP shall be carried out.

The implementation of Mitigation Measures is the responsibilities of the Contractor /Employer. However, it may be noted that implementation of all the measures is full responsibility of Contractor. The Employer would be responsible only for monitoring/supervision/guidance, etc.

6. Safety:

The Contractor shall be responsible for the safety of all activities on the Site. The activities shall include, but not limited to, excavation, trenching, demolition, provision of scaffolding, ladder, working platforms, gangways, mixing asphaltic materials, electric arc/ gas welding, use of hoist and construction machinery etc. The Contractor shall be governed by relevant provisions of safety code and as directed by the

Engineer. The contract rates shall be deemed to include all costs of compliance with safety requirements in the Specifications. The rates for all items given in BOQ shall be deemed to include all costs on account of traffic diversions (if required) and all such hidden assessment/ items, which are not listed to entire satisfaction of Engineer.

Some of the common safety rules to be followed during working are as follows:

- i. Nobody is allowed to enter at construction site without Safety Shoes.
- ii. Never enter work area without Safety helmet & chin strap in place.
- iii. No climbing/working allowed without proper safety belt above 2 m. height.
- iv. Do not exceed the speed limit 25 Kmph within Premises.
- v. No debris obstacles allowed on the roads & passages.
- vi. Do not walk on pipelines or false ceiling.
- vii. Maintain good Housekeeping at work site.
- viii. No photography/ Videography allowed without permission.
- ix. All Site supervisors & engineers must be imparted structured training on construction safety before start of the job & record to be maintained.
- x. Availability of qualified & trained Site Engineer at site during all working hours.
- xi. Site Safety training to be imparted to all workers & plan to be made to cover every worker.
- xii. Tools box talk (5-15 minutes) by supervisor prior to commencement of any job.
- xiii. All accidents / incidents (Near Miss) to be reported & investigated (formats & procedure should be submitted to the Engineer for approval).
- xiv. Daily Safety Checking by Each Site Engineer along with Safety engineer.
- xv. Weekly co-ordination meeting of all Safety engineers with the Employer's representative.
- xvi. Monthly safety meeting with Site In-charges.
- xvii. All Safety equipment must be ISI marked & checked by Safety officer before use.
- xviii. Tag system for erection & use of scaffoldings.
- xix. LPG cylinders not allowed for gas cutting.
- xx. Separate waste bins to be used for flammable & non-flammable material.
- xxi. Safety awareness programs for workers by display of boards, posters, competitions, talks etc.
- xxii. Deployment of Safety Supervisors for every 250 workers and part thereof at work site.
- xxiii. Display of List of First Aid trained persons.
- xxiv. Testing certificates for lifting tools & tackle.
- xxv. Provision & maintenance of fire extinguishers at construction site & material stores.
- xxvi. Display of emergency telephone numbers at various locations.
- xxvii. For work in confined space use 24 V lamp fitting & use tools with air motors or electric tools with max. 24 V.
- xxviii. For confined space entry Gas test must be done before & at regular intervals.
- xxix. Checking & tag of equipment like grinding machine, welding machine, gas cutting set etc. by supervisors before use.
- xxx. All portions of the site should always have sufficient level of illumination.

7. Damages:

The work is in the urban area and underground utilities are already laid in the area of the project work. The Contractor will ensure that no damages are caused during execution of work to any property, government, or semi government or private. However, if during execution, any public utility services such as cables, pipes, or property (private or government or semi government etc.) such as boundary wall, gate, fencing, walls of building etc. are damaged by the Contractor or its representative, the same shall be repaired or replaced or reconstructed and shall be put into use by the Contractor at his own

cost for which no extra payment shall be made by the Employer. If the Contractor does not repair or replace the damaged utility or property, the Employer may request to the line department or owner of the property to repair or replace at the risk and cost of the Contractor and the amount paid to the line department or the owner of the property by the Employer or the invoice submitted by line department or the owner of the property shall be recovered from the Contractor's RA or Final bill or from the performance security or in combination of all, as per the amount to be recovered, as the case may be.

8. Death of a Contractor:

In the case of death of a Contractor after executing / commencement of the work, his legal heir, if an eligible registered Contractor and willing can execute and complete the work at the accepted tender rates irrespective of the cost of work.

9. Establishment of Field laboratory (Clause 31 of ITB):

The Contractor shall establish the field-testing laboratory (land is to be arranged by the Contractor) within One Month from the date of Signing of Contract agreement and/or shall make an agreement as approved by the Employer for performing the test. The tests shall be witnessed by the Employer and/or Employer's representative.

10. Defect Liability Period:

- 10.1 The Defects Liability Period is **twelve (12)** months from the date of issue of Completion Certificate of the project.
- 10.2 The Employer shall give the Contractor a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The Employer shall afford all reasonable opportunity for the Contractor to inspect any such defect.
- 10.3 The Employer shall afford the Contractor all necessary access to the Facilities and the Site to enable the Contractor to perform its obligations under this clause.
- 10.4 The Contractor may, with the consent of the Employer, remove from the Site any part of the work/equipment/Facilities that are defective if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.
- 10.5 If the repair, replacement, or making good is of such a character that it may affect the efficiency of the Facilities or any part thereof, the Employer may give to the Contractor a notice requiring that tests of the defective part of the Facilities shall be made by the Contractor immediately upon completion of such remedial work, whereupon the Contractor shall carry out such tests.
- 10.6 If such part fails the tests, the Contractor shall carry out further repair, replacement, or making good, as the case may be, until that part of the Facilities passes such tests. The tests shall be agreed upon by the Employer and the Contractor. All such tests shall be carried out at the Contractor's own cost.
- 10.7 If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than fifteen (15) days), the Employer may, following notice to the Contractor, proceed to do such work with or from the third party, and the costs incurred by the Employer in connection therewith shall be recovered from the Contractor or may be deducted from any amount due to the Contractor or claimed under the Performance Security.
- 10.8 If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the Employer because of any of the aforesaid reasons.

10.9 In addition, any such component of the Facilities and during the period as may be specified in the SCC shall be subject to an extended Defect Liability Period. Such obligation of the Contractor shall be in addition to the Defect Liability Period specified under this SCC Sub-Clause.

11. Project Duration

| Description of Activity | Time Period |
|-------------------------|---|
| Construction | Twelve (12) Months (including monsoon period) from the date of issue of Notice to Proceed |
| Defect Liability Period | 365 days from the date of issue of Completion Certificate |

12. Basic conditions to be followed by the Contractor

- i. The earth work item in BOQ for excavation of earth is for all leads, lifts and filling the same, and nothing extra will be paid on account of lead and lifts. Items given for additional lift in BOQ does not entitle the Contractor to claim the same while executing the work.
- ii. The Contractor to arrange for emergency vehicle/staff vehicle.
- iii. The Contractor shall make his own arrangement for obtaining electric connection required for execution of work and make necessary payments directly to the concerned departments and nothing extra shall be payable on this account.
- iv. The Contractor shall make his own arrangement for water suitable for construction work as well as drinking and other purpose for the labour engaged by him for the execution of the work.
- v. The water for construction work shall be got tested quarterly from the laboratory approved by the Engineer to ensure its suitability for construction. The charges for these tests and related arrangements shall be borne by the Contractor. In the event of water found unsuitable for construction, the Contractor shall make alternative arrangement for suitable water from any other source to the satisfaction of the Engineer.
- vi. The Contractor shall provide, at his own cost instruments for surveying, weighing, and measuring purpose at the site of work as may be necessary for execution of the work.
- vii. The Contractor shall submit to the Engineer samples of all materials for approval. Such samples of materials which affect aesthetics of the work shall also be got approved from the Engineer before procuring bulk supplies. These approved samples shall be preserved and retained in the custody of the Engineer as standards of materials till the completion of the work. The cost of such samples shall be borne by the Contractor and nothing shall be payable on this account over the Agreement rates.
- viii. Because of security consideration, some restrictions may be imposed by the security staff on the working and/or movement of men and materials etc. The Contractor shall be bound to follow all such restrictions/instructions and he shall organise his work accordingly. No claim on this account, whatsoever, shall be payable.
- ix. The work of water supply, internal sanitary installations and drainage work etc. shall be carried out as per the applicable Building Bye Laws of SMB or MUDA and the Contractor shall produce necessary completion certificates, wherever required, from such authorities after completion of work. If nothing is stipulated in the local Building Bye Laws, then applicable CPWD Specifications, failing which, applicable IS Codes (including National Building Code) will be applicable.
- x. Water tanks, taps, pipes, fittings and accessories shall conform to applicable Building Bye Laws of SMB or MUDA. If nothing is stipulated in the local Building Bye Laws, then applicable CPWD Specifications, failing which, applicable IS Codes (including National Building Code) will be applicable. The Contractor should engage licensed plumbers for the work and get the

materials, fixtures and fittings tested by SMB/MUDA as applicable and wherever required, at his own cost and nothing extra shall be payable

- xi. All the pre-construction approvals are to be obtained by the Employer. If any approvals are pending at the time of award of work, the Contractor will assist in getting clearance done from appropriate authorities. The fee for such clearances, if paid by the Contractor, (limited to statutory fee levied by the concerned public authority. Administrative expenses shall not be included in this) shall be reimbursed after production of receipt.
- xii. All approvals during construction stage and commissioning phase are to be obtained by the Contractor at his own cost.
- xiii. The Contractor shall use materials bearing ISI Certification Mark unless otherwise specified or allowed in writing by the Engineer. Any material banned by any central/state/local public authority shall not be used in the work.
- xiv. The Contractor shall be required to get all the tests as per the specifications/IS codes, carried out on materials/work from an approved laboratory as per the direction of the Engineer. The testing charges and conveyance from the site shall be borne by the Contractor.
- xv. In case any material/ work is found sub-standard the same shall be rejected by the Engineer and the same shall be removed from the site of work within 48 hours, failing which the same shall be got removed by the Engineer at the risk and cost of the Contractor without giving any further notice and time. If it is found that even after reconstruction of the material/work (i.e. after removal and again constructing it), the same is sub-standard, the Employer will have right to impose penalty as the Employer deems appropriate.
- xvi. Even ISI marked materials may be subjected to quality test at the discretion of the Engineer. Whenever ISI marked materials are brought to the site of work, the Contractor shall, if required by the Employer, furnish manufacturer's test certificate or test certificate from approved testing laboratory to establish that the materials procured by the Contractor, satisfy the provisions of relevant IS codes. The testing charges shall be borne by the Contractor. However, cement/steel will be necessarily tested before start of work and also during the execution of work as per the requirements of specifications and will not be used till test certificates are obtained and approved by Engineer.
- xvii. The Contractor shall be responsible for completing the work and for satisfying all terms and conditions of the Contract without any extra payment over his quoted rates unless otherwise specified. The Contractor shall quote his rates for various items of work accordingly and no claim whatsoever shall be entertained for any incidental or extra work involved in the execution of the work as per nomenclature of the item and the specifications indicated in the tender documents.
- xviii. The Contractor shall give a satisfactory performance test of installations individually and as a whole to ensure their proper functioning before the work is finally declared completed and accepted.
- xix. The Contractor shall protect the adjoining buildings or works and the work under execution from fire and shall make adequate arrangements for fire protection and firefighting and if any property is damaged, by fire due to the negligence of the Contractor, the same shall be rectified by the Contractor at his own cost, to the entire satisfaction of Engineer.
- xx. The Contractor shall provide adequate lighting arrangements as approved by the Engineer for carrying out the work during night-time, if so required and also provide all other facilities for the labour employed to carry out the work as per direction of Engineer.
- xxi. In order to achieve the targeted date of completion the Contractor may have to work in multiple shifts, round the clock and nothing extra shall be paid on this account.

- xxii. The Contractor shall be responsible for all statutory provisions and deductions towards ESI, PF or any other, as the case may be, or any other levies and taxes shall be borne by the Contractor. The TDS and Contract Tax or any other statutory levies/ taxes incorporated from time to time shall be deducted progressively from the running account bills, as applicable at the time of payment. No claim in this regard shall be entertained.
- xxiii. For any clarification/ doubt, the Employer may organize regular meetings with Contractor. The Concerned representative of the Contractor who is aware of all the aspects of the project shall attend such meetings invariably as and when required.
- xxiv. The Contractor shall arrange for own office space/storage space for his use and same shall not to be provided by the Employer.
- xxv. The Contractor shall prepare and produce instruction, operation and maintenance manuals in English for the use, operation and the maintenance of the supplied equipment and installations and submit to the Engineer in (5) hard copies and the soft copy at the time of handing over. The manual shall generally consist of the following:
- a. Description of the project
 - b. Operating instructions
 - c. Maintenance instructions including procedures for Preventive maintenance
 - d. Manufacturers catalogues
 - e. Spare parts list
 - f. Trouble shooting charts
 - g. Drawings
 - h. Type and routine test certificates of major items.
 - i. One (1) set of reproducible 'as built' drawings on polyester film.
- xxvi. The Contractor shall employ competent fully licensed/ qualified, plumber for the work of PLUMBING/SANITARY installations in accordance with the drawings and specifications. The licensed plumber shall always be available at site to receive instructions from the Engineer in the day to day activities throughout the duration of execution of plumbing/ sanitary work.
- xxvii. All spaces allotted to the Contractor, as described above shall be vacated and all structures removed from site at any time as and when required and directed by the Engineer, unconditionally and without any reservation. The Engineer will not be obliged to give any reason for such removal. Upon receiving instructions to vacate the space, the Contractor shall immediately remove all his structures, materials, etc. from the sources and clear and clean-up the site to the satisfaction of the Engineer.
- xxviii. It shall be the responsibility of the Contractor to safeguard the site and ensure that no illegal encroachments are made by outside elements within the area allotted to the Contractor. Upon completion of the work or earlier as required by Engineer, the Contractor shall vacate the land totally without any reservation.
- xxix. The Contractor will arrange to erect, at his own cost, barricading as per norms of NGT/CLIENT around the infrastructure site, with entry/ exit gates at suitable points. The Contractor shall, at his own cost, provide and erect suitable fencing around the spaces allotted to him at the infrastructure sites to ensure the security of his men, materials and equipment within the sites and in relation to other Contractors who will also be allotted spaces at above sites.
- xxx. The security of workmen, materials, equipment stores etc, within the area allotted to the Contractor shall be the responsibility of the Contractor.
- xxxi. Manufacturer's Warranties:
- a. The Contractor shall ensure that all the manufacturer's warranties are made available to the Employer and the legal documentation between the Contractor and the Supplier must

- have a transparent pass through of the warranty benefits to the Employer as the user/maintenance Body of the Asset for the entire duration of each available warranty.
- b. The Contractor shall provide a Warranty that the material is new and free from all defects and faults in workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for materials of the type ordered and shall perform in full conformity with the specifications and drawings.
 - c. The Contractor shall be responsible for any defects that may develop under proper use but arising from faulty materials, design or workmanship and shall remedy such defects at its own cost, or get them remedied from the supplier, when called upon to do so by the Employer, who shall state in writing in what respect the material is faulty. This warranty shall survive inspection and acceptance of material but shall expire twenty-four months after the date of issue of Defect Liability Certificate, except in respect of complaints notified prior to such date.
 - d. If it becomes necessary for the Contractor, or on its behalf by the supplier, to replace or renew any defective portion/portions of the material/equipment supplied in the work, the provisions above would also apply to the portion/portions of materials so replaced or renewed until the end of the aforesaid period of twenty-four months, whichever may be later. If any defect is not remedied within a reasonable time, the Employer may proceed to do the work at the Contractor's risk and cost but without prejudice to any other rights which the Employer may have against the Contractor in respect of such defects. However, for such components, which require immediate replacement, the Employer shall act, and the Contractor shall be required to reimburse that cost.
- xxxii. **Witnessing of Tests by the Engineer:** The Contractor shall make under the direction and in the presence of Engineer, such tests and inspections as have been specified or as the Engineer shall consider necessary to determine whether or not the full intent of requirements of the specifications and the other related contract documents have been fulfilled. In case the work does not meet the full intent of the specifications and the other related contract documents it shall be rectified by the Contractor at no extra cost and the Contractor shall bear all the expenses for any further tests considered necessary.
- xxxiii. **Inspection of materials & Equipment:** The Contractor before supplying of any materials/equipment shall give an inspection notice well in advance for inspection & testing of the same at the manufacturing units/ shop. The expenditure on account of TA/ DA of inspecting officials of the Employer and its representatives including Consultants for the inspection of the said items shall be borne by the Contractor. However, inspection report issued by the inspecting officials representing the Employer should not be treated as a waiver of quality /performance of equipment & due quality/performance & successful commissioning of equipment is the responsibility of Contractor.
- xxxiv. The final bill will be submitted by the Contractor within 90 days from the date of acceptance of completion of work accompanied by the following documents:
- a. Completion certificate issued by the Employer specifying the handing over of the work.
 - b. Computerized Measurement Books.
 - c. No claim certificate by the Contractor.
 - d. 'As built' drawings and Operation and Maintenance manual
 - e. Periodical services and measurement books.
 - f. Road Register.
 - g. Plant Record books.
 - h. History Sheet of Machines.

- i. All operation and maintenance manuals.
 - j. All statutory approvals from various State/Central Govt./Local Bodies /Owner if required for completion & handover of work.
 - k. All test certificates of manufacturers and test conducted at site as well as outside agencies.
 - l. "FINAL REPORT" of the completed project containing all Pre & other related details.
- xxxv. **Handing over of project:** The Contractor within 15 days from virtual completion of Project including services shall prepare a list of all inventory including fitting & fixture and submit to the Engineer and the Contractor shall be liable to maintain the work up to Defect Liability Period.
- The Contractor shall certify the following:
- That all payments towards labours and suppliers have been made,
 - That the site is free from all materials,
 - That the site is free from all machineries and equipment; and
 - That the site is clear from all debris.
- If the project is not taken over by the Owner due to any reason, the Contractor shall provide necessary watch & ward at his own cost which will be reimbursed beyond DLP period till the project is handed over to the Owner.
- xxxvi. Along with monthly computerized running bill / final bill, the Contractor shall submit a monthly progress report showing various details, photographs of works etc. as per direction of the Engineer in two hard copies and soft copies. The Contractor shall also submit video-grapy of the site showing progress of work monthly. Please note that the running / final bill payment shall only be released after submission as aforesaid.
- xxxvii. Tender drawings enclosed with the tender documents are indicatives only. However, the work shall be executed based on the good for construction drawings issued at site from time to time and nothing extra shall be paid or no claim will be entertained if any GFC drawing varies from tender drawings.
- xxxviii. **Minor details of construction:** The rates quoted by the Contractor shall be deemed to cover for all the minor details / requirement of construction which may not have been specifically shown on the drawings or given in particular specifications, BOQ, but are required as per established engineering practice.
- xxxix. Documents for supply items: For supply items in BOQ the Contractor shall submit the following documents to the Engineer:
- a) Warranty Cards.
 - b) Manufacturer's test certificate.
 - c) Any other test certificate from an external laboratory to determine the technical Specification.
 - d) Catalogues
 - e) Pollution Control Certificate.
 - f) Documents required for registration of vehicle with the local transport Authority and other interstate movement of vehicle.
 - g) List of recommended spares with specification and costs thereof.
 - h) Operation & Maintenance manuals.

- xl. The quantities of various items as entered in the “BILL OF QUANTITIES” are indicative only and may vary depending upon the actual requirement. The Contractor shall be bound to carry out and complete the stipulated work irrespective of the variation in individual items specified in the bill of quantities. The variation of quantities will be governed as per clause of contract.

SECTION 5

SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

5.1 Brief Description of Work:

Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong City including with a Defect Liability Period of one year.

5.2 Introduction:

In last 2 decades, the Meghalaya Government has constructed Multilevel Parking lots mainly near Police Bazaar, Bara Bazaar area and Mowlonghat area for parking of private vehicles, taxis, MUVs like Sumos, LCV, trucks and mini buses. Except for the Police Bazaar parking lot, the other two are primarily used for Buses, Shared Taxis and Goods vehicles. Out of the four multilevel parking facilities, only the one at Police Bazaar is used for parking of private vehicles. So, parking/loading and offloading of some of the goods vehicles and buses takes place inside the multilevel parking facilities at Mowlonghat and Garikhana terminals, since Bara Bazaar area is a major trading hub for the region. These MLPs also house buses, LCVs and other passenger vehicles from neighbouring areas from where people visit Shillong for trading purpose. Since, the city falls in Seismic Zone V, there is a critical necessity to ensure that all the buildings are equipped with Seismic resistant structural design. Hence retrofitting of the structural components and stability is a primary concern of intervention in the project, considering the fact that these MLPs were constructed in early 2000's.

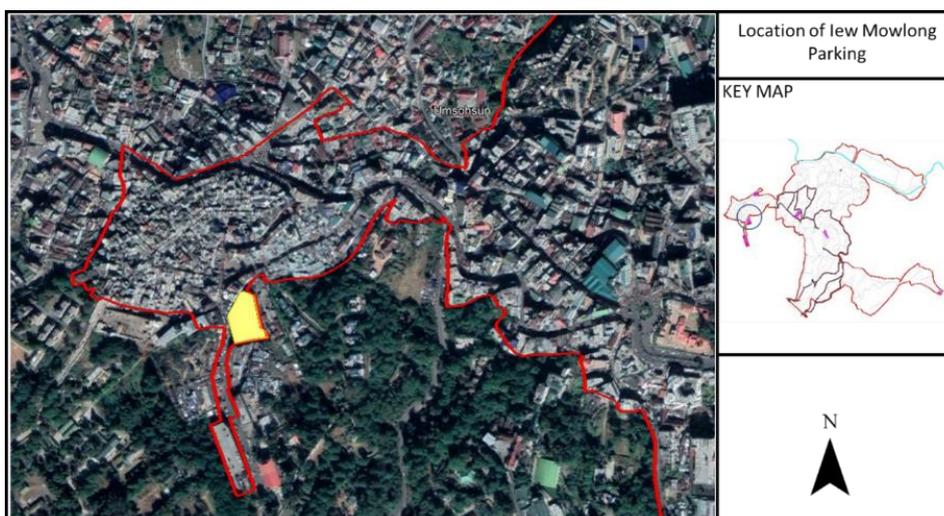
The below section will present bidder with an understanding of project site and interventions required.

5.3 Site Analysis:

a) Iew Mowlong Parking

The Iew Mowlong Parking was constructed in the year 2006 by MUDA and currently operated by SMB. The total built-up area of Iew Mowlong parking is approximately 5850 sq.m. The road leading to the Iew Mowlong, which is locally called the Bara bazaar road, carries a heavy traffic of taxis, private vehicles like cars, bikes, scooters, local and regional buses and also freight vehicles like trucks, etc. The parking lot has 3 floors.

Figure 1: Location of Iew Mowlong Parking



The Ground floor is used for parking of trucks, buses and regional vehicles, and also used for loading and unloading of goods, etc. 1st floor is designated for regional vehicles, tempos, LCVs, cars, etc. along

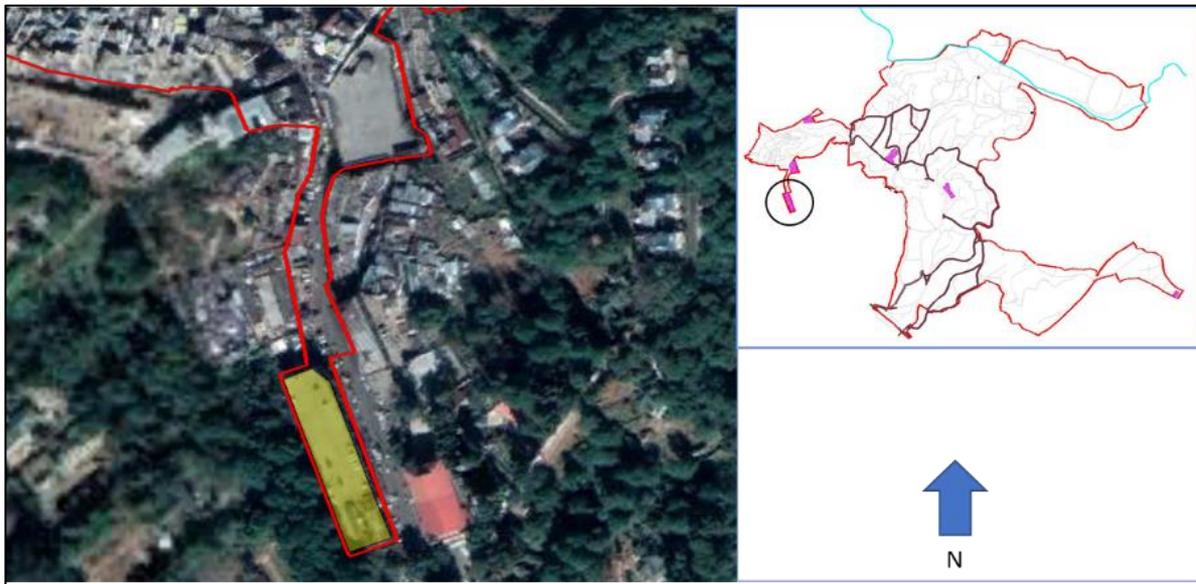
with retail shops and hawkers to facilitate the people coming for trade. Terrace floor is primarily used for parking of private cars, LCVs and Taxis.

b) MLP opposite to Anjalee Cinema

The MLP opposite to Anjalee Cinema was constructed in 2005 by MUDA and currently operated by SMB. The total built-up area of Anjalee Parking is approximately 5,900 sq.mt. The MLP is located opposite to Anjalee cinema and central bank of India Shillong branch and is well connected by the two-way road from Anjalee bus stand and Mowlonghat bus stand. Details about the structure:

- The MLP is a G+3 building structure with three levels of parking. The terrace floor of the MLP is used for parking of private cars, two wheelers and tourist taxis.
- The first floor is used for parking of vehicles used for regional connectivity. In this floor, vehicles like yellow tata sumo and yellow taxis, tourist taxis as well as heavy vehicles like inter-state buses were also observed.
- The ground floor of the MLP is used mainly by the tourist vehicles as well as the regional connecting vehicles. Vehicles like yellow plate taxis and Tata Sumos can be majorly observed in this floor.

Figure 2: Location of Anjalee Parking



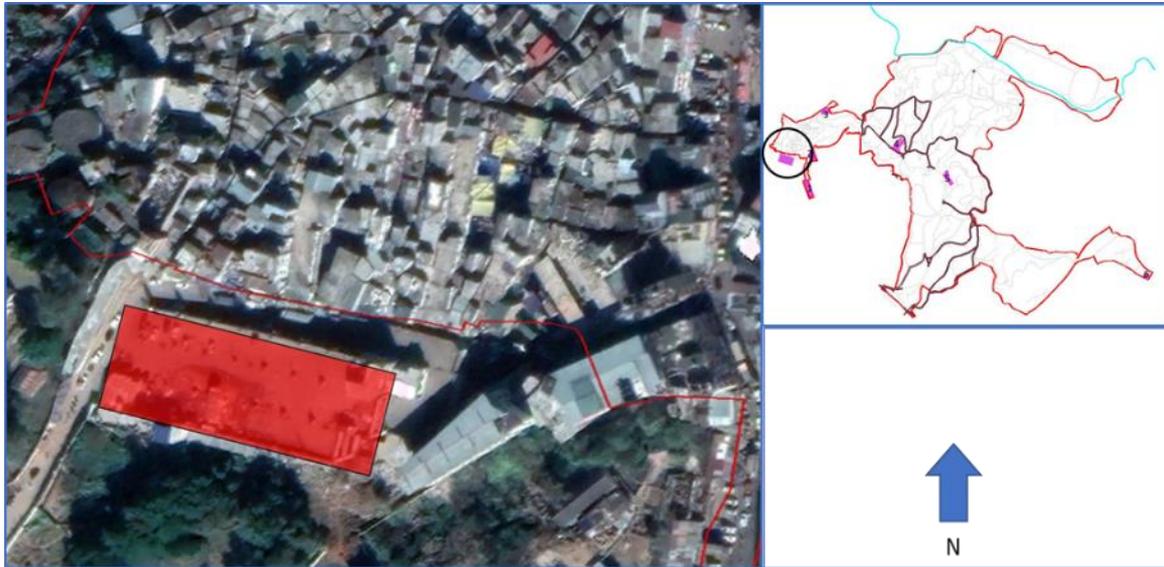
c) Khlieh Iew Parking

Khlieh Iew parking lot is located right at the entrance of the main Bara Bazaar market area. Opposite the entrance to this parking lot is hotel Barbarek. The parking lot was constructed in 2004 with a built-up area of 6947 sqm by MUDA and is still operated by MUDA. This parking lot has a slight uphill terrain from the lower most basement area and the stretch from the main entrance which is at the ground level to the lower most basement area is always choked with traffic congestion. Details of the existing structure:

- The parking lot is not used for only car parking, but has a number of functions with hardware stores, godowns, general stores, pharmacy etc.
- The ramp going down the basement is not connected to the multilevel car parking.
- In the basement, there are no shops but most of the mini truck and pick-up trucks come here for loading and unloading.
- On the ground floor, tourist vehicles such as local taxis and regional taxis park, to pick and drop passengers. Hardware shops and other small shops are also located on this level.

- On the top floor, vehicles such as big trucks, private cars and local taxis are present. No other activities such as vending is present here.

Figure 3: Location of Anjalee Parking



5.4 Proposed development:

Interventions proposed for all the three above mentioned multi-level parking are listed below:

A) Retrofitting of the existing structure:

The MLP buildings were tested for the structural stability through Non-destructive Tests (Rebound Hammer Test, Ultra Sonic Pulse Velocity (UPV) Test, Cover test, Half Cell Potentiometer, Core Cutting and Carbonation test). The results showed a decline in over-all strength as some structural members were found to be in a deteriorated condition. In order to strengthen the structural members, interventions such as Injection grouting and jacketing with micro-concreting along with repair works such as plastering and painting, etc. are considered. The NDT test results would be shared with the contractor before carrying out the retrofitting works. Considering the findings of the structure stability tests the following activities are envisaged to be carried out at each of the MLPs to strengthen them.

- a) **Mowlong Parking:** Jacketing and Grouting and other treatments to strengthen the existing identified structural members such as column, beam and slabs.
- b) **Anjalee Parking (MLP opposite to Anjalee Cinema):** Jacketing and Grouting and other treatments to strengthen the existing identified structural members such as column and slabs.
- c) **Khlieh Iew Parking:** Jacketing and grouting and other treatments to strengthen the existing identified structural members such as column and slabs.

B) Upgradation of existing buildings:

Further, to improve over-all operational efficiency and facelift of the buildings (including repairs, plastering/ painting etc.), provisions for utilities (includes rain water harvesting, fire tanks, Septic tanks, lighting, electrical/ fire system etc.) and modernization of the building using ICT based interventions (CCTV/ Public addressal system/ Parking management systems etc.) are detailed under the subsequent section under technical specification.

Facelift of the buildings

It includes repairs of the deteriorated structure, areas, plastering/ painting of buildings etc. The contractor has to follow the specifications mentioned in subsequent sections related to Civil Works.

Improvement of drain pipes and gutter.

Channels which surrounds edge of a sloping roof to collect and transport rainwater to the storage tank.

Flooring repair work.

Providing and laying 20 to 23 mm thick factory made pre-polished cement concrete flooring tiles of required colour and design over 20 mm thick cement mortar 1:4 (1 cement: 4 sand) and jointed with cement slurry mixed with an admixture of pigment to match the shade of the tile - (Endura \ Ultra \ Dazzle \ Technic)

Improvement of toilet blocks / sanitary fittings / fixtures:

Septic Tank and connection to main city sewer. Provision for adequate drainage for basement, Ground floor and Roof.

Water tank / fire tank.

Firefighting system / sprinkler system Planning, design & preparation of drawings, obtaining all type of approvals, supply, Installation, testing and commissioning of firefighting with sprinkler system, internal and external hydrants, Fire brigade inlets, terrace pump sets, all allied plumbing works etc. all as per the particular specifications, fire extinguishers complete with obtaining of all type of statutory approvals from Meghalaya State Fire & Rescue Services and Municipal body as required as per the additional particular specifications of this document.

Drinking water facilities.

Provisions for Safe and hygienic drinking water facility to be made available as per the space available near the identified locations and as per the directions.

Signals / markings

The Code of Practice for Markings & Signalling published by Indian Roads Congress should be followed or as directed by the Engineer in Charge.

Lighting fixtures.

Lighting shall be designed to provide adequate vision, comfort safety. It shall be designed to provide uniform lighting of minimum throughout the facility with no dark patches or pockets shall conform to IS 7537(Part 0/Sec 0): 1974 of BIS.

IT, Surveillance and Park Management System.

Please refer specifications in subsequent sections.

Ticket counters.

The parking ticket dispenser equipment would be used in entryways to parking to control vehicle access along with an automatic barrier. The installation and construction shall be as per design or as directed by the Engineer in Charge.

Boom barriers at exit and entry gates.

RFID based Entry/ Exit Device are to be provided for the automatic processing and monitoring of incoming and outgoing vehicles from the Parking lots to ensure safety and security of the MLPs. Also, provide auto generation of token for entry and exit, and to facilitate smart card based ticketing system.

Function of Entry / Exit Areas

- i. The Entry Area is the exchange point between drivers and machine or authorized operators as the case may be, as applicable, based on the technology provided and therefore special attention shall be paid to the smooth functioning of this exchange centre.
- ii. Each of the entry locations to the parking facility shall be provided with electronically controlled real time bay availability positions
- iii. Inside and outside Entry and Exit doors shall be provided to prevent drivers and animals from coming into contact with any moving elements of the system.
- iv. Means for catching of debris and drippings from the incoming cars shall be applied to avoid such drippings to cars and machinery inside the complex, during transportation and storage inside the system.
- v. If the system has installed a radio frequency access system, the readers shall have enough range to detect approaching vehicles from at least 9 Meter outside of the Entry and Exit Areas.
- vi. The Automated Facility where authorized parking operators/assistants are utilized to park and retrieve the vehicles from the parking bays, shall be equipped with sufficient lobby space to hold the expected peak accumulation of drivers waiting for retrieval of their cars. The pay stations or other access readers shall also be located inside the Lobby. Also, sufficient electronic message centres shall be provided to guide the drivers to the respective location to meet their car.
- vii. The operator room shall be located near the lobby to enable the operator to assist drivers and to oversee the operation of the Parking Structure.

C) Construction of Additional 3 (three floors) at Khlieh Iew MLP:

The Khlieh Iew parking lot was constructed in 2004 by MUDA and is still operated by MUDA. During the construction stage, the building was designed for G+6 structure. However, it was constructed only till G+3 structure. Hence, in order to tap the full potential of the building and its location advantage, it is envisaged to construct 3 (three additional floors to create additional planned commercial space).

The drawings for the proposed new construction at Khlieh Iew Parking are attached in Section 6: Drawings.

5.5 Scope of Work

The scope of work includes all aspects of the retrofitting, strengthening and upgradation of existing buildings, and construction of additional floors in one of the buildings including Site clearance, excavation, Substructure, Superstructure, Finishing, Truss work, Tensile works, Mechanical, Electrical & Plumbing (MEP) works including installation of Sewage treatment (STP) plants, etc. and external development with landscaping and hardscaping works. The site will be provided free of any hindrances/encumbrances to the successful bidders, i.e., the existing structures will be cleared and provided by the employer.

The work has to be carried out as per the approved Architectural/Structural/Electrical drawings. Inspection and testing of works shall be conducted by the employer as per latest guidelines. Contractor has to follow the quality norms of IS Code. Responsibility of quality of work and materials solely lies on the contractor which shall be checked by PMC and SSCL in that order. Decision of SSCL shall be final and binding in this regard.

The scope of work under the contract is as given in the following but not limited to:

- a) **Civil Works** including the retrofitting works such as Jacketing and Grouting and other treatments to strengthen the existing identified structural members such as column, beam and slabs; and Construction of Additional 3 (three floors) at Khleih Iew MLP. It includes provision/ refurbishment of required utilities including rain water harvesting, fire tanks, and Septic tanks.
- b) **Electrical & Fire Works:** Provide required lighting, electrical and fire systems.
- c) **ICT based interventions:** Provision of CCTV/ Public addressal system/ Parking management systems etc. along with all the software and hardware required for modernization of the MLCP.
- d) Parking related, floor markings, signage boards and CCTV surveillance has to be provided at site.
- e) Other amenities Civil work, Finished Flooring over the system, necessary Power back up, Firefighting System as per NBC norms, Electrical Cabling including Main, Earthing, Lighting arrester as per approved plans will be in the scope of Contractor.
- f) Facade development work for MLP shall be in the scope of the contractor. The drawing of the facade development shall be approved by SSCL.
- g) To carry out required site clearing and levelling of the Complete Area, earmarked for the work.
- h) All labor, materials, tools plants, machinery, equipment, and any other things required for execution for work shall be arranged by the CONTRACTOR at his own cost.
- i) All arrangements for establishment, watch & ward of stores and security of sites, appropriate vehicles for transportation etc. shall have to be made by the CONTRACTOR at his own cost and nothing extra on this account shall be paid.
- j) Site office, cement & other construction material storage godown and fabrication yard for reinforcement, inserts etc. shall be constructed by the contractor at his own cost.
- k) All construction equipment required for execution of the work shall be arranged, procured & hired by the Contractor at his own cost along with operations, skilled & semiskilled personnel. The successful Bidders shall also furnish a list of construction equipment /staff deployment.
- l) Construction of temporary sheds/ barricades for the temporary store, site office as well as safety and security of equipment shall be in the Contractor's scope.
- m) All necessary statutory clearances / permissions such as approval from authorities in Meghalaya etc has to be obtained by bidder. However, the actual fees (if any) incurred will be paid by SSCL.
- n) All the works mentioned in this section has to be read in conjunction with the scope of works, technical specifications and BOQ. No duplication is envisaged.

- o) The bidder shall install brand new equipment and the same shall be free from all defects and faults in material, workmanship, and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for materials of the type ordered and shall perform in full conformity with the specifications and drawings. The Contractor shall be responsible for execution of work without any defects that may develop under the conditions provided by the Contractor and under use, arising from faulty materials, design or workmanship such as corrosion of the equipment, inadequate contact protection, deficiencies in circuit design and or otherwise and shall rectify if any defects occur at his own cost when called upon to do so by the SSCL.
- p) Testing and Commissioning shall include furnishing all labor, materials, instruments etc. and incidentals necessary for complete testing of each component as per the IS / NBC specifications and manufacturer's recommendations.
- q) Third party inspection: SSCL may appoint any approved government agency/Authority or any person for third party inspection of the work, on contractor's cost.
- r) On the completion of the work, the CONTRACTOR shall clear away and remove from the site all construction plants, temporary works, surplus material and rubbish of every kind and leave the site and works clean to the satisfaction of the Engineer-in- charge.
- s) In view of the site location and their prevailing condition, it is mandatory on the Contractor to visit the site and make himself thoroughly familiar with the site conditions, access and account for all possible difficulties and other requirements mentioned elsewhere in his bid prior to submission. When a contractor submits his bid for this work, it will be considered that he has quoted for this work with full and complete knowledge of the site and prevailing conditions, and no claim for additional compensation shall be entertained on this account.
- t) It is clarified that bidder should read carefully understand design features so that the Bidder is familiarized with the scope of work while submitting a Bid.
- u) The contractor shall submit the as-built drawing, other specifications & additional maintenance, and Operation standard other than mentioned in the RFP.
- v) The successful bidder will be expected to complete the construction works in 12 months from the date of signing of the agreement.

Note-Details and drawings given in this document are for information purpose only and successful bidder shall undertake confirmatory surveys for accuracy and completeness of data. It is in scope of successful Bidder to undertake Site surveys as per requirements, obtaining all required approvals from the relevant authorities. The successful bidder shall prepare 'As Built Drawings' after execution depicting the exact construction carried out on site, in soft and hard copy format.

5.6 Technical Specifications

5.6.1 Retrofitting of Parking

I. General:

Following points must be given adequate attention while dealing with the retrofitting works:

- The structural members under retrofitting shall be adequately supported to transfer the loads temporarily from the member.
- The retrofitting of the various members shall be done stage by stage. All members shall not be taken up simultaneously.
- All the products shall be applied strictly as per Manufacturer's specification and preferably by their authorized applicators only.
- All suitable precautions shall be taken to ensure the safety of work force and equipment during execution of work.
- All the exposed reinforced concrete members shall be protected against attack by acid gases, chloride ions, sulphates, moisture etc., by providing suitable protective coating system comprising of a silane/siloxane primer and an aliphatic acrylate top coat.

II. Injection Grouting

The strengthening of the RCC columns, beams & slab can be done with injection grouting (low viscous high strength epoxy grouting) and jacketing with micro-concrete by any specialized agency that already has the experience of this kind of special repair and rehabilitation work. The detailed methodology is given below.

- Step 1: Drilling and fixing injection packers in RCC members including, drilling holes in structural members at the intervals of 300mm centre to centre in zig zag pattern.
- Step 2: Cleaning of holes: Clean the holes by air blower prior to fixing nozzles.
- Step 3: Fixing of Packers: Insert 12 mm dia, 50~75 mm long injection packers in cleaned holes with structural grade epoxy adhesive like Sikadur-31 or equivalent.
- Step 4: Injection of shrinkage free low viscous epoxy resin-based injection grout like Sikadur®-52 or equivalent. Cut the packers by cut of wheel after completion of grouting without damaging structural elements.

III. Jacketing and Micro Concreting

Micro-concrete: Based on hydraulic binders these readymade formulations are tailor made to give concrete which is flow-able and free of shrinkage. They are applied in complicated location and in thin sections such as those met with in jacketing. Micro-concrete can be made either as normal strength or high strength depending on requirement. The detailed methodology is given below.

- **Step 1: Support & Surface Preparation:** Providing and erecting steel props (up to full height, braced at centre, resting on wedge and block to support the structure provisionally during repair work and maintaining them in position till required and as directed by the Engineer-in-charge.
- **Step2: Chipping of surface:** Chipping of unsound weak concrete / cover of reinforcement over slab, column, and walls or as per site requirement by chiselling maximum up to 30 mm depth and disposal of malwa from site as per instruction of Engineer-in-charge. Check the level of corrosion in steel reinforcement.

- **Step 3:** Clean the surface with high pressure air / sand blasting so that no loose material should be remain over the surface.
- **Step 4: Corrosion Protection to Existing Reinforcement:**
Apply the Rust remover chemical with the brush over the reinforcement and clean the rust from the surface. Product: Sika Rustoff 100/Equivalent Consumption: 0.2 kg/m²/coat. Density: 1.01 Kg/l at 300C. Supply and apply a cement-based polymer modified rebar corrosion protection system to existing reinforcement. Product: SikaTop®-Armatec-108 Equivalent Consumption: 3.75 kg/m² for two coats. Product requirements: carbonation
- **After removal** of rust completely check the size of the reinforcement.
- **Step 5:** If reinforcement is not corroded more than 20%, then the existing reinforcement is sufficient. Otherwise,
- **Step 6:** New extra reinforcement should be provided with chemical anchoring.
 - The main vertical rebars should be anchored into the base slab/ foundation and top slab with chemical anchorage.
 - The shear connectors should be provided on regular intervals to provide the anchorage to the stirrups as shown in fig. below
 - Post removal of the rusting, the corrosion protection coating should be applied over the steel reinforcement.
- **Step 7:** Provide the complete water tight shuttering as shown in the fig 12. The bonding agent has a particular pot life at a particular temperature, so the concreting should be completed within the stipulated time.
- **Step 8:** Supply and apply a ready to use non shrink, cementitious free flow micro-concrete (> 100 mm). Product: SikaRep® Microcrete-4 + adequate coarse aggregate. Yield: approx. 17 ltr/bag (30kg) (depending on the size and quantity of coarse aggregate added) Product requirements: compressive strength > 60 N/mm² (28 days) according to ASTM C 1107-99.

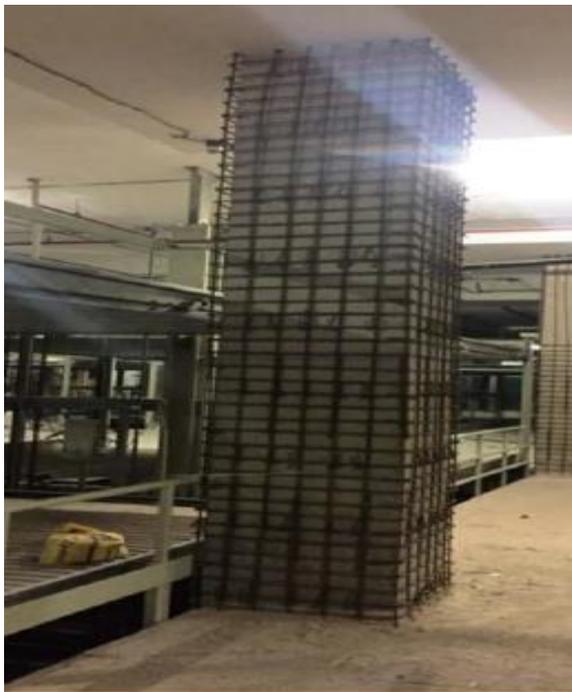


FIGURE 5: REINFORCEMENT CAGE AROUND THE EXISTING COLUMN, THE MAIN REINFORCEMENT IS ANCHORED INTO THE SLAB WITH CHEMICAL ANCHORING.



FIGURE 4: CONCRETE JACKETING



FIGURE 7: APPLICATION OF BONDING AGENT OVER THE EXISTING COLUMN.



FIGURE 6: PROVIDING SHUTTERING AROUND THE COLUMN.



FIGURE 8: REINFORCEMENT MESH BOTTOM (OR TOP) OF THE FLOOR SLAB, THE MAIN REINFORCEMENT IS ANCHORED INTO THE BEAM WITH CHEMICAL ANCHORING.

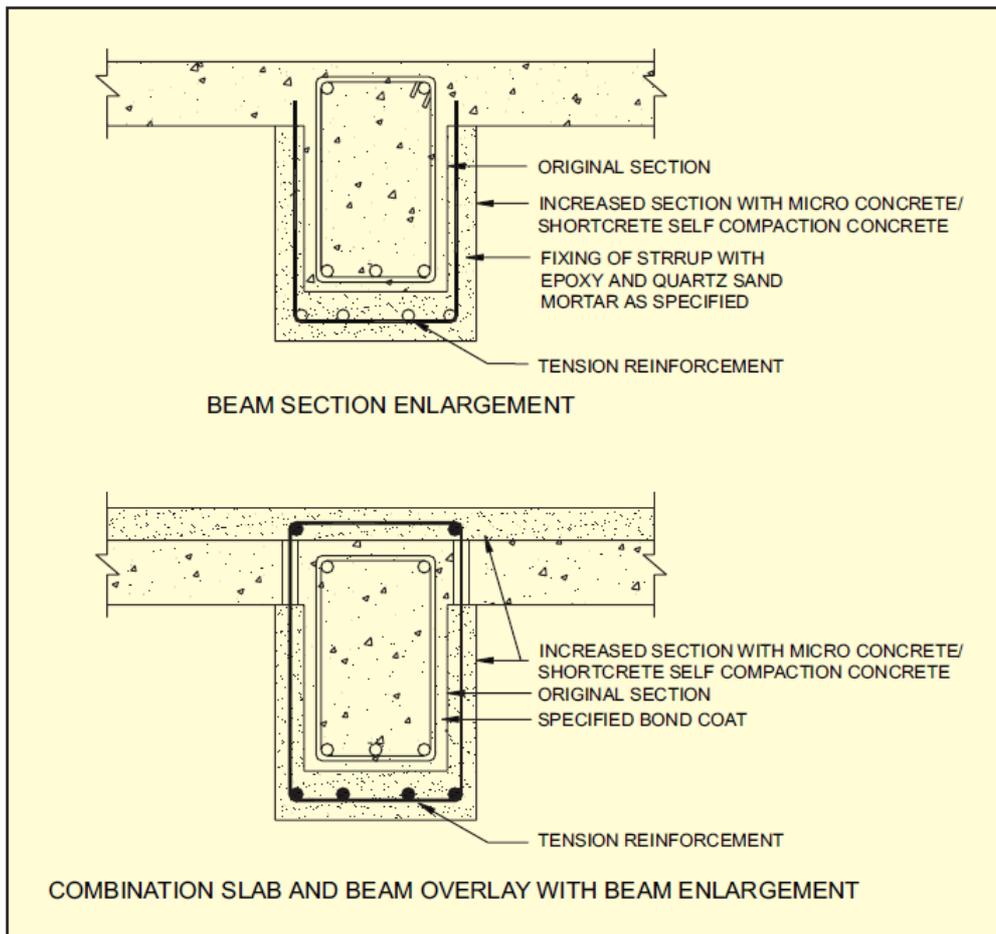


FIGURE 9: SECTIONS

IV. Structure strengthening

Following repair methodology is to be used to bring back the structure to serviceability.

- a) Loose concrete shall be removed by hand held breaker / hammer. The area around distress shall be cleaned with wire brush.
- b) The exposed reinforcement shall be cleaned with wire brush and with de-ruster compound to remove the rust. The rust remover shall be applied with cotton swap to bring back the original colour of the reinforcement.
- c) Grouting: Low viscous high strength epoxy grounding.
- d) Bonding agent: Epoxy Resin based bonding agent shall be applied by brush to the surface of concrete to receive polymer modified mortar.
- e) Reinforcement cement concrete for Columns, Beams, floor Slabs and staircase & Ramp
- f) Shuttering / formwork / scaffolding: All types of repair work (RCC, Plaster, Painting, etc.) for Columns, Beams and floor Slabs.
- g) Plastering: Brick wall, Columns, Beams and floor Slabs.
- h) Cladding: wall and Columns
- i) Painting with protective coating: The RC Elements of whole building shall be painted with breathable zinc rich aliphatic acrylic protective coating for 150-micron DFT after cleaning the surface to be painted of oil, grease and any other foreign matter. The surface shall be rubbed with emery paper (No. 60 to 80) and the dust removed thoroughly with clean cotton cloth. The

pin holes etc., if any shall be filled with cement paste and excess mortar shall be removed after drying by rubbing with emery paper followed by wiping with clean cloth.

- j) Waterproofing / sheet: Terrace Slabs and Water Tanks shall be finished with proper treatment of Water Proofing of approved specifications.

The structure shall be comply in accordance with the latest Indian Standard Codes and

- Shall resist wind and seismic forces.
- Steel Structures shall be comply with the provision of IS 800-1984.
- Structural steel shall conform to IS 842. Tubular section shall conform to IS 4923.
- Architectural design norms as per NBC (National Building Code – 2005).
- Structural Design norms as per NBC and BIS (Bureau of Indian Standards)

CONTRACTOR shall provide permanent bench marks, flag tops and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural drawings.

The CONTRACTOR shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the CONTRACTOR for the test,

The work shall be carried out in accordance with the Architectural drawings and structural drawings. Before commencement of any item of work, the CONTRACTOR shall correlate all the relevant architectural and structural drawing issued for the work, nomenclature of items, specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall supersede the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in-charge for immediate decision before execution of the work. The CONTRACTOR alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information and no claim, whatsoever shall be entertained on this account.

The CONTRACTOR shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other CONTRACTOR` s) or by the Engineer-in-charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other CONTRACTOR or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.

V. Steel

All finished steel shall be well and cleanly rolled to the dimensions and weight specified by BIS subject to permissible to tolerances as per IS: 1852. The finished materials shall be reasonable free from cracks, surface flaws laminations, rough and imperfect edges and all other harmful defects and shall be painted with anti-corrosive paint

Steel Sections, shall be free from excessive rust, scaling and pitting and shall be well protected. The decision of the Engineer-in-Charge regarding rejecting any steel section on account of any of the above defects shall be final and binding and shall be painted with anti-corrosive paint.

VI. Fabrication

Fabrication shall generally be done as specified in IS:800.

In major works or where so specified, drawings giving complete information for the fabrication of the component parts of the structure including the location, type, size, length and details or fivers, bolts or welds, shall be prepared in advance of the actual fabrication and approved by the Engineer-in-Charge. The drawings shall indicate the shop and field rivets, bolts and welds. The steel members shall be distinctly marked or stenciled with paint with the identification marks as given in the shop drawings.

Great accuracy shall be observed in the fabrication of various members, so that these can be assembled without being unduly packed, strained or forced into position and when built up, shall be true and free from twist, kinks, buckles or open joints.

Wooden or metal sheet templates shall be made to correspond to each member, and position of rivet holes shall be marked accurately on them and holes drilled. The templates shall then be laid on the steel members, and holes for riveting and bolting marked on them. The ends of the steel members shall also be marked for cutting as per required dimensions. The base of steel columns and the positions of anchor bolts shall be carefully set out at the required location.

VII. Erection

Steel work shall be hoisted and erected in position carefully, without any damage to itself other structures and equipment and injury to workmen. The method of hoisting and erection proposed to be adopted by the CONTRACTOR shall be got approved from the Engineer-in-charge in advance. The CONTRACTOR however shall be fully responsible for the work being carried out in a safe and proper manner without unduly stressing the various members and proper equipment such as derricks, lifting tackles, winches, ropes etc. shall be used.

VIII. EQUIPMENT

- a. All labour, materials, tools and tackles, machinery, equipment and any other things required for execution for work shall be arranged by the CONTRACTOR at his own cost.
- b. All arrangements for establishment, watch & ward of stores and security of sites, appropriate vehicles for transportation etc. shall have to be made by the CONTRACTOR at his own cost and nothing extra on this account shall be paid.
- c. Maintenance for the parking shall be provided by the CONTRACTOR during the defect liability period.
- d. On the completion of the work, the CONTRACTOR shall clear away and remove from the site all construction plants, temporary works, surplus material and rubbish of every kind and leave the site and works clean to the satisfaction of the Engineer-in-charge

5.6.2 GENERAL SPECIFICATIONS FOR CIVIL WORKS

- a) **Barricading of site-Contractor** has provided surrounding the building Proper temporary barricading by fencing with colour coated G.I. sheets, shall be carried out by the contractor at the start of work as per direction of Engineer-in charge in order to physically define the boundaries of the plot for restricted entry to only those involved in the work and also to prevent any accidents.
- b) **Dismantling or Demolition work-** of existing structures which comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and outside the municipal limit as per direction of Engineer in Charge including all leads and lifts.

The contractor shall have to carry out the following additional activities at his own cost.

- i. Demolition of existing RCC/ Brick work/ stone masonry structure including platform, foundation etc., i.e., complete in all respects.
- ii. The dismantling, levelling and demolition of all structures, including, buildings, belowground, foundations, parking areas, driveways, utility installations located on or under the Site; removal and proper disposal of all debris resulting from such Work; and proper compaction and grading of the Site following the removal of all structures and debris therefrom up to a limit of 15 KM from the construction site.

The demolition works shall also include but not limited to the following.

- i. Barricading the plot to ensure safe working conditions.
 - ii. Demolition of buildings with Hydraulic Breakers/ manually or as may be required.
 - iii. All dismantled material will be property of the contractor. The contractor will quote the rates accordingly.
 - iv. Removal of Foundations below ground level.
 - v. Excavation of Soil to the required depth.
- c) **Earth Work in Excavation-** The earthwork shall be classified under the following categories and measured separately for each category:
- i. All kind of soils: Generally, any strata, such as sand, gravel, loam, clay, mud, black cotton moorum, shingle, which for excavation yields to application of picks, shovels, jumper, scarifies, ripper and other manual digging implements.
 - ii. Ordinary rock: Generally, any rock which can be excavated by splitting with crow bars or picks and does not require blasting, wedging or similar means for excavation such as lime stone, sand stone, hard laterite, hard conglomerate.
 - iii. Hard rock: Generally, any rock or boulder for the excavation of which blasting is required such as quartzite, granite, basalt, reinforced cement concrete (reinforcement to be cut through but not separated from concrete) below ground level and the like.
 - iv. Hard rock (blasting prohibited): Hard rock requiring blasting as described under (c) but where the blasting is prohibited for any reason and excavation has to be carried out by chiseling, wedging, use of rock hammers and cutters or any other agreed method.
- d) **Shoring -** Earthwork in cutting shall be retained by designed Steel Shoring as per relevant code. If slips, slides, over-breaks or subsidence occur in cuttings during the process of construction, they shall be removed at the cost of the Contractor as ordered by the Engineer.
- e) **Back filling Work-** Back filling shall be done in layers with consolidation in layers as per CPWD specifications and with power/vibratory rolling. Shall be done in layers with consolidation in layers as per CPWD specifications and with power/vibratory rolling.

- f) **Plain concrete work:** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - all work up to plinth level - 1:5:10 (1 cement: 5 coarse sand: 10 graded stone aggregate 40mm nominal size)
- g) **Reinforcement Steel** -The contractor shall procure IS marked TMT bars of various grades from the primary steel Manufacturers such as SAIL, TATA steel Ltd., RINL, JINDAL steel & power Ltd, and JSW steel Ltd or their authorised dealers having valid BIS license for IS: 1786-2008 (Amendment-1 November 2012).

The contractor shall have to obtain and furnish test certificates to the Engineer-in charge in respect of all supplies of steel brought by him to the site of work.

- h) **Form Work-** The work shall be done in general, as per CPWD Specifications.
- i) **For RCC retaining wall** satisfactory shutter finish shall be ensured without honey combing and without bulging-out exceeding 5 mm. No bulging- in is allowed for shutter finish.
- j) **Reinforcement Concrete Work:** Providing and laying in position specified grade of reinforced cement concrete, including the cost of centering, shuttering, finishing and reinforcement 1:1.5:3.
- k) **Flooring:** Providing and laying 20 to 23 mm thick factory made pre-polished cement concrete flooring tiles of required colour and design over 20 mm thick cement mortar 1:4 (1 cement: 4 sand) and jointed with cement slurry mixed with an admixture of pigment to match the shade of the tile - (Endura \ Ultra \ Dazzle \ Technic)
- l) **Plastering** :12mm cement plaster of mix -1:4 (1cement: 4 fine sand)
- m) **Cement:** The contractor shall procure cement (conforming to IS:1489-part-I & IS:8112 (1989) as required in the work, from reputed manufacturers of cement such as ACC, Ultratech, India cement, Ramco, Dalmia Brand cement.

ADDITIONAL CONDITIONS AND PARTICULAR SPECIFICATION FOR R.C.C. WORK

Ready Mix Concrete/ Design Mix Concrete)- (Before start of RCC work concrete Mix Design shall be got done by the contractor from a NABL accredited laboratory/ IIT/ NIT laboratory with the approval of Engineer-in-Charge. The RCC Work shall be carried out as per the Mix Design approved by the Engineer-in-charge). For the nominal mix in RCC, CPWD specification shall be followed. The Design Mix Concrete will be designed based on the principles given in IS: 456, 10262 and SP 23.

ADDITIONAL SPECIFICATION (AS APPLICABLE)-

- a) **Conditions for water:** The contractor shall make his own arrangement for providing water for construction and drinking purpose. Water charges shall not be recovered on account of it.
- b) **Water Proofing** - Slabs of all the Buildings and Water Tanks shall be finished with proper treatment of Water Proofing of approved specifications with either of the brands namely FOSROC/ CICO/ TEXAS through their authorized applicators only.
- c) **Brick work:** Brick work with common burnt clay F.P.S. (non-modular) bricks of class designation 35 in foundation and plinth in - cement mortar 1:6 (1 cement: 6 coarse sand).
- d) **Exterior Finishes** - The exposed columns in the entire area – if any, shall be provided with ACP sheets of approved shade fixed over the steel frame capable of tacking the impact of vehicle. The Exterior of Control Room, Server Room, D.G. Set/ Battery Room, etc. shall plastered with Cement Mortar Mix 1:4. The exterior walls shall be finished with exterior Weather Coat Paint of approved Shade & Make over exterior cement primer as per relevant specifications.
- e) **Concrete Admixtures** –Admixtures are materials added to the concrete before or during mixing with a view to modify one or more of the properties of concrete in the plastic or hardened state. Concrete admixtures are proprietary items of manufacture and shall be obtained only from

established manufacturers such as CHOKSEY CHEMICALS/ BASF/ DR. SEALKIT (ASIANCHEMICALS)/ SIKA, quality assurance and full-fledged laboratory facilities for the manufacture and testing of concrete.

f) **Physical and Chemical Requirements:**

Admixtures shall conform to the requirements of IS: 9103. In addition, the following conditions shall be satisfied:

- i. Synthetic fiber (Polyester 12mm Recron 3S) triangular; admixtures shall be added in all concrete works.
 - ii. "Plasticizers", "Super - Plasticizers" shall meet the requirements indicated for "Water reducing Admixture".
 - iii. Except where resistance to freezing and thawing and to disruptive action of deicing salts is necessary, the air content of freshly mixed concrete in accordance with the pressure method given in IS: 1199 shall not be more than 2 per cent higher than that of the corresponding control mix and in any case not more than 3 per cent of the test mix.
 - iv. The chloride content of the admixture shall not exceed 0.2 per cent when tested in accordance with IS: 6925. In addition, the maximum permissible limit of chloride content of all the constituents (not to exceed 1.5% of the weight of cement in each batch of concrete) shall also be observed.
- g) **Doors & Windows:** The required No. of Doors & Windows of Control Room, Server Room, etc. shall be as per CPWD specifications and as approved by the Engineer/ Employer. The door shutters shall be partly panelled and partly glazed with toughened glass of minimum 6 mm thickness. The panelling shall be provided with both sides pre- laminated board of 12 mm thickness. All hardware fixtures shall be of approved make.
- h) Fully panelled PVC doors with frames shall be fixed in Bathrooms. The windows/ ventilators shall be of Powder Coated Aluminium Sections of 3 mm thickness as per relevant specifications and as approved by the Engineer/ Employer. The glass panes of windows/ ventilators shall be provided with toughened glass of minimum 6 mm thickness.
- i) **Primer/ Epoxy Paint-**The structural steel shall be painted with two coats of Epoxy paint over an under coat of epoxy primer and or Fire retarding paints.
- j) **Painting work: Finishing with deluxe multi surface paint system for interiors and exteriors using primer as** per manufacture's specification - Two or more coats applied on walls @ 1.25 ltr/ 10 sqm over and including one coat of special primer applied @ 0.75 ltr / 10 sqm.
- k) **Pipes -** The pipes shall be transported and handled as per IS: 12288. All precaution set out shall be taken out to prevent damage to the protective coating, damage of the jointing surfaces or the ends of the pipes.
The pipes shall be stacked in layers on dry surface preferably on the projected bench/ surface. All the pipe specials, rubber rings / joints, nut, bolts including valves etc. shall be stored in closed room or shed. Water pipe lines with clamps and specials etc. shall be described by their diameter and length measured in running **m** inclusive of joints. If the joints, special and fittings etc. are required to be separated, it shall be so stated and enumerated. Transporting of useful material such as pipes, valves, steel items to the Stores of respective departments or as directed by the Engineer/ Employer.
- l) **Boundary/ Compound Wall-** Boundary wall and Gate constructed as per design or directed by the Engineer in Charge.
- m) **SANITARY & PLUMBING**
- i. Water supply connection to site Underground Reservoir
 - ii. Water Pump for pumping from UG reservoir to Overhead Tank
 - iii. Sanitary fixtures- Jaquar, CERA or similar
 - iv. Septic Tank and connection to main city sewer

- v. Design and provision for adequate drainage for basement, Ground floor and Roof.
- vi. RWHT and recharge wells underground.
- vii. Adequate water proofing provisions in wet areas and roof.

5.6.3 Electrical Works:

The scope of work includes Planning, Design & preparation of drawings, obtaining all type of approvals, including supply, Installation, testing and commissioning of the following:

Internal electrical installations, Distribution Board, DG set, Starters, Pumps, power wiring and plugs, lightning protection, telephone and data networking conduits, LAN cabling, telephone wiring, exit signages, LT cabling works, emergency lighting, earthing, LT main panel board, telephone and data networking, LED light fittings, modular plate type Switch boards with switches, plugs and accessories, MCB DBs with all required switch gears and accessories, sub main wiring, termination and allied works, automated car parking system, CCTV, access control system with HMI interface and door locks etc. as detailed in additional particular specifications of this document.

Bringing and laying as per specifications of the already laid LT power cable inside the MLCP building including termination of LT cable to the main LT distribution panel board of the MLCP building shall be made by the agency.

The CONTRACTOR shall engage qualified and competent electricians and other electrical personnel while working for safe execution of contract. The electricians and other electrical personnel must possess requisite certificate issued from competent authority. Using exposed naked loose joints, inserting of bare wire into socket, improper grounding for appliances, exposed circuits on work place etc. shall not be permitted. Rating of fuses and circuit breakers used for protection of circuit should be coordinated. Flexible cords with the conductor cross sectional area smaller than 1.5 mm should not be used. Socket outlets, plugs and cable coupler should be of the water splash proof type, so minimum IP44 panel boards are required in construction sites. Overhead cabling should provide for a minimum ground clearance of at least 3.0 meters. The CONTRACTOR shall employ qualified, full time Electricians / Electrical Supervisors to maintain his temporary electrical installation. Use approved perimeter markings to isolate restricted areas from designated work areas and entryways. Erect them before work begins and maintain them for the duration of work. Approved perimeter marking must be Install red barrier tape printed with the words 'DANGER-HIGH VOLTAGE' approximately 1 to 1.5 meter above the floor or work surface or install a barrier of yellow or orange synthetic rope 1 to 1.5 meter from the floor with standard danger signs. Any steps suggested by Engineer-in-charge should be- complied with by the CONTRACTOR.

Welding and Cutting Gas cylinders in use should be kept upright on a custom-built stand or trolley fitted with a bracket to accommodate the hoses and equipment or otherwise secured. The metal cap should be kept in place to protect the valve when the cylinder is not connected for use. Non-return valve and Flashback arrester shall be fixed at both end of cylinder and torch Domestic LPG cylinders shall not be used for Gas welding and cutting purpose. DCP or CO2 type Fire Extinguisher not less than 5 kg shall be fixed at or near to welding process zone in an easily accessible location. Fire Extinguisher should confirm to IS 2190: 1992. Welding grounds and returns should be securely attached to the work by cable lugs, by clamps in the case of stranded conductors, or by bolts for strip conductors. The ground cable will not be attached to equipment or existing installations or apparatus.

Electrical system shall be provided as per the following applicable codes:

| S. No. | Code No. | Application Details |
|--------|---|---|
| 1 | IS-10118 (Part I), 1982 | Code of practice for selection, installation and maintenance of switch gear & control gear. |
| 2 | IS-732, 1989 Rev.3 | Electrical wiring system |
| 3 | IS-3043, 1987 | Code of practice for ear thing |
| 4 | IS-13032, 1992(Rev.2) | MCB distribution boards for voltage upto and including 1000V AC |
| 5 | IS-12640, 1988 | Residual current operated circuit breakers |
| 6 | IS-649, 1990 (Rev.-3) | PVC insulated cabled for working voltage upto and including 1100 V AC |
| 7 | IS- 9537 (Part-I), 1980 | Conduits for electrical installation general requirements |
| 8 | IS-13118, 1991 | Circuit breakers- general requirements |
| 9 | IS-13947 (Part-III), 1993 | Air brake switches for voltage not exceeding 1000V AC or 1800 V DC |
| 10 | IS-1248 (All parts), 1983, 1984,1993 | Electrical direct acting instruments |
| 11 | IS-2147, 1962 | Degree of protection provided by enclosures for LV switches gear and control gear. |
| 12 | National Electrical Code Part-4Appendix | Recommended values of illumination and limitingvalues of glare index-Industrial Building (parking space Indoor and outdoor) |

Lighting

1. Adequate lighting system in parking facility area will have to be provided to achieve a minimum lux level of 70 for ramps, parking and pedestrian movement area and a minimum lux level of 100 for stairways, toilets, entrance and exit areas of parking as per IS standard.
2. The Entry Areas for Parking shall be provided with auxiliary emergency lighting system such that in the event of failure in general power supply the auxiliary emergency lighting system is activated immediately.
3. Power back-up adequate for 100% of the designed power load of the Parking Facility for surveillance and emergency lighting.

UPS System:

Off line UPS unit shall be provided as per norms for emergency lighting to egress paths and basement general lights. The capacity of the UPS system and its battery shall be suitable to provide a backup of not less than 120 minutes at the full load of emergency lighting. Sealed maintenance free battery shall be provided along with UPS unit. Battery capacity calculation for arriving at the capacity shall be furnished for approval by the Engineer-in-charge. However, the ampere hour capacity of the 12V battery shall not be less than 80AH in any case. The UPS unit shall be of minimum capacity of 40,000VA or as per back up calculation based on entire surveillance system (CCTV, PA system, etc.) and minimum/emergency lighting at a demand factor of 1 whichever is higher. Proper capacity DP MCB power outlets shall be provided for power input to the UPS unit. The sub main wiring for the same shall be done using 10 sq.mm FRLS PVC insulated copper conductor cable laid in medium class steel / PVC conduit and accessories to cater emergency lights, Cameras and other IT parts.

Diesel Generator set:

Stand by power supply by DG sets shall be ready to be operated and should be available 24 hours for the operation of fire system only. The DG set rating as per the load calculation of MLCP and meet IS Code/Standard, and also the main power supply cable includes Termination, laying of underground power cable from existing HT/LT Line to Main Panel Board (MLCP) is contractor scope of work.

As per the standards/guidelines for control of Noise Pollution from Stationary Diesel Generator (DG) sets, noise emission in dB(A) from DG Set (15-500 KVA) should be less than $94+10 \log_{10} (KVA)$. The standards also suggest construction of acoustic enclosure around the DG Set and provision of proper exhaust muffler with insertion loss of minimum 25 dB(A) as mandatory. The DG set work shall be executed as per IS code / Standard, IEEE etc

Approved Makes:

- LED fixtures Make Phillips /Bajaj / Wipro / Havells or Any other national or multinational & internationally reputed brand with good presence in India, upon prior approval by SSCL Engineer in Charge.

(Models of these makes which conforms to the technical specifications of this tender upon prior submission of sample for approval of SSCL Engineer in Charge).

- Wire / Cables Finolex / Havells / Polycab / RR
- Switchgear, MCB, contactor etc L&T/ ABB/Siemens / Hager/ Legrand
- DG Set Make Should be Cummins, Kirloskar, Sterling Wilson.
- UPS / Inverter: EXIDE, Luminous, Zebronic, V-Guard.

SPECIAL CONDITIONS FOR ELECTRICAL WORKS

I.E. Rule and Approval of Electrical Safety Dpt. And Meghalaya Energy Corporation Limited (MeECL): The complete electrical work shall be done as per the Indian Electricity Rules amended till date and as per relevant I.S. specifications amended till date. The Electrical Installation and all Related Drawings shall be got approved from Electrical safety dept. at no extra cost. The amount deposited by the contractor in Govt. Treasury for inspection of Electrical Safety Dept. shall not be reimburse to the contractor. The approved Drawings and Inspection Report of Electrical Safety Dept. shall be submitted to Engineering Incharge in original.

The Electrical Contractor /Sub Contractor caring out all Electrical Work Must possess a Valid 'A' Class Electrical Contractors License Issued by Electrical Safety Dept. Govt. of Meghalaya.

The contractor shall make his own arrangements for supply of water and electricity at his expense required for execution of work. The SSCL shall neither make any such arrangements nor shall make any payments in this regard.

The contractor shall not be entitled to any compensation for any loss suffered by him on account of delay in commencement or execution for work whatever the cause of delay may be including delay arising out of other materials, supply of materials, transportation for any matter related with Meghalaya Energy Corporation Limited (MeECL) & Electrical Safety Department or any other reasons whatsoever, the SSCL shall not be liable for any claim in respect thereof.

Safety, security of the items installed by the contractor at site shall be responsibility of contractor at his risk and cost for the entire execution period and during the Defect liability period. The contractor shall have to get insured all material installed by him against any damage, accident or theft.

The contractor shall be responsible for the safety of his labour and other engineers, staff deputed by him and any citizen at site at his cost and risk. The contractor shall have to get insured all of his labour, engineers and other staff, third party against any accident, injury or death. SSCL shall not be responsible for any accident, loss, injury or death of any contractor's or third-party person whatsoever.

General Arrangement (GA) and Electrical drawing of the various panels should be approved by the Engineer in Charge of SSCL.

Final decision will be taken by SSCL Engineering In-charge.

The contractor shall design the illumination scheme with LED type fixtures, brackets, smart controls, software, panels and circuits offered by his company to achieve the lux levels and smart controls as per tender guidelines and IS standard for each component and get it approved by Engineer in Charge.

The contractor shall give the inspection notice before or at least 10 days prior to the last date of supply of any batch of material. The material will be dispatched by the supplier after inspection by the representatives of SSCL if required by Engineer in Charge.

SSCL's representatives will visit the manufacturer's work and witness the tests as per specifications on each type of lighting fixtures as per the samples selected by SSCL's representatives. The sample of the material may also be sent to the government approved NABL accredited laboratory at the cost of contractor for any kind of specific test required by SSCL. Supplier shall submit the schedule with date, time & venue of the inspection to SSCL in writing for the inspection of material. SSCL is authorized to get the material tested from the approved laboratory at the contractor's cost for any kind of specific test if required. The contractor needs to make arrangements for Factory Inspection at his own cost for Luminaires, UPS, DG-sets, panel boards, etc. Inspection will be carried out at manufacturer's premises only.

LED luminaires should conform to the various National / International standards for safety & performance. Luminaires shall conform to Performance Requirements as defined in IS 16107 Part 2/Sec 1. Manufacturer should provide test reports as per LM 79 & LM80. Luminaires should conform to the IS standards for Safety & Performance and test certificates as per IS 16107 or as required should be provided by the manufacturer.

It shall be the duty of the contractor to arrange all clearances, NOCs from Electrical Inspector Meghalaya Electrical Board, to coordinate and peruse the officers of Meghalaya Energy Corporation Limited (MeECL). For periodical inspections during the currency of contract and final inspection of the work and get the complete installation electrically charged and also contractor shall be responsible for arranging such clearances No extra payment shall be made to the contractor in above account.

Post installation and commissioning, the contractor shall be responsible for maintenance of entire electrical installation and lighting system installed by him for the period of 01 (one) year as part of defect liability period on his own risk and cost basis. The responsibilities of contractor shall be as mentioned below:

- To ensure timely automatic switching on/Off as per programme.
- To ensure that all lighting fixture and associated panels, controls, etc. are in working condition all time.
- To ensure that if any lighting fixture or component develops any fault, it has to be rectified promptly to escape the penalties mentioned in the tender.
- To carry out preventive maintenance of the system as required.
- To coordinate with Meghalaya Energy Corporation Limited (MeECL) / power distribution company to ensure the smooth operations.

- To ensure the insurance of entire lighting system, Engineers, staff, labour, workmen all which are involved in the work on his own cost.
- To replace the damaged component in the lighting system if the same is damaged due to accident. The contractor has to replace the damaged/defective, Light Fixture, panels, cables, etc. For this Extra payment shall be made as per quoted Tenders Rates.
- The contractor shall ensure to provide proper tools, ladders, vehicles, instruments etc. to ensure smooth running of lighting system and safety measures.
- All workmen, staff and engineers of contractor shall ensure that all installation, maintenance activities are carried out with full safety and by using all safety aids like helmets, gloves, earthing devices, testing gadgets.
- The contractor must ensure that electrical earthing shall be provided as per rules and IS codes in entire lighting system to ensure human and equipment safety.
- Coordination with SSCL engineers and staff during work execution shall be in contractor's scope.
- In one year of defect liability period, all the expenditure including defects, etc. shall be borne by contractor.

5.6.4 Fire Fighting system and fire extinguishers:

Planning, design & preparation of drawings, obtaining all type of approvals, supply, Installation, testing and commissioning of firefighting system, internal and external hydrants, Fire brigade inlets, all allied plumbing works etc. all as per the particular specifications and IS standard, fire extinguishers complete with obtaining of all type of statutory approvals from Meghalaya State Fire & Rescue Services and Municipal body as required as per the additional particular specifications of this document.

FIRE FIGHTING FACILITIES

1. The Contractor shall design the system to provide the required firefighting equipment and facilities conforming to relevant standards and the applicable rules and regulations.
2. Fire safety measures as recommended in applicable codes (Indian as well as International) listed above shall be implemented. Specifically, the firefighting system shall be adequate to control fire.
3. Planning designing and providing required firefighting system for the building shall be as detailed in particular specifications under relevant sub head including the provision of underground tank for static storage of fire services, Ground Mount pump sets, hydrants, extinguishers, manual fire system, etc. and shall all to the entire satisfaction of local municipal & Fire Authorities.
4. Construct the Parking Facilities' structure with non-combustible material without a specified fire resistance. In addition, those portions of the facility used for the transport and / or storage shall have a finish of non-absorbent, non-combustible material.
5. Specifically, the firefighting system shall be adequate to control fire.
6. Provide measure to prevent fire. Fire extinguisher and buckets of sand to be provided in fire-prone area and elsewhere.
7. Comply with the safety procedure, norms and guidelines (as applicable) as outlined in NBC 2016 (BIS 2005).
8. The contractor shall obtain all mandatory approvals including prior NOC and post installation approvals and No-Objection Certificate/ Consent for Establishment from local body authorities like local Fire department, local town planning authority, local ground water authority, local electricity supply authority, local pollution control board, Forest department, Environmental clearance, Meghalaya State Electrical inspectorate/ Central Electricity Authority, etc at his own cost.

9. After completion of the installation, the same shall be offered for inspection by the representatives of the Meghalaya Energy Corporation Limited (MeECL), Meghalaya State Fire & Rescue Services, Pollution control board and other statutory body(s) as required. The contractor will extend all help including test facilities to the representatives of statutory body(s). The observations of the statutory body(s) shall be attended by the contractor at his cost. The installation will be commissioned and deemed to be completed only after getting clearance/NOC as above.
10. The contractor shall have to produce all the relevant records to certify that the genuine equipment's from the manufacturers has been supplied and erected.

Fire Fighting system shall be provided as per the following applicable codes:

| | |
|--------------------|--|
| 2190 1992 | Code of practice for selection, installation and maintenance of portable first aid fire extinguishers (third revision) |
| NFPA 72 | National Fire Alarm and Signalling Code |
| 940 : 1989 | Portable Fire extinguisher, water type (gas cartridge)—Specification (<i>fourth revision</i>) |
| 1641 : 1988 | Code of practice for fire safety of buildings (general): General principles of fire grading and classification (<i>first revision</i>) |
| 2171 : 1999 | Specification for portable fire extinguishers, dry powder (cartridge type) (<i>fourth revision</i>) |
| 2878 : 2004 | Fire extinguisher, carbon dioxide type (portable and trolley mounted)—Specification (<i>third revision</i>) |
| 4308 : 2003 | Dry chemical powder for fighting B and C class fires—Specification (<i>second revision</i>) |
| 4862 (Part 1):1986 | Specification for portable fire extinguishers for air craft: Part 1 Halon 1211 type (<i>first revision</i>) |
| 4947 : 2006 | Gas cartridges for use in fire extinguishers—Specification (<i>third revision</i>) |
| 6234 : 2003 | Portable fire extinguishers, water type (stored pressure)—Specification (<i>first revision</i>) |
| 7673 : 2004 | Firefighting equipment—Glossary of terms (<i>first revision</i>) |
| 8149 : 1994 | Functional requirements for twin CO ₂ fire extinguishers (trolley mounted) (<i>first revision</i>) |
| 10204: 2001 | Specification for portable fire extinguisher, mechanical foam type (<i>first revision</i>) |
| 10658: 1999 | Specification for higher capacity dry powder fire extinguisher (trolley mounted) (<i>first revision</i>) |
| 15397: 2003 | Portable fire extinguisher mechanical foam type (stored pressure)—Specification |
| 15683: 2006 | Portable fire extinguisher—Performance and construction |

Where the aforesaid are silent on any aspect, the following standards in order of preference shall be adopted in consultation with the Engineer-in-charge, unless otherwise specified in this schedule:

- (i) Euro norm standards En: 14010: 2003 for parking structure safety.
- (ii) American National Standard Institute (ANSI)
- (iii) International standards organization (ISO)
- (iv) British Standards (BS)
- (v) National Fire Protection Association of America (NFPAA)
- (vi) Safety code of Mechanized Parking (Vertical rotary/Puzzle) garage equipment of America (ASA.A113.1)
- (vii) American Society of testing materials (ASTM)
- (viii) International Society for Measurement and Control (ISA)

- (ix) ISO 9000
 - (x) KIS & JIS Standards
 - (xi) Americans with Disability Act Accessibility Guidelines
 - (xii) American Association of State Highway and Transport officials (AASHTO)
 - (xiii) American Society of Mechanical Engineers code on storage retrieval (S/R) machines and associated Equipment (ASME B30.13)
 - (xiv) National Mechanical code of America (NMC)
 - (xv) Any other standard proposed by the Bidder and approved by the Owner /Architect.
- a) The BIDDER shall provide illuminated signage in accordance with NBC/ IRC/ Norms at suitable locations within the facility. The scheme for signage shall be finalized in consultation with the independent Engineer.
- b) The Bidder shall provide the fire safety arrangement as per National Building Codes/ DIS codes or any widely accepted international codes.
- c) The CONTRACTOR shall provide the fire safety arrangement for the structure as per National Building Codes/ DIS codes or any widely accepted international codes.
- d) The CONTRACTOR shall provide sufficient arrangement for the lightning arrestor as per the applicable code.

5.6.5 IT, Surveillance and Park Management System.

a) CCTV/ Surveillance System:

CCTV system shall be provided with network-based recording for car entry and exit events as follows. CCTV camera units of following specifications shall be provided:

1. Bullet camera of 1/2.8" 3MP CMOS, progressive scanning, PAN, Tilt, Zoom, 30 metre IR range, video streaming resolution of 1280x960, 1280x720, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360; NVR of required channel capacity, storage capacity: 8 TB or better, network system shall have suitable connectivity features.
2. The system shall be suitable for operation at 0 Deg.C to +40 Deg.C.
3. High Resolution Camera at entry point and exit point (supported with ANPR – Automatic Number Plate Recognition System software)
4. Minimum two number of camera units (one at entry and other at exit shall be provided for surveillance with the above accessories including NVR unit, rack for mounting of NVR unit, control wiring, all support systems and accessories for successful functioning of the same. Networking devices shall also be provided, if required.
5. Strategic Camera to do all time recording (24 by 7); all other camera to be capable of recording on triggers like observing movement in capture space. Camera should be capable of operate during night time without lighting.
6. Spare network port /Facility for integration of the same to the other related locations shall be made available.
7. Automatic Number Plate Recognition (ANPR) system automatically captures the license plates of any vehicle(s) in the field of view (FOV) of a camera and stores them in database, so that details of the vehicles are available at any later point in time along with related video footage.
8. At entry and at exit two ANPR camera each at each end is proposed to capture vehicle number plates. ANPR recognition requires high resolution cameras with minimum specifications 3 Mega Pixels and Image Sensor of 1/3" Progressive Scan CCD/CMOS/MOS.
9. CCTV Camera (Fixed Camera): Fixed Camera are Box Cameras to be installed at every floor of the Parking Lot. This is for surveillance purpose and may not need very high resolution. 4 cameras

of 2 Mega Pixel resolution at every floor are expected to cover the floor for basic level of surveillance. These cameras will not necessary be near the staff area and therefore should have features of protection from vandalization.

10. CCTV Surveillance Software: The Feed from the all the cameras be captured and made available on 2 computer screens in the operator room. A VMS (Video Management System) software be responsible for intelligent processing and meaningful display of data captured at all the cameras. VMS Client be installed at the Parking Lot and VMS Server be hosted on cloud. There should be a provision to buffer video data in the Operator Room of the Parking Lot. The buffered data should be compressed, encrypted and sent to VMS Database server hosted on cloud and must be stored at-least for 90 days. ICT Infrastructure only from those Cloud Service providers be purchased, which are empaneled by the DeITY (Department of Electronics and Information Technology), Gol (Government of India).

ANPR software to process the license plate image using OCR software for getting the registration number of the vehicle with highest possible accuracy be integrated with the VMS for the use of ANPR enabled cameras. Suitable cyber security software be used to ensure safe and secure information exchange.

b) Visual Message Display (VMD):

VMDs shall be installed at identified strategic locations (suitable for public viewing). The VMD software application will allow the operator to publish specific messages informing about Availability of Slots within the Parking Lot (and also other relevant information like - Live traffic congestion). Height of smart billboard should be approved and appropriate. It should be able to support RF Network, 2G, 3G, LTE, WiFi and 5G connectivity. The VMD shall have the facility to use as advertisements board.

c) Hardware, Software, Facilities

- a. To provide install necessary complete hardware and software solutions, such as but not limited to boom barriers, auto pay station, devices, port-cabins, switches, gateway, guidance system, for multi-level parking system.
- b. Provide Parking Management and Parking Guidance System to direct drivers to available parking slots through LED signage also through Smart Parking Mobile Application.
- c. Provide and install necessary LED signage which also includes variable messages sign board for guidance to public regarding availability of parking spaces other necessary information.
- d. Create API that can be integrated to the city Integrated Central Control & Command Centre (ICCC) for viewing, analysing, storing and retrieval of the data to manage the Smart Parking;
- e. Develop an IT system, for parking fee payments, monitoring, and enforcement. Procure software hardware for the processing of customer payments via credit card, net banking, mobile-based banking systems, other media; the impetus is on cashless payment system at all the parking lots.
- f. Smart Parking Mobile Application for parking services: App shall show the available slot on real time basis, booking of parking space, payment mechanism through various modes of payment, reservation for specially-able citizens, facility for extension of pre-booked parking space.
- g. Procure hardware software to aid in the planning monitoring of enforcement activities.
- h. To provide install thermal cum optical/IR sensors at each of the parking slot for cars for all surface parking lots. All parking slots should be individually clearly marked, mapped with parking sensors and have appropriate camera coverage. All sensors, devices equipment should have the capability to communicate back and forth with the ICCC for information feedback through a RF/ Wi-Fi/GPS or any combination of them in the enabled system

- i. The equipment shall not have been put to commercial use anywhere previous to the Commencement of Operations.
- j. Establish the required facilities, equipment, information systems for the operations of the Parking System.
- k. Plan for comprehensive operation maintenance of all hardware software installed for this project at the time of carrying out the operation & maintenance of the MLPs.

d) IT System Control Centre

The Bidder will create an API to integrate with Shillong's Command and Control Centre being developed with the capability to provide summary reports, real-time information to Shillong Smart City Ltd. including but not limited to the following:

1. Number of vehicles parked on each parking bay
2. Details for each Parking Event
3. Vehicle license plate number
4. Vehicle type
5. User ID
6. Start time
7. End time
8. Location
9. Applicable Fees
10. Payment status
11. Applicable Fines
12. Details on enforcement for the activities of all enforcement staff
13. Assigned itinerary
14. Details of vehicles checked
15. Details of vehicles immobilized by the enforcement authorities.

Website/ Mobile Application

The Contractor will create a website and a mobile application with the following functionality:

1. Provide a user account section with the ability to create a user account, modify the user profile, recharge the user's prepaid account, or pay fines
2. Provide facility to user to pre-book the parking slots.
3. Displays summary of fines issued collected on weekly basis.
4. Have an English, Hindi and local language selection option.
5. Responsive interface of the mobile application is to facilitate use on a wide range of devices and supporting both iOS and Android devices with different display sizes.

RFID Entry/ Exit Device:

The entry/exit device is designed for the automatic processing of User media like Staffs, Residents, employee, etc., at the entry or exit a vehicle.

- a. Real time operating system
- b. Usage of robust flash cards as memory for operating system
- c. Stainless steel housing pillar with IP 65
- d. Temperature Range 0°C to +40°C, Air Humidity 0% – to 100%
- e. Terminal is designed for indoor outdoor use
- f. Tropicalized PCB's (PCB's is protected against humidity)

- g. Free choice of housing colour (RAL)
- h. RFID (Contactless) Long-Term User (Seasonal User) media, fully integrated into Car Park Management System.
- i. Presence checks for Long-Term User (Seasonal User) media
- j. Half-Duplex Intercom sub-station
- k. Industrial embedded PC for the self-sufficient control of the device
- l. 1,00,000 stored transactions – offline redundancy.

Auto Gate/ Barrier

The Boom barrier is designed for the automatic access control of vehicles, triggered by a control terminal (e.g. entry device, exit device, or Express exit).

- a. Temperature Range 0°C to +40°C, Air Humidity 0% – to 100%
- b. Terminal is designed for indoor/ outdoor use
- c. Tropicalized PCB's (PCB's is protected against humidity)
- d. Free choice of housing colour (RAL)
- e. Maintenance-free barrier drive
- f. Useable as right-hand & left-hand drive, easily changeable on-site
- g. Fast opening closing times within 1.5 sec
- h. Barrier arm is equipped with a rubber edge on the bottom to prevent damage
- i. No parts needed (screw etc.) for replacement of run-off barrier arm

Automatic Pay Station (Cash/ Credit Card/ Debit Card/ Mobile Wallet/ Card)

The automatic pay station should be designed for the automatic processing of all payment transactions of Short-Term User media and Long-Term User (Seasonal User) media.

- a. Real time operating system (reduced risk of virus infection)
- b. Usage of robust flash cards as memory for operating system
- c. International standard proven network technology (Ethernet)
- d. LED full graphic colour touch screen display
- e. Stainless steel construction with structure effect painting
- f. Temperature Range 0°C to +40°C, Air Humidity 0% – to 100%
- g. Terminal is designed for outdoor use
- h. Tropicalized PCB's
- i. Free choice of housing colour (RAL)
- j. Customized inscription on front plate (e.g., "PAY PARKING HERE")
- k. Illuminated Top with customized inscription (e.g., "PAY PARKING HERE")
- l. Illuminated user guidance of all entry slots dispensing slots
- m. Multi-rod security cabinet locking facilities with nine (9) locking points at the door
- n. Protective 4-Lock-System with high level security quality, high level key copy protection, highest level of drilling & core pulling protection highest manipulation protection
- o. Receipt printer
- p. Deactivation of the customer display after a pre-set switch-off time following last payment
- q. Unit can be set into "standby" mode with reduced energy consumption, based on a freely definable time profile.
- r. Remote or manual wake-up command (wake-up by motion detection via radar)
- s. Payment of Short-Term User (Hourly User) media.
- t. RFID (Contactless) Short-Term User (Hourly User) media processing calculation of tariff.

- u. Payment of over stay fees for Long-Term User (Seasonal User) media.
- v. Extension of validity of Long-Term User (Seasonal User) media with pre-payment contract.
- w. RFID (Contactless) Long-Term User (Seasonal User) media, fully integrated into Car Park Management System.
- x. Automatic production of parking media as substitute for a lost Short-Term User media at a fixed rate by pressing a button
- y. Remote handling of substitute parking media for processing of lost Short-Term User media.
- z. Half-Duplex Intercom sub-station
- aa. Interface to Integrate CCTV Camera
- bb. Industrial embedded PC for the self-sufficient control of the device
- cc. Barcode/ QR-Code Scanner for processing of third-party barcodes as means of payment or discount
- dd. Software evaluation of third-party Barcodes/QR-Codes as vouchers.

a) User Account:

The Contractor will provide the option of User Accounts for frequent System users. The User Accounts will have the following features:

- a. Ability to open an account online, through a smart phone app, or at a customer service kiosk
- b. Required data to open an account include the user's name, address, mobile number and vehicle license plate number(s)
- c. Ability to recharge the account using cash/cashless payment system.

b) Fee Payment System

The Contractor will create a fee payment system by which users can pay parking fees using a mobile phone or smart phone application. The payment system will:

- a. Register the beginning end of a Parking Event through a text message or through a Smart phone application.
- b. Send an alert when the duration of the Parking Event is about to exceed the user's balance.
- c. Send a response/confirmation message for all user actions
- d. Handle transactions by users with User Accounts
- e. Have the ability to differentiate charges based on the duration of the Parking Event

c) Cashless Payment System

With a view to reduce cash handling and provide further options for payment, SSCL is committed to deploy end-to-end smart parking management system in support of the cashless parking payment mechanism in multi-level parking. It allows Users to pay to park their vehicle using a mobile phone (payby- phone mobile app), bank card through a smart parking card instead of using physical currency in a parking.

Cashless parking provides a different way to pay for parking, especially if you don't have any change or you want to extend your parking session without having to return to your vehicle.

The system offers a wide range of benefits to customers, including choice of payment method, reminders that their parking session is due to end and the flexibility to extend their parking session using their mobile phone, thereby eliminating the need to over-book initially.

The software should process cashless payment transactions. Transaction can either be initiated via attendant or self-service POS or via the Internet or mobiles devices. The net-centric software should

take care of processes such as transaction capturing, identification, authorization, forwarding of data to the target systems, including routing and switching, even across parking.

The below mentioned are the major components for cashless parking, which should be deployed at all the parking sites.

- a. Automatic Fare Collection (POS Terminals) - A reader modules will be integrated in entry & exit barriers of parking that enable payment through bank card (credit & debit card, J Card, third party mobile wallets).
- b. Pay-By-Phone (Mobile App) - Cashless parking is a quick secure way to pay for parking if you do not have to use the cash. A Pay-By-Phone mobile application will be developed, so that User will use their mobile phone instead of paying in cash the payment is made using their registered credit or debit card by registering on Pay-By-Phone mobile application or even without registering on Pay-By-Phone app by using guest check-out directly by paying the parking charges.
- c. Third Party Mobile Wallets (Free Charge, Paytm, Mobi-Quick, Phone-pe, Google Pay etc.)
- d. CARD (Citizen's payment card specific to Shillong)
- e. Vehicle Mounted Transponder (Electronic Tags)
- f. **E-Parking Permits** - In practice the car registration plate becomes the permit ANPR (automatic number plate recognition) systems. Once the car registration plate is registered with application the vehicle can be parked within the rules at that parking location the parking charges will be deducted from User e-wallet.
- g. **Contactless Payment Technology** - Reader modules should be integrated at the entry & exit barriers of parking that enable vending machine equipment component manufacturers to integrate contactless technology.

Additional Specifications for CCTV, VMS and other IT

Close Circuit TV (CCTV) AND ACCESS CONTROL

Scope of work involves supply and installing suitable nos of Day / Night cameras including its support in and around the complete IIFT campus as per approved drawings, basements, boundary wall at suitable intervals and all the main gates with suitable mounting arrangement in a Vandal Proof Housing. Laying, terminating & connecting copper cables with redundancy between cameras & control room. Complete system is to be designed as per above requirements and a scheme along with layout and inventory is to be submitted to the Engineer-in-Charge for approval, before taking up the installation work.

1. IP Verifocal Dome Camera

Camera shall be IP based network color camera suitable for indoor Application with following minimum features:

H.265, JPEG based hardware compression with built-in web server

Direct IP based (without external converters, cards, etc)

Auto focus

Power over Ethernet/ 12 VDC (contractor shall provide power convertor required, if any)

Minimum Resolution : 2944 x 1656 (5MP)

Intelligent video capabilities, Face detection, Video Motion Detection, Camera tamper like defocus, Scene change

Multiple Streaming: min. triple

ONVIF profile S, G features

IK10 & IP67, WDR/DWDR: 80 db

Alarm and audio interface 1/1

Connections : Network: IEEE802.3, 10BaseT/100BaseTX Ethernet networks (RJ-45) for LAN/WAN TCP, UDP, IGMP, SNMP, HTTP, IPv4/ v6, DHCP, FTP, DNS, SMTP, Security - 802.1x, AES 256, PCI-DSS Compliant

Video

Lens : Varifocal (2.8- 4.5 to 12.0 – 16.5 mm) DC-iris

Progressive Scan : 1/2.9" CMOS or Better

Light sensitivity: Color: 0.014 Lux @ (F1.4, AGC ON), 0 Lux with IR

IR sensitive black/white video at night

Frame: 2MP @ 25 fps or better @ max. resolution

Functions

Built-in video motion detection

Scheduled and triggered event functionality with alarm notification Pre and post alarm buffer

Digital time, date code embedded

Password protection for restricted camera access

Certification: IS / UL, FCC or CE for Fixed cameras shall be provided.

Local Storage (support for SD card of minimum 128 GB)

IR illuminators: IR illuminators LED based for minimum 30 meters at 0 lux shall be inbuilt in each camera

2. IP Varifocal Bullet Camera

Camera shall be IP based network color camera suitable for indoor Application with following minimum features:

H.265, JPEG based hardware compression with built-in web server

Direct IP based (without external converters, cards, etc)

Auto focus

Power over Ethernet/ 12 VDC (Bidder shall provide power convertor required, if any)

Minimum Resolution: 2944 x 1656 (5MP)

Intelligent video capabilities: Face detection , Face detection, Video Motion Detection, Camera tamper like defocus, Scene change

Multiple Streaming : min. triple

ONVIF profile S, G features,

IK10 & IP67, WDR/DWDR:80 db

Alarm and audio interface 1/1

Connections : Network: IEEE802.3, 10BaseT/100BaseTX Ethernet networks (RJ-45) for LAN/WAN TCP, UDP, IGMP, SNMP, HTTP, IPv4/ v6, DHCP, FTP, DNS, SMTP , Security - 802.1x, AES 256, PCI-DSS Compliant

Video

Lens : Varifocal (2.8 - 5.1 to 12.0 – 16.5 mm) DC-iris

Progressive Scan : 1/2.9" CMOS or Better

Light sensitivity: Color: 0.014 Lux @ (F1.4, AGC ON), 0 Lux with IR

IR sensitive black/white video at night

Frame: 2MP @ 25 fps or better @ max. resolution

Functions

Built-in video motion detection

Scheduled and triggered event functionality with alarm notification Pre and post alarm buffer

Digital time, date code embedded

Password protection for restricted camera access

Local Storage (support for SD card of minimum 128 GB)

IR illuminators : IR illuminators LED based for minimum 50 meters at 0 lux shall be inbuilt in each camera

3. IP PTZ Camera

Camera shall be IP based network color camera suitable for indoor Application with following minimum features:

H.265/H.264, JPEG based hardware compression with built-in web server

Direct IP based (without external converters, cards, etc.)

Auto focus and Electronic Image stabilization (EIS)

Support object tracking and rapid focus on object in live view

Optical defog to ensure clear image in foggy condition

Hi-Power over Ethernet / 24 VAC (Bidder shall provide power convertor required, if any)

Minimum Resolution : 1920 x 1080 @ 25/30Fps

Intelligent video capabilities: ,Video Motion Detection, Camera tamper like defocus, Scene change

Movement : configurable, 360° endless, PAN Speed : 0.1°/s to 200°/s preset speed 200°/s and Movement range : -10 to 90°

Tilt speed :configurable ,from 0.1°/s to 120°/s, preset : 200°/s

Presets 250, patrol 4 pattern scan record

Feature: patrol, power off, Park action preset freezing etc.

Camera support network failure recording on board in card, when network reconnect recording push to recorder.

Simultaneously 20 live view streams

Multiple Streaming : min. triple

ONVIF , CGI , API and 3rd party integration

IK10 & IP67, surge protection

Alarm and audio interface 5 in / 2 out

Connections

Network: IEEE802.3, 10BaseT/100BaseTX Ethernet networks (RJ-45) for LAN/WAN TCP, UDP, IGMP, SNMP, HTTP, IPv4/ v6, DHCP, FTP, DNS, SMTP

CVbs output , rs485 : pelco-P & D and OEM make

Video

Lens : Varifocal 4.5 -6 to 135 - 180,30x optical zoom) Auto Iris

Progressive Scan : 1/2.9" CMOS or Better

Light sensitivity: Color: 0.01 Lux @ (F1.5, AGC ON), 0 Lux with IR

IR sensitive black/white video at night

Frame: 25/30 fps @ max. resolution

Functions

Built-in video motion detection

Scheduled and triggered event functionality with alarm notification Pre and post alarm buffer

Digital time, date code embedded

Password protection for restricted camera access

WDR: 120dB, HLC, BLC

Privacy mask : 20 or more programmable

Certification: IS / UL, FCC or CE for Fixed cameras shall be provided.

Local Storage (support for SD card of minimum 256 GB)

IR illuminators : IR illuminators LED based for minimum 200 meters at 0 lux shall be inbuilt in each camera

4. IP ANPR Camera

Camera shall be IP based network color camera suitable for indoor Application with following minimum features:

H.265/H.264, JPEG based hardware compression with built-in web server

Direct IP based (without external converters, cards, etc)

Auto focus

Power over Ethernet/ 12 VDC (Bidder shall provide power convertor required, if any)

Minimum Resolution : 1920 x 1080P (2 MP)

OCR inbuilt in camera

Multiple Streaming : min. triple

ONVIF profile S, G features, CGI, ISAPI

IK10 & IP67, WDR:120Db

Connections : Network: IEEE802.3, 10BaseT/100BaseTX Ethernet networks (RJ-45) for LAN/WAN
TCP, UDP, IGMP, SNMP, HTTP, IPv4/ v6, DHCP, FTP, DNS, SMTP

Video

Lens : Varifocal (2.8-12.0mm/ 8-32mm) DC-iris

Progressive Scan : ½.8” CMOS Light sensitivity

Light sensitivity: Color: 0.01 lux @(F 1.4, AGC ON), 0 lux with IR

IR sensitive black/white video at night

Frame: 25/30 fps or better @ max. resolution

Functions

Built-in video motion detection, Camera tamper like defocus, Scene change

Scheduled and triggered event functionality with alarm notification Pre and post alarm buffer

Digital time, date code embedded

Password protection for restricted camera access

Certification: IS / UL, FCC or CE for Fixed cameras shall be provided.

Local Storage (support for SD card of minimum 128 GB)

IR illuminators : IR illuminators LED based for minimum 60 meters at 0 lux shall be inbuilt in each camera

5 NVR : General

NVR shall be a fully IP based integrated Network Video recorder with Network Video Management Software and IP cameras management suitable for the IP cameras as defined above. The NVR shall be located at Server Room. The NVR shall be able to connect to all network-connected devices. The video recording servers shall have disk space for online video storage and access to high capacity archiving mechanisms for the removal of stored video to off-line media. Video Management Software and Cameras shall be from same OEM.

Automatic IP camera discovery and configuration

RAID, 1,5,6,10 with 24/7 operation

Receive encoded live video from IP cameras, Play back video while still recording from the same camera; Store live video to hard disk, Archive previously stored video to off-line storage media, anywhere, anytime.

Allow alarms/events to initiate recordings

Scheduled recordings up to 12 MP camera , shall support min 64 IP cameras @ 2MP 25fps and expandable to 12cameras per NVR Server.

Initiate recordings based on video motion detection (on a continuous basis & scheduled for particular times, days, months, etc)

Report any IP camera failure or recoding failure to the system

Provide a full log of all system status (camera, server availability, etc)

Search for recordings (by camera & time, by motion detection, by alarms/events)

Network management with Security with passwords for each camera.

Support full frame rate on all inputs from the IP network cameras with ANPR camera

Software shall have a provision for Q-CIF, 2CIF and 4CIF configuration minimum or better

Interfaces with IT industry Standard Hardware

Processor : Intel® Xeon® 4-core (64-bit) E3-1225 V5 CPU @ 3.30GHz or Better

Recording bandwidth 512 Mbps , outgoing bandwidth 512Mbps

Ram: 8GB or Better

IS / UL, CE, FCC

16 sata with 8 TB HD capacity, SAS interface to expand storage should support

4 RJ-45 10/100/1000 Mbps self-adaptive Ethernet interface, support ANR, N+1

Alarm : 16 input/8 output on NVR or through Cameras

RS 232 and RS 485 and 1 eSata interface

Video Management Software features

It should be capable of providing web based access

With OS Linux or window with necessary software license and shall support mentioned analytic along number plate recognition etc.

The NVR may be integrated to separate servers with 42" / other higher size monitor. Monitor should support HDMI, VGA, and Audio In/Out etc.

Administrators shall be able to view camera details, change camera settings and configure video settings.

The NVR should have capability of connecting to all the IP cameras in its region as well as further connectivity with the NVR.

Alarm Monitor : When an alarm occurs in the NVR/Administration server, the live video output of the camera associated with that alarm should be switched directly to the alarm monitor.

View Option

Single camera view

1/8/16/32/48/64 or better

Sequence view

Must be able to view cameras from NVR

6 ACCESS CONTROL

Controller Features

Multi -door Access Controller, Accessible Card Reader: Wiegand readers up to 4 door & RS485 readers upto 8 doors and expandable to 16 reader per controller

Input interface: 4 alarm input, Door Magneticx2, Case Inputx4, Tamper-proofx1;

Output interface: Door Switch Relayx2, Alarm Relayx2

Communication: TCP/IP network communication, with self-adaptive network interface. The communication data is encrypted with AES 128/256 Bit to ensure information security

Processor : 32 bit high speed processor

Storage: 100,000 cards information and 50,000 access control events

Functions supported : Supports multi-door interlocking function, anti-pass back function, multi-card function first card function, super card and super password function, Limited number of card swap, Occupancy control Min & Max number of people inside the are, min 08 different card formats up to 128 bit long etc.

Data safety during controller power off.

SupportsRS485 interface and Wiegand interface for accessing card reader.

Supports alarm event upload (including tamper-proof alarm, unsecured door alarm, forced entry alarm, delayed door alarm, duress card and code alarm, blacklist alarm and alarm for invalid card swiping attempts alarm)

Controller should be supplied with required accessories

RS485 and Wiegand Reader : Equipped with the 32-bit high-speed processor

Built in audio beeper

Led Indicator

Should support RS485 and/or Wiegand protocol

Reading Range 50 to 60 mm

Frequency : 13.56MHz

Certificate : FCC, CE & UL

Exit Buttons

Dimension (LxWxH): 86x86x28.9mm(3.39x3.39x1.14") or similar

Material : aluminum alloy panel, metal button

Power : 3A@36VDC Max

Output Contact: NO/NC/COM Contact

Aging Test: already passed 500 thousand times aging test

It should Suitable for Doors: hollow doorframe and embedded-electric box

Working Humidity: 0 to 95% (relative humidity)

Material should aluminum panel with sandblast

7. ACCESS CONTROL SOFTWARE

Supply & Installation of enterprise level Web Based Access Control (Web) + Time Attendance(Web) Software,

Database Supported - MS SQL, including Advance Access Mgmt, Shift Mgmt., Leave Mgmt. & ESS (Employee Self Service)

Supporting: Doors: Unlimited (Access Control)/ Devices (Attendance); Employees: Unlimited. Employee Self Service - login module for Employee/HOD/MANAGER where they can view their attendance; they can apply for leave/manual punch/tour entry/outdoor entry through internet with their login ID & password. Same way manager can online approve all application sent by employee. Comprehensive

Email and/or SMS module for Software to send various SMS &/or Email on the base of different events in Access Control & Time Attendance system. It should support Multi company, multi-location, multi department, multi login with different rights, multi hierarchy of employee. Inbuilt module for ERP & Payroll integration. Graphical Dashboard with summary of complete software. Custom Crystal reports, LDAP user login, Maker Checker, Mobile app and web based NBCC user interface

Access Control shall be seamlessly integrated with CCTC & Alarm system so that CCTV camera can be pop up, recorder based on any alarm from any of the system and later recording can be searched wrt to the respective alarms. Access Control Alarm Management console shall be able to control CCTV camera from Alarm monitor itself.

8 VMS

Display mode : 1, 4, 9, 16, 25, 36, 49, 64, 128, Browser, Custom

View manager : An interface to define layouts and pre-set cameras in multiple view mode

View Patrol : Able to switch between different view pages and devices

Layout Manager : An interface to modify display layout, position and the size of live view of camera within layout

Digital Zoom : Zoom in/ Zoom out digitally by mouse scroll wheel

Snapshot : Instant snapshot upon mouse click

Event Notification : Alarm, Motion detection, Connection loss/ auto reconnect between VMS and NVR/camera

Bandwidth Management : Live view with stream 1 in full screen mode or stream 2 in multi-view screen mode (Bitrate adjustable)

Camera Management : Camera control, image setup, camera video format, IR/Exposure setup, Camera information

E-Map

Area maps with camera icons, small live view screen; alarm trigger, event trigger

Google map positioning; E-Map image upload; camera positioning; camera vision angle and direction

Pan, tilt, zoom control; focus, exposure adjustment

Set/ Activate Preset points; Set/ Activate tour routes

USB based Joystick support

Device Search : Auto connect/ Auto scan / Manual add NVR or Camera

Device Information : Model name, IP address, MAC address, type, protocol, streaming port, port, video snapshot

Search Filter : IPCAM, NVR, ONVIF

Recording Search : Search video recording by time, event, channel from multiple cameras/ NVRs
Instant view, snapshot and export

Playback control : Continuous forward and backward with speed 1/4x, 1/2x, 1x, 2x, 4x; pause

Synchronized Playback : 32 CH(Local)/ 64 CH(Remote)

Snapshot : Instant snapshot upon mouse click

Digital Zoom : Zoom in/ Zoom out digitally by mouse scroll wheel

Video Export : Export Video clips with AVI, RAW, MP4, MKV, MOV; digital signature supported

Event Source : Multiple cameras/ NVRs

Event Trigger : Video motion detection, Alarm, Video loss

Event Response : Instantly Record video, audio notification, full screen pop-out with live video, email notification

Smart Search : Smart search list for recorded videos by video motion detection/ alarm/ video loss

Permission Management : Unlimited number of users, Active Directory, customized permissions for different user including covert cameras/ NVRs, device management, playback & export

Language : Multiple language support

Operation Log Management : Recorded list of user operation, IPCAM event, NVR event

System status : Instant view of CPU usage, RAM, HDD valid space, Network status

Setting Import/ Export : Possibility to import or export setting packs for convenient VMS setting management

PC NBCC Software : VMS NBCC software with Live view, Playback, E-map, setup

PC Web Browser : Microsoft Internet Explorer 11+ with 16CH display layout.

BOOM BARRIER:

This specification lays down the general, functional and technical specifications of Automatic Boom Barriers.

FUNCTION:

The barriers are used at entrances / exits to control and review traffic in and out of the premises. The operation of Boom Barriers can also be linked to access control systems with safety systems.

SYSTEM CONFIGURATION:

The system shall consist of a fixed housing and a movable arm. The housing shall contain the motor, spring and control unit.

GENERAL FEATURES:

- a) Electromechanical barriers for passages up to 4.2m, 5m & 6.5m intensive use.
- b) Housing finish : Powder Coated Orange
- c) The Housing base frame is of stainless steel so as to protect the housing from rusting from the bottom

- d) Boom: Powder Coated White with refractor strips and LED flashing lights on top.
- e) Boom Length : 2 m to 4.2 m for normal lane / 5 m and 6.5 m for extra wide lane.
- f) Protection: All housing and internal parts have rust & corrosion free metals / alloys of high strength with suitable epoxy coating as applicable.
- g) Easy to use external manual unlock device.
- h) Amperometric anti-crushing control.
- i) Slowing down setup thanks to two adjustable limit switches.
- j) Soft start and slowing down functions adjustable in opening and closing.
- k) 4.2 m white painted aluminum arm is provided with two red rubber profiles.
- l) Flashing lights on the arm ensure barrier visibility especially at night.
- m) Auto close with timer (1s to 90s).
- n) Single / 2 Channel loop detector with programmable features (accessory).
- o) Electronic module which allows the synchronized movement of two Barriers.
- p) Painted fixed support for bars.
- q) Stainless steel version available.

TECHNICAL DATA BOOM BARRIER UP TO 3.0M-

| | | |
|-----------------------|---|---------------|
| Power supply | : | 230 Vac |
| Motor supply | : | 24 Vdc |
| Absorbed power | : | 200 W |
| Max. absorbed current | : | 8 A |
| Torque | : | 300 Nm |
| Opening speed | : | 8 sec |
| Operation cycle | : | Intensive sue |
| Protection level | : | IP 54 |
| Operating temp. | : | - 20 C/+70 C |
| Lubrication | : | Grease |
| Weight | : | 105 Kgs |

LIST OF APPROVED MAKES / BRANDS

The contractor is required to use the following list of approved makes for the items during the construction works. It is requested to read the following list along with the approved makes given under technical specifications.

In case, the item from listed makes is not available during execution, the item can be changed after taking approval from Engineer – In Charge.

| S. No | Material | Approved Makes/Brands | | |
|-----------------------------|---|-----------------------|----------------|-------------|
| CIVIL/INTERIOR WORKS | | | | |
| 1 | Ordinary Portland Cement / Portland Pozzolona Cement | ACC | Ultratech | J. K Cement |
| | | Lafarge | Ambuja Cement | |
| 2 | White Cement | Birla Cement | J. K White | Lafarge |
| 3 | Ready Mixed Concrete | ACC | L&T | JK Cement |
| | | Unitech | Grasim | |
| 4 | Reinforcement Steel (TMT – Fe500/Fe 500D) | SAIL | Tata Steel Ltd | RINL |
| 5 | Structural Steel/M.S. Tube | TATA | RINL | SAIL |
| | | TISCO | | |
| 6 | Plasticizer, Super Plasticizer, Admixtures, Other chemicals | CICO | Fosroc | BASF |
| WATERPROOFING | | | | |
| 7 | Integral Waterproofing Crystalline Admixture | Sunanda Chemical | Xypex Chemical | Penetron |
| 8 | Waterproofing Self Adhesive Membrane (HDPE) | Sunanda Chemical | STP | FOSROC |
| | | BASF | | |

| | | | | |
|-----------------------------------|---|------------------|------------------|------------------|
| 9 | SBS Membrane | BASF | Sunanda Chemical | FOSROC |
| | | SIKKA | | |
| PAINTS AND COATING | | | | |
| 10 | Anti Corrosive Paint for Structural Steel Intumescent Coating | Akzonobal | BASF | MAPEI |
| | | Sunanda Chemical | | |
| | | | | |
| 11 | Phenolic Epoxy Paint | Akzonobal | - | HILTI |
| 12 | Exterior Wall Heat Insulation, UV Resistance Paint | Sunanda Chemical | BASF | FOSROC |
| 13 | Texture Paint | FOSROC | Sunanda Chemical | Akzonobal |
| | | Jotun | Asian | |
| FLOORING AND EPOXY COATING | | | | |
| 14 | Anti-Static Flooring | Sunanda Chemical | STP | FOSROC |
| | | MAPEI | BASF | |
| GROUTS | | | | |
| 15 | Shrinkage Compensating Grout Admixture | FOSROC | MAPEI | Sunanda Chemical |
| | | BASF | | |
| 16 | Cementitious Grout | FOSROC | ARDEXENDURA | Sunanda Chemical |
| | | SIKKA | | |
| 17 | Epoxy Grout | Sunanda Chemical | FOSROC | STP |
| | | BASF | | |

Bidding Document for Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong, East Khasi Hills District, Meghalaya under Smart Cities Mission

| | | | | |
|----|---------------------------------|----------------------|-------------------------|---------------------------------|
| 18 | Rebarring Chemical | Hilti | 3M India | |
| 19 | Fire Sealant | Hilti | 3M India | Fischer |
| 20 | Flush door shutters | Duro | Greenpanel | Merino |
| | | Century | Archidply | |
| 21 | Hardware for Fire Check Door | Dorma | Becker Fire Solution | Dorset |
| 22 | Expansion Joint – Modular | C.S | Herculus | Z-Tech |
| | | Vexcolt | Fischer | |
| 23 | Aluminium Bldg. Expansion Joint | Vexcolt | Z-Tech India | C/S Expansion Joint |
| 24 | Polyster Powder Coating Paints | Nerolac | Berger | Akzonobel |
| 25 | Wall Putty | Birla Wall Care | JK White | Asian Paints |
| 26 | Oil Bound Washable Distemper | Asian Paints | Nerolac | Berger |
| | | Ultratech | Dulux | |
| 27 | Acrylic Distemper | Asian Paints | Nerolac | Berger |
| | | Ultratech | Dulux | |
| 28 | Premium Acrylic Emulsion paints | Asian Paints | Nerolac | Berger |
| | | Ultratech | Dulux | |
| 29 | Cement Primer | BP White (Berger) | Decoprime WT (Asian) | Akzonobel (Dulux) |
| | | Nerolac | | |
| 30 | Cement Paint | Snowcem Plus | Berger (Durocem Extra) | Nerolac (Nerocem With Titanium) |

| | | | | |
|-----------|--------------------------|----------------------|------------------------|---------------------------|
| | | Asian | Ultratech | |
| 31 | Steel /Wood Primer | Akzonobel (Dulux) | Nerolac | Asian Paints |
| | | Berger | - | First quality of ICI |
| 32 | Textured Exterior Paint | Spectrum | Asian (Apex Ultima) | Nerolac Kansai (Excel) |
| | | - | | |
| | | Berger | - | Unilite heritage |
| 33 | Synthetic Enamel Paint | Akzonobel (Dulux) | Asian (Apcolite) | - |
| | | Berger | First quality of ICI | Johnson &Nicholsan |
| 34 | Epoxy Paint | Pidilite | - | FOSROC |
| | | Sikka | Berger | Cico |
| | | - | - | - |
| 35 | Welding Electrodes | Advani | Oerlikon | Modi |
| | | L & T | Ici | |
| 36 | Stainless Steel Hardware | Dorma | Kich | Ozone |
| | | Godrej | Dorset | |
| | | India Gypsum | Lafarge | |
| 37 | Curtain Rod/Draperly Rod | Vista work | Mac Décor | Hunter Douglas |
| 38 | Fabric Blinds | Hunter Douglas | Mac | Vista |
| FLOORINGS | | | | |

| | | | | |
|----|---|---------------|-----------|----------------|
| 39 | Mosaic / chequered Tiles | Unistone | NITCO | Unitile |
| 40 | Ceramic tiles / Glazed Tiles | Kajaria | Somany | NITCO |
| 41 | Vitrified Tiles (Antiskid / Matt / Glazed) | Somany | Kajaria | NITCO |
| 42 | Terrazzo Tiles | NITCO | Unistone | Hindustan |
| 43 | Paver Block & Kerb Stone | NITCO | Unitile | Ultra |
| | | KK Manholes | Unistone | |
| 44 | Dash / Anchoring Fasteners | Hilti | Fisher | Bosch |
| | | - | Anchor | |
| 45 | Floor hardener | Ironite | Fosroc | Hardonite |
| 46 | Composite Marble / Granite / Engineered Stone | Asian | Johnson | Kalinga |
| 47 | Water Based Melamine Polish | Asian | Pidilite | ICI Dulux |
| | | Berger | | |
| 48 | Fire Retradant Paint | Asian | Berger | Shalimar |
| | | Viper FRS 881 | Nullifire | |
| 49 | Polysulphide Sealant | Fosroc | Wacker | BASF |
| | | Dow Corning | | |
| 50 | Adhesive for Wood Work | Dunlop | Fevicol | Vamicol |
| | | Araldite | Pidilite | |
| 51 | Rolling Shutter | Rama/ | Prakash | |
| 52 | Venetian Blinds | Mac Décor | Vista | Hunter Douglas |
| 53 | Built In Furniture | Wipro | Blowplast | Godrej |

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|----------|---|--------------------|-----------------------------|-----------------|
| | | Featherlite | Geeken | |
| 54 | Maintenance Equipment, (Ladders, Façade Tolleys Etc.) | Shri Modi (Gujrat) | M/S. Natraj (Pune) | L & T |
| 55 | Building Signage/ Fire Signages | Hindustan Signage | Signsutra | WRS Enterprises |
| GLAZINGS | | | | |
| 56 | Anodised Aluminum Hardware (Heavy Duty) | Hardima | Alualpha | LGF Sysmac |
| | | Everite | Godrej | |
| 57 | Aluminum Structural Members – Windows, Glazing and Partitions | Jindal | Indalco | Hindalco |
| | | Nalco | Bhoruka | |
| 58 | Aluminum Sheet roofing Top 0.9mm thick AA 3004 aluminium alloy and 2nd layer Bare Galvalume sheet, 0.5 mm TCT | KalZip | Tata BlueScope | |
| 59 | Pre-coated Galvanised Steel Sheet | Tata BlueScope | Llyod Insulations India Ltd | / S.R.Metals |
| | | Interarch | | |
| 60 | Glazing Structural / Suspended /Skylight | Saint Gobain | Pilkington | Glaverbal |
| 61 | Clear / Float / Frosted Glass / Mirror | Saint Gobain | AIS | Pilkington |
| | | MODI Guard | Atul | |
| 62 | Fire Rated Glass | Saint Gobain | Schott | |
| 63 | Stainless Steel Railing, Accessories etc in Grade SS OR 316 | Dorma | D-line | Geze |
| | | Ozone | Q-railing | |
| 64 | Fire rated vision Panels | Pilkington | SCHOTT | FERILITE |
| | | Saint Gobain | Glaverbel | |

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|----|---|------------------------------|--------------|--------------|
| 65 | Friction Stay Hinges | Dorma | LG Sysmac | Dorset |
| 66 | EPDM Gasket | Hanu | Anand | Osaka / Alps |
| | | Anand Reddiplex | Enviro Seals | |
| 67 | Mirror Glass | Asahi India Safety Glass Ltd | Modi Guard | Saint Gobain |
| 68 | UPVC Doors & Windows | Fenesta | Veka | Aluplast |
| | | LG Hausys | | |
| 69 | Nuts / Bolts & Screws | GKW | Atul | Hilti |
| 70 | Door / Window Fittings | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 71 | Door Closer | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 72 | Fire rated doors & it's hardwares | Navair | Shakti | Promat |
| | | Harmann Shakti | Sukriti | |
| 73 | Floor Springs | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 74 | SS Mortise lock with one dead bolt and pair of SS handles steel grade – SS304 | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 75 | Grab bars and Disabled Hardware | Dorma | Ozone | D-line |
| 76 | SS Mortise latch & lock with six levers and pair off SS handles steel grade – SS304 | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 77 | SS Tower bolt | Godrej | Ozone | Doorset |

| | | | | |
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| | | Dorma | | |
| 78 | SS Butt hinges with ball bearing grade – SS304 | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 79 | Stainless Steel sliding door blots | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 80 | Pull handle back-to-back of length 150mm of steel Grade-SS304 | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 81 | Pull handle, single side of length 150mm of steel Grade – SS304 | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 82 | Lever handle in SS 304 finish | Godrej | Ozone | Doorset |
| | | Dorma | | |
| 83 | PVC Water Stops | BASF | Supreme | Oriplast |
| 84 | Rolling shutter | Rama | Prakash | |
| PLUMBING WORKS | | | | |
| SANITARY FIXTURES & CP BRASS FITTINGS | | | | |
| 1 | Sanitary Fixtures | KOHLER | Hindware | Jaquar |
| | | | | |
| 2 | CP Brass Fittings & Accessories | KOHLER | Hindware | Jaquar |
| | | | | |
| 3 | Kitchen Sinks | Neelkanth | Jayna | Hindware |

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| | | Nirali | | |
| 4 | Water Cooler | Blue Star | Usha | Voltas |
| | | Eureka Forbes | | |
| 5 | Electric Storage Type Geyser | Venus | AO Smith | Racold |
| | | | | |
| 6 | Hand Drier | Euronics | Jaquar | Utec |
| 7 | RO Purifier Units | Kent | ION Exchange | AO Smith |
| | | 3M | | |
| SOIL, WASTE, VENT & RAIN WATER PIPES | | | | |
| 1 | Hubless Centrifugally cast (spun) Iron pipes & Fittings SS 304 grade coupling with EPDM rubber gasket | Neco | Kapilansh | Hepco |
| 2 | GI Pipes | Jindal Hissar | Prakash Surya | Tata |
| 3 | GI Pipe Fittings | Zoloto M | DRP | New |
| | | Unik | | |
| 4 | GI clamps with EPDM rubber | Intellotech | Indotech | Hilti |
| | | CAMRY | | |
| 5 | Brass Clean Out Plugs | Neer | Vijay | GMGR |
| 6 | Stainless Steel Gratings | Chilly | Camry | Kamal |
| 7 | uPVC Pipes & Fittings | Ashirvad | Finolex | Astral |

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|------------------------------|---------------------------|---------------|---------------|------------|
| | | AKG | | |
| WATER SUPPLY SYSTEM | | | | |
| 1 | CPVC Pipes & Fittings | Ashirvad | /Finolex | /Astral |
| | | AKG | | |
| 2 | GI Pipes | Jindal Hissar | Prakash Surya | Tata |
| 3 | GI Pipe Fittings | Zoloto M | DRP | New |
| | | Unik | | |
| 4 | Water Meter | Kranti | Toshaniwal | Capstan |
| | | Anand | | |
| 5 | Forged Brass Ball Valves | Giacomini | Zoloto | Sant |
| | | DRP | New | |
| 6 | CI Butterfly Valves | Zoloto | Audco | Sant |
| | | DRP | | |
| 7 | Pipe Insulation | Armaflex | K-Flex | Thermaflex |
| | | Kaiflex | | |
| | | DRP | | |
| | | Eureka Forbes | | |
| 8 | Polyethylene Storage Tank | Sintex | Supreme | Sheetal |
| HOT WATER SYSTEM (HEAT PUMP) | | | | |
| 1 | Heat Pumps | AO Smith | Cristopia | Bluebox |
| | | Climaveneta | Klima | |

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|---|--|-----------------------------|---------------------|------------------------|
| 2 | Hot Water Recirculation & Return Pumps | Willo | Grundfoss | KSB |
| | | Xyllum | | |
| SEWERAGE & DRAINAGE SYSTEM | | | | |
| 1 | HDPE Double Wall Corrugated (DWC) | Finolex | Astral | Ashrivad |
| | | Supreme | | |
| 2 | SFRC Manhole Cover & Frame | KK Manholes | SK Precast Concrete | Advent concreteovision |
| 3 | Foot Rests | KJM | Deesawala | Surya |
| | | Sinecos | | |
| 4 | Grease Separator | ACO | Kessel | Klaro |
| WATER SUPPLY, DRAINAGE PUMPS & WATER TREATMENT EQUIPMENTS | | | | |
| 1 | Water Supply Pumps | Willo/ | Grundfoss | KSB |
| | | Xyllum | | |
| 2 | Water Filters | Ion Exchange | Thermax | Pentair |
| 3 | Water Softeners | Ion Exchange | Thermax | Pentair |
| 4 | Chemical Dosers (Chlorinators') | Asia LMI | Toshcon | Chloromax |
| 5 | Electrical Panels | As per Electrical Make List | | |
| 6 | GI Pipes | Jindal Hissar | Prakash Surya | Tata |
| 7 | GI Fittings | Zoloto M | DRP | New |
| | | Unik | | |
| 8 | CI Butterfly Valves | Zolato | Audco | Sant |
| | | DRP | | |

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|-----------------------------|---|-----------------------------|---------------------|---------------------|
| 9 | CI Dual Plate Check Valves | Zolato | Audco | Sant |
| | | DRP | | |
| 10 | CI Strainers | Zolato | Audco | Sant |
| | | DRP | | |
| 11 | Vibration Eliminators/ Rubber Bellow | Resistoflex | D'wren | Kanwal |
| 12 | Electric Wires & Cables | As per Electrical Make List | | |
| FIRE FIGHTING SYSTEM | | | | |
| | | | | |
| | Gas Based Fire Suppression System | Safeguard | Ceasfire Industries | Pyrogaurd Engineers |
| | Deluge valve/ Solenoid valve/ Spray nozzle/ Installation Control Valve | Victaulic | Smith Copper | Anvil |
| | Fire Pumps | Mather&Platt(WILO) | Grundfos | Kirloskar |
| | | KSB | | |
| | Fire Buckets | Safeguard | Lifegaurd | Swastik |
| | | Minimax | | |
| | Fire Extinguishers | Safeguard | Lifegaurd | Swastik |
| | | Minimax | | |
| | Fire Hydrant Valves/ Fire RRL Hose Pipes / Fire Hose Reels/ Fire Man's Axe/ short branch pipe/ 2/ 3/4 FB inlet/ draw Out connection/Hose Box/ | Safeguard | Lifegaurd | Swastik |

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|--|--|--|---------------|-----------|
| | Hose reel drum /Nozzle/ blank Caps & Chains / Coupling | | | |
| | | Minimax | | |
| | Flow switch | Potter | Rapid flow | Danfoss |
| | | Viking | Belimo | Honeywell |
| | Pipe coat material (pipe protection) | Pypcoat | Makphalt | |
| | Pipe Hangers/ Clamps/Supports | Chilly | GMGR | CAMRY |
| | | Hilti | | |
| | Mild Steel Pipes | Jindal Hissar | Prakash Surya | Tata |
| | | SAIL | | |
| | Weld Electrodes | Advani | ESAB | L&T |
| | | Victor | | |
| | Pressure Gauge | Fiebig | H.GURU | HD |
| | | BRC | | |
| | Push Buttons/ Indicating lamps LED | As per respective electrical make list | | |
| | Single Phase Preventer | As per respective electrical make list | | |
| | Solenoid valve/ Spray nozzle | HD | Tyco | Danfoss |
| | | Honeywell | | |
| | Sprinkler Heads (Sidewall/ Upright/ Pendant) | Grinnel- Tyco | Viking | HD |

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|------------------|--|-----------------------------|---------------|------------------|
| | Sprinkler Flexible Drops | Victaulic | Smith Copper | Anvil |
| | MS Forged Fittings | New | DRP | VS |
| | | SS | | |
| | Pop up Connecting Assembly | Rain Bird | Dura | Lasco |
| | Popup Spray Head | Rain Bird | Toro, USA | Nelson, |
| | Powder Coating Material Pure Polyester | Jotun | Berger | Goodlass Nerolac |
| | RQRC Hydrant | Harvel | Alprene | Rain Bird, USA |
| | RQRC Key | Harvel | Aqua | Drip& Drip |
| | CI Butterfly Valves/Sluice Valves | Zolato | Audco | Sant |
| | | DRP | | |
| | CI Dual Plate Check Valves | Zolato | Audco | Sant |
| | | DRP | | |
| | CI Strainers | Zolato | Audco | Sant |
| | | DRP | | |
| | Vibration Eliminators/ Rubber Bellow | Resistoflex | D'wren | Kanwal |
| | Electric Wires & Cables | As per Electrical Make List | | |
| ELECTRICAL WORKS | | | | |
| | AIR CIRCUIT BREAKER (MODEL SHALL BE AS PER TENDER SPECIFICATION & BOQ) | SCHNEIDER (MVS) | L&T (U Power) | ABB (E-Max) |
| | | SIEMENS (3WL) | | |
| | MCCBS BREAKER (MODEL SHALL BE AS PER TENDER SPECIFICATION & BOQ) | SCHNEIDER (CVS) | L&T (D-Sine) | ABB (T-Max) |
| | | SIEMENS (3VA) | | |

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|--|--|--------------------|------------------|----------------------|
| | SFU / FSU / HRC/ HBC FUSES & BASES | L&T | SIEMENS | SCHNEIDER |
| | | ABB | | |
| | MCB/ ELCB/ RCCB/ RCBOS/ DISTRIBUTION BOARDS (DOUBLE DOOR IP43 DBs) | LEGRAND EKINOXE3 | HAGER NOVELLO | SIEMENS (BETA GUARD) |
| | | SCHNEIDER ACTI-9 | ABB | |
| | AUTOMATIC TRANSFER SWITCH/ CHANGE OVER SWITCH (OFF LOAD/ ON LOAD) | HPL | SOCOMEK | ASCO |
| | | HAVELLS | ABB | |
| | METAL CLAD SHEET STEEL ENCLOUSER SOCKET/ PLUG BOX | L&T | SCHNEIDER | SIEMENS |
| | | ABB | LEGRAND | |
| | LOAD BREAK SWITCHES | L&T | SIEMENS | SCHNEIDER |
| | FR/ FRLS/ XLPE LT CABLES & WIRES – ROHS COMPLIANCE (ARMOURED OR OTHERWISE) | POLYCAB | FINOLEX | BONTON |
| | | HAVELLS | | |
| | MODULAR PLATE SWITCHES AND SOCKETS | LEGRAND (Arteor) | SCHNEIDER (OPAL) | MK (Blenz) |
| | | WIPRO (North west) | | |
| | TRIVECTOR METER/ AMP METER/ VOLT METER / ENERGY METER/ MFM | NEPTUNE | SECURE | CONZERV |
| | | TRINITY | SOCOMEK | |
| | TELECOMMUNICATION / TV CABLE | FINOLEX | POLYCAB | BONTON |
| | | HAVELLS | | |
| | MAIN LT PANEL/ APFC PANELS (TTA IS:8623-1) | TRICOLITE | L&T | CONQUERENT SCHNEIDER |
| | | SIEMENS | ABB | |

| | | | | |
|--|--|--|------------|------------------|
| | BUSBAR | GINDAL | HINDALCO | CENTURY |
| | PVC CONDUIT/ FLEXIBLE CONDUIT & ACCESSORIES (ISI MARKED) | BEC | AKG | POLYCAB |
| | STEEL CONDUIT/ FLEXIBLE & ACCESSORIES (ERW) (ISI MARKED) | RM CON | BEC | NIC |
| | | MKAY | | |
| | LT PANEL/ PCC/ MCC/ MCBS/ DG SYNCHRONIZING PANELS/ PANELS/ CONTROL PANELS/ FEEDER PILLARS/ SERVICE PILLAR / H.T. PANEL | TRICOLITE | CONQUERENT | ADLEC |
| | | SPC ELECTROTECH | | |
| | | 1) PANEL MANUFACTURER MAKE APPROVAL SHALL BE TAKEN BY ARCHITECT / CONSULTANT/UNIT INCHARGE BEFORE ORDER THE PANEL. | | |
| | | 2) FABRICATION FACILITY UP TO IP 54/55. | | |
| | | 3) 9 TANK PRE TREATMENT FACILITIES FOR SHEET. | | |
| | | 4) EQUIPPED WITH LATEST CNC BENDING, POWDER COATING, BUS BAR BENDING & PUNCHING MACHINE, AND COMPRESSOR ETC. | | |
| | SANDWITCH BUSDUCT (F CLASS) | SCHNEIDER | L & T | FEDERAL & GERSAN |
| | | EAE Turkey | SUPERBAR | |
| | FR/ FRLS/ XLPE HT CABLES – ROHS COMPLIANCE (ARMOURED OR OTHERWISE) | POLYCAB | FINOLEX | HAVELLS |
| | BAKELITE SHEET | HYLAM | FORMICA | GREENLAM |
| | VOLTAGE TRANSFORMERS | SIEMENS | L&T | KAPPA |
| | | PEPL | ABB | |

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|--|---|------------------------|-----------------|------------------|
| | CURRENT TRANSFORMER | SIEMENS | L&T | KAPPA |
| | | PEPL | ABB | |
| | CEILING FAN/ EXHAUST FAN (BLDC) | CROMPTON | BAJAJ | USHA |
| | | HAVELS | ORIENT | |
| | TAG BLOCK | KRONE | ERICSON | TVAR&M |
| | TRANSFORMERS | VOLTAMP | TMC TRANSFORMER | CROMPTON |
| | | KIRLOSKAR | ABB | SCHNEIDER |
| | AUTOMATION POWER FACTOR CONTROL RELAY | L&T | SIEMENS | SCHNEIDER |
| | | ABB | | |
| | CAPACITORS & REACTORS | L&T | SIEMENS | SCHNEIDER |
| | | ABB | | |
| | CABLE GLANDS (DOUBLE COMPRESSION WITH EARTHING LINKS) | DOWELLS | COMET | GRIPWELL |
| | BI-METALLIC CABLES LUGS/ PVC GLANDS | DOWELLS | ACTION | JAINSONS |
| | | KABEL | | |
| | CABLE JOINTING KITS | RAYCHEM | JAINSONS | 3M |
| | | DENSONS | | |
| | CABLE TRAYS (FACTORY FABRICATED) / RACEWAYS (G.I.) | INDIANA | CTM ENGINEERS | MEM |
| | | KAMBOJ ELECTRO CONTROL | | |
| | BATTERY (SEALED MAINTENANCE FREE) | AMCO | EXIDE | AMARA RAJA |
| | BATTERY CHARGER | AMARA RAJA | CHHABI ELECTRIC | CROMPTON GREAVES |

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|--|--|------------------------------|---------------|-----------|
| | DG SET | CATERPILLAR | CUMMINS | MTU |
| | | mitsubishi | VOLVO PENTA | PERKINS |
| | DG SET ALTERNATOR | STAMFORD | LERROY SOMMER | KIRLOSKAR |
| | CONTROL GEAR (CONTRACTORS ETC.) | L&T | SIEMENS | SCHNEIDER |
| | | ABB | | |
| | PROTECTION RELAYS MICROPROCESSER BASED | AREVA | L&T | ABB |
| | | SIEMENS | SCHNEIDER | |
| | EARTH LEAKAGE RELAY | L&T | PIC | MINILEC |
| | | EATON | | |
| | SINGLE PHASING DEVICE | L&T | SIEMENS | MINILEC |
| | PUSH BUTTONS | L&T | SIEMENS | SCHNEIDER |
| | | ABB | | |
| | TIME RELAY DEVICE | L&T | SIEMENS | SCHNEIDER |
| | | ABB | | |
| | SELECTOR SWITCHES & ROTARY SWITCHES | L&T | SIEMENS | SCHNEIDER |
| | | ABB | | |
| | INDICATING LIGHTS | L&T | SIEMENS | SCHNEIDER |
| | | ABB | | |
| | TERMINALS | ELMEX | ESSEN | DEINKI |
| | | WAGO | | |
| | TELEPHONE OUTLETS | AS PER SWITCH / SOCKET MAKE. | | |

| | | | | |
|--|--|--|--------------------------|----------------------------------|
| | MOTORS | ABB | CROMPTON | SIEMENS |
| | | KIRLOSKAR | BHARAT BIJLI | |
| | IPBAX & TELEPHONE SYSTEM | SIEMENS | ERICSSON | ALCATEL-LUCENT |
| | | MITEL | | |
| | MULTI-METER & MEGGARS | ESCROP | MOTWANI OR EQUIVALENT | |
| | PROGRAMMABLE LOGIC CONTROLLER | SIEMENS | WOODWARD | ALLEN BRADLEY |
| | EARTHING / LIGHTNING PROTECTION UNIT | JMV | ERICO | LPI |
| | UPS | APC SCHNEIDER | EMERSON | TATA LIBERT |
| | | 3EM | EATON POWER | AUTOMETERS ALLIANCE LTD. |
| | FIRE ALARM SYSTEM (All COMPONENTS SHALL BE UL LISTED & CONFIRM TO NFPA STANDARD) | NOTIFIER | IFC | NOHMI |
| | | BOSCH | ADVANCED | |
| | PA SYSTEM | NOTIFIER | IFC | NOHMI |
| | | BOSCH | | |
| | PUMPS | WILLO | KIRLOSKAR | KSB |
| | | XYLLUM | | |
| | LT SERVO AUTOMATIC VOLTAGE STABILIZER | AE | LOGICSTAT | LD POWER TRANSFORMERS (PVT.)LTD. |
| | D.G. SET ACCOUSTIC ENCLOSURE | AS PER D.G. SUPPLIER AND APPROVED BY OEM AND CONSULTANT / ARCHITECT. | | |

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|--|--------------------------------|--------------|------------------|-----------|
| | M.S. PIPE | TATA | JINDAL HISSAR | SAIL |
| | | PRAKSH SURYA | | |
| | BUTTERFLY / BALANCING VALVE | ZOLOTO | AUDCO | SANT |
| | | DRP | | |
| | POT STRAINER / Y STRAINER | ZOLOTO | EMERALD | SANT |
| | | DRP | | |
| | CCTV CAMERA / DVR / NVR | HONEYWELL | SONY | BOSCH |
| | | | | |
| | ACCESS CONTROL | BOSCH | TYCO | LENEL |
| | CAT 6A | CISCO | D-LINK | NETGEAR |
| | MINERAL INSULATED COPPER CABLE | TYCO | ROCKBESTOS | MICC |
| | | CAVICEL | | |
| | FIRE SUPPRESSION SYSTEM | MINIMAX | UTC | FIRETRACE |
| | VIBRATOR ELIMINATOR | KANWAL | RESISTROFLEX | D'WREN |
| | INSULATION | UP TWIGA | KIMCO | LLYOD |
| | WELD ELECTRODES | ADVANI | ESAB | L&T |
| | | VICTOR | | |
| | BOOM BARRIER | FAAC | GODREJ VIGIGUARD | SOMFY |
| | | GUNNEBO | | |
| | DWC HDPE PIPE | FINOLEX | ASTRAL | ASHIRVAD |
| | | SUPREME | | |

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|--|---|-----------------|---------------|------------------|
| | INVERTER | MICROTEK | LUMINOUS | SU-KAM |
| | SEMI ROTARY TYPE HAND FUEL FILLING PUMP | ROTODEL | KITTY | GROZ |
| | SOLAR PV MODULE | ADANI | VIKRAM | TATA |
| | SOLAR INVERTER | DELTA | NEOWATT | SCHNEIDER |
| | DC CABLE | POLYCAB | HAVELLS | FINOLEX |
| | LIGHT FIXTURES (LED) | LEGERO | WIPRO | HAVELLS |
| | | INSTA POWER | | |
| | EXTERNAL LIGHTING POLE | VALMONT | NERI | GLOWMAG |
| | LANDSCAPE / FACADE AREA LIGHT | LVELA | ES SYSTEM | LITOLUX |
| | STREET LIGHT | CARIBONI | EWO | HEPER |
| | | INSTA POWER | | |
| | HENSEL BOX | HEPER | ES SYSTEM | LITOLUX |
| | MC4 CONNECTOR | SYNERGY | SETLLAR | SCHNEIDER |
| | ALL POWER AMPLIFIERS | BOSE | POWERSOFT | ELECTRO VOICE |
| | | BOSCH | | |
| | ALL LOUDSPEAKERS, LINE ARRAYS AND SUBWOOFERS IN CLASS ROOMS AND AUDITORIUMS | BOSE | MARTIN AUDIO | D&B AUDIOTECHNIC |
| | | BOSCH | ELECTRO VOICE | |
| | CEILING SPEAKER (AUDIO/ VIDEO) | BOSE | MARTIN AUDIO | D&B AUDIOTECHNIC |
| | | BOSCH | ELECTRO VOICE | |
| | STAGE LIGHTING | CANARA LIGHTING | MARTIN LIGHTS | ROBE |

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|--|--|--------------|-----------|----------------------|
| | NETWORK SWITCH | CISCO | D-LINK | NETGEAR |
| | ALL SWITCHING & CONTORLS, RECEIVERS, TRANSMITTERS, SCALER EXTENDER | BOSCH | CRESTRON | EXTRON |
| | PROJECTOR | BARCO | CHRISTIE | DIGITAL PROJECTION |
| | ELEVATORS | TOSHIBA | OTIS | MITSUBISHI |
| | | SCHINDLER | KONE | |
| | MOTORIIZED SCREEN IN CLASS ROOMS AND AUDITORIUMS | DALITE | DRAPER | SUVIRA |
| | FLAT PANAL DISPLAY | CHRISTIE | NEC | PLANAR |
| | DOCUMENT CAMERA | ELMO | LUMENS | WOLF VISION |
| | HIGH DEFINITION VIDEO CONFERENCING | CISCO | POLYCOM | SONY |
| | CAMERA SECONDARY | LUMENS | POLYCOM | SONY |
| | MULTI FORMAT PRESENTATION SWITCHER WITH CONTROL PROCESSOR IN CLASS ROOMS AND AUDITORIUMS | AMX | CRESTRON | EXTRON |
| | | BOSCH | | |
| | WIRELESS TOUCH PANEL WITH ACCESSORIES IN CLASS ROOMS AND AUDITORIUMS | AMX | CRESTRON | EXTRON |
| | | BOSCH | | |
| | CONFERENCE SYSTEM IN CLASS ROOMS AND AUDITORIUMS | BEYERDYANMIC | BRAHLER | MARCONI TECHNOLOGIES |
| | | BOSCH | SCHINDLER | |
| | DELEGATE AND CHAIRMAN MICROPHONES | BEYERDYANMIC | BRAHLER | MARCONI TECHNOLOGIES |
| | | BOSCH | | |

| | | | | |
|--|--|--------------|------------------|----------------------|
| | HANDHELD AND LAPEL MICROPHONES | BEYERDYANMIC | BRAHLER | MARCONI TECHNOLOGIES |
| | | BOSCH | | |
| | DIGITAL SIGNAL PROCESSOR | CRESTRON | BOSE | BIAMP |
| | | BOSCH | BRAHLER | |
| | VGA WITH AUDIO PATCH CABLE | AMX | CRESTRON | EXTRON |
| | | KREMER | | |
| | HDMI PATCH CABLES | AMX | CRESTRON | EXTRON |
| | | KREMER | | |
| | DIGITAL VIDEO CABLE NON-PLENUM | AMX | CRESTRON | EXTRON |
| | | KREMER | | |
| | CONTROL CABLE | BELDEN | CRESTRON | EXTRON |
| | MICROPHONE CABLE | AMX | CRESTRON | EXTRON |
| | | KRYSTAL | BELDEN | |
| | AUDIO AND STEREO CONTROL CABLE | BELDEN | CRESTRON | EXTRON |
| | | KRYSTAL | | |
| | SHIELED CHIELED CAT 6A / FIBRE CABLE | CISCO | D-LINK | NETGEAR |
| | BULK CONNECTORS | NEUTRIK | SWITCHCRAFT | AMPHENOL |
| | EQUIPMENT RACH | CHIEF | MIDDLE ATLANTICA | VALRACK |
| | LIGHTING CONTROLLER/ MANAGEMENT SYSTEM | LUTRON | ZUMTOBEL | HONEYWELL |
| | SMART PODIUM | UNI | AHA | TECOMM |

| | | | | |
|--|------------------------------|----------------|-------------|----------|
| | | LUMIN | PEOPLE LINK | |
| | INTERATIVE WHITE BOARD | PROMETHEAN | HITE VISION | SMART |
| | COUNTDOWN CLOCK | BIGTIME CLOCKS | ULTRAK | BANGGOOD |
| | COMPUTER | HP | DELL | IBM |
| | MONITOR | SAMSUNG | PANASONIC | LG |
| | | DELTA | CRISTLE | |
| | 12 BAY NAS | NETGEAR/CISCO | DELL | HP |
| | 10 G CORE SWITCH | NETGEAR/CISCO | DELL | HP |
| | L3 POE PLUS SWITCH | NETGEAR/CISCO | DELL | HP |
| | DUAL BAND 11 AC ACCESS POINT | NETGEAR/CISCO | DELL | HP |
| | 10G SINGLE MODE SFP+ MODULE | NETGEAR/CISCO | DELL | HP |
| | SECURE NETWORK SERVER | CISCO | DELL | HP |

* For any missing item, the Contractor shall take prior approval from Engineer In Charge.

NOTE : All makes shall further confirm to standard specifications of each items as mentioned in technical specifications of tender documents.

SECTION 6: DRAWINGS

Enclosed separately

SECTION 7: FORM OF BID

TECH FORM – 1: LETTER OF TECHNICAL BID

_____ [Date]

To
The Chief Executive Officer (CEO)
Shillong Smart City Limited (SSCL),
House No. C/B-037, Top Floor,
Centre Nongrim Hills, Near JJ Cables, Shillong,
East Khasi Hills District, Meghalaya - 793003

Name of the Work: _____

I/ We offer to execute the works described above and remedy any defects therein in conformity with the Conditions of Contract, specifications, drawings, Bill of Quantities and Corrigenda/Addenda.

We are submitting our proposal in JV/ Consortium/ association with [insert name of the JV Member, if applicable]

We hereby confirm that this Bid complies with the requirements as stipulated in the Bidding Document for Bid validity (for a period of 180 days as per Clause no. 18 of ITB) and Bid Security/ Earnest Money Deposit.

This Bid and your written acceptance of it shall constitute a binding Contract between us. We undertake to commence the works on receiving the Notice to Proceed with work in accordance with the contract documents.

We hereby declare that all the information and statements made in this proposal are true and accept that (i) any misinterpretation contained in it, and (ii) non-disclosure of required information may lead to our disqualification.

We understand that you are not bound to accept the lowest or any Bid you receive.

Authorized Signature:

Name and Title of Signatory:

Name of Bidder:

Authorized Address of communication:

Telephone No(s):

(Office) : _____

Mobile No. : _____

Facsimile (FAX) No. : _____

Electronic Mail Identification (E-Mail ID): _____

TECH FORM – 2: BIDDERS INFORMATION SHEET

| | |
|--|--|
| Name of the Bidder | |
| Name of the JV/Association partner if any | |
| Address of Registered Office of Lead Bidder | |
| Year of Establishment: | |
| Contact Person with Contact Details: (Name, address, telephone numbers, fax numbers, e-mail address) | |
| Annual Turnover* in last three years (₹ in Lakhs) FY 2020-21: FY 2019-20: FY 2018-19: Average Annual Turnover for above three Financial Years: *Financial Statements to be enclosed | |
| PAN Number | |
| GST Number | |
| Any Other Relevant Details: | |
| *Enclose the copies of the following original documents. <input type="checkbox"/> 1. In case of single entity, articles of incorporation or constitution of the legal entity named above. <input type="checkbox"/> 2. Authorization to represent the firm or JV named in above. <input type="checkbox"/> 3. In case of JV or Consortium or Association, relevant Agreement. <input type="checkbox"/> 4. In case of a government-owned entity, any additional documents not covered under 1 above. | |

Each member of a JV or Consortium or Association must fill in this form

For brevity, only JV is mentioned below

| JV / Specialist Sub-Contractor Information | |
|---|--|
| Bidder's legal name | |
| JV Partner's or Specialist Sub-Contractor's legal name | |
| JV Partner's or Specialist Sub-Contractor's country of constitution | |
| JV Partner's or Specialist Sub-Contractor's year of constitution | |
| JV Partner's or Specialist Sub-Contractor's legal address in country of constitution | |
| JV Partner's or Specialist Sub-Contractor's authorized representative information (name, address, telephone numbers, fax numbers, e-mail address) | |
| *Enclose the copies of the following original documents. | |
| <input type="checkbox"/> 1. Articles of incorporation/constitution or Partnership Deed (as applicable) of the legal entity named above | |
| <input type="checkbox"/> 2. Authorization to represent the firm named above. | |
| <input type="checkbox"/> 3. In the case of government-owned entity, documents establishing legal and financial autonomy and compliance with commercial law. | |

TECH FORM – 2A: JV AGREEMENT

Joint Venture Agreement (*Similar Consortium Agreement/ Association Agreement to be signed in case of a Consortium/ Association)

(On Rs 200/- Non-judicial Stamp Paper)

Memorandum of Understanding for

JOINT VENTURE

This Memorandum of Understanding (hereinafter referred to as "**MOU**") is made and entered into this ----- ("**Effective Date**").

BETWEEN

M/s. _____, a company incorporated, and having its registered office at _____. (Hereinafter referred to as the "**First Party**"/ "**One Partner**").

M/s. _____) a company incorporated, and having Registered office at _____. (Hereinafter referred to as the "**Second Party**"/ "**Each Partner**").

Hereinafter jointly referred to as the "**Parties**" and individually as "**Each Party**" or "**a Party**" as the case may be.

WHEREAS,

A) **SHILLONG SMART CITY LIMITED, Shillong, Meghalaya (hereinafter referred to as the SSCL or procuring entity)** invited bid for _____ [name of the work]

(B) The Parties hereto formed a Joint Venture or will form a joint venture (hereinafter referred to as the "**JV**") to jointly execute the above project in all respect

NOW THEREFORE IT IS HERE BY AGREED as follows

ARTICLE 1: JOINT VENTURE:

- 1.1. The Parties hereto agree to form the Joint Venture with _____ designated as the One Partner and First Partner.
- 1.2. _____ shall be the Second Member – or Second Partner

ARTICLE 2: JOINT VENTURE NAME:

2. The JV shall do business in the name of "_____ Joint Venture".

ARTICLE 3: JOINT AND SEVERAL LIABILITY:

3. The Parties hereto shall, for the above-referred Projects, be jointly and severally liable to the Employer for the execution of the Projects in accordance with the Contract till the actual completion of Contract including defect liability period and operation & maintenance as per bid conditions.

ARTICLE 4: PROPORTIONATE SHARE:

4.1 Each member of the Joint Venture agrees to place at the disposal of the Joint Venture, the benefit of all its experience, technical knowledge and skill, and shall in all respects bear its share of responsibility and burden of completing the contract. The parties herein shall be responsible for physical and financial distribution of work as under.

Lead Partner:

Financial responsibility: -----

Physical responsibility: -----

Other Partner:

Financial responsibility: -----

Physical responsibility: -----

4.2 All rights, interests, liabilities, obligations, risks, costs, expenses and pecuniary obligations and all net profits or net losses arising out of the Contract shall be shared or borne by the Parties in the above Proportions.

4.3 The members in the proportion as mention in article 4.1, shall contribute sufficient Initial fixed capital for timely execution of the project including commissioning & operating period as per the contract.

ARTICLE 5: JOINT EFFORT AND MANAGEMENT:

5.1 The Parties shall participate as a JV in the submission of bids and further negotiations with the Employer and shall co-operate and contribute their respective expertise and resources to secure and execute the Projects.

5.2 On award of Projects, the First Partner in consultation with the other member of JV will decide on the final management structure for the successful execution of the Projects as per the terms of Contract.

5.3 All the Parties hereby agree to pool in their financial, administrative, managerial, technical and material resources for execution of the Projects, including commissioning & operation for the period as stipulated in the contract. The share of interest of the JV shall be as per the mutual understanding for the successful completion of the project.

ARTICLE 6: EXCLUSIVITY:

6.1 The co-operation between the Parties hereto shall be mutually exclusive i.e., none of them shall without the other Party's consent & prior approval of SSCL, approach or cooperate with any other parties in respect of the Project.

6.2 In the course of working as associates, the parties to the JV will be sharing information with each other which may be proprietary /confidential information /knowledge acquired by each other. It is hereby agreed that the parties will maintain complete secrecy regarding such information / knowledge and will not divulge to any party for any other purpose except for the success of the joint execution of the contract. All parties will also indemnify each other against any claim that may arise out of using information, which are being claimed proprietary.

ARTICLE 7: MEMORANDUM OF UNDERSTANDING:

7.1 This Memorandum of Understanding shall be terminated: -

- a. if the Parties mutually confirm that the JV's bid proposal has not been finally accepted by Employer and all rights and obligations of the Parties under or in connection with this Memorandum of Understanding have ceased, or
- b. after successful completion of the project including commissioning & operation and defect liability period from the date of this Memorandum of Understanding unless extended for a further period on demand of SSCL & mutual consent of the Parties, or

7.2 The Memorandum of Understanding can be modified by mutual consent of the Parties to suit the efficient and expeditious execution of Projects including commissioning & operation of Plant or to make this agreement more meaningful to suit the requirements of Employer after the consent of the Employer.

ARTICLE 8: ARBITRATION:

8.1 Any dispute resulting from this Agreement shall be settled amicably by mutual Consultation by the Managing Directors/ Chairman of _____ & _____. In the event that an amicable settlement is not reached within 60 days in any particular case, the dispute shall be referred to arbitration and shall be resolved in accordance with and subject to the provisions of the _____ and any statutory modifications and enactment hereof for the time being in force. The decision of the arbitrators shall be final and binding upon both parties. The venue of arbitration will be _____.

ARTICLE 9: GOVERNING LAWS:

9.1 This Agreement shall in all respects be governed by and interpreted in accordance with the _____ Laws.

ARTICLE 10: CONFIDENTIALITY:

10.1 No Party hereto shall disclose to any other party any information of a confidential nature including but not limited to trade secrets, know-how acquired from any Party in connection with the subject matter of this Agreement.

ARTICLE 11: ADDRESS OF CONSORTIUM:

11.1 Any and all correspondence from the Employer to the JV shall be addressed to (name of JV) at the address stated herein below– (any one of the partners). The address of the Consortium office of the partner companies will be deemed to be the address for the purpose of communication. The notice, if any required to be served on the party by the other party, will be deemed to be served, if the said notice / communication is delivered by Registered Post at the respective address (name of JV)

ARTICLE 12: AUTHORIZED REPRESENTATIVE:

12.1 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.

Authorized Representative of JV: _____

ARTICLE 13: ASSIGN ABILITY:

13.1 The interests and rights of a Party in the Contract and as a Party of the Joint Venture shall not be transferable or assignable without the written consent of the Employer & other party.

ARTICLE 14: INTERPRETATION OF HEADINGS:

14.1 The headings of each of the Articles herein contained are inserted merely for convenience of reference and shall be ignored in the interpretation and construction of any of the provisions herein contained.

ARTICLE 15: OTHERS

15.1 Any other matters not contained in this Agreement shall be discussed and amicably agreed upon by the Parties in the spirit of mutual trust and cooperation for timely completion of project including commissioning & operation of project. Notwithstanding anything above all the Parties are severally and jointly responsible to the Employer for execution of the Contract:

IN WITNESS WHEREOF the Parties hereto have caused this Agreement to be executed by each of the duly authorized representatives as appearing below: -

Signed by
For and on behalf of (_____)
Designation:
Name:
Designation:

in the presence of
Name:

Signed by
For and on behalf of (_____)
Designation:
Name:
Designation:

in the presence of
Name:

TECH FORM – 2B(1): FORMAT FOR POWER OF ATTORNEY AUTHORISING THE LEAD MEMBER OF A JV (or Consortium/ Association, as applicable)

[To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant Stamp Act. The stamp paper to be in the name of the company who is issuing the power of attorney]

To know all men by these presents that we parties whose details are as follows;

1. M/s _____, having its registered office at _____ (hereinafter referred as “___”, which the term shall unless otherwise repugnant to the context shall mean and include all its successors and permitted assigns) and represented by its _____

2. M/s _____, having its registered office at _____ (hereinafter referred as “___”, which the term shall unless otherwise repugnant to the context shall mean and include all its successors and permitted assigns) and represented by its _____

Have entered into a JV agreement for the purpose of tender for _____ vide tender No: ___ and with our principal place of business at _____ herein after referred as "___", which the term shall unless otherwise repugnant to the context shall mean and include all its successors and permitted assigns)

We, the above said parties, through this power of attorney mutually agrees to hereby constitute, nominate and appoint "_____", who is the lead member of the JV as our duly constituted Lawful Attorney (hereinafter referred as "Lead Member") to exercise all or any of the powers for and on behalf of the JV Members in regards to the Specification No. _____, the bids for which have been invited by the Shillong Smart City Limited (herein after referred to as "SSCL")

- a. To submit proposal and participate in the above-mentioned bid specification of SSCL on behalf the “JV”.
- b. To negotiate with the Purchaser the terms and conditions for award of the contract pursuant to the above-mentioned bid and to sign the Contract with SSCL for and on behalf of the “JV”.
- c. To do any other act or submit any document related to the above.
- d. To receive, accept and execute the contract for and on behalf of the “JV”.
- e. To authorise any person, employee or otherwise to represent the Lead Member and JV for doing the aforesaid
- f. In the event of an order placed on the JV the work shall be executed as per the terms and conditions of the Purchase Order issued and the Agreement executed between SSCL and the JV.

It is expressly understood that this Power of Attorney shall remain valid, binding and irrevocable until the completion of the tender or till the completion of the tenure of contract to be executed between the JV and Shillong Smart City Limited, if tender is awarded in favour of the JV.

We hereby agrees to ratify all the acts, deeds and things lawfully done by the Lead Member and its authorised person/s pursuant to this Power of Attorney and that all acts, deeds and things done by above mentioned Lead Member shall always be deemed to have been done by us.

IN WITNESS THEREOF, the Members constituting the JV as previously mentioned have executed these presents on this ___ day of ___ 20___ under the Common Seal(s) of their companies.

For _____

For _____

Authorized Signatory

Authorized Signatory

TECH FORM – 2B(2): FORMAT FOR POWER OF ATTORNEY AUTHORISING SIGNATORY OF BID

[To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant Stamp Act. The stamp paper to be in the name of the company who is issuing the power of attorney]

Know by all men by these presents, We _____ (Name of the Bidder and address of their registered office) do hereby constitute, appoint and authorize Mr. / Ms _____ (name and residential address of Power of attorney holder) who is presently employed with us and holding the position of _____ as our true and lawful attorney (hereinafter referred to as the "Authorized Representative") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Proposal for the Bid for "**Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong, East Khasi Hills District, Meghalaya**" under Smart City Mission Including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre bid and other conferences and providing information/responses to SSCL, representing us in all matters before SSCL, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with SSCL in all matters in connection with or relating to or arising out of our Proposal for the said Project and/or upon award thereof to us till the entering into of the Agreement with SSCL.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THISDAY OF, 20**

For _____

Name:

Designation:

Date:

Time:

Seal:

Business Address:

Witness:

1.

2.

Notarized Accepted

Signature of the Applicant
(Signature, name, designation, and address)

Bid for "Construction of a Commercial Complex at Polo, Shillong" under Smart City Mission.

Accepted,

_____ (Signature)
(Name, Title and Address of the Attorney)

Note:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.
- The Power of Attorney shall be provided on a stamp paper of Rs.200/- and above
- The Power of Attorney should be supported by a duly authorized resolution of the Board of Directors of the Bidder authorizing the person who is issuing this power of attorney on behalf of the Bidder.

CERTIFICATE AS TO AUTHORISED SIGNATORIES

I _____, the Company Secretary of _____, certify that _____ who signed the above Bid is authorized to do so and bind the company by authority of its board/ governing body.

Date:

Signature:

(Company Seal) (Name)

TECH FORM – 3A: FINANCIAL CAPACITY

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

| SN | Description | Financial Data for Latest Last 3 Years (Indian Rupees) | | |
|----|----------------------------|---|--------------|--------------|
| | | Year 2018-19 | Year 2019-20 | Year 2020-21 |
| 1 | Total Assets | | | |
| 2 | Current Assets | | | |
| 3 | Total external Liabilities | | | |
| 4 | Current Liabilities | | | |
| 5 | Profits Before Taxes | | | |
| 6 | Profits After Taxes | | | |
| 7 | Net Worth = (1-3) | | | |
| 8 | Working Capital = (2-4) | | | |
| 9 | Annual Turnover | | | |

*Enclose the copies of financial statements (balance sheets including all related notes, and income statements) for the last THREE years, as indicated above, complying with the following conditions.

- All such documents reflect the financial situation of the legal entities comprising the Bidder or partner to a JV, and not sister or parent companies, subsidiaries or affiliates
- financial statements must be audited by a certified accountant.
- financial statements must be complete, including all notes to the financial statements.
- financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

TECH FORM – 3B: AVERAGE ANNUAL TURNOVER FROM CONSTRUCTION WORKS

Each Bidder or member of a JV or Consortium or Association must fill in this form (Certified by Chartered Accountant).

| Annual Turnover Data for the Last 3 Years (Construction works only) | | | |
|--|----------------------------|--------------------------|---------------------------|
| Year | Amount Currency | Exchange Rate | INR Equivalent |
| Year-1 2020-21 | | | |
| Year-1 2019-20 | | | |
| Year-1 2018-19 | | | |
| Average Annual Construction Turnover for the Last 3 Years | | | |

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, converted to INRs at the rate of exchange at the end of the period reported.

TECH FORM – 4A: AVAILABILITY OF FINANCIAL RESOURCES

Specify proposed sources of financing, such as liquid assets, lines of credit, and other financial resources (means other than any Contractual advance payments), available to meet the financial resources requirements. Each Bidder or member of a JV must fill in this form.

| Financial Resources | | |
|----------------------------|----------------------------|--------------------------------|
| SN | Source of financing | Amount (INR equivalent) |
| • | | |
| • | | |
| • | | |
| | | |

Note:

- i. The bidder shall provide supporting documents like letter from the Banks for the revolving line of credit facility etc specific to the project if applicable for its declared availability of financial resources.
- ii. Bidder shall provide details on available credit facility from each source of financing after utilizing to the commitments

**TECH FORM – 4B: SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR
AVAILABILITY OF CREDIT FACILITIES**

BANK CERTIFICATE

This is to certify that M/S ----- is a reputed company with a good financial standing.

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

Signature of Senior Bank Manager _____

Name of the senior Bank Manager _____

Address of the Bank -----

Stamp of the Bank

Note: Certificate should be on the letter head of the bank.

TECH FORM – 4C: FORMAT OF SOLVENCY CERTIFICATE

No.....

To

.....

This is to state that to the best of our knowledge and information, Mr. / Ms. / M/s a customer of our Bank is respectable and can be treated as good up to a sum of Rs..... (Rupees in words).

It is clarified that this information is furnished without any risk and responsibility on our part in any respect whatsoever more particularly either as guarantor or otherwise. This certificate is issued at the specific request of the customer.

Signature of Bank Manager _____

Name of the Bank Manager _____

Address of the Bank -----

Stamp of the Bank

Place:

Date:

Note:

- (i) Certificate should be on the letter head of the bank and to be signed by Bank Manager/ Senior Bank Manager.
- (ii) In case of partnership firm, the certificate shall include name of all the partners as recorded with Bank.

TECH FORM – 5: CURRENT CONTRACT COMMITMENTS / WORKS IN HAND

Bidder (or each JV partner) should provide information indicated below in order to calculate the aggregated financial resources requirement, which 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.

| Description of Work | Place & State | Contract No. & Date | Name and Address of Employer | Value of Contract (Rs. lakhs) | Stipulated period of completion | Value of works remaining to be completed (Rs. lakhs) | Anticipated date of completion |
|---------------------|---------------|---------------------|------------------------------|-------------------------------|---------------------------------|--|--------------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | | | | | | |

TECH FORM – 6: BIDDING CAPACITY INFORMATION & DECLARATION

(To be submitted by bidder through affidavit)

Bidders (JV put together) who meet the minimum qualification criteria will be qualified only if their available bid capacity for construction work is equal to or more than the total bid value. The available bid capacity will be calculated as under:

$$\text{Assessed Available Bid capacity} = (A \cdot N \cdot M - B)$$

Where,

A = Maximum value of civil engineering works executed in any one year during the last seven years (updated to the price level of the last year at the rate of 8 percent a year) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited (period up to 6 months to be taken as half-year and more than 6 months as one year). $M = 2.5$

B = Value, at the current price level, of existing commitments and on-going works to be completed during the period of completion of the works for which bids are invited.

Note:

- i. The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.
- ii. In the case of a JV or Consortium or Association, the above formula will be applied to each member to the extent of the proposed participation in the JV or Consortium or Association. If the proposed % participation is not mentioned, then equal participation will be assumed.

Example for calculation of bid capacity in case of JV or Consortium or Association

Suppose there are 'P' and 'Q' members of the JV or Consortium or Association with their participation as 70% and 30% respectively and available bid capacity of these members as per above formula individually works out 'X' and 'Y' respectively, then Bid Capacity of the JV or Consortium or Association shall be as under:

$$\text{Bid Capacity of the JV or Consortium or Association} = 0.7X + 0.3Y$$

TECH FORM – 7: BIDDER’S EXPERIENCE IN SIMILAR WORKS

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

| General Construction Experience | | | | |
|---------------------------------|-------------------|-------|--|----------------|
| Starting Month Year | Ending Month Year | Years | Contract Identification and Name; Name and Address of Employer; and Brief Description of the Works Executed by the Bidder (including value of works) | Role of Bidder |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TECH FORM – 7(A): DETAILS OF EACH OF THE SIMILAR WORK

(List projects in the last Ten years which are similar to that in the RFP)

[The following information should be provided in the format below for each reference assignment for which your firm, either individually as a corporate entity or as one of the major companies within a consortium, was legally contracted by the Employer stated below.]

| | |
|---|---|
| Name of the Project: | Approx. value of the contract (in current `): |
| Country: Location within country: | Duration of contract (months): |
| Name of Client: | |
| Address: | |
| Start date (month/year): Completion date (month/year): | |
| Name of joint venture partner or associated partner if any: | |
| Name of senior regular full-time employees of the firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader): | |
| Narrative description of Project: | |
| Description of actual services* provided in the Contract: | |

Firm's Name: __

Signature of Authorized Representative:

Note:

- Copy of Work Order/Agreement, Completion Certificate in support of above experience shall be furnished by the Bidder.
- Details of only "completed" works as defined at Clause 4 of the ITB shall be furnished by the Bidder.

TECH FORM – 8A: SITE ORGANIZATION

(Bidder shall insert the Site Organization information)

The Bidder shall supply a table of personnel and a chart showing the proposed organization to be established for (i) carrying out the construction works during all phases of works included under this Contract package like mobilization; preparation of Service Improvement Plan; design, drawing, construction and commissioning separately.

TECH FORM – 8B: APPROACH & METHODOLOGY

(Bidder shall insert the Approach & Methodology complying to the following)

1. The bidder is required to submit Approach and Method Statement for carrying out all the activities under this project.
2. The activities for methodology shall also include following:
 - a. Bidder's assessment of site(s), availability of construction materials, labour, etc.
 - b. Surveys/Investigations, if required,
 - c. Preparation of phasing of works,
 - d. Construction Methodology for various works,
 - e. Implementation schedule as per scope of works:
 - f. Proposed Safety Plan / safety measures to be put in place,
 - g. Proposed mechanism to protect environment,
 - h. Any other activities

TECH FORM – 8C: MOBILIZATION SCHEDULE

(Bidder shall insert the Mobilization Schedule)

The Bidder shall submit mobilization and de-mobilization schedule of personnel and equipment in detail for all phases of works. The mobilization schedule should include mobilization of skilled and unskilled manpower, different machineries and equipment, materials, as required in each Phase.

TECH FORM – 8D: WORK PLAN AND CONSTRUCTION SCHEDULE

(Bidder shall insert the Work plan and Construction Schedule)

The Contractors will submit detailed work plan as part of technical bid covering all sections of work to achieve sectional and full work key milestones as shown in Employer's Requirement

The Bidder shall prepare and submit overall construction schedule. The construction schedule shall be designed and documented in a series of tasks and task assignments complete with projected completion target dates with the aid of computer operated management software like Microsoft project office, Primavera or latest by using Gantt charts and PERT diagrams to allow all actors to know their contribution towards fulfilling the Employer's Requirement.

TECH FORM – 8E: EQUIPMENT

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Clause 4.4.3(a) of ITB. 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 | Model and power rating |
| | Capacity | 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 | |

Please provide the following additional information in case of equipment proposed to be taken on rent or lease:

| | | |
|------------|--|------------------------|
| 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 | |
| | | |
| | | |

Note: For owned equipment, copy of bills/invoices are to be furnished (only owned equipment are to be given marks during evaluation of Bids).

| Item of Equipment | Requirement | | | Owned and available | | Remarks |
|-------------------|-------------|----------|-------|---------------------|----------------|---------|
| | No. | Capacity | Owned | Number/ Capacity | Age/ Condition | |
| | | | | | | |

TECH FORM – 8F: PERSONNEL

Bidders should provide the names of suitably qualified personnel to meet the specified requirements stated in Clause 4.4.3 (b) if ITB. The data on their experience should be supplied using the Form 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 |
| 7. | Title of position* |
| | Name |

TECH FORM – 8F(i): RESUME OF PROPOSED PERSONNEL

1. Proposed Position:

2. Name of Firm:

3. Name of Staff:

4. Date of Birth:

5. Nationality:

6. Education:

[Indicate college/university and other specialized education of staff member, giving names of institutions, degrees obtained, and dates of obtainment]:

7. Other Training:

8. Languages [For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing]:

9. Employment Record:

[Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.]:

From [Year]: To Year]:

Employer:

Positions held:

10. Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned

[Among the Assignment/jobs in which the staff has been involved, indicate the following information for those Assignment/jobs that best illustrate staff capability to handle the tasks listed under point 12.]

Name of Assignment/job or project:

Year:

Location:

Employer:

Main project features:

Positions held: Activities

performed:

11. Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Date:

[Signature of staff member or authorized representative of the staff]

Place:

[Full name of authorized representative]

TECH FORM – 9: PENDING LITIGATIONS

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

| Pending Litigation | | | |
|---|--------------------------|--------------------------------------|--|
| No pending litigation and arbitration in accordance with Clause 4.2(j) of ITB. | | | |
| or | | | |
| Below is the description of all Pending litigation and arbitration involving the bidder (or each JV member if Bidder is a JV member) in accordance with Clause 4.2(j) of ITB | | | |
| Year & Client | Matter in Dispute | Value of Pending Claim in INR | Value of Pending Claim as a Percentage of Net Worth |
| | | | |
| | | | |
| | | | |
| | | | |

TECH FORM – 10: FORMAT FOR DECLARATION BY THE BIDDER FOR NOT BEING BLACKLISTED / DEBARRED

(To be submitted on the Letterhead of the Bidder)

(To be provided by Lead bidder and all members of Consortium in separate letters)

Date: dd/mm/yyyy

To

Subject: Declaration for not being debarred / black-listed by any Ministry/Department/Agency of Central Government/any State Government/any Union Territory or PSU or Local Body in India as on the date of submission of the bid

RFP Reference No: XX

Dear Sir,

I, authorized representative of _____, hereby solemnly confirm that the Company _____ is not debarred / black-listed by any Central/State Government/ PSU entity in India or similar agencies globally for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices or for any other reason as on last date of submission of the Bid. In the event of any deviation from the factual information/ declaration, SSCL reserves the right to reject the Bid or terminate the Contract without any compensation to the Company.

Thanking you,

Yours faithfully,

Signature of Authorized Signatory (with official seal)

Date:

Name:

Designation:

Address:

Telephone & Fax:

E-mail address:

TECH FORM – 11: INTEGRITY PACT

To

The Chief Executive Officer,
Shillong Smart City Limited (SSCL)
Shillong, Meghalaya.

Sub: Submission of Tender for the work of _____
[name of the work]

Dear Sir,

I/We acknowledge that Shillong Smart City Limited (SSCL) is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed Integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by SSCL. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, SSCL shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/ bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

To be signed by the bidder and signatory competent / authorized to sign the relevant contract on behalf of SSCL

INTEGRITY AGREEMENT

This Integrity Agreement is made at..... on this day of..... 20

BETWEEN

Shillong Smart City Limited (SSCL) represented through the Chief Executive Officer, (Hereinafter referred as the '**Principal/Owner**', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

..... (Name and Address of the Individual/firm/Company) through (Details of duly authorized signatory) (Hereinafter referred to as the "**Bidder/Contractor**" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender (Tender No) (Hereinafter referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, contract for (Name of work) hereinafter referred to as the "Contract".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relationship with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

Article 1: Commitment of the Principal/Owner

- (1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- (2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer of Meghalaya and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

- (1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government /Department all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- (2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
 - e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- (3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- (4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.
- (5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

- (1) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the Contractor shall

have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or Terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.

- (2) Forfeiture of EMD/Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit¹¹, Performance Guarantee and Security Deposit of the Bidder/Contractor.
- (3) Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- (1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- (2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- (3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Sub-Contractors

- (1) The Bidder(s)/Contractor(s) undertake(s) to demand from all sub-Contractors, if applicable, a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-Contractors/sub-vendors.
- (2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- (3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/ Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, CPWD.

Article 7- Other Provisions

- (1) This Pact is subject to Indian Law, place of performance and jurisdiction is Shillong, Meghalaya.
- (2) Changes and supplements need to be made in writing. Side agreements have not been made.

¹¹ If applicable

- (3) If the Contractor is a Joint Venture or Consortium or Association, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- (4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- (5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

(For and on behalf of Principal/Owner)

(For and on behalf of Bidder/Contractor)

WITNESSES:

1
(signature, name, and address)

2
(signature, name and address)

Place:

Dated

TECH FORM – 12: CERTIFICATE FROM THE BIDDERS REGARDING COMPLIANCE

Format for Certification in accordance with Clause 3 of the ITB

Certificate

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority¹². I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered. *[Where applicable, evidence of valid registration by the Competent Authority shall be attached]*

¹² For the purpose of this registration, Competent Authority is as defined in the Office Memorandum No. F.No.6/18/2019-PPD dated 23rd July, 2020 of the Public Procurement Division, Department of Expenditure, Ministry of Finance, Govt. of India.

FIN FORM – 1: LETTER OF FINANCIAL BID

[to be submitted in Financial Bid Envelope]

Dated:

To,

The Chief Executive Officer,
Shillong Smart City Limited (SSCL)

We, the undersigned, declare that:

Name of Work: _____

I/We hereby bid for the execution of the above work within the time specified at the **rate (in figures)** _____ **(in words)** _____ **percent** _____ **at par/ above** the total estimated cost, as given in the Bill of Quantities of this bidding document and in accordance with the specifications, designs, drawings and instructions in writing in all respects in accordance with such conditions so far as applicable. I/We have visited the site of work and am/are fully aware of all the difficulties and conditions likely to affect carrying out the work. I/We have fully acquainted myself/ourselves about the conditions in regard to accessibility of site and quarries/kilns, nature and the extent of ground, working conditions including stacking of materials, installation of tools and plant conditions effecting accommodation and movement of labour etc. required for the satisfactory execution of contract.

The signed copy of Bill of Quantities (BoQ) as per Section 8 of RFP is enclosed with this letter.

Should this bid be accepted, I/We hereby agree to abide by and fulfil all the terms and provisions of the said conditions of contract annexed- hereto so far as applicable, or in default thereof to forfeit and pay to the Shillong Smart City Limited or his successors in office the sums of money mentioned in the said conditions.

- a. We have examined and have no reservations to the Bidding Documents, including Addenda and Corrigenda issued,
- b. We offer to execute in conformity with the Bidding Documents and the Technical Bid submitted for the following Works: _____
[name of the work]
- c. Our Bid shall be valid for a period of 180 days from the date fixed for the bid submission deadline, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- d. If our Bid is accepted, we commit to furnish Performance Security in accordance with the Bidding Document.
- e. 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
- f. 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

Note:

- i. The bidder shall quote only one rate of percentage at par/above the total estimated cost as given in the Bill of Quantities of this bidding document current. For removal of doubt, Bidders will be required to quote percentage “at par” or “above” Project estimated cost as per BoQ.*
- ii. Percentage shall be quoted in figures as well as in words. If any difference in figures and words is found lower of the two shall be taken as valid and correct rate. If the bidder is not ready to accept such valid and correct rate and declines to furnish performance security and sign the agreement, he may be suspended by the Employer in accordance with the Bidding Document.*

SECTION 8: BILL OF QUANTITIES

A. Preamble to Bill of Quantities

1. The Bill of Quantities (BOQ) shall be read in conjunction with the Instructions to Bidders, General and Particular Conditions of Contract, Specifications, and Drawings.
2. The quantities given in the BOQ are estimated and provisional and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Employer's Representative and valued at the rates and prices bid in the priced BOQ, where applicable, and otherwise at such rates and prices as the Employer's Representative may fix within the terms of the Contract.
3. Description of items is given briefly and is linked with relevant clauses & sections of Technical Specifications (CPWD, whichever is applicable) specified in this Bidding Document. For detailed description, provisions and interpretation, the Technical Specifications are to be referred. In case of any discrepancy between the description given in the BoQ and that given in the Technical Specifications, the one given in the Technical Specifications will prevail.
4. The rates and prices bid in the priced Bill of Quantities shall, except as otherwise provided under the Contract, include all construction equipment, labour, supervision, materials, surveying, setting out, erection, maintenance, insurance, profit, taxes (including GST), and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
5. General directions and descriptions of work and Materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
6. The method of execution and measurement of completed work for payment shall be in accordance to the respective procedures provided in the Technical Specifications or Particular Specifications under this Contract and in the absence of which shall be in accordance to the relevant BIS Standard and Standard Specification of the State of Meghalaya or Standard Specification published by the Central Public Works Department, Government of India as the case may be.
7. Rock is defined as all material that, in the opinion of the Employer's Representative, require blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for their removal, and that cannot be extracted by ripping with a tractor of at least 150 brake horsepower (BHP) with a single, rear-mounted, heavy-duty ripper.
8. All defective works are liable to be demolished, rebuilt and defective materials replaced by the Contractor at his own cost and time.
9. In view of the site location and their prevailing condition, it is mandatory to the Contractor to visit the site and make himself thoroughly familiar with the site conditions, access and account for all possible difficulties and other requirements mentioned elsewhere in his bid prior to submission. When a Contractor submits his bid for this work, it will be considered that he has quoted for this

work with full and complete knowledge of the site and prevailing conditions, and no claim for additional compensation shall be entertained on this account.

10. The Bidder shall, in the course of studying the bid document, point out all his/her remarks on the documents and make all his/her queries to the Employer who will study these remarks and clarify any discrepancy between the Bidding Documents.
11. Submissions shall be strictly in accordance with the documents and shall not be qualified in any way. The Bidder shall not alter the text of the BOQ.
12. Extra and excess items of work shall not vitiate the Contract. The Contractor shall be bound to execute extra items of work as directed by the Engineer. The rates for extra items will be as per rates decided under Contract Conditions.
13. The Bidder shall satisfy himself/herself as to the meaning of every item in the BOQ. The rates and prices inserted in the BOQ by the bidder shall be deemed to cover all costs, taxes (including GST), customs and import duties, levies, profits, risks, liabilities, insurance and obligations set forth or implied in the bid including, but not limited to the following:
 - i. All labour and Materials including consumables.
 - ii. All temporary work of every description required including over ground pumping and other requirements to avoid disruption to the service whilst maintenance or repair work is carried out.
 - iii. The provision and use of all equipment, tools and Plant of every kind, whether mechanical or non-mechanical, required for the expeditious carrying out of the Works in their proper sequence,
 - iv. Provision for scaffolding, staging, guard rails, temporary stairs, temporary access during execution, approach roads up to the Site for the movement of vehicles, and heavy excavation machinery with supporting transport facility,
 - v. Provision for excavation, back-filling, bringing to the Site extra fill for back-fill, making good and reinstating surfaces, disposing of surplus material, dealing with all ground water and wastewater flows, and for work in close proximity to other utility apparatus including protecting that apparatus;
 - vi. Provision for work on corridors such as traffic control measures, safety barriers, obtaining any approvals and permits from authorities, and reinstatement of surfaces,
 - vii. Cooperation and coordination of the work with related authorities, other Contractors, and utilities, including obtaining their permission before starting the related Works if required; and
 - viii. Providing security arrangements to guard the Site and premises always and to maintain strict control on the movement of Materials and labour until the completion of the work.
14. All dismantled materials shall become the property of the Employer. The contractor will hand over the same to the designated store of the Employer as directed by the Engineer (dismantling

charges and transportation charges shall be borne by the contractor and no payment shall be made to the Contractor in this regard unless this item is included in the BOQ), for which contractor should consider or include the salvage value in the rates quoted. The materials recovered from cutting of hard rock / rock or roadway may be used by the Contractor, if found of the allowable quality, for the different works to be carried out as per bills of quantities, after approval of the Engineer. The Contractor has to deposit the required royalty / taxes with the concerned department for the quantity used in the works and as certified by the Engineer. Bidders are advised to take it into account and quote the rates and prices accordingly.

15. Works itemized in the BOQ will be subject to measurement. Such measurement will be in the unit of measurement shown the BOQ and payment shall be made on the measured quantities.
16. All rules and regulations of the labour department, contract labour Laws, provident fund and employee state insurance and connected Laws, and all other Laws of the land are to be complied with by the Bidder within the quoted rates.
17. Contractor shall make arrangements for required space for construction of, office and stores at suitable locations. No land will be provided by the Employer to the Contractor for constructing any structure for his labour, workman and supervisory camps, un-authorized hutments, at the Site or within the premises. The Contractor shall make his/her own arrangements for the same outside the premises/boundary. These, if any, shall be with the knowledge of and prior approval of the Employer's Representative.

B. Metric System and Abbreviations

- a. Millilitre -ml
- b. Million Litres per Day- mld
- c. Million Litre -ML
- d. Litre- ltr
- e. Linear meter -m
- f. Gram -gm
- g. Square metre – Sq.m. /m²
- h. Cubic metre -Cu.m / m³
- i. Number- No.
- j. Kilogram- kg
- k. Lump Sum- LS
- l. Indian Rupees -Rs
- m. Millimetre -mm
- n. Square Centimetre- Sqcm / cm²
- o. Square Millimetre -Sqmm / mm²

C. Bill Of Quantities (BoQs)

C.1 SUMMARY OF ESTIMATE

| Sl.No. | Description of Work | Amount (In Rs.) |
|--|-------------------------------------|-------------------------|
| Name of Work: RETROFITTING AND UPGRADATION OF 3 MULTI-LEVEL PARKING AT VARIOUS LOCATIONS IN SHILLONG AS PART OF SHILLONG SMART CITY PROJECT. It includes retrofitting of selected structural members, upgradation (repair works) of existing Multi-level Parking Buildings at a) Khlieh Iew, b) Mowlonghat and c) Anjalee, and Construction of 3 (three) additional floors at Khlieh Iew Parking). | | |
| 1 | Civil Works | 38,36,41,493.00 |
| 2 | Electrical Works | 3,32,07,080.00 |
| 3 | Fire System Works | 1,40,41,654.00 |
| 4 | IT, SURVEILLIANCE AND MGMT. SYSTEMS | 2,90,89,022.00 |
| Total Costs | | 45,99,74,249.00 |
| Say | | Rs. 46.00 Crores |

Note:

- a) Bidders will be required to quote percentage “at par” or “above” this cost.
- b) The above estimates are inclusive of GST.
- c) For SOR items:
 - i. For Civil Works, estimated cost is as per PWD(Buildings) Schedule of Rates (2021-22) and PWD SOR (2015-16), PWD (Roads) SOR 2020-21 for scheduled items
 - ii. For Electrical Works, estimates are based on the MEGHALAYA PUBLIC WORKS Department (Buildings) Electrical Division SOR 2021-22 and CPWD 2018.
 - iii. For Fire Works, estimates are based on the MEGHALAYA PUBLIC WORKS Department (Buildings) Electrical Division SOR 2021-22.
- d) NSR Items, estimates are as per market analysis in Jan 2022.

C.2 ITEM WISE ESTIMATES

C. 2.1 Bill of Quantities (Part-1 of 4: Civil Works: Retrofitting & upgradation of 3 MLPs & additional 3 floor construction at Khlieh lew Parking)

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| | | | Scaffolding Arrangement | | | | |
| 1 | 29.2 | | Providing and fixing double scaffolding system (cup lock type) on the exterior side of building/structure, up to 25 metre height, above ground level, including additional rows of scaffolding in stepped manner as per requirement of site, made with 40mm dia M.S. tube, placed 1.5 metre centre to centre, horizontal & vertical tubes joint with cup & lock system with M.S. Tubes, M.S. tube chalis, M.S. clamps and staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for execution of work of cleaning and/ or pointing and/ or applying chemical and removing it thereafter. The scaffolding system shall be stiffened with bracings, runners, connecting with the building etc, wherever required, if feasible, for inspection of work at required locations with essential safety features for the workmen etc., complete as per directions and approval of Engineer-in-charge. | sqm | 31,450 | 278 | 87,43,100 |
| | | | Providing temporary protective screens | | | | |
| 2 | 31.3 | | Providing, erecting, maintaining and removing temporary protective screens made out of specified fabric with all necessary fixing arrangement to ensure that it remains in position for the work duration as required by the Engineer-in-charge. | | | | |
| | | | Woven PVC cloth | sqm | 7,183 | 50 | 3,59,150 |
| | | | Grouting | | | | |
| | | | Cleaning the Surface | | | | |
| 3 | 29.3 | | Cleaning the sand stone surface and removing dirt, dust, bird dropping, grease, oil, algae, fungus, monkey beats, vegetable growth etc., including providing, applying and washing the surface with liquid Ammonia Chemical of 5% solution and other chemical cleaning agent as approved by Archaeological Survey of India/ Engineer- n-charge, of approved brand and manufacturer, with the help of required scrubbers and also cleaning with machine operated water jet mixed with desired | sqm | 5,123 | 121 | 6,19,883 |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| | | | quantity of fine silica where ever required, without causing any scratching/ damage to the stone surface and finally washing the surface with clean water with the help of pressure jet machine, complete in all respect, including taking all precautions to safeguard ventilators, windows, doors etc. by suitable covering so as to avoid any damage to the building / structure, all as per direction of Engineering-charge (The rate is inclusive of all materials & labours involved except scaffolding). | | | | |
| | | | Injection Grouting | | | | |
| 4 | 31.25 | | Drilling suitable holes in reinforced or plain cement concrete with power driven drill machine to a minimum depth of 100mm up to 200mm in RCC beams, lintels, columns and slabs to introduce steel bars for sunshades/balconies including fixing the steel bars in position using epoxy resin anchor grout of approved make but excluding the cost of reinforcement, all complete as per direction of Engineer-In-Charge. Up to and including 12mm dia. | each | 18,570 | 99 | 18,38,430 |
| | | | Injection adhesive chemical in honey comb area and along crack line | | | | |
| 5 | 31.34 | | Providing and inserting 12mm dia galvanised steel injection nipple in honey comb area and along crack line including drilling of holes of required diameter (20mm to 30mm) up to depth from 30mm to 80mm at required spacing and making the hole & crack dust free by blowing compressed air, sealing the distance between injection nipple with adhesive chemical of approved make and allow it to cure complete as per direction of Engineer-In-Charge. | each | 3,814 | 182 | 6,94,148 |
| 6 | 31.3 | | Providing and injecting approved grout in proportion recommended by the manufacturer into cracks/honey-comb area of concrete/ masonry by suitable gun/pump at required pressure including cutting of nipples after curing etc. complete as per directions of Engineer-in- Charge. Epoxy injection grout in concrete/RCC work of approved make | kg | 5,670 | 838 | 47,51,460 |
| | c | | | | | | |
| | | | Jacketing and Micro Concreting | | | | |
| | | | Cleaning Concrete surface | | | | |
| 7 | 31.2 | | Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power-driven | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|---------|----------------|-------------------------|-----------------|
| | | | percussion type or of approved make including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts all complete as per direction of Engineer-In-Charge | | | | |
| 7.1 | b | | 50mm average thickness | Sqm | 1,603 | 191 | 3,06,173 |
| 7.2 | c | | 25mm average thickness | Sqm | 30,182 | 96 | 28,97,472 |
| | | | Cleaning Reinforcement | | | | |
| 8 | 31.24 | | Cleaning of reinforcement from rust from the reinforcing bars to give it a total rust-free steel surface by using alkaline chemical rust remover of approved make with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry, all complete as per direction of Engineer-In-charge. | | | | |
| | | | Bars above 12 mm diameter | m | 6,440 | 12 | 77,280 |
| 9 | 31.26 | | Providing, mixing and applying bonding coat of approved adhesive on chipped portion of RCC as per specifications and direction of Engineer-In-charge complete in all respect. | | | | |
| | b | | Epoxy bonding adhesive having coverage 2.20 sqm/kg of approved make | Sqm | 31,785 | 422 | 1,34,13,270 |
| | | | REINFORCEMENT | | | | |
| 10 | 6.11 | | Supplying fitting and fixing in position reinforcement bars up to 1 st 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 bending with 20 G 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 measurement for the same required). | | | | |
| | c | | Thermo Mechanically Treated bars | Quintal | 6,235 | 11,688 | 7,28,74,680 |
| 11 | 6.12 | | Extra over item 6.11 (a, b, c) above for each subsequent floor or part thereof above first floor level | Quintal | 6,235 | 147 | 9,16,545 |
| | | | SHUTTERING/FORM WORK | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| 12 | | | Centering and shuttering including strutting, propping etc. and removal of form for all heights complete and as directed by engineer in charge | | | | |
| 12.1 | 4.1 | | Foundations, footings, bases of columns, etc. for mass concrete (using steel). | Sqm | 450 | 266 | 1,19,700 |
| 12.2 | 4.2 | | Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.(using steel). | Sqm | 1,172 | 519 | 6,08,268 |
| 12.3 | 4.3 | | Slab, floors, roofs, landings, balconies and access platform shelves (using steel). | Sqm | 11,570 | 616 | 71,27,120 |
| 12.4 | 4.4 | | Lintels, beams, plinth beams, girders, bressummers and cantilevers (using steel). | Sqm | 5,148 | 515 | 26,51,220 |
| 12.5 | 4.5 | | Columns, Pillars, Piers, Abutments, Posts and Struts (using steel). | Sqm | 2,816 | 646 | 18,19,136 |
| 12.6 | 4.6 | | Stairs/Spiral staircases (excluding landings) (using timber). | Sqm | 255 | 650 | 1,65,750 |
| 12.7 | 4.11 | | Extra for shuttering in circular work (using timber). | Sqm | 100 | 184 | 18,400 |
| 12.8 | 4.12 | | Edges of slabs and breaks in floors and walls (using timber). | | - | - | |
| | | | Under 20 cm wide | Sqm | 408 | 178 | 72,624 |
| 12.9 | 4.17 | | Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured). | | | - | |
| | | | Suspended floors, roofs, landing, beams and balconies (Plan area to be measured) | Sqm | 10,132 | 236 | 23,91,152 |
| | | | | | | | |
| | | | Micro-Concrete | | | | |
| 13 | 33.13 (SOR 2015-16) | | Repairing of spalled concrete in slabs/ chajjas etc. by the following processes as specified and directed by the department complete at all levels: | | | | |
| | (e) | | Applying cement sand mortar/ concrete/ | | | | |
| | | | Applying and placing cementitious micro-concrete Renderoc RG/Emaco S46T of BASF after proper mixing with clean water after erection of formwork followed by proper curing for minimum 28 days (Formwork to be measured and paid separately). | Cum | 82.5 | 1,20,819 | 99,67,568 |
| | | | | | | | |
| 14 | | | REINFORCED CEMENT CONCRETE | | | | |
| | 6.7 | | Providing and laying in position machine batched and machine design mix M25 grade cement concrete for reinforced cement concrete work; using cement of concrete as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including | Cum | 4,554 | 11,079 | 5,04,53,766 |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD- DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|----------------|--|------|----------------|-------------------------|-----------------|
| | | | admixtures in recommended proportions as per IS: 9103 to accelerate retard setting of concrete, improve workability without impairing strength and durability as per direction of the engineer-in-charge; | | | | |
| | | | Providing wire fabric mesh to the concrete surface | | | | |
| 15 | 31.35 | | Providing and fixing hard drawn steel wire fabric of size 75 x25 mm mesh or other suitable size wire mesh to be fixed & firmly anchored to the concrete surface by means of "L" shaped mild steel shear key welded with existing reinforcement including the cost of materials, labour, tool & plants as approved by Engineer-in-charge. | Sqm | 16,187 | 795 | 1,28,68,665 |
| | | | Cladding Work | | | | |
| 16 | 9.8 | | Stone tile (Polished) work for wall lining over 12mm thick bed of cement mortar 1:3 (1 Cement: 3 Coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete. 8mm Thick | | | | |
| | b | | Granite of any colour and shade | Sqm | 2,046 | 2,867 | 58,65,882 |
| | | | Providing edge moulding to 18 mm thick marble stone counters, Vanities etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge. | | | | |
| 17 | 9.2 | | Granite work | m | 1,314 | 305 | 4,00,770 |
| | | | Providing polished VITRIFIED wall tiles of approved quality, size, shape, and thickness not less than 8mm on wall and skirting over cement mortar bed 10mm thick in prop 1:3 (1 cement : 3 coarse sand) including cutting where necessary finished with flush pointing with adhesive or white cement slurry mixed with approved pigment to match shade of tiles complete at all levels as specified and directed. | | | | |
| 18 | 9.27 | | Premium range | Sqm | 2,233 | 1,843 | 41,15,419 |
| | | | Flooring | | | | |
| 19 | 12.41 | | Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete. | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| | b | | Size of Tile 600x600 mm | Sqm | 8,422 | 1,623 | 1,36,68,906 |
| 20 | 12.32 | | Kota stone slab 20mm thick in risers of steps, skirting, dado and pillars laid on 12mm (average) thick cement mortar 1:3 (1 Cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete. | Sqm | 498 | 2,448 | 12,19,104 |
| | | | Plastering | | | | |
| 21 | 15.1 | | Cement Plaster (In Fine Sand) | | | | |
| | a | | 12 mm cement plaster of mix: 1:4 (1 cement: 4 fine sand) | Sqm | 40,691 | 257 | 1,04,57,587 |
| 22 | 15.3 | | 20 mm cement plaster of mix: | | | | |
| | a | | 1:4 (1 cement: 4 fine sand) | Sqm | 11,827 | 294 | 34,77,138 |
| | | | Painting | | | | |
| 23 | 16.1 | | Surface Preparation | | | | |
| | a | | Removing existing white or colour wash on wall surface by steel wire brushing and/or scrapping and sand papering and preparing the surface smooth including necessary repairs to scratches complete | Sqm | 65,308 | 29 | 18,93,932 |
| 24 | 16.2 | | Providing and applying plaster of Paris putty of 2mm thickness over the plastered surface to prepare the surface even and smooth complete. | Sqm | 63,533 | 181 | 1,14,99,473 |
| 25 | 16.7 | | Distempering with dry distemper bound of approved brand and manufacture (one or more coat) and of required shade on old work to give an even shade | Sqm | 64,598 | 47 | 30,36,106 |
| 26 | 16.16 | | Finishing walls with Acrylic Smooth exterior paint of required shade: including scaffolding | | | | |
| | b | | Old work (Two or more coat applied @ 1.67 litre/ 10 sqm) on existing cement paint surface | Sqm | 12,501 | 95 | 11,87,595 |
| 27 | 16.21 | | Wall painting with Premium Acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams / litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour. | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|--|------|----------------|-------------------------|-----------------|
| | | | New work (two coats) | Sqm | 55,459 | 101 | 56,01,359 |
| | | | Dismantling and Demolishing | | | | |
| 28 | 18.2 | | Demolishing R.C.C. work including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge. | cum | 354 | 1,699 | 6,01,446 |
| 29 | 18.5 | | Demolishing brick work including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in- charge. | cum | 342 | 982 | 3,35,844 |
| 30 | 18.1 | | Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead: | each | 87 | 276 | 24,012 |
| 31 | 18.20 | | Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead. For thickness of tiles 10 mm to 25 mm | Sqm | 630 | 40 | 25,200 |
| 32 | 18.21 | | Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 meters lead. | Sqm | 307 | 128 | 39,296 |
| 33 | 18.32 | | Dismantling C.I. pipes including excavation and refilling trenches after taking out the pipes, manually/ by mechanical means breaking lead caulked joints, melting of lead and making into blocks including stacking of pipes & lead at site within 50 metre lead as per direction of Engineer-in-charge: Up to 150 mm diameter | Rm | 440 | 244 | 1,07,360 |
| 34 | 18.30 | | Dismantling C.I. or asbestos rain water pipe with fittings and clamps including stacking the material within 50 metres lead: | | | | |
| 34.1 | a | | 75 to 80 mm dia pipe | Rm | 224 | 36 | 8,064 |
| 34.2 | b | | 100 mm dia pipe | Rm | 362 | 37 | 13,394 |
| 34.3 | c | | 150 mm dia pipe | Rm | 454 | 38 | 17,252 |
| 35 | 18.31 | | Dismantling G.I pipes (external work) including excavation and refilling trenches after taking out the pipes including stacking of pipes within 50m lead as per direction of engineer in-charge: | | | | |

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|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| 35.1 | a | | 15 mm to 40mm nominal size | Rm | 360 | 78 | 28,080 |
| 35.2 | b | | Above 40mm nominal bore | Rm | 240 | 92 | 22,080 |
| 36 | 18.34 | | Dismantling of flushing cistern of all types (C.I./PVC/Vitreous China) including stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead. | each | 42 | 545 | 22,890 |
| 37 | 18.35 | | Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead. | Sqm | 45,921 | 27 | 12,39,867 |
| | | | Sanitary Installation | | | | |
| 38 | 20.1 | | Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS: 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: | | | | |
| | a | | White Vitreous China Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests | each | 100 | 5,322 | 5,32,200 |
| 39 | 20.4 | | Providing and fixing white vitreous China flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required: | | | | |
| | b | | Range of two urinal basins with 5 litre white P.V.C. automatic flushing cistern | each | 39 | 7,288 | 2,84,232 |
| 40 | 20.7 | | Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: | | | | |
| | a | | White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps | each | 57 | 3,053 | 1,74,021 |
| | | | Water supply | | | | |

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|--------|--|---------------|--|------|----------------|-------------------------|-----------------|
| 41 | 21.8 | | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. | | | | |
| | | | Internal work - Exposed on wall | | | | |
| 41.1 | | | 15 mm nominal diameter Pipes | Rm | 205 | 246 | 50,430 |
| 41.2 | | | 20 mm nominal diameter Pipes | Rm | 280 | 322 | 90,160 |
| 41.3 | | | 25 mm nominal diameter Pipes | Rm | 390 | 427 | 1,66,530 |
| 41.4 | | | 32 mm nominal diameter Pipes | Rm | 280 | 618 | 1,73,040 |
| 42 | 21.16 | | Providing and fixing brass bib cock of approved quality: | | | | |
| 42.1 | a | | 15 mm nominal bore | each | 125 | 328 | 41,000 |
| 42.2 | b | | 20 mm nominal bore | each | 120 | 354 | 42,480 |
| 43 | 21.18 | | Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) : | | | | |
| 43.1 | a | | 25 mm nominal bore | each | 16 | 536 | 8,576 |
| 43.2 | b | | 20 mm nominal bore | each | 14 | 546 | 7,644 |
| 43.3 | c | | 32 mm nominal bore | each | 14 | 626 | 8,764 |
| 44 | 21.31 | | Constructing masonry Chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement :4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design : | | | | |
| | a | | With common burnt clay F.P.S. (non modular) bricks of class designation 7.5 | each | 19 | 2,117 | 40,223 |
| | | | Windows and Doors works | | | | |
| 45 | 28.1 | | Providing and fixing factory made uPVC door frame made of uPVC extruded sections having an overall dimension as below (tolerance ±1mm), with wall thickness 2.0 mm (± 0.2 mm), corners of the door | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| | | | frame to be Jointed with galvanized brackets and stainless steel screws, joints mitred and Plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19 mm and 1mm (± 0.1 mm) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturer's specification and direction of Engineering-charge | | | | |
| | b | | Extruded section profile size 42x50 mm | Rm | 995 | 268 | 2,66,660 |
| 46 | 28.4 | | Providing and fixing factory made panel PVC door shutter consisting of frame made out of M.S. tubes of 19-gauge thickness and size of 19 mm x 19 mm for styles and 15x15 mm for top & bottom rails. M.S. frame shall have a coat of steel primers of approved make and manufacture. M.S. frame covered with 5 mm thick heat moulded PVC 'C' channel of size 30 mm thickness, 70 mm width out of which 50 mm shall be flat and 20 mm shall be tapered in 45 degree angle on both side forming styles and 5 mm thick, 95 mm wide PVC sheet out of which 75mm shall be flat and 20 mm shall be tapered in 45 degree on the inner side to form top and bottom rail and 115 mm wide PVC sheet out of which 75 mm shall be flat and 20 mm shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided both side of the panel. 10 mm (5 mm x 2) thick, 20 mm wide cross PVC sheet be provided as gap insert for top rail & bottom rail, panelling of 5 mm thick both side PVC sheet to be fitted in the M.S. frame welded/ sealed to the styles & rails with 7 mm (5 mm+2 mm) thick x 15 mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive. An additional 5 mm thick PVC strip of 20 mm width is to be stuck on the interior side of the 'C' Channel using PVC solvent adhesive etc. complete as per direction of Engineer-in-charge, manufacturer's specification & drawing. | | | | |
| | | | 30 mm thick pre laminated PVC door shutters | Sqm | 330 | 2,489 | 8,21,370 |
| 47 | 28.9 | | Providing and fixing PVC rigid foam sheet 1 mm thick on existing door shutters (bathroom and W.C. doors) using synthetic rubber based adhesive. | Sqm | 173 | 1,142 | 1,97,566 |
| | | | Drainage | | | | |
| 48 | 22.27 | | Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement: 4 coarse sand) including | Sqm | 20 | 6,937 | 1,38,740 |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| | | | 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design: | | | | |
| | | | Water Proofing | | | | |
| 49 | 25.5 | | Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying: a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry. | Sqm | 2,275 | 374 | 8,50,850 |
| | | | Earthwork in Excavation | | | | |
| 50 | 2.1 | | Earth work in excavation by manual means up to a depth of 2m below the existing ground level for foundation trenches of foundations, footings of column/ walls, septic tank etc. including bailing out water where necessary and removal of surplus earth with all lead and lifts as directed and specified for the following classification of soils. | | | | |
| 50.1 | a | | All kinds of soil (ordinary soil / hard soil / dense soil) | cum | 1,650 | 226 | 3,72,900 |
| 50.2 | b | | In ordinary rock (soft rock / medium rock / hard shale) | cum | 1,450 | 439 | 6,36,550 |
| | | | Plain cement works | | | | |
| 51 | 5.1 | | Plain cement concrete works in foundation bed for footing steps, walls, brick works etc below plinth level as directed and specified including dewatering if necessary, and curing complete (shuttering where necessary shall be measured and paid separately) | | | | |
| | a | | 1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40 mm nominal size) | cum | 566 | 7,241 | 40,98,406 |
| | | | Stone work | | | | |
| 52 | 12.6 | | Filling Sunkun floor with broken brick bats/stone aggregates and sand including compacting and supplying of materials complete as specified and directed for all levels. | | | | |
| 52.1 | a) | | Brick bats | cum | 73 | 3,906 | 2,85,138 |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD- DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|----------------|---|------|----------------|-------------------------|-----------------|
| 52.2 | b) | | Stone aggregates | cum | 73 | 4,894 | 3,57,262 |
| 53 | 21.46 | | Providing and placing on Terrace (at all floor levels) polyethylene water storage tank, IS 12701 mark, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and over flow pipes but without fittings and the base support for tank. | | | | |
| | | | Per litre | each | 30,000 | 11 | 3,30,000 |
| 54 | 11.15 | | Steel Work welded in built up sections/ framed work including cutting, hoisting, fixing in positions and applying a priming coat of approved steel primer using structure steel etc as required. | | | | |
| | b) | | In gratings, frames, guard bar, ladder, railing, brackets, gates and similar works. | Kg | 810 | 136 | 1,10,160 |
| 55 | 11.16 | | Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer. | | | | |
| | c | | G.I. pipes | kg | 3,005 | 258 | 7,75,290 |
| 56 | 11.2 | | Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete. | | | | |
| | | | Truss 65 kg/m2 | kg | 5,22,600 | 130 | 6,79,38,000 |
| 57 | | DSR 2021, 8667 | UV stabilised 2 mm thick plain FRP sheet | Sqm | 10,032 | 477 | 47,85,264 |
| 58 | 7.3 | | Brick work in cement mortar with first class brick in superstructure above plinth level up to first floor level in all shape and sizes: | | | | |
| | a | | Cement mortar 1:4 (1 cement: 4 coarse sand) | cum | 1,223 | 11,581 | 1,41,63,563 |
| 59 | 7.4 | | Extra over item no 7.3 above for each subsequent floor or part thereof above the first floor level | cum | 1,223 | 637 | 7,79,051 |
| 60 | 16.22 | | Finishing with deluxe multi surface paint system for interiors and exterior using primer as per manufacture specifications, including scaffolding: | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| 60.1 | b | | Painting on wood work with deluxe multi surface paint of required shade. Two or more coats applied @ .90 ltr/10 sqm over an under coat of primer applied @ 0.75 ltr/10 sqm of approved brand and manufacture | Sqm | 251 | 123 | 30,873 |
| 60.2 | c | | Painting on steel work with deluxe multi surface paint of required shade. Two or more coats applied @ .90 ltr/10 sqm over an under coat of primer applied @ 0.80 ltr/10 sqm of approved brand and manufacture | Sqm | 10,569 | 123 | 12,99,987 |
| 61 | 13.7 | | Providing and fixing 15cm wide, 45 cm overall semi-circular plain G.S sheet gutter with iron brackets 40x3 mm size, bolts, nuts and washers, etc., including making necessary connections with rain water pipes complete. | | | | |
| | a | | 0.80 mm thick with zinc coating not less than 275 gm/sqm | Rm | 800 | 754 | 6,03,200 |
| 62 | 21.1 | | Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings. This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of engineer in charge complete as per direction of Engineer in Charge. | | | | |
| | | | External Work | | | | |
| 62.1 | | | 75 mm nominal inner diameter pipes | Rm | 336 | 2,721 | 9,14,256 |
| 62.2 | | | 100 mm nominal inner diameter pipes | Rm | 500 | 4,015 | 20,07,500 |
| 62.3 | | | 150 mm nominal inner diameter pipes | Rm | 420 | 7,321 | 30,74,820 |
| 63 | 27.12 | | providing and fixing ISI mark oxidised M.S. handles confirming to IS:4992 with necessary screws etc complete: | | | | |
| | a | | 125mm | Each | 133 | 37 | 4,921 |
| 64 | 27.20 | | Providing and fixing bright finished brass towel bolts (barrel type) with necessary screws etc complete. | | | | |
| | a | | 250/10mm | Each | 133 | 289 | 38,437 |
| 65 | 10.9, Item no as per SOR Road & Bridge 2020-21 | | Painting Lines, Dashes, Arrows, etc. on Roads in Two coats on Old Work. Painting lines, dashes, arrows etc. on roads in two coats on old work with ready mixed road marking paint conforming to IS: 164 on bituminous/concrete surface, including cleaning the surface of all dirt, | Sqm | 590 | 215 | 1,26,850 |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD- DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|----------------|---|------|----------------|-------------------------|-----------------|
| | | | trust and other foreign matter, demarcation at site and traffic control as per drawing and Technical | | | | |
| 66 | 2.14, Item no as per SOR Road & Bridge 2020-21 202 | | Dismantling of Flexible pavements: | | | | |
| | | | Dismantling of Flexible pavements and disposal of dismantled material up to a lead of 100m stacking of serviceable and unserviceable materials separately as per Technical Specification Clause 202. | | | | |
| | | | By mechanical Means | | | | |
| | (A) | | Bituminous Courses | Cum | 465 | 764 | 3,55,260 |
| 67 | 11.6 | | Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and joined together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS:4454 - part 1 and M.S. top cover of required thickness for rolling shutters. | | | | |
| | a | | 80 x 1.25 mm M.S. laths with 1.25mm thick top cover | Sqm | 688 | 4,509 | 31,02,192 |
| 68 | 28.30 | | Providing and fixing factory made uPVC white colour casement/casement cum fixed glazed windows comprising of uPVC multi-chambered frame, sash and mullion (wherever required) extruded profiles duly reinforced with 1.60+/- 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape and size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, stainless steel (SS 304 grade) friction hinges, zinc alloy (white powder coated) casement handles, G.I fasteners 100x8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|-----------------|
| | | | and of approved quality, all complete as per approved drawing & direction of Engineer-in-charge. (Single/double glass panes shall be paid separately) Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e., in depth & width of profile shall be accepted. Variation in profile dimension in higher side shall be accepted but no extra payment on this account shall be made. | | | | |
| | f. | | casement cum fixed panel window having both end single casement panel, middle fixed panels and at top completely fixed ventilator with SS friction hinges (350x19x1.9) made of (big series) frame 67x60 mm, sash 67x80 mm & mullion 67x80mm all having wall thickness of 2.3+/- 0.2mm and single glazing bead/double glazing bead of appropriate dimension. (Area of window above 3.00 sqm up to 5.00 sqm) | Sqm | 331 | 7,945 | 26,29,795 |
| 69 | 30.3 | | Providing, assembling and supplying vision glass panels (IGUs) comprising of hermetically-seals 6-12-6 mm insulated glass (double glazed) vision panels units of size and shape as required and specified, comprising of an outer heat strengthened float glass 6mm thick, of approved colour and shade, an inner heat strengthened clear float glass 6mm thick, spacer tube 12mm wide, desiccants, including primary seal (structural silicone sealant) etc. all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge. The IGUs shall be assembled in the factory/workshop of the glass processor. For payment, only the actual area of glass on face #1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm. | | | | |
| | (i) | | Coloured tinted float glass 6mm thick substrate with reflective soft coating on face @2, +12 mm Air gap +6mm heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35%, Light reflection internal 10 to 15%, light reflection external 10 to 20%, shading coefficient (0.25 - 0.28) and U-value of 3.0 to 3.3 W/sqm K etc. The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement. | Sqm | 688 | 3,746 | 25,77,248 |
| 70 | 14.2 SOR2015-16 | | Providing, fitting and fixing M.S. grill of required pattern for windows/ clerestory windows/ opening/ railing with M.S. flats at required spacing | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|----------------------------------|---|------|----------------|-------------------------|-----------------|
| | | | in frame all round, square or round M.S. bars with round headed bolts and nuts or screws. | | | | |
| | | | iii) Fixed to brickwork/PCC/RCC | kg | 605 | 204 | 1,23,420 |
| 71 | 5.2 SOR PWD (ROADS) - 2020-21 | MORD/ MORT&H Specification - 503 | Tack Coat with Bitumen Emulsion | | | | |
| | | | (iv) Providing and applying tack coat with bitumen emulsion (RS-I) using emulsion distributor at the rate of 0.30 to 0.35 kg/sqm on the prepared non bituminous surfaces (cement concrete pavement) cleaned with hydraulic broom as per Technical Specification Clause 503. | Sqm | 2,218 | 24 | 53,232 |
| 72 | 5.5 SOR PWD (ROADS) - 2020-21 | MORD/ MORT&H Specification - 500 | Semi Dense Bituminous Concrete | | | | |
| | | | Providing and laying semi dense bituminous concrete with Hot Mix plant using crushed aggregates of specified grading as per Table 500.14 (MORT&H Specification) premixed with bituminous binder, transported to site up to a lead of 1000 m, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled to achieve the desired compaction as per Technical MORT&H Specification clause 508 | | | | |
| | | | USING PENETRATION GRADE BITUMEN 80/100 | | | | |
| | | | A. Without Anti-Stripping Agent | | | | |
| | | | 10 MM NOMINAL SIZE GRADING | Cum | 111 | 13,644 | 15,14,484 |
| 73 | Basic Rates Annex III, Sl. No. 78, SOR PWD (ROADS) - 2020-21 | | Mild Steel Sheet 2 mm thick including cutting, hoisting, fixing in positions and applying a priming coat of approved steel primer using structure steel etc as required. | Sqm | 2,284 | 2,290 | 52,30,360 |
| 74 | 10.7 SOR PWD (ROADS) - 2020-21 | | Painting on Concrete/Steel Surfaces with Epoxy | | | | |

| S. No. | Item No. as per MPWD SOR 2021/ 2015-16 | CPWD-DSR/ NSR | Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|--|---------------|---|------|----------------|-------------------------|---------------------|
| | | | Painting two coats including prime coat with epoxy paint of approved brand on concrete/stell surfaces after thorough cleaning of surfaces to give an even shade as per drawing and Technical Specification clause 1701. | Sq.m | 2,284 | 333 | 7,60,572 |
| | | | Total – Civil Works | | | | 38,36,41,493 |

C. 2.2 Bill of Quantities (Part-2 of 4: Electrical Works: For existing structure at 3 MLPs & additional 3 floor construction at Khlieh lew Parking)

| S. No. | Item No. as per MPWD SOR 2021-22 | CPWD 2018/NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|----------------------------------|---------------|--|------|----------------|-------------------------|-----------------|
| 1 | MPWD SOR 9.a | | Drawing of main and sub main line with DGSD approved VIR or PVC 250/440 Volt grade in PVC casing capping with all accessories (a) with 2x2.5 sqmm copper conductor | Mtr | 12,900 | 244.00 | 31,47,600.00 |
| 2 | MPWD SOR 9. b | | Drawing of main and sub main line with DGSD approved VIR or PVC 250/440 Volt grade in PVC casing capping with all accessories (b) with 2x4 sqmm copper conductor | Mtr | 6,200 | 300.00 | 18,60,000.00 |
| 3 | MPWD SOR 9.c | | Drawing of main and sub main line with DGSD approved VIR or PVC 250/440 Volt grade in PVC casing capping with all accessories (c) with 2x6 sqmm copper conductor | Mtr | 2,600 | 385.00 | 10,01,000.00 |
| 4 | MPWD SOR 9.d | | Drawing of main and sub main line with DGSD approved VIR or PVC 250/440 Volt grade in PVC casing capping with all accessories (d) with 2x10 sqmm copper conductor | Mtr | 1,000 | 615.00 | 6,15,000.00 |
| 5 | MPWD SOR 45.a | | Drawing Main and sub main line wiring as in item no. 9 (existing conduit) above with TRS or PVC single core 250V grade cable. (a) with 2x2.5 sqmm copper conductor | Mtr | 8,000 | 278.00 | 22,24,000.00 |
| 6 | MPWD SOR 45.b | | Drawing Main and sub main line wiring as in item no. 9 (existing conduit) above with TRS or PVC single core 250V grade cable. (b) with 2x4 sqmm copper conductor | Mtr | 2,600 | 322.00 | 8,37,200.00 |
| 7 | MPWD SOR 45.c | | Drawing Main and sub main line wiring as in item no. 9 (existing conduit) above with TRS or PVC single core 250V grade cable. (c) with 2x6 sqmm copper conductor | Mtr | 2,400 | 395.00 | 9,48,000.00 |
| 8 | MPWD SOR 52.A (b) | | supply & fixing of load kontakt miniature circuit breakers DX3 MCB's for AC application till 63 A A. Single Pole 240/410 V (b) 6-32 amp SP MCB capacity | Each | 250 | 431.00 | 1,07,750.00 |
| 9 | MPWD SOR 52.D (c) | | supply & fixing of load kontakt miniature circuit breakers DX3 MCB's for AC application till 63 A. D. Triple Pole 415 V (c) 40-63 amp | Each | 39 | 2,708.00 | 1,05,612.00 |
| 10 | MPWD SOR 61.D (b) | | Supplying fitting and fixing of Distribution board Ekinox3 TPN DB-VTPN for DX3 MCB DB's D. IP 54 - #1K 09 (b) 6 way (8+18) Module | Each | 6 | 30,019.00 | 1,80,114.00 |

Bidding Document for Retrofitting and Upgradation of 3 Multi-level Parking at various locations in Shillong, East Khasi Hills District, Meghalaya under Smart Cities Mission

| S. No. | Item No. as per MPWD SOR 2021-22 | CPWD 2018/ NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|----------------------------------|----------------|--|------|----------------|-------------------------|-----------------|
| 11 | MPWD SOR 61.D (c) | | Supplying fitting and fixing of Distribution board Ekinox3 TPN DB-VTPN for DX3 MCB DB's D. IP 54 - #1K 09 (c) 8 way (8+24) Module | Each | 4 | 32,813.00 | 1,31,252.00 |
| 12 | MPWD SOR 61.D (d) | | Supplying fitting and fixing of Distribution board Ekinox3 TPN DB-VTPN for DX3 MCB DB's D. IP 54 - #1K 09 (d) 12 way (8+36) Module | Each | 5 | 42,867.00 | 2,14,335.00 |
| 13 | MPWD SOR 57.A | | Supplying fitting and fixing of Moulded case circuit Breaker (MCCBs) of the following capacity A. With breaking Capacity of 16 KA (ii) Three Pole (b) 80-100 Amp | Each | 17 | 5,832.00 | 99,144.00 |
| 14 | MPWD SOR 57.D | | Supplying fitting and fixing of Moulded case circuit Breaker (MCCBs) of the following capacity D. With breaking Capacity of 38 KA (ii) Three Pole (g) 225-250 Amp | Each | 6 | 25,726.00 | 1,54,356.00 |
| 15 | MPWD SOR 79 (b) (i) | | Supplying, fitting and fixing of FLOOD LIGHT surface or wall mounted with all necessary accessories. (b) Flood light suitable for highlighting architectural façade and general lighting purpose. (i) 70 W | Each | 95 | 9,313.00 | 8,84,735.00 |
| 16 | MPWD SOR 97 (a) | | Providing laying connection testing & commissioning of the following sizes of 1100V PVC/XLPE armoured cable with aluminium conductor as per ISI code in brackets, trenches, M.S. Cable rods and including the cost of digging of trenches, sand cushioning with laying etc and refilling the same in layers or by supporting them in walls and all other accessories as required (a) with 3.5 core 25sqmm | Mtr | 500 | 657.00 | 3,28,500.00 |
| 17 | MPWD SOR 97 (b) | | Providing laying connection testing & commissioning of the following sizes of 1100V PVC/XLPE armoured cable with aluminium conductor as per ISI code in brackets, trenches, M.S. Cable rods and including the cost of digging of trenches, sand cushioning with laying etc and refilling the same in layers or by supporting them in walls and all other accessories as required (b) with 3.5 core 35sqmm | Mtr | 300 | 724.00 | 2,17,200.00 |
| 18 | MPWD SOR 97 (c) | | Providing laying connection testing & commissioning of the following sizes of 1100V PVC/XLPE armoured cable with aluminium conductor as per ISI code in brackets, trenches, M.S. Cable rods and including the cost of digging of trenches, sand cushioning with laying etc and refilling the same in layers or | Mtr | 250 | 808.00 | 2,02,000.00 |

| S. No. | Item No. as per MPWD SOR 2021-22 | CPWD 2018/ NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|----------------------------------|----------------|--|------|----------------|-------------------------|-----------------|
| | | | by supporting them in walls and all other accessories as required (c) with 3.5 core 50sqmm | | | | |
| 19 | MPWD SOR 97 (e) | | Providing laying connection testing & commissioning of the following sizes of 1100V PVC/XLPE armoured cable with aluminium conductor as per ISI code in brackets, trenches, M.S. Cable rods and including the cost of digging of trenches, sand cushioning with laying etc and refilling the same in layers or by supporting them in walls and all other accessories as required (e) with 3.5 core 95sqmm | Mtr | 400 | 1,082.00 | 4,32,800.00 |
| 20 | MPWD SOR 97 (f) | | Providing laying connection testing & commissioning of the following sizes of 1100V PVC/XLPE armoured cable with aluminium conductor as per ISI code in brackets, trenches, M.S. Cable rods and including the cost of digging of trenches, sand cushioning with laying etc and refilling the same in layers or by supporting them in walls and all other accessories as required (f) with 3.5 core 120sqmm | Mtr | 600 | 1,258.00 | 7,54,800.00 |
| 21 | MPWD SOR 143 (a) | | Supplying, fitting and fixing earthing with GI earth Plate 600mx600x6m thick including all accessories & providing masonry enclosure with cover plate having locking arrangement & watering pipe etc complete with charcoal salt coke as required (a) G.I. earth plate electrode | set | 12 | 7,460.00 | 89,520.00 |
| 22 | MPWD SOR 154 (b) | | Supplying fixing connection testing of 8SWG wire along the wall, columns etc, with necessary clamping as required (b) with Aluminium wire | Mtr | 800 | 140.00 | 1,12,000.00 |
| 23 | MPWD SOR 157 (b) | | Supplying fitting & fixing of 3 phase energy meter, 550 volt of 3 x 5-10, 3 x 10-20, 3 x 20-40Amp capacity (b) 3 Phase energy meter of 3 x 50, 3 x 100 Amp Capacity | Each | 3 | 9,862.00 | 29,586.00 |
| 24 | MPWD SOR 66 (b) | | Supplying, fitting and fixing of LED Panel lighting surface or wall mounted with all necessary accessories. (b) 4X1 (1180x280x70) mm LED luminaire (i) 28W | Each | 1,350 | 4,279.00 | 57,76,650.00 |
| 25 | MPWD SOR 122 (e) | | Supplying, fitting & fixing complete single phase open well Submersible Pump sets or similar. (e) 3HP | Each | 3 | 22,859.00 | 68,577.00 |
| 26 | MPWD SOR 131 (b) | | Supplying, fitting & fixing of Push Button type direct on line starter of L&T. (b) 3-5 HP 3 Phase | Each | 3 | 3,873.00 | 11,619.00 |
| 27 | MPWD SOR 140 (a) | | Supply fitting and fixing of Copper lighting Arrester with 5nos. Finger at the top and copper base plate at the bottom complete. (a) With 3 ft high Copper rod | Each | 12 | 18,084.00 | 2,17,008.00 |

| S. No. | Item No. as per MPWD SOR 2021-22 | CPWD 2018/ NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|----------------------------------|---------------------------|--|------|----------------|-------------------------|-----------------|
| 28 | MPWD SOR 87 | | Supplying fitting and fixing of exhaust fan double bearing self-lubricating type single phase 50Hz 2-50V AC operated complete with supporting frame, fan blades, nuts and bolts and other petty accessories as required. (b)Heavy Duty Exhaust Fan: (ii) 380 mm (15"X1400 RPM) | Nos. | 16 | 4,084.00 | 65,344.00 |
| 29 | MPWD SOR 87 | | Supplying fitting and fixing of exhaust fan double bearing self-lubricating type single phase 50Hz 2-50V AC operated complete with supporting frame, fan blades, nuts and bolts and other petty accessories as required. (b)Domestic Exhaust Fan: (ii) 150 mm | Nos. | 22 | 2,048.00 | 45,056.00 |
| 30 | | CPWD 2018 Item No. 1.24.1 | Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. 5/6 A switch | Each | 39 | 104.00 | 4,056.00 |
| 31 | | CPWD 2018 Item No. 1.24.3 | Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. 15/16 A switch | Each | 24 | 162.00 | 3,888.00 |
| 32 | | CPWD 2018 Item No. 1.27.5 | Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required. 8 Module (125mmX125mm) | Each | 12 | 470.00 | 5,640.00 |
| 33 | | CPWD 2018 Item No. 1.27.6 | Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required. 12 Module (200mmX150mm) | Each | 8 | 533.00 | 4,264.00 |
| 34 | | CPWD 2018 Item No. 1.28.5 | Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required. 8 Module | Each | 12 | 241.00 | 2,892.00 |
| 35 | | CPWD 2018 Item No. 1.28.6 | Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required. 12 Module | Each | 8 | 279.00 | 2,232.00 |
| 36 | | CPWD 2018 Item No. 1.21.2 | Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required. 25 mm | Mtr | 10,500 | 110.00 | 11,55,000.00 |
| 37 | | CPWD 2018 Item No. 1.53.2 | Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed Steel/ PVC conduit as required. 2 run of cable | Mtr | 11,500 | 101.00 | 11,61,500.00 |

| S. No. | Item No. as per MPWD SOR 2021-22 | CPWD 2018/ NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|---------------------------------|----------------------------------|---------------------------|---|------|----------------|-------------------------|-----------------------|
| 38 | | CPWD 2018 Item No. 1.55.9 | Dismantling of ceiling fan or electrical light or fitting and painting the same with one or more coats of spray painting with synthetic enamel paint of approved brand and manufacture to give an even shade, including cleaning of surface with detergent and replacing the damaged rubber reel, nuts and bolts with washers and safety pins, reinstalling the same as required. | Each | 350 | 271.00 | 94,850.00 |
| 39 | | NSR | Supply, installation, testing & commissioning of 40 KVA UPS in paralleling mode at 0.99 input power factor, 0.80 output power factor, UPS efficiency 0.93%, harmonic THDi less than 3%, Remote alarm indication panel, SNMP card as per specification given in the document with following broad features. Inverter capability to supply 150% load for 5 sec. Three Phase Input and Three Phase Output. (Input - 340V - 470V, Three Phase, 4 wire. / Output - 400-415 Volt, Three Phase, 4 Wire.) Battery shall be external type with rack and suitable for 120-minute backup on 100% load. | Each | 3 | 25,96,000.00 | 77,88,000.00 |
| 40 | | NSR | Supply installation testing and commissioning of 40 kva DG set with AMF. Control Panel | Each | 3 | 7,08,000.00 | 21,24,000.00 |
| Total – Electrical Works | | | | | | | 3,32,07,080.00 |

C. 2.3 Bill of Quantities (Part-3 of 4: Fire Works: For existing 3 MLPs & additional 3 floor construction at Khlieh Iew Parking)

| S. No. | Item No. as per MPWD Electrical SOR 2021-22 | NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|---|-----|--|------|----------------|-------------------------|-----------------|
| 1 | 166.1.1 | | <p>Supplying, installation, testing and commissioning of Electric driven Main Fire Pump suitable for automatic operation and consisting of following, complete in all respects, as required:</p> <p>(a) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.</p> <p>(b) Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.</p> <p>(c) M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.</p> <p>(d) Suitable cement concrete foundation duly plastered with anti-vibration pads.</p> <p>(1.1) 2850 lpm at 88 m Head</p> | Each | 4.00 | 4,77,796.00 | 19,11,184.00 |
| 2 | 166.3.1 | | <p>Supplying, installation, testing and commissioning of electric driven pressurisation pump suitable for automatic operation and consisting of following, complete in all respects, as required: (Jockey Pump)</p> <p>Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS: 1520.</p> <p>Suitable HP squirrel cage induction motor TEFC type suitable for operation on 415 volts, 3 phase 50 Hz AC supply with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS: 325.</p> <p>M.S.fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required. Suitable cement concrete foundation duly plastered and with anti-vibration pads.</p> <p>(3.1) 180 lpm at 88 m Head</p> | Each | 4.00 | 1,33,809.00 | 5,35,236.00 |
| 3 | 166.5.1 | | <p>CONTROL PANEL: Fabrication, supply, Installation testing & commissioning of Electrical control panel of cubical construction, floor mounted type, fabricated out of 2mm thick CRCA sheet, compartmentalised with</p> | | | | |

| S. No. | Item No. as per MPWD Electrical SOR 2021-22 | NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|---|-----|--|------|----------------|-------------------------|-----------------|
| | | | hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, interconnection with suitable size copper conductor cable/solid copper strip, having switchgears and accessories, mountings and internal wiring, earth terminals, numbering etc. complete in all respect, suitable for main fire pump, pressurisation pump & diesel pump set complete as per CPWD specification with following in coming and Outgoings, suitable for operation on 415V, 3 phase, 50Hz Ac Supply with enclosure protection class IP 42 as required : | | | | |
| | | | <p>INCOMING 250A, 50kA 4 Pole MCCB, Ics=100% Icu rating Digital Voltmeter 0-500V with selector switch Digital Ammeter (0-250 A) with selector switch & CTs etc.</p> <p>LED type RYB phase indicating lamps, ON, OFF, trip indicating lamps Set of Copper Bus Bar 300A</p> <p>OUTGOING (Note : All outgoing feeders for pumps should have digital Ammeter with selector switches, and LED type ON, OFF, trip indicating lamps) Main Fire Pump 125 A, 50kA TPN MCCB, Ics=100% Icu, with fully automatic Star/Delta starter suitable for 60 HP pump with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.</p> | | | | |
| | | | <p>Jockey Pump 63 A, 50kA TPN MCCB, Ics=100% Icu, with suitable HP fully automatic Star/Delta starter with overload protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.</p> | Set | 4.00 | 2,60,474.00 | 10,41,896.00 |
| | | | | | | | |
| 3 | 166.8 | | Providing, laying, testing & commissioning of 'B' class heavy duty G.I. pipe conforming to IS 1239 including welding, fittings like elbows, tees, flanges, tapers, nuts, bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and | | | | |

| S. No. | Item No. as per MPWD Electrical SOR 2021-22 | NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|---|-----|---|------|----------------|-------------------------|-----------------|
| | | | painting with two or more coats of synthetic enamel paint of required shade complete as required: | | | | |
| 3.1 | 8.6 | | 80 mm | Mtrs | 170.00 | 1,327.00 | 2,25,590.00 |
| 3.2 | 8.7 | | 100 mm | Mtrs | 2,720.00 | 1,725.00 | 46,92,000.00 |
| 3.3 | 8.8 | | 150 mm | Mtrs | 120.00 | 2,405.00 | 2,88,600.00 |
| 4 | 166.9.1 | | Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal /Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal / Stainless Steel cap and chain as required: Single headed Gunmetal | Each | 76.00 | 7,944.00 | 6,03,744.00 |
| 5 | 166.10.1 | | Supplying and fixing single headed External hydrant valve with instantaneous Gunmetal /Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal / Stainless Steel cap and chain as required: Single headed Gunmetal | Each | 11.00 | 7,944.00 | 87,384.00 |
| 6 | 166.11 | | Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required: | | | | |
| 6.1 | 11.4 | | 80 mm dia | Each | 8.00 | 5,133.00 | 41,064.00 |
| 6.2 | 11.5 | | 100 mm dia | Each | 11.00 | 6,841.00 | 75,251.00 |
| 6.3 | 11.6 | | 150 mm dia | Each | 6.00 | 9,221.00 | 55,326.00 |
| 7 | 166.16.1 | | Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required: Gun Metal | Each | 80.00 | 5,499.00 | 4,39,920.00 |
| 8 | 166.17.1 | | Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required. 20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 20 mm nominal internal dia gun metal globe valve & nozzle. | Each | 80.00 | 8,918.00 | 7,13,440.00 |

| S. No. | Item No. as per MPWD Electrical SOR 2021-22 | NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--------|---|-----|--|------|----------------|-------------------------|-----------------|
| | | | Drum and brackets for fixing the equipment on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket. (17.1) 30 m | | | | |
| 9 | 166.19.2 | | Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required: 4 way - 150 mm dia M.S. Pipe | Set | 4.00 | 14,651.00 | 58,604.00 |
| 10 | 166.18.1 | | Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required: Gun metal | Each | 82.00 | 2,546.00 | 2,08,772.00 |
| 11 | 166.22 | | Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required | Each | 12.00 | 1,598.00 | 19,176.00 |
| 12 | 166.23 | | Providing & fixing flow switch in following sizes M.S. pipe including connection etc as required. | | | | |
| 12.1 | 23.1 | | 100mm dia | Each | 10.00 | 7,804.00 | 78,040.00 |
| 12.2 | 23.2 | | 150mm dia | Each | 8.00 | 9,401.00 | 75,208.00 |
| 13 | 166.20 | | Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required. | Set | 6.00 | 19,090.00 | 1,14,540.00 |
| 14 | 166.15 | | Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange. | | | | |
| 14.1 | 15.1 | | 80 mm dia | Each | 28.00 | 4,847.00 | 1,35,716.00 |

| S. No. | Item No. as per MPWD Electrical SOR 2021-22 | NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|---------------------------|---|-----|--|------|----------------|-------------------------|-----------------------|
| 14.2 | 15.2 | | 100 mm dia | Each | 11.00 | 6,837.00 | 75,207.00 |
| 14.3 | 15.3 | | 150 mm dia | Each | 6.00 | 11,299.00 | 67,794.00 |
| 15 | 164 (i) | | Supplying and fixing of ABC DRY POWDER Fire Extinguisher including with all necessary accessories. (i) Supplying installation fixing of Carbon dioxide Based Fire Extinguisher (Squeeze grip type) of 4.5 Kg Capacity. | Each | 36.00 | 18,287.00 | 6,58,332.00 |
| 16 | 164 (c) | | Supplying and fixing of ABC DRY POWDER Fire Extinguisher including with all necessary accessories. (c) Supplying installation fixing ABC DRY CHEMICAL POWDER Fire Extinguisher of 25 Kg trolley mounted confirming to IS:2171 and CO2 Cartridge confirming to IS: 4947 Powder Confirming to IS:2878. | Each | 15.00 | 49,958.00 | 7,49,370.00 |
| 17 | 164 (a) | | Supplying and fixing of ABC DRY POWDER Fire Extinguisher including with all necessary accessories. (a) Supplying installation fixing ABC DRY CHEMICAL POWDER Fire Extinguisher of 5.0 Kg trolley mounted confirming to IS:2171 and CO2 Cartridge confirming to IS: 4947 Powder Confirming to IS:2878. | Each | 36.00 | 11,906.00 | 4,28,616.00 |
| 18 | | NSR | Providing, and installation of Fire Hose Cabinet fabricated from 16 SWG MS Steel of approx. size 750 mm x 600 mm x 250 mm with a canopy, door with 4 mm glass encased in heavy grade rubber beading, a key box in built in the box. | Each | 80.00 | 6,127.00 | 4,90,160.00 |
| 19 | | NSR | Providing and fixing of Necessary set of Fire Safety Signages | Each | 140.00 | 835.00 | 1,16,900.00 |
| 20 | | NSR | Providing supply, erection, commissioning and testing of Gun metal 4 Way Siamese Connection Complete Four instantaneous with NRV, isolation valve, and 6 inch inlet flange with matching flanges, gaskets, stud bolts etc. complete in all respects. | Set | 4.00 | 13,646.00 | 54,584.00 |
| Total – Fire Works | | | | | | | 1,40,41,654.00 |

C. 2.4 Bill of Quantities (Part-4 of 4: IT, Surveillance and Mgmt. Systems Works: For existing 3 MLPs & additional 3 floor construction at Khlieh Iew Parking)

| S. No. | CPWD 2018/ NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|----------|-------------------------------|---|----------|----------------|-------------------------|-----------------------|
| A | | Information Management and Surveillance | | | | |
| 2 | NSR | SITC CCTVs: ANPR Camera (Outdoor Fixed Box) for Day-Night number plate recognition, 2MP, Compression H.265, H.264, Built-in micro SD/TF card up to 128GB, 1/1.8" progressive scan CMOS sensor, 60 Hz: 1920x1080@60fps display, IP67 IK10 Ingress Protection, 3d DNR Noise Reduction, 1 year warranty | per unit | 14 | 64,900.00 | 9,08,600.00 |
| 3 | NSR | SITC CCTV for Surveillance (2 MP IP DOME camera), day-night capable, CMOS Sensor, Full HD Resolution (1920 by 1080 pixels), IR Illumination 30m, SNR 50-60, frame rate 25-30, WDR 120 db, 1 year warranty | per unit | 18 | 23,010.00 | 4,14,180.00 |
| 4 | NSR | SITC CCTV for Surveillance (2 MP IP Bullet camera), day-night capable, CMOS Sensor, Full HD Resolution (1920 by 1080 pixels), IR Illumination 30m, SNR 60-70, frame rate 25-30, WDR 120 db, 2 year warranty | per unit | 48 | 14,750.00 | 7,08,000.00 |
| 5 | NSR | SITC Network Video Recorder (NVR - 16 Channel), Internet/WiFi modem | per unit | 4 | 21,830.00 | 87,320.00 |
| 6 | NSR | SITC Network Video Recorder (NVR - 32 Channel), Internet/Wifi modem | per unit | 2 | 28,910.00 | 57,820.00 |
| 7 | NSR | Hard Disk (4TB) | per unit | 9 | 17,110.00 | 1,53,990.00 |
| 8 | NSR | CCTV Surveillance Management SW and other Accessories required to make SW usable including (but not limited to) Web Application with Mobile App interface, Wallet Management, Parking Area Management, Vehicle Management, Parking Sensor Management, Surveillance Camera Integration, Payment Processing with Accounting, User Management, Transaction Reporting, Reviews and Ratings, Integration with NW and other relevant applications | Lumpsum | 3 | 29,50,000.00 | 88,50,000.00 |
| | | Sub Total (A) | | | | 1,11,79,910.00 |
| B | | PUBLIC ADDRESS SYSTEM | | | | |
| 1 | DSR (E&M) 2018, Item-17.3.7 | SITC PA system / digital audio amplifier 75 Watt, 25V rms operating at 240 Volt AC | per unit | 3 | 1,78,884.00 | 5,36,652.00 |
| 2 | DSR (E&M) 2018, Item-17.3.3 | SITC 1.5/3/6W metal box ceiling/wall speakers | per unit | 90 | 2,184.00 | 1,96,560.00 |
| 3 | DSR (E&M) 2018, Item-17.5.3.2 | speaker cable Two pair, 2-core, 1.5 sqmm | Rmtr | 7600 | 104.00 | 7,90,400.00 |
| 4 | DSR (E&M) 2018, Item-1.21.1 | PVC conduit along with accessories in surface/recess - 20mm | Rmtr | 7000 | 103.00 | 7,21,000.00 |
| 5 | NSR | Service Activation of Device (Integration to Parking Management SW | Lumpsum | 5 | 14,160.00 | 70,800.00 |
| | | Sub Total (B) | | | | 23,15,412.00 |

| S. No. | CPWD 2018/ NSR | Item Description | Unit | Total Quantity | Rates with GST (In Rs.) | Amount (In Rs.) |
|--|----------------|--|----------|----------------|-------------------------|-----------------------|
| C | | | | | | |
| Parking Operator Room | | | | | | |
| 1 | NSR | Video Wall/ LED Display (Diagonal) 48" (inches) Full HD (1920 x 1080) Native Resolution, 8 ms Typical Response Time, 350 cd/m ² Brightness, 4000:1 Typical Contrast Ratio, HDMI, DVI-D, VGA, Component, RCA Inputs, USB Port for Multimedia Playback, Ethernet, RS232, HDMI CEC Control, Dual 10W Speakers, Digital Signage-Capable, Remote Monitoring, Maintenance & Control; 1 year warranty | per unit | 6 | 1,06,200.00 | 6,37,200.00 |
| 2 | NSR | Workstation (Core i7 / 16 GB RAM / 1000 GB HDD), 32" LED display, processing speed 2.8 GHz, OS - Windows 10, accessories (like User Manual, Laptop, Charger & Adapter, Headphones), Lithium-ion batteries, 1 year warranty | per unit | 3 | 1,77,000.00 | 5,31,000.00 |
| 3 | NSR | Printer & Scanner (separate toner and drum, monoprinting for A4 size, resolution 1200x1200 dpi, processor speed 800 MHz, NW interface - Ethernet 10/100/1000, bypass tray facility with capacity of 100, BIS Registration under CRS of Meity, Duty Cycle (50000 Prints/month), 1 year warranty | per unit | 3 | 64,900.00 | 1,94,700.00 |
| 4 | NSR | Other Misc (Furniture etc.) | Lumpsum | 3 | 59,000.00 | 1,77,000.00 |
| Sub Total (C) | | | | | | 15,39,900.00 |
| D | | | | | | |
| Boom Barrier System (Electronic Card Based Operation) | | | | | | |
| 1 | NSR | SITC Boom Barrier Solution (including Rod with basics motor, controller, proximity reader, LED Indicator, adequate electronic cards / card readers etc required for smooth functioning as per requirements for one year operation), confirming MHA QR for Drop Arm Barrier (Boom Barrier), issued by MHA, MHA QR Of Drop Arm Barrier, Availability of Test Report from Govt Lab/NABL As Per MHA QR of Drop Arm Barrier (Boom Barrier), 1 year warranty | per unit | 14 | 1,77,000.00 | 24,78,000.00 |
| 2 | NSR | Service Activation of Device (Integration to Parking Management SW | Lumpsum | 3 | 41,300.00 | 1,23,900.00 |
| Sub Total (D) | | | | | | 26,01,900.00 |
| E | | | | | | |
| Signage and Digital Bill-Board | | | | | | |
| 1 | NSR | SITC Digital Bill-Board for Display and Advertising (Screen Size (Diagonal)-55") 4K UHD Picture Quality, Even Bezel Design, input Detect Functionality, Administrative Software, ENERGY STAR 8.0, Wall Mounting with Metal Construction and IR sensors, 1 year warranty | per unit | 48 | 2,36,000.00 | 1,13,28,000.00 |
| 2 | NSR | Service Activation of Device (Integration to Parking Management SW | Lumpsum | 3 | 41,300.00 | 1,23,900.00 |
| Sub Total (E) | | | | | | 1,14,51,900.00 |
| Total CAPEX (A-E): IT, Surveillance and Mgmt. Systems Works | | | | | | 2,90,89,022.00 |

SECTION 9: OTHER FORMS

FORMAT A: FORMAT OF SENDING PRE-BID QUERIES

NIT Reference No: XX

| Bidder's Request for Clarification | | | | |
|---|------------|----------|---|--|
| Name and complete official address of Organization submitting query / request for clarification | | | Telephone, Fax and E-mail of the organization Tel: Fax: Email: | |
| SN | Clause No. | Page No. | Content of Bid document Requiring Clarification | Change Requested/ Clarification required |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

Signature:

Name of the Authorized signatory:

Company seal:

Date and Stamped

Note: Bidder(s) are requested to send the queries in PDF with Sign and Company Seal and also in MS Word / Excel for making consolidation process easy.

FORMAT B: LETTER OF ACCEPTANCE (LOA)

To,

M/s.....
.....
.....

This is to notify you that on behalf of the Employer, the Chief Executive Officer, Shillong Smart City Limited has accepted your Bid dated for [name of the work] for the Contract Price of Rs..... (Rupees.....only).

You are hereby requested to furnish the following within 10 days of the receipt of this Letter of Acceptance valid up to 45 days from the date of expiry of Defects Liability Period (i.e. up to) and sign the contract, failing which action as stated in Clause 33 of ITB will be taken.

- Performance Security, in the form detailed in Clause 33 of ITB for an amount of Rs..... (Rupees.....).

Yours faithfully,

Chief Executive Officer
Shillong Smart City Limited

FORMAT C: ISSUE OF NOTICE TO PROCEED WITH THE WORK

LETTER NO.....

DATED.....

To,

.....

.....

.....

Dear Sir,

Pursuant to your furnishing the requisite Performance Security in accordance with Clause 33 of Instructions to Bidders (ITB) and Clause 46 of General Conditions of Contract (GCC) of the Bidding Document and signing of the contract for _____ [name of the work], you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully

Chief Executive Officer
Shillong Smart City Limited

FORMAT D: AGREEMENT

This Agreement is made at..... on this day of..... 2021

BETWEEN

Shillong Smart City Limited (SSCL) represented through the Chief Executive Officer, (hereinafter called “the Employer”, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

M/s _____ [name and address of the Contractor/JV or Consortium or Association] through _____ [name of the PoA holder] (hereinafter called “the Contractor”, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Whereas the Employer is desirous that the Contractor execute the Work of _____ [name of the work] (hereinafter called “the Works”) and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein at a cost of Rs. _____ (Rupees _____) and applicable GST.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein 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.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
 - i) Letter of Acceptance;
 - ii) Notice to proceed with the works;
 - iii) Contractor’s Bid;
 - iv) Contract Data;
 - v) Special Conditions of contract and General Conditions of Contract;
 - vi) Scope of Work and Technical Specifications;
 - vii) Drawings;
 - viii) Bill of Quantities;
 - ix) Addenda and Corrigenda; and
 - x) Any other document listed in the Contract Data as forming part of the contract.
 - a) Response to pre-bid queries; and
 - b) Performance Security furnished by the Contractor.

In WITNESS WHEREOF, the parties through their duly Authorized representatives have executed these presents (execution whereof has been approved by the Competent Authorities of both the parties) on the day, month and year first above mentioned at Shillong.

For and on behalf of:

Chief Executive Officer
Shillong Smart City Limited
Shillong, Meghalaya

For and on behalf of:

M/s _____
[name and address of the Contractor]

WITNESS

1.

2.

WITNESS:

1.

2.

FORMAT E: BANK GUARANTEE FOR ADVANCE PAYMENT

(Unconditional irrevocable Bank guarantee of any nationalized/ scheduled banks on INR 100/- Stamp Paper)

To,
Chief Executive Officer,
Shillong Smart City Limited
Shillong, Meghalaya

Gentlemen:

In accordance with the provisions of the General Conditions of contract, clause 45 ("Advance Payment") of the above-mentioned Contract, _____ [name and address of Contractor, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof] (hereinafter called "the Contractor") shall deposit with _____ [name of Employer] a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ [amount of guarantee] _____ [in words].

We, the _____ [bank or financial institution] as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ [name of Employer] on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of guarantee]¹³ _____.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contractor documents which may be release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ [name of Employer] receives full repayment of the same amount from the Contractor.

Yours truly,

Signature and seal: _____

Name of Bank/Financial Institution: _____

Address: _____

Date: _____

¹³ An amount shall be inserted by the bank or financial institution representing the amount of the Advance Payment and denominated in Indian Rupees.

FORMAT F: PERFORMANCE BANK GUARANTEE

(Unconditional irrevocable Bank guarantee of any nationalized/ scheduled banks on INR 100/- Stamp Paper)

To,
Chief Executive Officer,
Shillong Smart City Limited
Shillong, Meghalaya

WHEREAS _____ [Name and Address of Contractor, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof] (Hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ [Name of Contract and brief description of Works] herein after called "The Contract".

AND WHEREAS it has been stipulated by you in the said contract that the Contractor shall furnish you with a bank guarantee by a Nationalized Bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, up to a total of _____ [amount of guarantee] _____ [in words], such sum being payable in the types and proportions of currencies in which the Contract price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for a demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in anyway release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This Guarantee shall be valid until a date 45 days after the expiry of defect liability period of 1 year after intended completion date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

FORMAT G: EARENST MONEY DEPOSIT/ BID SECURITY BANK GUARANTEE

(Unconditional irrevocable Bank guarantee of any nationalized/ scheduled banks on INR 100/- Stamp Paper)

To,
Chief Executive Officer,
Shillong Smart City Limited
Shillong, Meghalaya

Whereas [Name and Address of Contractor, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof] (Hereinafter called "the Contractor") has submitted the bid for Submission of RFP..... [RFP Number] dated..... [Date] for..... [Name of the assignment] (hereinafter called "the Bid") to..... [Name of Authority].

Know all Men by these presents that we [Name of Bank] having our office at [Registered Address] (hereinafter called "the Bank") are bound unto the [Name of Authority] (hereinafter called "the Authority") in the sum of Indian Rupees [Amount in figures] (Rupees..... [Amount in words] only) for which payment well and truly to be made to the said Authority, the Bank binds itself, its successors and assigns by these presents.

Sealed with the Common Seal of the said Bank this..... [Date]. The conditions of this obligation are:

1. If the Bidder having its bid withdrawn during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of its bid by the Authority during the period of validity of bid
 - a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required;
 - OR
 - b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor,

We undertake to pay to the Authority up to the above amount upon receipt of its first written demand, without the Authority having to substantiate its demand, provided that in its demand the Authority will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including the date¹⁴..... after the deadline for submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the Engineer-in- Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

NOTWITHSTANDING ANYTHING CONTAINED HEREIN:

- I. Our liability under this Bank Guarantee shall not exceed Indian Rupees [Amount in figures] (Rupees..... [Amount in words] only)
- II. This Bank Guarantee shall be valid up to [insert date]

¹⁴ Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender

III. It is a condition of our liability for payment of the guaranteed amount or any part thereof arising under this Bank Guarantee that we receive a valid written claim or demand for payment under this Bank Guarantee on or before [insert date] failing which our liability under the guarantee will automatically cease.

Date:

(Authorized Signatory of the Bank)

Seal:

WITNESS

(SIGNATURE, NAME AND ADDRESS)