ASSAM ELECTRICITY GRID CORPORATION LIMITED
Regd. Office: 1st Floor, Bijulee Bhawan, Paltan Bazar, Guwahati-781001
CIN: U40101AS2003SGC007238
Ph: -0361-2739520/Fax:-0361-2739513 Web: www.aegcl.co.in

TENDER DOCUMENT

Name of Work:	Civil infrastructure for backup SLDC
NIT No.:	AEGCL/DGM(CIVIL)/2025-26/06 dtd: 24/02/2026

Source of Fund: SOPD 2025-26

For and on behalf of the Managing Director, Assam Electricity Grid Corporation Limited (AEGCL), the Chief General Manager (PP&D), invites e-tender from reputed Civil Engineering Firms / Contractors for the work:-

Construction of Backup SLDC building including all services and auxiliary civil works. A single stage two envelope procedure (Techno-Commercial and Price Bid) will be adopted for this tender.

(A) INFORMATION TO BIDDER: -

1. NAME OF WORK:

Civil infrastructure for backup SLDC

2. NIT No.: AEGCL/DGM(CIVIL)/2025-26/06 dtd.24/02/2026

3. LOCATION OF WORK: -220 kV Samaguri, GSS

4. CONTACT ADDRESS: -

The Chief General Manager (PP&D)
AEGCL, First Floor,
Bijulee Bhawan, Paltanbazar,
Guwahati-781001.
Email id-cgm.ppd@aegcl.co.in

5. BIDDING PROCEDURE: -

a) The bidders must register themselves at https://assamtenders.gov.in as per the guidelines laid in the website.

b) The bidders have to submit scanned copies of the relevant documents through the e-Tender Portal.

c) The bid must be submitted online through e-tendering portal https://assamtenders.gov.in.

d) Bidders may obtain further information from the office of the Chief General Manager (PP&D), Bijulee Bhawan, Paltan Bazar, Guwahati - 781001, Assam [e-mail: cgm.ppd@aegcl.co.in ; Web site: www.aegcl.co.in.

e) To participate in the tender the interested bidders may visit https://assamtenders.gov.in for all the relevant documents and information required to participate in the tender.

6. CRITICAL DATES:

Tender Start Date	**25/02/2026**	**1200 Hrs 00 Mins**
Submission Start Date	**25/02/2026**	**1400 Hrs 00 Mins**
Tender End Date	**17/03/2026**	**1400 Hrs 00 Mins**
Opening Date of Techno Commercial bid	**18/03/2026**	**1500 Hrs 00 Mins**

7. TENDER VALUE:

The tender value ***exclusive of all taxes*** is **Rs. 7,29,76,519.00** (Rupees Seven Crores Twenty Nine Lakhs Seventy Six Thousand Five Hundred Nineteen) only.

8. TENDER PROCESSING FEE AND MODE OF PAYMENT: -

The Bidder shall bear all costs associated with the preparation and submission of its Bid, AEGCL shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

Bidder has to pay Non-Refundable tender processing fee of **Rs.17,500.00 (Rupees Seventeen Thousand Five Hundred)** only via e-tender portal www.assamtenders.gov.in.

9. BID SECURITY/EARNEST MONEY AND MODE OF PAYMENT: -

a) For participation in bidding procedure, participants must compulsorily pay the Bid Security of **Rs. 17,22,246.00 (Rupees Seventeen Lakhs Twenty Two Thousand Two Hundred Forty Six)** only via e-tender portal www.assamtenders.gov.in.

b) The bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.

c) The bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security.

d) The bid security may be forfeited: -

(i) If a Bidder withdraws its bid during the period of bid validity period.

(ii) If the successful Bidder fails to sign the Contract within the specified period.

(iii) If the successful Bidder fails to furnish a performance security within 15 (Fifteen) days' time of issue of LOA/NOA.

10. PERFORMANCE GUARANTEE AND MODE OF PAYMENT: -

a) The materials and entire work are to be guaranteed against defective design, materials and workmanship and for satisfactory performance for a period of 18 (eighteen) Months from the date of final acceptance of the completed work by AEGCL.

b) BG : Further, Performance Guarantee of 10% of total contract value of the project in the form of Bank Guarantee (BG)/Demand Draft (DD)/Fixed Deposit (FD) from a nationalized or scheduled Bank of RBI for a period of 18 (eighteen) months from the date of commissioning of the project, is to be submitted with acceptance of LOI and before signing of the Contract agreement. However, BG period may be split up subject to the condition that BG would be extended from time to time to cover the warranty period. Moreover, before one month (i.e. 30 days) of expiry of the BG, renewal is to be done by the contractor if required, otherwise revocation would be done by AEGCL within claim period. BG is to be submitted strictly as per prescribed format of the AEGCL. BG should remain valid up to 60 (sixty) days beyond warranty/ Performance Guarantee Period.

c) If the contractor/firm fails or neglects to observe and perform any of his obligations under the contract, Purchaser (AEGCL) shall have the right to forfeit either in full or in part at his absolute discretion, the security deposit furnished by the contractor/firm.

d) If the value of the work increases from original ordered value, the contractor has to provide performance guarantee for additional amount

e) If any abnormally low bid is accepted under Clause no. (B) 5.B., after taking the additional performance security as per the assessment of the committee, however, the total performance security should not have to be exceeded 20% of the total contract value.

f) The additional performance security shall be treated as the part of the original performance security and shall be valid for a period coextensive with the applicable defect liability period of the contract.

g) Non submission of the additional performance security shall constitute sufficient ground to rejection of the bid and similar assessment shall be initiated for next ranked bidder if that bidder is identified as ALB.

h) No interest shall be payable on such deposits.

11. CLARIFICATIONS: -

a) A prospective Bidder requiring any clarification of the Bidding Document shall contact the AEGCL in writing their enquiries during Pre-bid meeting. AEGCL will respond to any request for clarification if deemed necessary. Should AEGCL deem it necessary to

amend the Bidding Document as a result of a request for clarification, it shall do so.

b) The Bidder is advised to visit and examine the site where the work is to be Carried out and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract. The costs of visiting the site shall be at the Bidder's own expense.

c) The Bidder and any of its personnel or representatives will be granted permission by AEGCL to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder and its personnel will release and indemnify the Employer and its personnel from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

12. VALIDITY OF BID: -

a) Bid shall remain valid for the period of **180 days** after the submission deadline date prescribed by AEGCL. In exceptional circumstances, prior to the expiration of the Bid validity period, AEGCL may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing.

13. TIME OF COMPLETION: -

a) The allotted time of completion for the work is **730 days** from the date of handing over of the site.

14. DISCLAIMER: -

a) AEGCL is not committed contractually in any way to those Bidders whose Bid are accepted. The issue of this Bid does not commit or otherwise oblige AEGCL to proceed with any part or steps of the process.

15. AMENDMENT OF TENDER DOCUMENT: -

a) At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Document by issuing addendum.

b) To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, AEGCL may, at its discretion, extend the deadline for the submission of bids.

16. LANGUAGE OF BID: -

a) The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and AEGCL, shall be written in the English.

17. NEGOTIATION WITH BIDDER: -

The AEGCL reserve the right to hold negotiations with lowest bidder if AEGCL feels the quoted rates of particular item(s) are unreasonably high. The bid must be valid, eligible and technically acceptable and considered for award of contract.

18. VERIFICATION OF DOCUMENTS: -

a) AEGCL reserves the right to verify the documents submitted by the bidders with issuing authority and if any abnormalities are observed in the same, their bids will be rejected.

19. RIGHT TO REJECT: -

a) The AEGCL reserves the right to reject any or all the bids without assigning any reason thereof and the AEGCL further reserves the right to split up the work order in favour of more than one Contractor. The AEGCL also reserves the right to reject the lowest or any other price without assigning any reason. The clauses which are not appearing in this Bid

document will be as per The General Condition of Supply and Erection 2009 of AEGCL. The General Condition of Supply and Erection 2009 of AEGCL is available in the AEGCL's website www.aegcl.co.in

(B) ELIGIBILITY QUALIFICATION:

i. The Techno-Commercial Evaluation will be done on the basis of technical qualification, financial qualifications and fulfilment of the legal conditions.

ii. The Price Bid of only Responsive Techno-Commercial Bidders will be opened and intimation will be issued in due course.

1. ELIGIBLE BIDDERS: -

a) A Bidder may be a person, partnership, private entity or a government-owned entity.

b) A Bidder, and all partners constituting the Bidder, shall have Indian nationality.

c) Sub-contracting of the work is not allowed.

d) In the case of the Joint Venture (JV): -
(i) When the bidder is a Joint Venture (JV) of two or more firms as partners, all partners shall be jointly and severally liable. The JV shall legally authorize one of the partners as the lead partner for the purpose of submitting the bid, incur liabilities; receive payments and instructions on behalf of the others. A copy of the **registered** JV agreement, executed on Non judicial stamp paper, shall be submitted with the bid. However, in case of successful bid, the agreement shall be signed by all the partners, so as to be legally binding on all the partners.
(ii) The lead partner must fulfil 40percent of the qualifying criteria.
(iii) The other partner must fulfil individually not below the 20percent of the qualifying criteria.

e) Consequently, all Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if, including but not limited to:-
they have controlling partners in common; or
they receive or have received any direct or indirect subsidy from any of them; or
they have the same legal representative for purposes of this bid; or
they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or

f) If a Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which it is involved.

g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the plant and services that are the subject of the bid.

h) A firm that is under a declaration of ineligibility by the AEGCL or any Government Entity or PSU at the date of the deadline for bid submission or thereafter i.e., on or before contract signing date shall be disqualified.

i) Bidders shall provide such evidence of their continued eligibility satisfactory to the AEGCL, as the Employer shall reasonably request.

j) In case a prequalification process has been conducted prior to the bidding process, this bidding is open only to prequalified Bidders.

k) The bidder must have experience of execution of work of similar nature previously. The bidder must submit experience and Performance Certificate for scrutiny by AEGCL.

l) **A person, Firm or any other prospective bidder who is involved in fraud, unethical practices or barred from submitting bids by AEGCL or any sister concerns of AEGCL i.e., APDCL & APGCL will not be allowed to participate in the bids. If**

such cases are detected after submission of the bids, in later stages of the bidding process, then such bids will be rejected outright.

2. LEGAL ENTITY: -

a) Verification may be undertaken to verify that an applicant is a bona-fide registered company or business. Bidders are required to provide evidence of the legal entity by providing a copy of an official document as mentioned in the appendix attached along with this bid document.

3. TECHNICAL QUALIFICATION: -

a) Experience having completed similar works during the last 7 years ending last day of the month previous to the one in which applications are invited should be either of the following:

i. ***Three similar completed works*** each costing not less than the amount equal to ***Rs.3,44,44,917.00*** (Rupees Three Crores Forty Four Lakhs Forty Four Thousand Nine Hundred Seventeen) only
or

ii. ***Two similar completed works*** each costing not less than the amount equal to ***Rs. 4,30,56,146.00*** (Rupees Four Crores Thirty Lakhs Fifty Six Thousand One Hundred Forty Six) only.
or

iii. ***One similar completed work*** costing not less than the amount equal to ***Rs.6,88,89,834.00*** (Rupees Six Crores Eighty Eight Lakhs Eighty Nine Thousand Eight Hundred Thirty Four) only.

Note: "Similar work" is defined as work of construction of RCC building for Govt. Department or PSUs only.

iv. If the nature of work and value differs from the above stated conditions, it will not be considered while evaluation of technical qualification.

v. Work order along with completion certificate are to be attached.

b) Bidders must compulsorily submit work order and work competition certificate issued from Govt Department/reputed PSUs only satisfying the above-mentioned work experience criteria for technical qualification. Moreover, AEGCL reserves the right to scrutinise any work order/work competition certificate submitted by the bidders with issuing authority and if any abnormalities are observed in the same, their bids will be rejected.

4. FINANCIAL QUALIFICATION: -

a) Minimum average annual turnover of **Rs. 2,58,33,688.00** (Rupees Two Crores Fifty Eight Lakhs Thirty Three Thousand Six Hundred Eighty Eight) only calculated as total certified payments received for contracts in progress or completed, within the last 3 (Three) years. (Audited Balance Sheet)

b) The Contractor must furnish their Bank Solvency Certificate indicating the amount by concerned authority in necessary format as per their banks.

c) Financial Statements for last 5(five) years out of which best 3 (three) years financial statement will be considered for calculation of turnover (should be CA/CMA certified).The bidder should have net profit and positive net worth for last 3 (three) years.

5. PRICE BID EVALUATION PROCESS:

Identification:

A. The following methodology will be practised for identification and treatment of the

Abnormally Low Bids (ALB) in this tender process of AEGCL:

(i) ***Absolute Approach*** is to be considered when there is fewer than five substantially responsive bidders and if the bid price is 20% or more, below AEGCL's cost estimate then AEGCL's tender evaluation committee should clarify the Bid price with the bidder to determine whether the Bid is abnormally low.

(ii) ***Relative approach*** is to be considered when there are at least 5(five) nos. of substantially responsive bids and the lowest bid price is 20% or more, below AEGCL's cost estimate. In this approach, first the Average bid price is determined and then by deducting the standard deviation from the Average bid price, potentially ALB may be determined.

B. In case of an ALB, the tender evaluation committee/appropriate authority of the respective tenders shall undertake the following three stage review process which is as below:

(i) To identify ALB as per the steps mentioned in SI no. 5.A.(i) and 5.A.(ii) whichever is applicable.

(ii) To seek and analyse the clarifications from the abnormally low Bidder in terms of resource inputs and pricing, including overheads, contingencies and profit margins. In that respect, the committee may refer to guideline of World Bank, AIIB, ADB etc. prescribed for ALB.

(iii) To decide whether to accept or reject the bid.

(iv) On acceptance of the bid, whether Additional Performance Security is to imposed on the bidder supplemented by adequate justification.

C. **In case of acceptance of ALB with Additional Performance Security:**

(i) If any abnormally low bid is accepted under point 5.B (iii) with additional performance security, it is to be noted that the total performance security should not exceed 20% of the total contract value.

(ii) The additional performance security shall be treated as part of the original performance security and shall be valid for a period similar to that applicable for defect liability period of the contract.

(iii) Non submission of the additional performance security shall constitute sufficient ground for rejection of the bid and similar assessment shall then be initiated for next ranked bidder if that bidder is also identified as ALB.

(C) GENERAL CONDITIONS OF CONTRACT:

1. INSPECTION OF SITE: -

a) The Bidder is required to visit and examine the site where the work is to be carried out and its surroundings, nature of work, site conditions, area for storage of materials, etc. and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract. The costs of visiting the site shall be at the Bidder's own expense. Non-familiarity with the site conditions will not be considered a reason either for extra claims or for not carrying out the work in strict conformity with the specifications & requirements. **The bidder must take a certificate regarding the site visit from the Asst. General Manager,** 220 KV Grid Sub-Station **, Samaguri , AEGCL, photograph of site with geo location and timestamp and submit in the tender document.**

For site visit and any clarification/information/assistance, the intending Bidder may contact in written to the Office of the AGM, 220 KV Grid Sub-Station, Samaguri, AEGCL.

2. PREPARATION OF BID: -

a) <u>Cost of Bidding:</u>

The Bidder shall bear all costs associated with the preparation and submission of its Bid,

and AEGCL shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

b) Documents Establishing Conformity of the Goods and Services: -The documentary evidence of the conformity of the goods and services to the Bidding Document may be in the form of letter, drawings and data, and shall furnish. A detailed description of the essential technical and performance characteristics of the goods and services, including the functional guarantees of the Goods, in response to the specification.

c) Bidder should note clearly that department should not take any responsibility for issuing of any materials, equipment's and T&P's that may be required in the work.

d) All materials, labours, equipment's, T&P and heavy vehicle etc. required in the work shall have to be arranged by the bidder/contractor from his own sources in the event of allotment of the said work to him/them.

e) Water to be used in the work should be clean and free from all impurities; the bidder should note that no water will be provided to them for the execution of the work from the department

f) The department is also not bound to supply power that may be required in the execution of the work. However, subject to the availability of the power source near the vicinity of the work site, the department on payment of tariff as applicable at the time of execution of work may arrange one point near the work site.

g) The bidder should clearly understand that all materials to be utilized in the work must confirm to the specifications. No substandard materials will be allowed to utilize in the work. Samples of each and every material to be brought to the site of work shall have to be get approved by the competent authority of the department before use.

h) The contract must not be sublet under any circumstances. If any contractor found in doing so, his work liable to be terminated.

i) The specification for the work shall be as per specification laid down in the items of work contained in the enclosed schedule of items of work or as per the APWD schedule of rates for Building (civil works), Sanitary and Water supply and internal electrification respectively (whichever is applicable) or CPWD DSR 2021 but, certain modification in the specification and method of execution of work if required shall have to be carried out which shall be finalized with the contractor bilaterally through discussion

3. PRICE BID: -

a) Unless otherwise specified in the Bid Document and/or AEGCL's Requirements, bidders shall quote for the entire plant and services on a single responsibility basis such that the total bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the bidding document in respect of the including procurement, delivery, testing of materials, construction, installation and completion of the Work. The rate should also include the cost of testing of materials at the approved laboratory, carriage and transportation of sample, preparation of report, submission of report in all respect as required by AEGCL. This includes all requirements under the Contractor's responsibilities for completing the work and where so required by the bidding document, the acquisition of all permits, approvals and licenses, etc.; the operation, maintenance and training services and such other items and services as may be specified in the Bidding Document, all in accordance with the requirements of the General Conditions. Items against which no price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed to be covered by the prices for other items.

b) Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the bidding document.

c) **Bidders quoted price should include all cost of testing of materials, transportation of sample, storage, preparation and submission of report during approval period,**

construction period as well as after completion of the work.

d) Whenever forest produces like sand, stone, timbers etc are used in the work the contractor have to furnish documentary proof that requisite royalty on such produces has been paid to the concerned Department, otherwise will be deducted at source at applicable rate.

e) Taxes like work contract, income tax etc. which need to be deducted at source as per the prevailing law, will be deducted at source.

f) The Bided Price should on Fixed Price basis, prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account.

4. SITE FACILITIES: -

a) AEGCL will not provide any accommodation at the work site to the contractor and their field personnel. No claim shall be entertained from the bidder for making his own arrangement for providing accommodation to the labours and bidder will bear entire expense. The same has to be arranged by the contractor on their own. However, AEGCL may provide space for storage of the materials but responsibility of the material and their safety shall be taken care of by the Contractor. In case of non-availability of space under AEGCL the same should be arranged by the contractor outside AEGCL campus/work site at their own cost and responsibility.

b) AEGCL shall not be responsible for the safety of the workers at site either on account of the works executed by the Contractor or on account of the works executed by any other agency involved at that time.

c) AEGCL shall on no account be responsible for the expenses incurred by the Contractor during the progress of work at site, towards any incidental expenditure like medical amenities to the workers at site, security arrangements.

d) The quoted price shall be deemed to include charges for all site facilities for labour that are considered necessary for execution of the work.

e) No claim shall be entertained from the bidder for making his own arrangement for approach roads from outside PWD road to the site and bidder will bear entire expenses.

f) AEGCL on no account shall be responsible for storage of materials or loss or pilferage or theft either in respect of the material stored or material already billed and paid for by the AEGCL.

g) Any facilities available at site shall be utilized only with prior permission of AEGCL and it should not be taken as granted for availing such services.

5. DEFECT AFTER COMPLETION OF WORK: -

a) The contractor shall make good at his own cost and to the satisfaction of AEGCL all defects, or other faults which may appear during the defect liability period.
In default, AEGCL may employ and pay other agency or persons to amend and make good such damages. Losses and expenses consequent thereon or incidental thereto shall be made good and borne by the contractor, failing which the same shall be recoverable from the payment due to the contractor and performance guarantee. In the event of amount due and performance guarantee being insufficient, the balance amount will be recovered from the contractor from the amount due or retained for other works executed in AEGCL.

6. VARIATION AND DEVIATION OF QUANTITY: -

a) The Tendered rates shall hold good for any variations in the Tendered quantities for legitimate completion of works as per original design on account of any modification in the bill of quantities.

b) **Deletion of work:**
AEGCL and its representative have the right to delete or decrease any item or quantity from schedule of quantity at its discretion if deemed necessary. No claim by the contractor will be admissible for this deletion or deduction of Item/quantity from schedule of quantity.

7. LABOUR LEGISLATION: -

a) The Bidder shall comply with the provisions of the Apprentices Act 1961, payment of Wages Act1936, Minimum Wages Act 1948, Employees Liability Act 1938, Workmen's Compensation Act 1923, Industrial Disputes Act 1947, Maternity Benefits Act 1961, and the Contract Labour (Regulation and Abolition) Act 1970, Provident Fund Act or the modifications thereof or any other laws relating thereto and the rules made there under from time to time.

b) The Bidder shall indemnify and keep indemnified AEGCL against payments to be made under and for the observance of the laws aforesaid and the Contractors' Labour Regulations without prejudice to his right to claim. The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

c) The Bidder shall at his own expense arrange for all the safety provisions for the safety of all workers and employees directly or indirectly employed on the work by the Bidder.

d) The Bidder shall be fully responsible at his own expenses for compliance all the labour regulations and rules to be observed by them. The Bidder shall fully indentify AEGCL against any action by the state and/or Central Government for any default or alleged default by the Bidder for violation of any of such rules and regulations. If, due to any default of the Bidder, AEGCL has to incur any expenditure for compliance of the rules and regulations or for any other reason connected with such default, AEGCL shall be entitled to recover from the Bidder all such expenditure in full from any payment due to the Bidder.

8. GOVERNMENT AND LOCAL RULES: -

a) The Contractor shall conform to the provisions of all local bye-laws and acts relating to the work and to the regulations etc. of the Government and Local Authorities and of any Company whose system and design is proposed to be connected/utilized. The cost, if any, shall be deemed to have been included in his quoted rates, taking into account all liabilities and shall indemnify AEGCL against such liabilities and shall defend all actions arising from.

9. ELIGIBILITY OF CONTRACTORS EMPLOYEES: -

a) The Contractor shall employ in and about the Execution of the works only such persons as are skilled and experienced in their several trades. A list of such personal should be submitted in corresponding Appendix.

10. ENGINEER AT LIBERTY TO OBJECT:-

a) AEGCL's Site in-charge shall have right to remove any person provided by the Contractor who, in the opinion of the Site in-charge, misconducts himself, or is incompetent or negligent in the proper performance of his duties, or whose presence on Site is otherwise considered by the Engineer to be undesirable, and such person shall not be again allowed upon the Works without consent of the Engineer. Any person so removed from the Works shall be replaced immediately without hampering the work.

11. TAXES: -

a) Any taxes, royalties and duties as per Govt. Law should be responsible of the contractor and must be included in their quoted rate.

12. INSURANCE: -

a) The bidder shall arrange for any pay/cost of personnel accident insurance, medical treatment etc. in respect of their employees assigned to the works for all time and shall govern by Law of the land.

13. DAMAGE TO PERSON AND PROPERTY: -

a) The Contractor shall be responsible for all injury to the work or to workmen, to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of contractor or its employees, against whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this Contract. The Contractor shall at his cost effect the insurance necessary and indemnify AEGCL entirely from all responsibility in this respect. The scope of insurance is to include loss or damage to the work and workmen due to carelessness, accident including fire, earthquake, floods, all medical expenses, compensation to be borne in the event of accident etc., damage or loss to the Contract itself till this is made over a complete state. Insurance is compulsory and must be affected from the very initial stage and should cover the entire contract period till handing over of complete works. The Contractor shall also be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this Contract.
AEGCL shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or occurring from or in respect of any such claim for damages from any sums due or to become due to the Contractor.

14. ACCEPTANCE OF BID AND CONTRACT AGREEMENT:-

a) An agreement shall have to be drawn on non-judicial stamp of appropriate value with AEGCL by the selected Contractor in AEGCL's General Conditions of Supply and Erection 2009 of contract within 15 (fifteen) days from the date of issue of the LOA/NOA.
Wherever there is any variation in between the conditions of AEGCL's General Conditions of Supply and Erection 2009 and the above terms & conditions, this bid conditions will supersede the conditions of AEGCL's General Conditions of Supply and Erection 2009.

15. STATUTORY AND SAFETY REQUIREMENT: -

a) Each and every safety measure for MAN and MACHINE will be the sole responsibility of the Contractor without any prejudice. Compensation claims if any will also be the responsibility of the contractor without any prejudice.
b) During the execution of the work, the contractor shall have to mark the site with banner warning/indicating precautions.
c) The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects therein:
d) Have full regard for the safety of all persons entitled to be upon the Site and keep the Site (So far as the same is under his control) and the Works in an orderly state appropriate to the avoidance of danger to such persons, and
e) Provided and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer or by any duly

constituted authority for the protection of the Works or for the safety and convenience of the public or others, and 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.

16. PAYMENT TERMS: -

a) Within 60 (sixty) days from the date of submission of invoice, not more than 80% (eighty percent) payment against foundation, erection & civil works would be made. However, GST amount on invoice would be paid 100% or as per Govt. rules.

b) In total 4 (four) Nos. of progressive erection invoices/ bills would be entertained.

c) The 1st progressive erection bill would be entertained on completion of minimum 30% of total erection cost of the project.

d) Minimum value of 2nd and 3rd invoice should be 20% of the total ordered value for foundation, erection and civil works.

e) Remaining 20% of the erection value would be paid on completion of 100% erection, testing and commissioning activities of the project, which should be certified by the project manager.

f) Payment is subject to availability of specific fund.

g) The Bidder / Firm will have to be submitted the following Net Banking details.

- Banker's Name & Branch
- Account No
- Banker's address
- Banker's IFSC Code
- Banker's RTGS Code

17. ADDITIONAL WORKS: -

The Contractor shall, when ordered in writing by the concerned authority, perform extra work and furnish extra materials not required by the invitation or included in the "Bill of Quantities", but forming an inseparable part of the work concerned. For extra work and, materials will ordinarily be paid for the lump sum or unit price/rates stated in the order. Whenever in the judgement of the concerned authority, it is impractical, because of the nature of the work or for any other reason to otherwise fixed the price/rate in order, the extra work and materials shall be paid for on the basis or actual necessary cost plus overhead and profit allowances as indicated hereunder.

The actual necessary cost will include:

a) Market value of the materials utilized in the extra work, including taxes and duties, if any.

b) Actual cost of handling and transportation of materials wherever applicable.

c) Direct labour charges.

f) Further supervision charges and profit will be allowed at 10% on the sum. In case any material or parts are furnished by the department no overhead and profit will be allowed on the value of such materials or parts.

18. RETENTION MONEY: -

a) 10% retention money will be deducted from running bill, which will be released along with the final bill on completion of the work in all respect.

19. WARRANTY: -

a) The term period of warranty shall mean the period of 18 months from the date of Taking Over of the Work by AEGCL. A Taking over Certificate (TOC) will be issued by the

Concerned AGM.

b) The Contractor must handover the warranty card or other relevant documents from the OEM at the time of submission of the bill.

20. SUSPENSION OF WORK: -

a) If the contractor persistently neglects to carry out his obligations under the contract and/or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by AEGCL subject to other provisions contained, AEGCL may without prejudice to his any other rights or remedy against the Contractor in respect of any delay in commencing, completing the work may serve notice in writing absolutely determine and cancel the Contract.

21. EXTENSION OF TIME: -

a) Time is the essence of the contract. No extension of time shall be allowed except on valid reason after pre-approval from competent authority.

22. CHANGE OF NAME OF THE TENDERER: -

a) At any stage after tendering, AEGCL shall deal with the Contractor only in the name and the address under which he submitted the tender. All the liabilities/ responsibilities for due execution of the contract shall be that of the Contractor.

b) Any change/ alteration of name/ constitution/ organization of contractor shall be duly notified to the AEGCL and the AEGCL reserves the right to determine the contract, in case of any such notification.

23. DEATH, BANKRUPTCY ETC.: -

If the Contractor becomes bankrupt or being a corporation is in the process of winding up, amalgamation or reorganization, the AEGCL shall be at liberty to:

i. Terminate the contract forthwith by notice in writing to the Contractor or to the liquidator or receiver or to any person in whom the contract may become vested.

ii. Give such liquidator, receiver or other person the option of carrying out the contract subject to his providing a guarantee for the due and faithful performance of the contract up to an amount to be determined by the AEGCL.

In case of death of the Contractor before completion of work and supply, the Engineer or AEGCL shall be at liberty to:

a) Close up the contract and take over the completed portion of work done and made as per specification and make final payment to the legal heir of the Contractor on receipt of claim from such legal heir.

b) Give the contract to the legal heir of the Contractor subject to his depositing a performance security for the due and faithful performance of the contract. The performance security amount shall be determined by the AEGCL commensurate with the incomplete portion of the work. The AEGCL will enter into a fresh contract with the legal heir of the Contractor on the same terms and conditions of the earlier contract.

24. CONTRACTUAL FAILURE, LIQUIDATED DAMAGE AND PENALTY: -

a) Liquidity Damages 0.5% of the amount of delayed work per week subjected to the maximum 10 % of the contract value.

25. TERMINATION OF CONTRACT: -

a) **If the performance of the contract is not satisfactory, a show cause notice shall be**

issued by AEGCL and if not corrected within 15 days of receiving notice, then AEGCL shall be at liberty to terminate the contract and get the work executed through other means at the risk and cost of the Contractor.

26. PAYMENT ON TERMINATION: -

a) In the event of termination of the contract, AEGCL shall be at liberty to get balance work done by any third party at the risk and cost of the contractor and due payment of the contractor, if any shall be released after the completion of whole of the works.

27. SUSPENSION OF BUSINESS DEALINGS WITH FIRMS/ CONTRACTORS: -

a) The AEGCL may suspend business dealings with a Firm/ Contractor, if:-

i. The Central Bureau of Investigation or any other investing agency recommends such a course in respect of a case under investigation; and if a prima facie case is made out that the firm is guilty of an offence involving unethical, unlawful, fraudulent means in relation to business dealings, which, if established, would result in business dealings with it being banned.

ii. The AEGCL has past record of non-performance of the Firm in its previously awarded contracts.

iii. The AEGCL has record of ban against the Firm by other Government /Public sector utility.

b) However, the AEGCL shall give the Firm/ Contractor a fair chance to explain the circumstances of such previous suspensions.

28. BANNING OF BUSINESS DEALINGS WITH FIRMS/ CONTRACTORS: -

The AEGCL may ban business dealings with a Firm/ Contractor, if: -

a) The owner (s) of the Firm/ Contractor is convicted by a court of law following prosecution for offences involving unethical, unlawful, fraudulent means in relation to business dealings.

b) There is strong justification that the Firm has been guilty of malpractices such as, bribery, corruption, fraud, substitution of tenders, interpolation, mis-representation, evasion or habitual default in payment of any Government tax etc.

c) The Firm continuously refuses to return government dues without showing adequate cause and government are reasonably satisfied that this is not due to reasonable dispute which would attract proceeding in arbitration or court of law.

d) The Firm is found guilty of involving in unethical practices, such as:-

i. "corrupt practice" involving offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the action of any such official/ party in procurement process or in contract execution.

ii. "fraudulent practice" involving misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer.

iii. “collusive practice” involving a scheme among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

iv. “coercive practice” involving harming or threatening to harm directly or indirectly, persons or their property to influence procurement process or the execution of a contract.

The AEGCL may sanction a Firm/ Contractor or its successor, including declaring ineligible, indefinitely or for a period of not less than 3 (three) years.

29. FORCE MAJEURE CONDITION

a) Force Majeure condition shall be considered as any circumstances beyond reasonable

control of the party claiming relief, including but not limited to strikes, lockout, civil commotion, riot insurrection, hostilities, mobilization, war, fire, flood, earthquake, malicious damage or accidents could entitle contractor to extension time. Any such delay should intimated within 10 (ten) days from the beginning of such delay to consider/approved, any claim without prior information may not be considered under force Majeure.

30. SETTLEMENT OF DISPUTE AND ARBITRATION: -

a) Any dispute arising out of the contract will be first settled bilaterally between AEGCL and Contractor. In case, dispute cannot be settled bilaterally, it will be referred to arbitration to be resolved by a sole arbitrator appointed by AEGCL and contractor (mutually acceptable). The contractor shall not stop the work during settlement of any dispute. All disputes shall be subjected to the jurisdiction of District Court of respective District of work. The arbitration proceeding shall be according to Arbitration and Conciliation Act 1996 and its subsequent amendment. The place of Arbitration shall be at Guwahati and the language of Arbitration proceeding shall be in English.

31. POLLUTION AND ENVIRONMENT: -

a) Each and every measure should be taken to adhere to the standard norms to avert any occasion of Air Pollution, Water Pollution, Soil Pollution and Sound Pollution. In case of any deviation leading to any legal action the Contractor will be solely responsible without any prejudice.

32. ACCEPTANCE AND TAKEOVER: -

a) When the term of contract shall be fully complied with completing all works as per approved drawing and technical specifications to the satisfaction of the Department for a period as applicable, the Contractor/Firm shall have to submit Performance Certificate to the office of the undersigned after the satisfactory completion of the work through the executing authority for finalization of the work/payment as well as for the final acceptance and taking over the completed work and to issue the necessary certificate thereof.

(D) WORK SCHEDULE:

1. SITE HANDOVER: -

a) Handing over of the work site will be done in presence of AEGCL Officials of concerned site and contractor or its authorized representative.

b) The contractor has to submit the list of manpower along with contact numbers to be engaged for the work to the AEGCL Officials.

c) The date of site handing over to be noted on the Site register duly signed by the AEGCL Officials and contractor or its authorized representative.

2. WORK COMMENCEMENT: -

The work should be started only after having the following documents.

a) Site Register
b) Measurement Book
c) Drawings
d) Specifications of item & schedule of Quantity
e) Approved Material

3. SITE REGISTER:-

a) It will be issued by the department along with the work order.

b) It will be the responsibility of the Contractor to record and update the site register with details of Day-to-Day activities and other details.

c) The days on which no work is carried out should be recorded in the site register with proper justification.

d) Any instruction by AEGCL officials during site visit must be noted properly and should be jointly signed by the official and the contractor or its authorised representative.
In case of any disagreement, the Contractor must notify AEGCL in written.

e) Any deviation in works must be properly noted in the site register by the Contractor along with proper justification for it.

f) Progress report along with work completion percentage must be prepared by the Contractor on the basis of site register log and has to be submitted to AEGCL on 1st and 16th date of the month.

g) Site register shall be verified from time to time by the Site In-charge and any anomalies found will be forwarded to higher authorities in written by the Site In-charge.

4. WORKING PROCEDURE:

a) **All materials must be procured only after verification and approved at store by AEGCL or any authorised representative.**

b) Any materials bought to the site of work without approval from AEGCL, those materials will not be accepted and cannot be used in carrying out the work.

c) All the work must be carried out as per the directions of AEGCL and no deviation from the directions shall be allowed under any circumstances. In case of inevitable discourse, the contractor must get the deviation approved from the AEGCL.

d) If any kind of unapproved deviations are observed during the course of the work, the contractor shall have to redo the work as per the direction of AEGCL at the cost of the Contractor.

e) It shall be the contractor's responsibility to clear any unusable debris/left out materials from the AEGCL campus. No unwanted material can be left unattended by the contractor and the same must be cleared before handing over the site to AEGCL.

f) The reusable or valuable dismantled materials during the work have to be shifted to a place as decided and directed by the AEGCL.

g) Since multiple Agencies will be working on the same work site, there should be proper coordination between different contractors involved in the same project or related projects under AEGCL.

h) The requirement of electricity and water for execution of mentioned work is in scope of the concerned contractor.

5. PERT CHART OR BAR CHART: -

The successful bidder within 10 (ten) days before the contract is awarded will make out a detailed PERT Chart covering all activities along with detailed program chart on accepted scheme indicating various stages of execution, method of execution and completion of work in different stages keeping the period of completion in view and submit the same to the Engineer for the consideration and approval.

(E) SPECIFICATION OF WORK:

1. GENERAL

The intent of this technical specification covers the following:

All civil works shall be carried out as per drawings/design provided by the AEGCL/Contractor and as per these specifications provided by the AEGCL. In case any item is not covered under

specification then the same shall be carried out as applicable Standards and Codes as per AEGCLs requirement. Any item for which specification is not provided herein and is not covered under standard specification shall be executed as per manufacturer guidelines. All materials shall be of best quality conforming to relevant Indian Standards and Codes.

The Contractor shall furnish all designs, (unless otherwise specified) drawings, labour, tools, equipment, materials, temporary works, constructional plant and machinery, fuel supply, transportation and all other incidental items not shown or specified but as may be required for complete performance of the Works in accordance with approved drawings, specifications and direction of AEGCL.

All materials including cement, reinforcement steel and structural steel, etc shall be arranged by the Contractor. All testing required shall be arranged by the contractor at his own cost.

The bidder shall fully apprise himself of the prevailing conditions at the proposed site. Climatic conditions including monsoon patterns local conditions and site-specific parameters, soil parameters, availability of construction material and shall include for all such conditions and contingent measures in the bid, including those which may not have been specifically brought out in the specifications.

The scope shall generally cover design and construction of G+2 Backup SLDC including all services and amenities such as sanitary system, electrical system, Airconditioning, Lift, Cable trench, ducts, furniture, etc. The scope shall further include soil investigation, landscaping of outdoor area, lighting, parking area, etc.

2. SOIL INVESTIGATION

a) The Contractor shall perform a detailed soil investigation to arrive at sufficiently accurate information about the soil profile/strata and the necessary soil parameters of the site in order that the foundations of the various structures can be designed and constructed safely and rationally. Foundation systems adopted by the contractor shall ensure that relative settlement shall be as per provision in IS 1904 and any latest IS and other Indian Standards.

b) This Specification covers all the work required for detailed soil investigation and preparation of a detailed report. The work shall include mobilization of necessary equipment, provision of necessary engineering supervision and Geotechnical Expert personnel , skilled and unskilled labour etc., as required to carry out field investigation and tests, laboratory tests, analysis and interpretation of data and results, preparation of detailed soil report including specific recommendations for the type of foundations and the safe bearing capacity for different sizes of foundations of the building at different founding strata. All the test is to be carried out before the AEGCL officials or before any agency engaged by AEGCL. Prior intimation in this effect has to be given to AEGCL.

c) A report to the effect will be submitted by the Contractor for AEGCL specific approval giving details regarding his data for Civil structures design.

d) Some of the soil parameters given below have to be determined and submitted to authorized representative of AEGCL.

   i. Dry density

ii. Bulk density

iii. Angle of internal friction/cohesion

iv. Specific gravity

v. Natural moisture content.

e) Bore hole

Drilling of bore hole of 150 mm dia. in accordance with the provisions of IS 1892 at approved locations to specified depths or to refusal whichever occurs earlier. (By refusal it shall mean that a standard penetration blow count (N) of 100 is recorded for 30 cm penetration).

Performing Standard Penetration Tests at 1.5 m intervals in the bore hole starting from 0.5 m below ground onwards and at every change of stratum. The disturbed samples from the standard penetrometer shall also be collected for necessary tests.

Collecting undisturbed samples of 100/75 mm diameter 450 mm long from the bore hole at intervals of 2.5 m and every change of stratum starting from 1.0 m below ground level onwards. The depth of Water Table shall be recorded. Both disturbed and undisturbed, shall be sealed at both ends of the sampling tubes with wax immediately after the sampling and shall be packed properly and transported to the Contractor`s laboratory without any damage or loss but not limited to.

The logging of the bore hole shall be compiled immediately after the boring is completed and a copy of the bore log shall be handed over to AEGCL duly signed by representative of AEGCL.

f) Laboratory Test

The sample brought from field, whether disturbed or undisturbed shall be extracted/prepared and examined by competent technical personnel, and the tests shall be carried out as per the procedures laid out in the latest edition of the relevant IS Codes and Standards.

The following laboratory tests shall be carried out:

i. Visual and engineering classification.

ii. Liquid limit, plastic limit and and shrinkage limit.

iii. Optimum moisture content, bulk density, dry density and specific gravity.

iv. Grain size distribution.

v. Unconfined compression test.

vi. Unconsolidated undrained test.

vii. Swell pressure and free swell index determination.

viii. California bearing ratio.

ix. Consolidated undrained test.

x. Consolidated drained test.

xi. Chemical tests on soil and water to determine the carbonates, sulphates, nitrates, chlorides, Ph value, and organic or inorganic matter and any other chemicals harmful to the concrete foundation.

Test results and reports

The Contractor shall submit the detailed report in four (4) copies wherein information

regarding the geological detail of the site, summarized observations and test data, bore logs, and conclusions and recommendations on the type of foundations with supporting calculations for the recommendations. Initially the report shall be submitted by the Contractor in draft form and after the draft report is approved, the final report shall be submitted.

3. STANDARDS, DESIGN AND DRAWINGS

a) The building structure shall be of reinforced cement concrete and shall be as per requirements of earthquake Zone-VI **(importance factor 1.5)** and wind for zone-V region of IS. The design and construction of RCC structures shall be carried out as per IS 456 and minimum grade of concrete shall be M20 corresponding to 1:1.5:3 (M20) nominal mix ratio with 12-20 mm coarse aggregate. Minimum 75 mm thick lean concrete shall be provided below foundations, trenches etc. to provide a base for construction. The design and detailing of foundations shall be done based on the approved soil data and sub-soil conditions as well as for all possible critical loads and the combinations thereof. The type of foundation as may be required based on soil/sub-soil conditions and superimposed loads shall be provided. plinths shall be minimum 900mm above finished ground level. The water proofing cement additives shall confirm to IS: 2645. Concrete Admixtures/Additives shall be approved by the owner. Limit state method of design shall be adopted unless stated otherwise in the Specification. For design and construction of steel-concrete composite beams IS 11384 shall be followed. For detailing of reinforcement IS 2502 and SP: 34 shall be followed. All foundations shall rest below virgin ground level and the minimum depth of foundation below the virgin ground level shall be maintained. Design shall consider any sub-soil water pressure that may be encountered. Necessary protection to the foundation work, if required, shall be provided to take care of any special requirements for aggressive alkaline soil, black cotton soil or any other type of soil which is detrimental or harmful to the concrete foundations. Factors of safety for these cases shall be as stated in relevant IS Codes or as stipulated elsewhere in the Specifications.

4A. SITE CLEARANCE

The work shall consist of numbering of trees, removing and disposing of all materials such as trees, bushes, woods, shrubs, grass, stumps, rubbish, rank vegetation, roots, foreign materials, unused excavated soil, obsolete structure and foundation etc., which in the opinion of AEGCL are unsuitable for incorporation in the works, from within the limits and such other areas as directed by AEGCL. The permission and forest royalty payment shall be in the scope of Contractor. The work shall also Include backfilling with new soil approved by AEGCL on removal of any substructure. Clearing and grubbing shall be performed in advance of earthwork operations and in accordance with the requirements of these Specifications and includes earth filling required for levelling of land after demolishing existing structures. During clearing and grubbing, the contractor shall take all adequate precautions against soil erosion, water pollution etc., and where required undertake additional works to that effect. Site levelling shall be in the scope of the Contractor which shall be done as per the Finished Ground Level (F.G.L) fixed by AEGCL.

4B. DISMANTLING AND DEMOLISHING

The work shall include demolishing or dismantling of all buildings including store building and sheds, boundary wall, fencing and any other structure or obstacle including sub structure as

directed by AEGCL. Transportation and Disposal of any unserviceable material outside the campus shall be under scope of contractor. Sorting & storing of serviceable materials within the campus shall be under contractors' scope at the site allotted by AEGCL.

4. MATERIALS AND WORKMANSHIP

a) General –

All materials used in the works shall be new and of the best quality of their respective kinds. They shall comply with the requirements of the latest edition of any relevant Indian Standard or Code of Practice where such exist, and current at the date of tendering. All workmanship shall be of the highest standard and shall be executed by competent men skilled in their respective trades.

b) Samples –

In addition to the special provisions made in this specification for sampling and testing of materials by particular methods, samples of any materials and workmanship proposed to be used in the Works may be called for at any time during the Contract by AEGCL and shall be furnished by the Contractor without delay and at the expense of the Contractor. Samples when approved, shall be regarded as the acceptable standard, and any material or workmanship subsequently not complying with that standard shall be rejected and replaced by those of acceptable standard at the expense of the Contractor. Sample storage boxes shall be provided by the Contractor free of cost if requested by AEGCL.

c) Tests –

Whenever considered desirable by AEGCL, inspectors may be sent to manufacturer's premises to test materials or supervise their manufacture. Where specified or requested the Contractor shall obtain from the manufacturer and send to AEGCL, certificates of test, proof sheets, mill sheets, etc., showing that materials have been tested in accordance with this Specification or the relevant Indian Standard. Notwithstanding any tests which may be directed to be carried out at a manufacturer's works, AEGCL may carry out any tests or further tests he considers necessary or desirable after delivery of materials to the Site. The Contractor shall provide all labour, equipment and facilities necessary for carrying out the tests both in works and on site. The cost of routine tests required by IS and this Specification shall be borne by the Contractor. The cost of other tests shall be borne in accordance with the Conditions of Contract.

d) Names of suppliers and copies of orders-

Any material shall be pre-inspected and approved by AEGCL at source before delivery at construction site. Otherwise AEGCL shall not be liable for rejection of materials. If so required, and before ordering material of any description, the Contractor shall submit for approval the names of makers or suppliers proposed. Copies of orders shall also be submitted if so required. AEGCL may at any time withdraw his previously given approval to obtaining materials from any maker or supplier should such maker or supplier fail to supply materials of the specified quality or quantity in the requisite time.

e) Rejection of materials and workmanship –

AEGCL shall at any time have power to reject materials and workmanship not complying with this Specification or with the approved Drawings. Materials so rejected shall be immediately removed from site and replaced by materials of an approved standard at the

expense of the Contractor. Rejected workmanship shall be broken out and replaced by work of an acceptable standard including the supply of new materials by the Contractor, at the expense of the Contractor, and without delay.

5. EXCAVATION AND BACKFILL

Excavation and backfill for foundations shall be in accordance with the relevant Code. The back fill around the foundations shall be compacted according to the specification mentioned for Compaction.

Whenever water table is met during the excavation, it shall be dewatered and water table shall be maintained below the bottom of the excavation level during excavation, concreting and backfilling.

Works shall be carried in dry condition and all excavations shall be kept free from water and the Contractor shall take whatever action is necessary to achieve this. Pumping, well pointing and other means necessary to maintain the excavations free from water shall be at the expense of the Contractor, and carried out in an approved manner.

The soil to be used for back filling purposes shall be from the excavated earth or from borrow pits, as directed by AEGCL.

Requirement for filling material under foundations

All foundations shall be provided with 300 mm thick crushed gravel soling with stone dust filling. Where compacted fill is required, it shall consist of suitable sand, or other selective inorganic material, subject to approval by AEGCL. The filling shall be done with locally available sand. The filled in sand shall be kept immersed in water for sufficient time to ensure compaction, if so desired by AEGCL.

6. SITE PREPARATION AND EARTH FILLING

The Contractor shall furnish all labour, equipment, tools, plant, and materials necessary for complete execution of site preparation, earth filling, compaction, grading, and surfacing in accordance with the drawings, technical specifications, and directions of AEGCL. The work shall include clearing and levelling of the entire area, preparation of the subgrade, and supplying, placing, watering, and compacting approved earth, sand, or gravel fill material in layers not exceeding 200 mm loose thickness. Each layer shall be compacted at or as near as practicable to the Optimum Moisture Content (OMC). Material deficient in moisture shall be uniformly wetted prior to compaction, and material containing excess moisture shall be allowed to dry to achieve proper compaction. Backfilled earth and embankment/subgrade filling shall be compacted to a minimum of 95% of the Standard Proctor Density at OMC. Proctor tests shall be conducted at site in the presence of the authorised representative of AEGCL.

All materials used for site surfacing, earth filling, sand filling, and gravel filling shall be free from organic matter, debris, and other deleterious substances, and shall conform to relevant IS standards and approved quality as directed by AEGCL. Compacted sand filling shall be properly confined to prevent lateral displacement. All completed works shall strictly conform to the approved drawings and specifications and shall be subject to inspection and approval by AEGCL before acceptance.

River sand/stone dust shall be used for earth filling in plinth area of any building or structure.

7. BOUNDARY WALL

Boundary wall shall be constructed at different sections with two different types as provided in the attached drawing.

8. BUILDINGS REQUIREMENTS

a) General

The scope includes the design, engineering and construction of G+2 Backup SLDC building as per approved drawing with the bid document.

b) Design

The buildings shall be designed:

- to the requirements of the National Building Code of India. and the standards quoted therein
- for the specified climatic and loading conditions
- to adequately suit the requirements of the equipment and apparatus contained in the buildings and in all respects to be compatible with the intended use and occupancy
- with a functional and economical space arrangement
- to allow for easy access to equipment and maintenance of the equipment
- with, wherever required, fire retarding materials for walls, ceilings and doors, which would prevent supporting or spreading of fire
- with material preventing dust accumulation
- Suitable expansion joints shall be provided in the longitudinal direction wherever necessary with provision of twin columns.
- Individual members of the building frame shall be designed for the worst combination of forces such as bending moment, axial force, shear force, torsion etc.
- Permissible stresses for different load combinations shall be taken as per relevant IS Codes.
- All cable vaults shall be located above ground level i.e. cable vaults shall not be provided as basements in the buildings. The building lighting shall be designed in accordance with the requirements of relevant section.
- The building auxiliary services such as air conditioning and ventilation systems, fire protection and detection systems and all other miscellaneous services shall be designed in accordance with the requirements specified in relevant sections of this Specifications.

c) Design Loads

Building structures shall be designed for the most critical combinations of dead loads, super-imposed loads, equipment loads, wind loads, seismic loads, and temperature loads. In addition, loads and forces developed due to differential settlement shall also be considered. Dead load shall include the weight of structures, complete finishes, fixtures and partitions and should be taken as per IS:1911 (latest revision). Super-imposed loads in different areas shall include live loads, control panels, electrical equipments, Servers, false/elevated floor for control room and server room, cable trays, Lift, pipe racks/hangers, and erection, operation and maintenance loads.

Wind loads shall be computed as per IS:875. Seismic coefficient method shall be used for the seismic analysis as per IS 1893 (latest revision) and IS 13920, wind and seismic forces shall not be considered to act simultaneously.

Floors/slabs shall be designed to carry loads imposed by equipment, cables, piping and

other loads associated with the building. In general, floors shall be designed for live loads as per relevant IS and cable and piping loads not less than 5 kN/ sq.m hanging from the underside.

d) Submission of data for approval

The following information shall be submitted for review and approval to AEGCL:

- Structural design calculations and drawings including those for construction and fabrication for all reinforced concrete and structural steel structures.
- Fully dimensioned floor plans, cross sections, longitudinal sections and elevations of each building. These drawings shall be drawn at a scale not less than 1:50 and shall identify the major building components.
- Fully dimensioned drawings showing details and sections, drawn to scales of sufficient size to clearly show sizes and configuration of the building components and the relationship between them.
- Product information of building components and materials, including walls, partitions, flooring, ceilings, roofing, doors and windows and building finishes.
- **A** detailed schedule of building finishes including colour schemes.
- A door and window schedule showing door types and locations, door lock sets and latch sets and other door hardware.

Approval of the above information shall be obtained before ordering materials or starting fabrication or construction as applicable.

e) Electrostatic radio interference shielding

The building inside the energized area of the stations shall be electrostatically shielded to limit the exposure of the equipment and personnel to specified electric field strengths. The shielding system shall be grounded properly.

f) Finish Schedule

The preliminary indicative finishing schedule is given in subsequent clauses. However, at the time of detailed engineering, AEGCL reserves the right to alter the finishing schedule and specifications and such changes shall have no additional financial implication whatsoever to the AEGCL.

i. Flooring

A. 75 mm flat brick soling on compacted soil, 75 mm thick cement concrete 1:1:5:3.

B. Double charged jointless vitrified tiles for Control Room, conference room and MCCDB (AC & DC) room, Office, Toilet wall, etc. –
Laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm 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. The tiles must be cut with the zero chipping diamond cutters only. Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, levelling system and rubber mallet for placing the tiles gently and easily. Double charge Glazed/ Matt/Antiskid vitrified floor tiles polished finish of size 600 x 600 mm.

C. Antiskid vitrified tiles 600X600X12 mm for Toilet floor.

D. Acid proof tiles 300X300X12 mm for battery room and wall.

E. Toilet and kitchen wall ceramic tiles 300X450X12 mm.
Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete

F. 18 mm thick Granite for Staircase, Steps, Door & Window Sill and Kitchen slab –

Flamed finish Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Polished Granite stone slab colour of Black, Cherry/Ruby Red or equivalent.

G. Chequered terrazzo tiles 22mm thick for Ramp and slope surface.

ii. Walls

Control room buildings shall have framed superstructure. All walls shall be non-load bearing walls. Minimum thickness of all walls shall be 230 mm with brick work jointing Mortar or as specified by the AEGCL 1:4 cement sand mortar. All parapet walls shall be 230 mm thick with RCC Mullion from slab. A 50 mm thick DPC shall be provided at plinth level before starting masonry work.

iii. Plastering

All internal walls shall have minimum 15 mm thick 1:4 cement sand plaster. The ceiling shall have 10 mm thick 1:4 cement sand plaster.

iv. External Finish

All external surfaces shall have painted with weather proof synthetic paints over 20 mm thick cement sand plaster in two layers.

All ceilings shall be white based plastic emulsion paints and the internal walls are also to be provided with plastic emulsion synthetic paints.

All walls shall be applied with two coats of J.K Wall Putty (White Cement based putty for concrete/ mortar walls and ceiling both internal and external) after removing all loosely adhering material from the wall surface with the help of emery stone, putty blade or wire brush and moistening the wall with sufficient quantity of clean water as specified and directed by the department. (Total thickness of two coats is maximum 1.5mm).

Applying one/two coat of cement primer of approved brand and manufacture on new wall surface after thoroughly brooming the surfaces free from mortar droppings and other foreign matter and including preparing the surface even and sand papered smooth.

Wall painting (two coats) with waterproof weather coat Exterior/Interior Plastic emulsion paint of approved brand and manufacture (Asian paint/ Berger paint/ ICI paint/ J & N paint/ Nerolac) on new surface to give an even shade after thoroughly brushing the surfaces free from mortar droppings and other foreign matter and sand papered smooth.

v. False Ceiling

The details of false ceiling to be provided are as follows –

Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595 mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum). Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991, in true horizontal level suspended on interlocking metal powder coated T-Grid of hot dipped galvanised iron section of 0.40 mm thick on Silhouette profile, rotary stiched double webbed white with 6mm reveal profile (white/black),comprising of main-T runners of size 15x42mm of length 3000 mm, cross - T of size 15x42 mm of length 1200 mm and secondary intermediate cross- T of size 15x42 mm of length 600mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 85x25x2 mm. Galvanised iron perimeter wall angle of size 22x19x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.

With 15 mm thick integral densified micro edge light weight calcium silicate false ceiling tiles

vi. Doors and Windows

Main Door - Providing, fitting and fixing uPVC- sliding door made out of Lead free green profile having "GREENLINE" mark of BIS standard uPVC multi chambered sections of wall thickness 2.8mm with corners fusion welded, fully reinforced with Galvanized steel 2mm including interlock profile, glazing bead, grooving bead, brush seal, locking arrangement, aluminium sliding track, stainless steel rollers, sealing wedge block, Espag, int handle, pop up handle, keeper, drain cap, fisher screws, packing pieces with all necessary stainlessness screws etc. complete as directed. The windows must be installed complete with all kinds of ironmongery including EPDM gaskets, bridging wedges and glass packers and with suitable water draining system. Fittings ROTO / GQ or Equivalent. Application of silicon sealant from inside / outside of Dowcorning / GE or equivalent.

2 Track Sliding door without Fly screen using uPVC section of size 58mm x 53mm x 2.8mm thick wall for frame, 37mm x 75mm x 2.8mm thick wall for glass sash, Interlock: 43mm x 23mm (Glass Panel)

(WINSTA KOMMERLING/ FINESTA/ ENCRAFT)

2-Panel Using minimum 12 mm clear toughened glass with Office LOGO

All other doors – Providing, fitting and fixing of factory made wooden paneled doors with WPC chowkaths of size 150 x 75 mm and laminate. The thickness of the panel shall be 35mm. Flush door shutters of the solid core type with plywood face panels shall conform to IS: 2202 (Part 1) and with particle board/hard board face panels shall conform to IS: 2202 (Part 2).

Necessary hardware like locking arrangement with pin cylinder locks, dead locks, mortised locks, SS baby latch (occupied / vacant) SS push / pull or mortised handle, heavy quality hinges / pivot, concealed tower bolts, etc., of approved make & design. Floor springs and door closer shall be provided. All Door shall be Labelled with SS name plate.

Windows - uPVC- Sliding Windows made out of Lead free green profile having "GREENLINE" mark of BIS standard uPVC multi chambered sections of wall thickness 2.4mm with corners fusion welded, fully reinforced with Galvanized steel 1.5/2mm including interlock profile, glazing bead, grooving bead, brush seal, aluminum sliding track, stainless steel rollers, sealing wedge block, Espag, int handle, pop up handle, keeper, drain cap, fisher screws, packing pieces with all necessary stainlessness screws etc. complete as directed. The windows must be installed complete

with all kinds of ironmongery including EPDM gaskets, bridging wedges and glass packers and with suitable water draining system. Application of silicon sealant from inside / outside of Dowcorning / GE or equivalent.
2 Track Sliding Window with Flyscreen using uPVC section of sizes 88mm x 50 mm x 2.4mm thick wall for frame with inbuilt flyscreen track, 37mm x 61mm x 2.4mm thick wall for glass sash, 25mm x 49mm x 2.4mm thick wall for flyscreen sash having 1.5mm thick reinforcement, Interlock: 43mm x 23mm (Glass Panel)

3 track shall be used as per necessary.

(WINSTA KOMMERLING/ FINESTA/ ENCRAFT)
4-Panel with 5mm clear float glass
All toilets shall have 5 mm frosted glass. Any glazing shall be provided with double toughened glass each of 6mm thickness. Partition for toilet shall be minimum 6 mm frosted toughened glass.
The window sill shall be of 20mm granite.

Window grill - Providing, Fitting and fixing of window grill wherever necessary made of: outer frame and two (2) intermediate vertical frame made of 50X25X1.5 mm MS tube, horizontal member 16mm round bar @ 100 mm centre to centre. Finishing with primer and enamel paint.
Window Blinds - Providing and fixing venation blinds (Roller blinds) on existing windows with opening and closing arrangement etc. complete as per direction of engineer-in-charge.

vi. Conference Room

The contractor shall design and construct a fully furnished conference room suitable for accommodating nineteen (19) persons, complete in all respects, including false ceiling, illumination system, PVC wall cladding, audio-visual system, furniture, electrical works, acoustic panelling and associated accessories.

The finished conference room shall be aesthetically designed, acoustically balanced, ergonomically functional, and compliant with relevant IS/IEC standards and fire safety norms.

a. False Ceiling Design with Integrated Illumination System

The ceiling system shall consist of a suspended gypsum board false ceiling fabricated using minimum 12.5 mm thick gypsum boards mounted on a GI metal framework. The suspension system shall be securely anchored to the structural slab using approved hangers and perimeter channels of adequate thickness.

The false ceiling shall be designed to incorporate:

- Recessed 600 × 600 mm LED panel luminaires
- Recessed LED downlights
- Indirect cove lighting using LED strip fixtures
- Provisions for ceiling-mounted speakers and other AV components
- Access panels for maintenance

The illumination system shall be designed to provide an average illumination level of 300–500 lux at table height. All lighting fixtures shall be LED type with a correlated color temperature of approximately 4000K and CRI not less than 80. Drivers shall be energy efficient and preferably

dimmable. Lighting circuits shall be independently controlled to enable scene-based illumination during presentations.

Acoustic insulation such as 50 mm thick mineral wool shall be provided above the false ceiling to enhance sound absorption and minimize reverberation.

The finished ceiling surface shall be joint-finished, sanded smooth, and painted with two coats of approved acrylic emulsion paint.

b. PVC Wall Cladding System along with acoustic panelling.

The wall treatment shall comprise decorative PVC wall cladding panels of minimum 8–10 mm thickness, fire-retardant grade, and resistant to moisture and termites.

The panels shall be installed on an aluminium or treated framework with concealed fastening arrangements. The design shall allow adequate space for concealed electrical conduits, AV cabling, and data wiring behind the cladding.

The finish shall be uniform, aligned, and aesthetically coordinated with the overall interior theme. Wood-textured or approved decorative finishes may be adopted as per design approval. Edges, joints, and corners shall be neatly finished with matching trims and profiles.

Where required for acoustic enhancement, perforated or acoustically treated PVC panels may be integrated into selected wall areas.

c. Audio-Visual System

The conference room shall be equipped with a complete audio-visual system suitable for presentations, discussions, and video conferencing.

- Display System

3 nos. wall-mounted 52-inch 4K UHD LED display of make Samsung or Sony shall be installed at the side wall and front wall. The display shall have a minimum brightness of 400 nits and multiple HDMI/USB inputs.

- Audio System

The audio system shall consist of wall mounted and ceiling mounted speakers evenly distributed to ensure uniform sound coverage. The speakers shall be connected to a suitable amplifier with Minimum 1000 watts capacity. Wireless microphones and/or table boundary microphones shall be provided for clear voice pickup with Priority Switch, Talk Switch, Speaker Volume Control, Headphone Volume Control, etc.

- HDMI ports, LAN & Power socket each for every two seating fitted within the conference table and walls as directed.

viii. Roof water proofing and grading

Prepare the surface by thoroughly cleaning with wire brush followed by power washing making surface free from any foreign particles like dust, oil, Grease etc and allowing the surface to dry properly.

Apply water proofing system over the roof slab as specified below:

(i) 1mm thick single coat of Master Crete M-81 of Choksey Chemicals /Dr. Sealkit Sealcrete (Asian Chemicals)/ mixed with cement in the ratio 1:2 as a prime coat.

(ii) 3mm thick Polymer modified mortar - Cement sand mortar (in prop 1:3) mixed with Master Crete M-81/Dr. Sealkit Sealcrete (Asian Chemicals) @ 15% by weight of cement.

(iii) 1mm thick coat of Master Crete M-81 /Dr. Sealkit Sealcrete (Asian Chemicals) mixed with cement in the ratio 1:2 as final coat.

Over waterproofing layers provide concrete screed of average 30mm thick or as per drawings/ requirements in proportion 1:2:4 (1cement : 2fine aggregate : 4coarse aggregate) (by volume) with 10mm and down well graded aggregates and admixed with a normal plasticizer like Master Plast PL-1 of Choksey Chemicals /Dr. Sealkit Normal Plast (Asian Chemicals)/Rheomac 707 of BASF @ 0.3% by weight of cement and thereafter scoring the top surface of the concrete screed @ 200mm c/c as specified and directed by the Department.

The under bed shall be laid to provide an ultimate run off gradient of 1:120. The extra heavy treatment shall be concrete based with water proof treatment as per the standard to protect the roof from damage due to water logging. Proper slope and adequate no of water drain outlets shall be provided for easy discharge of water from the roof. These drains shall be connected to the main drain. Roof treatment shall be done by authorized/certified personnel from the manufacturer. The warranty for the roof treatment should be submitted to AEGCL.

ix. Plumbing and Sanitation

Sanitation and plumbing shall be done as per requirement and Contractor shall submit the water supply and sanitary layout for AEGCL's approval. CPVC pipe shall be used for internal piping works for portable water supply. Any item required other than those mentioned below for completing the job shall be provided by Contractor without an additional cost.

All sanitary fixtures and fittings shall be of approved quality and type manufactured by well known manufactures. All items brought to site must bear identification marks of the type of the Manufacturer. All sanitary and plumbing Works shall be done such that the pipelines are taken via outer wall and internal/concealed piping shall be avoided as far as possible.

Each toilet shall have the following minimum fittings -

	Items
1.	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required.

2.	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430x260x350mm and 430x410x265mm sizes respectively with manual flushing cistern with standard flush pipe and CP brass spreaders with brass unios and GI clamps complete including painting of fitting and brackets cutting and making good the walls and floors wherever required **For ladies toilet -** Providing and fixing vitreous water closet (Indian type W.C Orissa pattern) with all fittings and fixtures complete of size 580 x 440 mm Coloured including 10 litre low level white vitreous china flushing cistern, bends , brackets, painting of fittings and brackets, cutting and making good the walls and floors wherever required.
3.	Providing and fixing of glass division plate of including fitting and fixing competes as directed and specified.
4.	Providing and fixing Counter Top Basin of size 610 x 500mm with RCC counter covered with granite along with chrome plated sink faucet
5.	Providing and fixing minimum 600x450mm bevelled edge mirror of superior glass (of approved quality) complete with 6mm thick hard board ground fixed to wooden cleats with CP brass screws and washers complete and full length mirror outside common toilet area as instructed by AEGCL.
6.	Providing and fixing stainless stell chrome finish hand faucet (in each toilet.
7.	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required: 610x510 mm bowl depth 250 mm.
8.	Providing and fixing wall mounted refillable soap dispensers with push button system having minimum capacity of 500 ml each and to be provided in each cubicle individually as well as with washbasins in bathroom and pantry.
9.	Providing and fixing stainless steel wall hook rail with minimum 3 hooks complete with brackets fixed to the walls with concealed fittings arrangement of approved quality and colour. To be provided in each cubicle.
10.	Supplying fitting and fixing supreme brand / Prince brand or similar approved C.P.V.C. Pipes of following

Any additional fittings such as pillar cock, bib cock, angle valve, flush valve, trap, etc. for completing sanitary work shall be in the scope of the contractor.

x. Internal Electrification

It is in the scope of the contractor to design, install and commissioning of the complete electrification scheme of the building including necessary outdoor lighting and submit conduit and illumination layout for approval from AEGCL. Some of the general requirements of the internal electrification Works are as follows:

a) All the MCB DB shall be independently connected to the Electrical Distribution Room at Ground Floor.
b) The internal electrification Works shall be carried out in concealed wiring system with rigid conduits and 1.1 kV grade PVC insulated, stranded copper conductors.
c) Illumination level and type of lighting in various locations shall be as decided by AEGCL.
d) Sufficient numbers of 3 pin 6 ampere and 16 ampere sockets shall be provided at various locations as directed by the AEGCL.
e) No re-wire able fuses shall be used in electrical distribution circuits, instead sufficient numbers of MCBs of short circuit rating of not less than 10 KA should be provided.
f) In conceal wiring the earth wire shall be 1.1 kV grade PVC insulated, stranded copper conductor.
g) Ceiling fans, lights, exhaust fans shall be provided at various locations as directed by the AEGCL.
h) AC point shall be provided throughout the building wherever deemed necessary.

The rate for the building shall be inclusive of above-mentioned requirements.

xi. Air Conditioning

Scope – The scope of work involves procurement and installation of industrial grade AC's and commercial Split ACs. The following minimum technical particulars shall be provided for industrial grade AC's–

Sl. No	Specifications	Required ratings and particulars
1.	Tonnage	3 and above
2.	Rated Power Supply	1 phase, 50 Hz
3.	Compressor Type	Centrifugal or its equivalent (Reciprocating compressor will not be accepted)
4.	Air Flow Rate (CFM)	1000 and above
5.	Moisture Removal Rate (kg/hr)	4 and above
6.	Compressor warranty (yr)	5 and above

Split AC –

Supply and installation of 2 Ton Split AC with inverter technology, 5-Star rating of brands Voltas/Bluestar/Carrier including outdoor unit, cable, complete for operation.

xii. Lift

Providing and installation 1 no. passenger lift of 10-person (≈1000 kg) capacity conforming to CPWD General Specifications for Electrical Works Part-III (Lifts & Escalators) 2003 (with latest amendments), and relevant IS codes (e.g., IS 14665 series). The lift shall meet Category-I quality

requirements for government buildings and include safety devices, automatic doors, ARD (Automatic Rescue Device), microprocessor control, stainless steel body, and statutory inspection certification. The lift shall be of standard make such as OTIS, KONE, SCHINDLER or JOHNSON.

xii. Fire Fighting and Fire Alarm System

The Fire alarm system shall be as follows -

Scope	Design, supply, installation, testing and commissioning of complete Intelligent Addressable Fire Alarm System including detectors, MCPs, sounders, cabling, integration, documentation and statutory approval.
System shall comply with:	• National Building Code of India • Bureau of Indian Standards (IS 2189 & relevant IS codes) • Tariff Advisory Committee guidelines Local Fire Authority norms
System type	• Intelligent microprocessor-based addressable system • Minimum 2 loop FACP with 20% spare capacity • Each device individually addressable Suitable for 24×7 SLDC operation
Fire alarm control panel	• 2 loop expandable panel • LCD display with event log (min. 1000 events) • Password protected • Inbuilt battery charger • Potential free contacts for Fire/Fault • RS-485 / Ethernet for BMS integration • Installed at Ground Floor Fire Control Room
Detectors	Smoke Detectors: Photoelectric / multi-sensor type for control room, server room, offices & corridors. Heat Detectors: Fixed temperature / rate-of-rise type for pantry, electrical & battery rooms. All detectors shall be IS/UL/FM approved.
Manual call points (MCP)	• Addressable break glass / resettable type • Mounted at 1.4 m above FFL • Located near exits & staircases
Hooters/ Sounders	• Addressable electronic type • Minimum 90 dB at 1 m • With flasher in high noise areas • Provided on all floors and staircases
Cabling	• 2C x 1.5 sq.mm FRLSH shielded copper cable • Conforming to IS 694 • Fire survival cable in riser shafts • Wiring in MS conduit / cable tray
Power supply	• 230V AC mains • 24V DC system • SMF batteries • Backup: 24 hrs standby + 30 mins. alarm
Integration	System shall be interfaced with:

	• Fire Pump Panel • Lift recall • Access Control • BMS
Testing & Handover	• Loop & device testing • Alarm simulation • Integration testing • Submission of as-built drawings, O&M manuals & warranty
Approved makes	Honeywell / Siemens / Bosch / Agni / Ravel or equivalent approved. Entire system shall be from single OEM.

The Fire Fighting System shall be as follows -

Scope	Design, supply, installation, testing and commissioning of complete Fire Fighting System including hydrant system, sprinkler system, pumps, piping, valves, landing valves, hose reels, fire brigade inlet, underground tank connection, electrical panels and all accessories.
System shall comply with	• National Building Code of India • Bureau of Indian Standards (relevant IS codes) • Tariff Advisory Committee guidelines • Local Fire Authority requirements
The Fire Fighting System shall comprise	• Wet Riser System • Internal Hydrant System • Automatic Sprinkler System. • Dedicated Fire Water Storage Tank of capacity as per hydraulic calculation. • Pump House with Fire Pumps (Main electrical, Jockey and Diesel pump set)
Internal Hydrant	• Single headed landing valves at each floor • Hose reel drum (30 m x 20 mm dia) • 2 Nos. RRL hose (15 m each) per hydrant • Branch pipe & nozzle • Installed near staircase lobby.
Sprinkler system	• Automatic wet pipe sprinkler system • Quick response type sprinklers • Coverage as per hazard classification • Flow switch & test valve at each floor
Piping	• MS ERW / Heavy class pipes • Conforming to IS 1239 / IS 3589 • Flanged / grooved fittings • Painted with red enamel (Fire Red) • Pressure testing at 1.5 times working pressure
Valves & Accessories	• Butterfly valves / Gate valves (IS marked) • Non-return valve • Pressure gauges • Air release valve

	• Flow switch (for sprinkler system) Fire Brigade Inlet (4-way) at ground level
Electrical & Control	• Automatic pump operation • Auto/Manual selector switch • Audio-visual indication of pump status • Interfacing with Fire Alarm System
Testing & Commissioning	• Hydrostatic pressure testing • Pump performance test • Flow & pressure test at terrace hydrant • Joint inspection with Fire Authority • Submission of hydraulic calculation, as-built drawings & O&M manual
Approved Makes	Pumps: Kirloskar / Crompton / KSB / Equivalent Valves: Zoloto / L&T / Equivalent Pipes: TATA / Jindal / Equivalent Entire system components shall be IS marked and approved. Necessary Certification/Clearance from Appropriate Authority shall be obtained by contractor on behalf of AEGCL.

xiv. Furniture

Supply and installation of all furniture shall be as per the following table –

U-Shape Conference Table Ply With Veneer	Oval shape conference table with work surface : 12 mm Corean top (White) on 35 mm thick commercial block board with veneer and PU polish finish table top with veneer edge banding finish with matching polish. Full length access panel is provided with soft closing hinges in line with worktop edge. **Under structure**: The under structure consists of 36mm thk. Commercial block board with veneer. **Modesty**: made of 18mm thk. Commercial block board with veneer and PU polish finish with veneer edge banding finish with matching polish. wire management: an array of panels made of 0.8mm and 1.2mm CRCA ms, epoxy powder coated (dft 40-60 microns) is used for flow of wires and cables. cutout for 6 module is provided for electrical fittings below access flap. Additional wire cover made of 0.8mm thk. crca, provided below worktop to conceal microphone wires running from table top to wire tray. Junction box for wire management". Size : 6900MM(L) X 1500MM(D) X750MM(H)
Conference main chair **Premium Leatherette (1No.)**	High back leatherette chair in black colour with matte finish specification: type: * high back 360ø degree revolving chair, * all over size is : 590mm l x 505mm d x1280mm h, * the chair made of full leatherette in black colour. It will come in matte black finish finish in contemporary style. details: * arms : chrome finish arms with pu padding. * use of ply : 12 mm thick hot pressed bwr plywood is grade - 303 for seat and back. * seat : 40 ± 2 mm thick polyurethane foam with density 32 ± 3 kg per cu meter for best quality cushioning in seat, * back : 40 ± 2 mm thick polyurethane foam with density 32 ± 3 kg per cu meter for best quality

	cushioning in back. backrest support foam design based on symmetrical lumbar support * mechanism : knee tilt mechanism. * only seat size is 505mm l x 505mm d x 610mm h & the back size is 590mm l x 710mm h seat maximum height is 610mm & minimum height is 510mm & back height from floor maximum height is 1280mm & minimum height is 1180mm * gas lift 100 mm telescopic hydraulic * base : 650 mm chrome base with smooth castors."MAIN CHAIR (PREMIUM LEATHERETTE)
Conference Chair Premium Leatherette (18Nos)	low back leatherette chair in black colour with matte finish specification :type : * low back 360ø degree revolving chair, * all over size is : 660mm l x 505mm d x 1105mm h , * the chair made of full leatherette in black colour. it will comes in matte black finish finish in contemporary style. details : * arms : chrome finish arms with pu padding. * use of ply: 12mm thick hot pressed bwr plywood is grade - 303 for seat and back. * seat: 40 ± 2 mm thick polyurethane foam with density 32 ± 3 kg per cu meter for best quality cushioning in seat, * back : 40 ± 2 mm thick polyurethane foam with density 32 ± 3 kg per cu meter for best quality cushioning in back. backrest support foam design based on symmetrical lumbar support * mechanism : knee tilt mechanism. * only seat size is 525mm l x 525mm dx 610mm h & the back size is 660mml x 570mm h seat maximum height is 610mm & minimum height is 510mm & back height from floor maximum height is 1105mm & minimum height is 1005mm * gas lift 100 mm telescopic hydraulic * base : 650 mm chrome base with smooth castors."
Leather Sofa Set (1Set)	Pure Leather Sofa Set (3+1+1) of :Majesta 3 +1 +1 of Godrej or equivalent make of overall dimension 840 mm(D) x 2050 mm(W) x 480mm(SH) x 760 mm(H) and 2 nos. 1 Seater of minimum imension: 840 mm(D) x 1060 mm(W) x 480 mm(SH) x 760 mm (H) having specification as follows: (a)1-Seater Sofa is constructed with a chemically treated and seasoned timber frame using multiple timber sections and reinforced with 12 mm plywood and 6 mm flexiply, ensuring durability and structural stability. The sofa is upholstered in high-quality PVC artificial leather with a thickness of 1.0 ± 0.10 mm and a weight of 517 GSM, offering good tear strength, abrasion resistance, color fastness, and flexibility. Comfort is provided through white Skeleton foam with a combination of soft (23D) and hard (28D) densities applied to the seat, backrest, armrests, and borders, with foam thicknesses ranging from 25 mm to 50mm. The seating support system includes 3.8 mm zigzag springs, webbing, and paper board for added resilience. The overall dimensions of the sofa are approximately 106 cm (length) × 84 cm (depth) × 76 cm (height), with a seat height of 56 cm and leg height of 12.5 cm, all within permissible tolerances.
2 Seater Sofa (3 Set)	Providing and placing of premium quality 2 seater sofa for

	visitor's room. Sofa with wooden frame chrome plated pipe, frame legs, seat back leatherette, tapestry as approved by AEGCL Department
Centre Table (4Nos)	Victoria Centre Table of Godrej or equivalent make having specification as follows: Table Top should be made of Chesham wood 18 mm thk. Overall size 1180mmW x 600mmD x450mmH Legs should be 80X80mm Top Side 40X40mm Bottom Side, Support 45x25mm & 8 Pcs Bolt & Nut 1200mmW x 600mmD x450mmH and the work shall be executed as per direction of Engineer-in-charge.
Executive Chair (27 Nos.)	Providing and placing of premium quality Executive Chair. High Back Chair, Wooden Arm, Gas lift, Wooden Base, Leatherette Tapestry, Make: Geeken. Model: GP-103 or similar design of reputed make and design as approved by AEGCL Department.
Visitors' Chair (30 Nos.)	Providing and placing of premium quality visitor's chair. Visitor Medium Back Chair, PU Arm, Chrome Plated Pipe Frame, Leathrite Tapestry, Chrome Plated , Make: Geeken, Model:GS-341 or similar design of reputed make and design as approved by AEGCL Department.
Low Back Chair (30 Nos.)	Providing and placing of premium quality chair for General Staff. Low Back Chair, PP Arm, Push Back, gas lift, nylon base, seat fabric and Back net tapestry.
Front Desk Table (1No)	Modern office front desk table of approximate size 2500 mm (W) × 700 mm (D) × 1050 mm (H), with a working height of 750–780 mm. The desk shall be constructed from 18–25 mm commercial-grade plywood or engineered wood finished with high-pressure laminate and 2 mm PVC edge banding on all exposed edges. Storage shall consist of minimum two lockable drawers and one lockable cabinet with heavy-duty telescopic channels and approved hardware fittings.
Executive Table (2Nos.)	Executive Office Table of approximate size 2100 mm (W) × 900 mm (D) × 750 mm (H), suitable for senior management use. Approved Make-Godrej/Featherlite/Neelkamal or Equivalent as approved.
DM/AM/JM Table (19N0s.)	Office Table of approximate size 1800 mm (W) × 800 mm (D) × 750 mm (H), suitable for mid management use. Approved Make-Godrej/Featherlite/Neelkamal or Equivalent as approved.
Office Assistant Table	Office Table of approximate size 1500 mm (W) × 800 mm (D) × 750 mm (H), Approved Make-Godrej/Featherlite/Neelkamal or Equivalent as approved.
Cabinet for files	Made of 19 mm blockboard and 12 mm plyboard with 1 mm laminate as per drawing along with handles, hinges, and all necessary fittings.

h) Building storm water drainage

The building design shall provide for the collection of storm water from the roofs. This water shall be collected in junction boxes and these boxes shall drain to the main drainage system of the station.

110 mm nominal dia PVC pipe rain water of 6kg shall be provided to drain off the rain water from the roof. These shall be suitably concealed with masonry work of cement concrete or cladding material. The number and size of down comers shall be governed by IS:1742 and IS:2527.

All drains inside the buildings shall have minimum 40 mm thick grating covers and in areas subject to movement heavy equipment loads, precast RCC covers shall be provided in place of steel grating. The rate for the building shall be inclusive of above-mentioned requirements.

i) Plinth Protection

Entire area around the building shall be provided with PCC paving starting from the building upto 1 mtrs clear distance for the full length of the building. The above specified PCC paving shall be with M20 mix grade concrete over suitable under bed arrangement as specified for other ground floor slab. Above the PCC paving suitable Cement pavers chequered plate of size as per the standard to be provided. The colour of the chequered plate shall be fixed over the PCC paving by using cement mortar and the colour of such plate shall be red.
The rate for the building shall be inclusive of above-mentioned requirements.

j) Staircase - Staircase of shall have stainless steel pf 304 grade in hand railing using 50mm dia of 2mm thick circular pipe with balustrade of size 32mmx32mmx32mm @0.90mtr C/C and stainless square pipe bracing of size 32mmx32mmx32mm in three rows in staircase as per approved design and specification, buffing, polishing.

All stairs shall have maximum riser height of 125 mm and a minimum tread width of 300 mm. Minimum width of stairs shall be 1200 mm. There shall be provision of staircase to the roof of the building.
The rate for the building shall be inclusive of above-mentioned requirements.

9. MISCELLANEOUS GENERAL REQUIREMENTS

Projection of sunshade/chajja from the wall shall be minimum 450 mm over window openings and 750 mm over door openings. All slabs shall be extended by 600 from the wall and parapet wall shall be on the Edge of the slab with RCC Mullion. All balconies shall be covered from rain by extending the roof slab on upper level.

Drainage hole shall be provided in the roof slabs such that the pipes for rain water drainage can be fitted to these holes and cladded to the building wall without bends. The columns in all buildings shall be extended by 750 mm above roof slab level to keep provision for future extension. Irrespective of drawing the mumty height shall be kept at the same level as the previous floor height.
Angles of 50x50x6 mm minimum with lugs shall be provided for edge protection all round cut out and openings in floor slab, edges of drains with grating covers, edges of RCC cable/pipe trenches with covers, edges of manholes with covers, edges of precast covers and any other place where breakage of corners of concrete is expected.

Anti-termite chemical treatment shall be given to column pits, wall trenches, foundations of buildings, filling below the floors etc. as per IS:6313 and other relevant Indian Standards.

10. CABLE AND PIPE TRENCHES

a) **General**

Drawing for cable trench is attached with this bid document.

Cable trenches and pre-cast removable RCC covers (with lifting arrangement) shall be constructed using RCC of M20 grade.

The cable trenches shall be constructed keeping the following points in view -.

- Trenches shall be drained. Necessary sumps be constructed, and sump pumps shall be supplied. Cable trenches shall not be used as storm water drains.
- The top of trenches shall be kept at least 300 mm above the finished ground level. The top of cable trench shall be such that the surface rainwater does not enter the trench.
- All metal parts inside the trench shall be connected to the earthing system.
- Cables from trench to equipment shall run in hard conduit pipes (HDPE pipe, ends and sockets). A suitable clear gap shall be maintained between trench walls and foundations.
- A clear (vertical) space of at least 300 mm shall be available for each tier in cable trench. From trench bed to lowest tier, a minimum clearance of 200 mm shall be available for one tier trench and 300 mm for trenches having more than one tier. The spacing between stands shall be 400mm.
- The trench bed shall have a slope of 1/500 along the run and 1/250 perpendicular to the run.All construction joints of cable trenches i.e. between base slab to base slab and the junction of vertical wall to base slab, as well as from vertical wall to wall, and all expansion joints shall be provided with approved quality PVC water stops of approximately 230 x 5 mm size for those sections where the ground water table is expected to rise above the junction of base slab and vertical wall of cable trenches. Cable trenches shall be blocked at the ends if required with brick masonry in cement sand mortar 1:6 and plaster with 12mm thick 1:6 cement sand mortar. Cable tray supports (all galvanized structures) shall be designed and constructed to be a single complete fabrication or assembly such that every layer of the horizontal cable tray supports is fixed, either bolted or welded, to a vertical steel support that is embedded in the concrete wall of the cable trough. It shall not be permitted to embed a horizontal support beam directly into the wall of the trough in order to use the concrete wall as a means of load bearing. Concrete troughs shall be provided with concrete covers of suitable load bearing strength. Where the cable troughs are run across or within 3 m of substation roads, the trough covers shall be capable of bearing an accidental wheel load of 20 kN.

The covers for the cable trench inside the building shall be provided with MS chequered plate with MS angle stiffeners at the bottom for proper mechanical strength.

11. SEWAGE SYSTEM & STORM WATER DRAIN

a) Sewage System - A sewage system shall be provided for the entire building. The Contractor shall construct suitable septic tank (capacity 50 user minimum) and soak pit for the discharge of effluents. Sewers shall be designed for a minimum self-cleansing velocity of 0.6m/sec and the maximum velocity shall not exceed 2.4m/sec.

The sewage system shall consist of all necessary piping, pumps, if required, fittings, manholes, clean - outs, piping connections and all other materials required for safe and efficient sewage collection. Sewer pipes and fittings shall conform to the relevant Indian Standards.

UPVC pipes shall be used below ground level for sewage disposal.

b) Storm Water Drain

Storm Water drainage system shall be provided along both side of the road as well as surrounding the campus and switchyard. The surfaces of the site shall be sloped to prevent the ponding of water. The bottom of the drain should be minimum 600mm wide. The side wall should be minimum 2:1 slope. For road crossings RCC box culvert shall be provided. All internal site drainage systems, including the final connection and disposal to Authorized representative of AEGCL acceptance points shall be part of Contractor`s scope including all required civil work, mechanical and electrical systems. The Contractor shall connect his drain(s) at one or more points.

12. GATE

Gates shall be installed in location shown on drawings. Design of the gate shall be as per attached drawing in the BID document. Gates shall be fabricated with welded joints or other approved methods to achieve rigid connections.

13. OUTER DEVELOPMENT AREA, ROADS AND CULVERTS

The Contractor shall be responsible for outer development in front of building with ICBP. Layout of the roads shall be based on general details and arrangement drawings for the substation. Adequate turning space for vehicles shall be provided and bend radius shall be set accordingly.

Road construction shall be as per Indian Road Congress (IRC) standards.

Adequate provision shall be made for road drainage.

All culverts and allied structures required for road/rail, drain, trench crossings etc. shall be designed for class AA loading as per IRC standard.

INTER LOCKING CONCRETE BLOCK PAVEMENT (ICBP) BLOCK:

The side shoulder of all the roads shall be with kerb stone at two sides. The kerb stones shall be of size 200 mm width and 400 mm depth and shall be painted yellow and black alternatively. The inter locking concrete block pavement (ICBP) block road shall have minimum 80 mm thick. Below it 150 mm thick water bound macadam (WBM) in two equal layers of 75 mm each at the bottom and minimum 200mm granular sub-base in two equal layers of 100 mm each.

14. FOUNDATION AND RCC CONSTRUCTION

a) General

Concrete shall conform to the requirements of IS 456 and all the tests shall be conducted as per relevant Indian Standard Codes in Addition to total 9 nos of cube has to be prepare for 7 days , 14 days & 28days

b) Brick

The bricks shall be First class Clay Bricks of one standard size. The crushing strength of the brick shall not be less than 17 N/mm^2. The average water absorption shall be within 13- 15% by weight.

c) Cement

The cement to be used shall be the best quality of its type. All cement shall be sampled and tested in accordance with Indian Standards. Cement shall be Ordinary Portland Cement (OPC) -43 grade. Delivery and storage of cement- Cement shall be delivered to the site in bulk or in sound and

properly sealed bags and while being loaded or unloaded whether conveyed in vehicles or by mechanical means, and during transit to the concrete mixers, must be protected from the weather by effective coverings. If the cement is delivered in bulk, the Contractor shall provide at his own cost approved silos of adequate size and number to store sufficient cement to ensure continuity of work. The cement shall be placed in these silos immediately it has been delivered on the site. Suitable precautions shall be taken during unloading to ensure that the resulting dust does not constitute a nuisance.

If the cement is delivered in bags, the Contractor shall provide at his own cost perfectly waterproof and well-ventilated sheds having a floor of wood or concrete raised at least 150 mm above the ground. The sheds shall be large enough to store sufficient cement to ensure continuity of work. Each consignment of each type of cement shall be stacked separately therein. On delivery at site the cement shall at once placed in these sheds and shall be used in the order in which it has been delivered. Only fresh cement shall be used for all concrete.

d) Aggregate

Coarse and fine aggregate shall conform to the requirements of IS 383-1970.

Fine and coarse aggregates shall be obtained from the same source and the Contractor shall ensure that material from the source is known to have a good service record over a long period of time.

Aggregate shall be hard and dense and free from earth, clay, loam and soft, clayey, shaley or decomposed stone, organic matter and other impurities.

Coarse and fine aggregates shall be stored on site in bins or on clean, dry, hard surfaces, and be kept free from all sources of contamination. Aggregates of different gradings shall be stored separately, and no new aggregate shall be mixed with existing stocks until tested and approved by AEGCL.

e) Approval of Supplies

As soon as possible after the Contract has been placed the Contractor shall submit a list giving details of the sources from which he proposes to obtain concrete and mortar materials. Only materials from approved sources shall be brought to site, but AEGCL will be prepared to extend his approval to other satisfactory sources of supply which may be proposed by the Contractor. Approval of a source of supply shall not imply acceptance of material found not to conform to this Specification

f) Water

Water used for mixing concrete and mortar shall be clean, fresh water obtained from an approved source and free from harmful chemicals, oils, organic matter and other impurities. Normally potable water may be considered satisfactorily for mixing and curing concrete and masonry work. Requisite tests to be done if directed by AEGCL.

g) Steel bar reinforcement (Fe500)

Reinforcement shall be of Fe-500 TMT steel bar complying to the appropriate Indian Standards from Primary Producer e.g TATA Steel, SAIL, Jindal, RINL, as per IS 13620:1993 or latest version. All bar reinforcement shall be hot rolled steel except where the use of cold worked steel is specified on the drawings or otherwise approved. The bars shall be round and free from corrosion, cracks, surface flaws, laminations, rough, jagged and imperfect edges and other defects. The bar reinforcement shall be new, clean and of the lengths and diameters described on the Drawings and Schedules. Bars shall be transported and stored so that they remain clean, straight, undamaged and free from corrosion, rust or scale. Bars of different diameters shall be separately bundled.

- **Bending of reinforcement**

All steel bars are to be accurately bent cold to the shapes and sizes indicated on the Drawings

and Schedules unless otherwise approved. Re-bending of bars and bending in position in the works shall not generally be allowed.

- **Welding of reinforcement**

Spot or tack welding for positioning bars in heavily reinforced areas will only be allowed with the express permission of AEGCL. Extension of lengths of reinforcement by welding will not be permitted. Welding will be approved only in low stress members, and lap welding will not be approved in any circumstances.

- **Fixing of reinforcement**

Before fixing in the works bars shall be seen to be free from pitting, mud, oil, paint, loose rust or scale or other adherents harmful to the bond or strength of the reinforcement. Bars shall be fixed rigidly and accurately in position in accordance with the working drawings, unless otherwise approved by AEGCL. Reinforcement at all intersections shall be securely tied together with 1.5 mm soft annealed tying wire the ends of which shall be cut and bent inwards. Cover to the reinforcement shall be as per IS 456 and sufficient spacers and chairs of precast concrete of approved design shall be provided to maintain the specified cover and position. No insertion of bars in previously placed concrete shall be permitted. Projecting bars shall be adequately protected from displacement. The fixing of reinforcement in the works shall be approved by AEGCL before concrete is placed. Measurement will be based on the calculated weights of steel actually used in tonnes corrected to second place of decimal.

h) Formwork

Form work shall be constructed from 12mm thick water proof Plywood Board (30kg) as necessary for special finishes and designed with the quality and strength required to ensure rigidity throughout placing, ramming, vibration and setting of the concrete, without detrimental effect. Form work shall be erected true to line, level and shapes required using a minimum of approved internal ties. Faces in contact with the concrete shall be true and free from defect, jointed to prevent loss of water or fines, in panels or units which permit easy handling, and designed to permit side forms to be struck independently of soffit shuttering. Ties or spaces remaining embedded shall have the minimum cover specified for reinforcement. Forms for exposed concrete beams, girder casings and columns shall provide for a twenty-five mm chamfer on external corners. Wedges and clamps shall be kept tight during vibration operations. Before commencement or resumption of concreting, the interior of forms shall be cleaned and free of sawdust, shavings, dust, mud or other debris and openings shall be formed to facilitate this cleaning and inspection. The inside of the forms shall be treated with a coating of an approved substance to prevent adhesion. Care shall be taken to prevent this substance being in contact with the reinforcement.

i) Concrete

Unless otherwise approved, concrete for structure will be M 20 grade, corresponding to nominal mix of 1:1.5:3 as per IS 456. The quantities of the cement, fine and coarse aggregates shall be determined by weight, the water shall be measured accurately after giving proper allowance for surface water present in the aggregate. Water shall be added to make a workable mix and it is important to maintain the water-cement ratio at its maximum value of 0.55 in accordance with the requirements of IS 456.

The workability of concrete shall be checked at frequent intervals by slump test, where facilities exist and if required by AEGCL, alternatively the compaction factor test in accordance with IS 1199 shall be carried out.

Water shall not be added to the mix until all the cement and aggregates constituting the batch are already in the drum and dry mix for at least one minute. Mixing of each batch shall be continued until there is uniform distribution of materials and the mass done for less than 2 minutes and at least 40 revolutions after all the materials and water are in the drum.

When hand mixing is permitted by AEGCL for concrete to be used in unimportant locations it shall be carried out on a watertight platform and care shall be taken to ensure that mixing is continued until the mass is uniform in colour and consistency. In case of hand mixing, an extra 10% of cement shall be added to each batch and additional cost due to extra cement will be borne by the Contractor.

- **Conveying Concrete**

Concrete shall be handled and conveyed from the place of mixing to the place of final laying as rapidly as practicable by approved means before the initial setting cement starts. Concrete should be conveyed in such a way which will prevent segregation or loss of any of the ingredients. If segregation does occur during the transport of concrete same shall be re- mixed. The requirements to be fulfilled during transportation are:

- **Placing Concrete**

Form work and reinforcement shall be approved in writing by AEGCL before concrete is placed. The forms shall be well wetted and all shavings, dirt and water that may have collected at the bottom shall be removed before concrete is placed. Concrete shall be deposited in its final position without segregation, re-handling or flowing. As far as possible concrete shall be placed in the formwork by means approved by AEGCL and shall not be dropped from a height or handled in a manner which may cause segregation. Any drop over 180 cm. shall have to be approved by AEGCL. Once the concrete is deposited in its final position, it shall not be disturbed. Care should be taken to avoid displacement of reinforcement or movement of formwork.

The placing of concrete shall be a continuous operation with no interruption in excess of 30 minutes between the placing of continuous portions of concrete. When fresh concrete is required to be placed on previously placed and hardened concrete, special care should be taken to clean the surface of all foreign matter. For securing a good bond and water tight joint, the receiving surface should be made rough and a rich mortar placed on it unless it has been poured just before. The mortar layer should be about 15 mm thick with cement and sand proportion as that of the mix in use, and have the same water-cement ratio as the concrete to be placed. No concrete shall be placed in open while it rains. Slabs, beams and similar structure shall be poured in one operation normally. In special circumstances with the approval of Authorized representative of AEGCL these can be poured in horizontal layers not exceeding 50 cm. in depth. When poured in layers, it must be ensured that the under layer is not hardened. Bleeding of under layer if any shall be effectively removed.

- **Compaction of Concrete**

  After the concrete has been placed it shall be thoroughly compacted by approved mechanical vibrator to a maximum subsidence without segregation and thoroughly worked around reinforcement or other embedded fixtures into the correct form and shape. Care should be taken to ensure that the inserts, fixtures, reinforcement and formwork are not displaced or disturbed during the vibration of the concrete.

- **Removal of form work**

Form work shall be kept in position fully supported, until the concrete has hardened and gained sufficient strength to carry itself and any loads likely to be imposed upon it. Stripping must be

affected in such a manner and at such a time that no shock or other injury is caused to the concrete. The responsibility for safe removal rests with the Contractor but AEGCL may delay the time of striking if he deems it necessary.

15. WATER SUPPLY

The Contractor shall be overall responsible for supply of water for drinking, sanitation, construction, firefighting and other miscellaneous purposes. The scope is also inclusive of installation of deep tube well, construction of slow sand filter and ground storage tank, supply and installation of distribution network pipe lines, supply and erection of all overhead tanks, staging for HDPE OH tank (3x2000 Ltrs) wherever necessary, pipes, fittings, motors, etc. required for the water supply to be taken from the terminal point to the respective buildings. A scheme shall be prepared by the contractor indicating the layout and details of water supply which shall subject to the approval of AEGCL before actual start of work.

Boring and installation of 250mm dia borehole deep tube with 200mm min dia. PVC casing and 5nos. of filter (3m each) and the gap between boring and casing shall be filled with pea size gravels. Provide 3 HP submersible pump with 40mm dia CPVC column pipe. Pump shall be tied with laminated twin steel wire rope (10sqmm). For service connection provide 6sqmm UG cable and 3 core 6sqmm copper cable shall be provided for control panel etc. including all accessories such as nipple, clamp elbow, well cover, valve etc. to complete the work in all respect.

Provide two storied RCC (M-20) slow sand filter having sand filter at upper level with aeration arrangement and openable steel roof and reservoir at bottom. Bottom reservoir shall be 600mm above FGL with stopper at construction joint, water proofing, 2 HP horizontal submersible pump for delivery to OH tank, outlet and drainage valve, control panel (starter), cable, approved sand for filter media (charcoal, stone chips, etc. as per requirement).

16. CAR PARKING AREA

Car parking area shall be constructed adjacent to the building depending upon the space available and the requirement. Each unit for single car parking shall be of minimum size 5.5m x 3 m with a plinth height of minimum 300 mm with a total of 6 unit. The plinth shall be constructed with 230 mm brick wall and sand filling inside. The floor should be completed with pavers block with appropriate base, which has to be joined with the internal road or surrounding area with necessary slope.

17. LANDSCAPING, GARDEN, PLANTATION, GLOW SIGN BOARD AND OUTDOOR ILLUMINATION ETC.

Within the campus gardening should be done on roadside as well as available spaces as instructed by AEGCL. Proper water supply piping along with hose pipe should be provided for aeriation. A garden in front of the building is to be developed. It includes treatment of the land of size manuring, and plantations of sufficient flower based, show based, crotons and entire portion shall be provided with garden grass. Proper land slope also to be maintained for better and aesthetic looking. Provision of water taps and garden lights at different locations are to be provided for watering the plants and lighting of the garden. Treatment of the soil and manuring are to be done before plantation of plants. Water taps at different locations are to be provided for watering the plants. Plantation of trees shall comprise of Bakul tree and flowering plant Mosanda, multiple colours of Bougainvillea and Hydrangea. Design and installation of outdoor illumination along with glow sign board mentioning office name and address shall be in the scope of contractor.

Appendix-1

COVERING LETTER (ON THE APPLICANT'S LETTER HEAD)

To,

The Chief General Manager (PP&D)
Assam Electricity Grid Corporation Limited
Bijulee Bhawan, Paltanbazar, Guwahati-01.

Sub: Civil infrastructure for backup SLDC

Ref: NIT No.: AEGCL/DGM(CIVIL)/2025-26/06 dtd: 24/02/2026

Sir,

Having examined the terms & conditions, technical specifications, detailed items of work etc. as well as acquainting myself/ourselves with site of work, surroundings to get the required materials etc. I am/we are to submit herewith my/our tender for the above-mentioned work. My/our rates are quoted as per the specification laid down in the schedule of items of work, considering cost of design & preparation of structural drawing, materials, labours, haulage, taxes, royalty etc.

I /We clearly understand that all materials, tools and plants, machineries, labours, haulage etc. required in the work shall have to be arranged by me/us from my/our own resources in the events of allotment of the work to me/us. Also the site visit has been done from my/our end at my/our own expense. The certificate regarding the site visit issued from the Asst. General Manager, Panchgram, T&T division, AEGCL along with photograph of site with geo location and timestamp has been submitted herewith.

I /We also clearly understand that in the event of acceptance/approved of my/our tender, the work shall have to be executed strictly as per specifications and the same shall have to be completed in all respects within the stipulated time failing which I am/We are liable to be penalized as per rules laid down in Tender document as well as agreement thereof.

Yours Faithfully

Appendix-2

PROFILE OF THE BIDDER

Sl. No.	Particulars	To be filled by Bidder
a)	Name of the Bidder	:-
b)	Registration with Memorandum of Association	:-
c)	Financial statements for last 3(three) years (CA/CMA certified)	
d)	PAN	:-
e)	GST Registration number	:-
f)	Employees Provident Fund	:-
g)	Employees State Insurance Certificate	:-
h)	Labour License registration	:-
i)	Bank Solvency Certificate indicating the amount	:-
j)	Income Tax Return (for the last three years)	:-
k)	Site Visit Certificate:-	:-
l)	Date of Establishment/ Incorporation	:-
m)	Postal Address	:-
	House No.	:-
	Lane	:-
	Street	:-
	Town/Village	:-
	Post Office	:-
	P.S.	:-
	District	:-
	Pin code	:-
n)	Telephone Number	:-
	Mobile No.	:-
	E-Mail Address	:-
	Website	:-
o)	Name(s) of the Owners / Directors/Partners	:-
p)	Name of the Banker with Address and Telephone Number	:-
q)	Contact Person Details *(Furnish here name of that person with whom AEGCL may get in touch for more information or clarifications)*	Name:- Designation:- Mobile Number:- Email Address:-

Note: Bidder may attach additional sheets, if required.

Appendix-3

WORK EXPERIENCE OF THE BIDDER

a) Experience having completed similar works during the last 7 years ending last day of the month previous to the one in which applications are invited should be either of the following:

i. ***Three similar completed works*** each costing not less than the amount equal to ***Rs.3,44,44,917.00*** (Rupees Three Crores Forty Four Lakhs Forty Four Thousand Nine Hundred Seventeen) only
or

ii. ***Two similar completed works*** each costing not less than the amount equal to ***Rs. 4,30,56,146.00*** (Rupees Four Crores Thirty Lakhs Fifty Six Thousand One Hundred Forty Six) only.
or

iii. ***One similar completed work*** costing not less than the amount equal to ***Rs.6,88,89,834.00*** (Rupees Six Crores Eighty Eight Lakhs Eighty Nine Thousand Eight Hundred Thirty Four) only.

Note: "Similar work" is defined as work of construction of RCC building for Govt. Department or PSUs only.

(a) If the nature of work and value differs from the above stated conditions, it will not be considered while evaluation of technical qualification.

(b) Work order along with work completion certificate are to be mandatorily attached for technical bids to be responsive.

Name of work	Nature of Work	Executed Amount	Starting Date	Completion Date

b) Bidders must compulsorily submit work order and work competition certificate issued from Govt Department/reputed PSUs satisfying the above-mentioned work experience criteria for technical qualification. Moreover, AEGCL reserves the right to scrutinise any work order/work competition certificate submitted by the bidders with issuing authority and if any abnormalities are observed in the same, their bids will be rejected.

Note:

1. Bidder has to attach additional sheets, if required.
2. Bidder has to furnish necessary work order copies for technical evaluation of experience.

Appendix-4

FINANCIAL QUALIFICATIONS

Financial Qualifications:

(i) Minimum average annual turnover of **Rs. 2,58,33,688.00** (Rupees Two Crores Fifty Eight Lakhs Thirty Three Thousand Six Hundred Eighty Eight) only calculated as total certified payments received for contracts in progress or completed, within the last 3 (Three) years. (Audited Balance Sheet)

(ii) The Contractor must furnish their Bank Solvency Certificate indicating the amount by concerned authority in necessary format as per banks.
Note: Bidder may attach additional sheets, if required.

(iii) Financial statements for last 5(five) years out of which best of 3(three) years financial statements will be considered for calculation of turnover. (Should be CA/CMA certified) The bidder should have net profit and positive net worth for last three years.