

BID - III

PART – II

SPECIAL CONDITIONS & FINANCIAL BID

**NAME OF WORK : e-TENDER FOR PROPOSED CONSTRUCTION OF
BRANCH OFFICE BUILDING INCLUDING MODERNIZATION WORK
AND ALL RELATED SERVICES & OTHER ANCILLARY WORKS AT
SECTOR 7,GOHANA (HARYANA).**

**Scope of work : Main Builder's work including Plumbing & Sanitary
Installation, Internal & External Electrical works, External Development
Works including Drainage, Water Supply, Rain Water Harvesting System,
Fire Fighting & Fire Alarm work, Lifts and Other ancillary services/works
etc.**

PART – II

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**LIFE INSURANCE CORPORATION OF INDIA
LETTER TO CONTRACTOR FROM CHIEF ENGINEER**

To,

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Dear Sir / Sirs,

SUB: PROPOSED CONSTRUCTION OF BRANCH OFFICE BUILDING INCLUDING MODERNIZATION WORK AND ALL RELATED SERVICES & OTHER ANCILLARY WORKS AT SECTOR 7,GOHANA (HARYANA).

We hereby publish the TENDER on e-Tendering Portal (Website) through <http://www.tenderwizard.com/LIC> in **Electronic Mode** hereinafter referred as “eTendering” and consisting of following :

- (a) **BID I : E.M.D. BID**
- (b) **BID II : PREQUALIFYING BID**
- (c) **BID III : FINANCIAL BID**

Please note that copy of above e-Tender can be downloaded from above portal (website) and should be mandatorily submitted in **Online Electronic Mode** hereinafter referred as “**Online Offer**”. The submission of Online offer duly Encrypted & Digitally Signed on above portal should be in prescribed Electronic Forms (Online) available on above portal for respective tender in Online Envelope(s) on or before **As per the Key Dates mentioned in the tender document and online portal for above tender.**

- 1) The drawings for the work will be available for inspection at the following Office:
 - (a) Chief Engineer, Northern Zonal Office. Life Insurance Corporation of India, Jeevan Prakash Building (2nd Floor), 25 K.G. Marg, New Delhi - 1100 01
- 2) a. The bidders should submit required Tender Fee as mentioned in eTender.
 - b. Earnest Money Deposit (EMD) as mentioned in eTender **of Rs 5.08 Lakh (Rupees Five Lakh Eight Thousand Only)** In case the BG submitted by the contractor is not genuine, the contractor will be barred from participating in the tender of the Corporation for 5 years and the information will be shared with other Government Organizations including Banks & other financial institutions and to their previous/present employers etc.
- 3) **BIDs** will be received at the office of Chief Engineer at above address **on or before As per the Key Dates** and the e-Tenders will be opened at **As per the Key Dates** in the presence of contractors or accredited representatives, who

wish to attend the online Tender Opening process. The bidders can view the Tender Opening details through their respective Login IDs on the above mentioned e-Tender portal (Website). The Tenderer should ensure that his tender is received **Online Electronically** on or before the due date and time as specified in “**Key Dates**” in the Tender Document and above mentioned Portal (website). **Please note that above e-Tendering System is an automatically time locked system which will be locked immediately as soon as due date and time is over and will not accept any offer after that. So, the tenderers are strictly advised to complete their process well before the due date and time to avoid any such instances as no such reasons shall be entertained.** The bidders should submit required Tender Cost as mentioned in e-Tender in a sealed Envelope **of Rs 2000.00 + GST as applicable (Rupees Two Thousand only Plus GST i.e. Rs.360/- Total 2360/-)** in the form of NEFT/ crossed demand draft/ pay order on a Nationalized Bank in favour of “**Life Insurance Corporation of India**” payable at new Delhi, will be received at the office of Chief Engineer at above address **on or before As per the Key Dates.**

- 4) The guide lines to submit the tender on Electronic Tendering System is part of BID-I of the tender document. .The tenderers are advised to carefully read the above document for understanding of e-Tendering System.
- 5) The Life Insurance Corporation of India does not bind itself to accept the lowest or any tender.

Encl: As above.

CHIEF ENGINEER



PART-II BO GOHANA

LIFE INSURANCE CORPORATION OF INDIA

LETTER FROM CONTRACTOR TO CHIEF ENGINEER

TO BE SUBMITTED ON OR BEFORE As per the Key Dates

Date:

To,
The Chief Engineer
LIC of India,
Engineering Department,
2nd Floor, Jeevan Prakash,
25 K.G.Marg, New Delhi-1100001

SUB: e-TENDER FOR PROPOSED CONSTRUCTION OF BRANCH OFFICE BUILDING INCLUDING MODERNIZATION WORK AND ALL RELATED SERVICES & OTHER ANCILLARY WORKS AT SECTOR 7,GOHANA (HARYANA).

Dear Sir,

1) Having examined the Enrolment Form, Selection Criteria , Technical Specifications, Schedule of Quantities, Detailed Drawings, Specifications, Conditions of Contract etc. included in the tender document for the Percentage Rate Contract relating to the above work, having visited/examined the site of the existing premises, having acquired the requisite information relating thereto as effecting the tender invited by you on behalf of the Life Insurance Corporation of India, I/We, the undersigned hereby offer to carry out the above mentioned work on Percentage Rate basis in strict accordance with the Contract Conditions and Specifications.

2) I/We, undertake to complete and deliver the whole of the works within a period as specified in Appendix to the Conditions of Contract from the date of issue of intimation from you that the tender has been accepted and upon receiving possession of the site. I/We shall be under the obligation to complete the entire work within the period of completion failing which to pay the sum as stated in the Appendix to the Conditions of Contract for every week that the works shall remain incomplete, damages as compensation subject to the conditions of contract relating to extension of time.

3) I/We enclose herewith my/our tender with an Earnest money remittance **of Rs 5.08 Lakhs (Rupees Five Lakh Eight Thousand only)** in separate sealed envelope in the form of crossed DD of Nationalizes bank in favour of 'Life Insurance Corporation of India' Payable at New Delhi (Details given in the Tender) with UTR No./BG NO.

I/We, hereby agree that this sum shall be forfeited by the 'Life Insurance Corporation of India in the event of my/our tender being accepted and I/We fail to execute Contract when called upon to do so.

4) I/We, note that the Earnest Money Deposit of **Rs 5.08 Lakh (Rupees Five Lakh Eight Thousand Only)** would be refunded to me/us.

- a. On expiry of the validity of the tender or earlier at the discretion of Chief Engineer in case my/our tender is not accepted and
- b. In case tender being accepted, EMD shall be retained as part of Security Deposit (SD) 7.5% of gross amount of each running bill shall further be deducted and accumulated till the sum along with already deposited E.M.D equals to total SD as per the 'Appendix to the Conditions of contract'..

Yours faithfully,

(SIGNATURE OF THE CONTRACTOR)

Name and Seal

NAME OF THE PARTNER OF THE FIRM OR
NAME OF THE PERSON HAVING POWER OF
ATTORNEY TO SIGN THE CONTRACT
(CERTIFIED TRUE COPY OF THE POWER
OF ATTORNEY SHOULD BE ATTACHED)

APPENDIX TO CONDITIONS OF CONTRACT

SUB: e-TENDER FOR PROPOSED CONSTRUCTION OF BRANCH OFFICE BUILDING INCLUDING MODERNIZATION WORK AND ALL RELATED SERVICES & OTHER ANCILLARY WORKS AT SECTOR 7, GOHANA (HARYANA).

ESTIMATED COST (Approx) : Rs. 338.40 Lakh.
PERIOD FOR COMPLETION : 15 Months
EARNEST MONEY DEPOSIT : Rs. 5.08 Lakh

Sl. No.	Clause Nos.	Description	Remarks
1(a)	11	Minimum requirement of Technical staff ;	One resident Engineer having Degree in Civil Engineering having minimum 3 years' experience in construction of such buildings or a Diploma holder with minimum 8 years experience.
1(b)	11	Recovery for Non Deployment of above / Engineer at the Site	- Resident Engineers: Rs. 40,000 /- per month. 2 No. Supervisor @ Rs.20,000/- each.
2	13	Date of commencement	1. Either 21(Twenty one) days from the date of acceptance letter issued to the contractor OR 2. The day on which contractor is instructed to take possession of the site, whichever is earlier .
3	13 & 26	Date of completion	15 Months from the date of commencement
4	19.2	Reward for Early Completion	If the contractor completes the work 3 months in advance in all respects with respect to the final date of completion and the Chief Engineer certifies in writing that in his opinion the same has been completed, 0.5% of Final Contract Sum stipulated in the original contract shall be rewarded. If the contractor completes the works less than 3 months in advance in all respects with respect to the final date of completion and the Chief Engineer certifies in writing that in his opinion the same has been completed, 0.1% of Final Contract Sum stipulated in the original contract shall be rewarded.
5	19.1	Liquidated damages	1.5% of Tendered value of work per month of delay to be computed on per day basis as mentioned in clause 19.1, not to exceed 10% of the tender value of work.
6	21	Period of final measurement	60 (Sixty) days from date of completion

7	22	Interim certificate(Min.)	Rs.25.00 Lakh
8	22	Period of honouring interim certificate	20 (Twenty) days
9	22	Period of honoring final certificate	90 days from the date of submission of final measurements with details.
10	35	a) Security Deposit and b) Performance Bank Guarantee	a) Rs 8.46 Lakh as SD. b) PBG of value Rs. 16.92 Lakh, to be submitted within 21 days from the date of Acceptance letter. c) PBG shall be valid till virtual completion of work with 6 month extended claim period.
11.a	35	Procedure for submission of SD	In case of cash option EMD shall be retained as part of Security Deposit (SD) and balance SD shall be recovered from running bill @7.5% of gross amount of each bill till the sum along with already deposited E.M.D equals to total SD as per the 'Appendix to the Conditions of contract'..or The Contractor shall furnish one Bank Guarantee for full amount of Security deposit valid till end of defects liability period OR, Two Bank Guarantees of like amounts each equal to half the Security deposit; one valid till virtual completion and the other till end of defects liability period.
11 c	35.10	Release of Performance guarantee	BG towards performance guarantee shall be released after the virtual completion certificate is issued.
11 d	35.6	Release of 50 % Security Deposit	50 % SD shall be released after the virtual completion certificate is issued.
11 e	35.7	Release of balance 50 % security deposit	Balance 50% of Security deposit will be refunded to the contractor after the satisfactory completion of the defects liability period.
12	37	Interest on Lump sum Advance	9.00 % p.a. Simple Rate of Interest.
13	17.5	Contractor's All Risk Policy inclusive of Third Party Liability	The Contractor All Risk Policy with third party liability will be 5% of the contract value.
14	17.6	Workmen's Compensation Policy	10% of contract value
15	17.9	Recovery for non Extension of Insurance Policies (Workman's Compensation and Contractor's All Risk	If not extended on time, the date for submitting the renewed Insurance policy, if any will be 15 working days prior to the last date of expiry of the existing policy, failing which LIC may insure/renew insurance and

		Policy inclusive of Third Party Liability)	apply penal cost on the Contractor i.e, Premium Charges + Rs. 10,000/- as Admin charges and Rs. 25,000/- as penalty.
16	27	Defects Liability Period	12 Months from date of virtual completion
17	Annexure –R & T	Guarantee for Waterproofing.	The guarantee of ten years shall be given for waterproofing treatment starting from the date of Virtual Completion of the work.
19	22.6	No Claim Certificate	To be given on Contractor's letter head as under.

Note: **TAXES, DUTIES, LEVIES AND DEDUCTION AT SOURCE:**

(i) The Contractors shall be responsible to pay all such statutory levies/ taxes imposed by the State and Central Government from time to time. It is deemed that the rates quoted by the contractor for each item of works includes all applicable taxes except GST which shall be paid extra as applicable from time to time as per notification of Govt. of India.

(ii) Deduction at source of Income tax, all statutory taxes as applicable shall be made by LIC of India as per statutory provisions prevailing from time to time, from the Running Account/ Final Bills and remitted to the concerned Taxation Authorities/State Government on behalf of the contractor. No deduction shall be made on account of labour cess. The contractors are requested to quote their rates accordingly.

NO CLAIMS CERTIFICATE CUM RECEIPT

Received Rs. _____ (Rupees _____)
 being the amount against my/our final bill dated _____
 for _____ (Name of Work) in full
 and final settlement of bill.

Contractor
 (Signature of Contractor on Revenue stamp)
 Rubber stamp/seal of the contractor /company

**LIFE INSURANCE CORPORATION OF INDIA
NORTHERN ZONAL OFFICE, NEW DELHI****APPENDIX TO GENERAL INSTRUCTIONS TO CONTRACTORS**

SUB: PROPOSED CONSTRUCTION OF BRANCH OFFICE BUILDING INCLUDING MODERNIZATION WORK AND ALL RELATED SERVICES & OTHER ANCILLARY WORKS AT SECTOR 7,GOHANA (HARYANA).

In addition to facilities, provided by the contractor under clause 14.1, in Office for Corporation's Engineer on Site, the contractor shall also provide internet enabled computer with printer of suitable configuration as approved and directed by Site Engineer of Corporation.

LOCATION :

Sector-7, Gohana Distt.Sonipat. (Haryana)

SCOPE OF WORK :

Main Builder's work including Plumbing & Sanitary Installation, Internal & External Electrical works, External Development Works including Drainage, Water Supply, Rain Water Harvesting System, etc., Fire Fighting & Fire Alarm work, Lifts and Other ancillary services/works etc.

Configuration Of Building : Ground Floor + 2 Upper Floors

SPECIAL CONDITIONS:**1. PHOTOGRAPHS AND VIDEOS OF THE CONSTRUCTION WORK**

- 1.1 The contractor shall submit 3 sets of the prints of the photographs size 4" x 6" to LIC of India on the following stages:
- a. The plot before the start of construction showing any localized depression, rocky outcrop, if any and any other things which affects construction.
 - b. Excavated pits for foundation showing type of soil/rock.
 - c. Foundation work, reinforcement, concreting and curing. Columns (floor wise) reinforcements, shuttering, concreting and curing.
 - d. Shuttering and reinforcement details floor wise before laying of concrete. Photographs during concreting and after laying of concrete including curing.
 - e. Completion stage of masonry work before plastering.
 - f. External filling and compaction process.
 - g. Water proofing of terrace and testing. Toilet water proofing, testing of internal water supply line before concealing the same.
 - h. After plastering but before painting.
 - i. Photos of Rainwater Harvesting System.
 - j. Photos of Down comer and Sprinkler System for fire fighting.
 - k. Photos of External Electrical Work clearly showing make of Transformer.
 - l. Photos of Modernization work.
 - m. Completed building before handing over the building.

The photographs can also be submitted in CD / DVD/Pen Drive in lieu of printed photographs.

- 1.2 One or more photographs shall be taken to have complete clear views of the project as directed by Corporation's Engineer. **The further stage of work shall proceed only on confirmation of such photographs (as mentioned above clause 1.1) seen by LIC Engineers (concerned Executive Engineer/Superintending Engineer and Dy.Chief Engineer under whose jurisdiction the project comes) and a written site instructions obtained in this regard. The concerned Engineers shall also put up to the Chief Engineer the said stage wise photographs and confirmation conveyed to the contractor.**
- 1.3 The quoted rates shall include for the same and nothing extra is payable to contractor on this account.

2. TESTING OF MATERIALS

1. During the progress of work contractor shall be maintained Field Laboratory with all necessary equipment required for day to day field test like grading of sand Cube testing machine , Silt content , thickness of materials and gauge of other materials etc including all equipments required for Day to day electrical works in a satisfactory manner till the completion of work. All other regular tests including requisite materials as per Table A below shall be carried out as directed at approved laboratory .
2. During the progress of work, tests as prescribed below for various materials of construction shall be conducted as per the frequency noted in the table below.
Contractor's attention is also drawn to Clause 9 of Conditions of Contract as well as Clause 9 of General Preambles to Schedule of Quantities.

Following charts to be followed for the frequency of tests:

TABLE-A

Sl. No.	Materials	Test	Frequency
1.	Water	Chemicals & Physical properties for water	One test per source before commencement of work
2.	Sand (Fine Aggregates)	a) Slit content(field test) b) Particle Size distribution (LAB TEST). c) Bulking (Field test)	Silt content is a routine test and should be carried out for sand for each consignment. Particle Size distribution shall be done at the rate of one test for each 45cum or part thereof. Bulking test shall be carried out for every 45 Cum or part thereof or whenever moisture content is doubtful.
3.	Stone (Coarse Aggregate)	a) Aggregate crushing value b) Particle Size distribution (LAB TEST)	Once in beginning of stacking of materials thereafter for every change of source. Every consignment.
4.	Cement	a) Initial and final setting time b) Compressive strength	One test for 100 tones or part thereof and for every change of brand of cement .
5.	Steel	1. Tensile strength a) Ultimate tensile stress b) Yield stress c) % Elongation	One test per category for every consignment used in work.
6.	Brick	a) Water absorption b) Efflorescence c) Compressive strength	One test for every 200000 Nos. or part thereof and for every change of brand (set of 5 bricks)

Sl. No.	Materials	Test	Frequency
7.	Timber	a) Moisture content b) Specific gravity c) Species in sample of teak wood	One test for every 10cum or part thereof.
8.	Anodized coating of aluminum	Thickness of Anodic Coating.	One Test for material costing Rs.50,000.00 or part thereof.
10.	Flush Door	End Immersion Knife Adhesion	Destructive test based on no. of shutter. 1-100 one test 101-200 two test 201-500 three test 500 & above four test
11.	Ceramic Tiles / Vitrified Tiles	Water absorption Crazing Test	One test for every 3000 nos. or part thereof.
12.	Marble	a)Moisture Absorption test b)Mohs scale hardness	One test for every 200 sq.mt. or part thereof. For each source.
13.	Panel Door Shutter	a) Physical Test b) Glue Adhesion Test	One test from each lot. One test from each lot.
14.	Particle Board	a) Identification (Physical verification) b) Dimensional Tolerance	One test from each lot. One test from each lot.
15.	Sand Stone	Water Absorption	Frequency of test as specified by CPWD
16.	Ply and block board	As per relevant IS Codes	As per relevant IS Codes.
17.	Enamel Paints	a) Dying Test b) Consistency Test c) Finish d) Residue on Sieve e) Water content f) Weight per litter g) Lead restriction.	One test for each lot.
18.	Veneering Stone.	Water Absorption test.	As per relevant IS Codes.

3. **SAFETY MEASURES**

i). During the progress of work contractor shall ensure the following :

- a. To ensure safe and hazard free working environment.
- b. To achieve confidence by ensuring following safety performance for :
 - Scaffolding (fixed and mobile) including ladders & platforms
 - Electro-mechanical activities and controls
 - Temporary power supply and tools

- Storage condition
 - Fire prevention
 - Waste/pollution control
 - Monitoring and control of working on height
 - Focusing in the most would-be hazard of high-rise construction: falling, slip, fire, electrical flashing of tower crane, hoist, lift, elevator, scaffolding etc.
- ii) Contractor should Strictly abiding and complying with local code and governmental regulations and stipulations.
- iii) There should be NO COMPROMISE on safety especially in high -rise Construction.
- iv) Contractor should Ensure workers work in compliance with protective devices, measures and procedures required by the act and regulations
- v) Also , ensure that workers should use or wear all protective device or clothing required for safety.
- vi) All employees/authorized persons (worker, site charges and others) will wear the Personnel Protection Equipment i.e. Hard hat, safety boots, gloves, hearing protection, respirator, eye protective safety glasses etc.
- vii) The entire worksite is to be barricaded and only authorized persons should be allowed entry inside the premises.
4. Electricity Load Sanction: The contractor will be required to submit required drawings and application and obtain Electrical load sanction from local Electricity Authority for which all official fees shall be paid/reimbursed by LIC of India.
5. The contractor shall obtain the occupancy/occupation certificate and shall carryout all that necessary to obtain the occupancy/occupation certificate. The quoted tender amount shall be inclusive of all expenses for obtaining the occupancy/occupation certificate and other allied works relating to obtaining occupancy/occupation certificate from appropriate authority/authorities. However, any official fees required to be paid in this regard shall be paid/reimbursed by LIC of India. The contractor shall take all appropriate measures and get all necessary approvals from local Authorities as required by them for stage-wise construction viz getting the set back of building checked at plinth level, obtaining/submitting DPC certificate(if required) from Competent Authority/Authorities so that uninterrupted progress is maintained. All administrative support will be extended by LIC of India.
6. For specialized work i.e. water proofing, anti-termite, electrical substation ,lift, air conditioning, DG set, fire fighting, etc. the approval of agencies is to be obtained from Chief Engineer before execution of the same. Also electrical works to be carried out through Class A licensed electrical agency/contractor
7. The contractor has to make his own arrangement for water and electricity to be used for construction work by following the rules, regulation and directives of local authorities. The water has to be tested to determine its suitability for concreting and construction work.
8. All the Rules, Regulations and Provisions of Government of India are applicable in this tender.
9. Life Insurance Corporation of India shall not be responsible for any act of nature or otherwise like Riots, Terrorist Activities, Curfew, Bandhs by any Political Party or Activists, Stopping the work by any local or Government Authorities.

10. No Claim or Compensation on this account, from the Contractor, shall be entertained or paid. The rates quoted by the contractor shall include for all such similar activities. However, reasonable / justified Extension of Time shall be considered, as per contract conditions.
11. The contractor has to submit required number of all shop drawings for all nature of works for approval prior to execution. Also contractor has to arrange for pre and post inspection of OEM / Manufacturer for confirmation of work as per manufacturer specifications for all works if desired by the Corporation Engineer.
12. Water and Sewerage Connection: The contractor after completion of the work shall be responsible for obtaining the Water and Sewerage Connection from the appropriate authorities as required and will make all necessary arrangements to procure the same if the same is available there. The contractor shall file applications and follow up with appropriate authorities and shall give all notices, required by the Acts, regulations or certificates and drawings as required and will make necessary arrangements to obtain the Water and Sewerage connection if required, without any extra charges. All incidental charges/ expenses associated with the above work shall be borne by the contractor. All inspection fees or submission fees paid by the contractor will be reimbursed by the owner against valid official receipts.
13. The quoted rate should be inclusive of applying and coordination with Electricity Supply Authority of sufficient load for the investment building and obtaining electric connection before handing over to LIC of India.
14. No plastic materials are to be used at site as per Govt. rules and regulations. The cleanliness of site is to be insured by the contractor.
15. The contractor shall submit all Warrantee/Guarantee certificates, Test Reports of all equipments/machinery/fixtures/fittings along with list of inventory at the time of handing over.

(SIGNATURE OF THE CONTRACTOR)

GENERAL PREAMBLES TO SCHEDULE OF QUANTITIES

These preambles apply to all the sections of the “Schedule of Quantities”. Only 1st quality materials and workmanship and good engineering practices shall be adopted for all items of work.

1. RATES TO COVER :

- 1.1** The rates quoted by the contractor shall be held to include for providing and fixing, all conveyance and delivery, loading & unloading, carrying in, storing, hoisting, all labour, setting, fitting and fixing in position, making straight, uncoiling, cutting, waste, return of packing, etc. and all materials and labour and everything else necessary for the proper completion of each item of work to the approval of Corporation’s Engineer and for Establishment Charges, overheads and profits. The Contractor shall provide at his expense all labour, materials and things required by the Corporation’s Engineer for testing and measuring the work, for weighing, testing the efficiency of any portion of the work, all planking, gangways etc. necessary for affording access to every part of the work except where specifically stated otherwise.
- 1.2** The contractor should also cover in his rates for the method of work, cost of materials, labour etc., to comply with the “Trade Specifications”, Trade Preambles, General Instructions to Contractor”, “Conditions of Contract”, Technical details, General Preambles, “Special Conditions”, Additional Special Conditions(if any), List of Principal makes, etc. and all documents of this contract.
- 1.3** All materials or procedure or Specifications for work, unless otherwise stated, shall conform to the current Indian Standard whether or not specific mention is made thereof. The Contractor shall be responsible for and shall replace or make good at his own expense, any materials lost or damaged, or of quality not approved, temporarily disturbed roads, pavements, approaches, gates, walls or any such dismantling carried out to execute the work.
- 1.4** All rates quoted shall include for Supplying and fixing although the same may not have been mentioned in the item of the Schedule of Quantities. Words “Providing and Fixing where used shall have same meaning as “Supplying and Fixing”.
- 1.5** Rates quoted shall include for hoisting to any height, and all work at all levels and lift of materials shall not form any criterion for any extra claims, except where otherwise specified.

2. ANCILLARY WORKS:

- 2.1** The Contractor shall have to carry out all ancillary and connected work within and near vicinity of the plot of the proposed work and inside the Building if ordered to do so by the Chief Engineer at the rates given in the Schedule of Quantities, at any time during the currency of this Contract including extension of time, if any granted.

3. PRICE FLUCTUATION/VARIATION:

- 3.1** Rates quoted by the contractor shall be firm throughout the currency of the Contract including extensions of time, if any granted. No price adjustment due to variation in cost of materials or labour or any variation under any State or Central Legislation or any other reason whatsoever shall be allowed, except as stated in relevant clauses below, with regard to variation in price on materials & labour and price fluctuation in Cement & Steel.

4. CEMENT:**CONTRACTOR'S QUOTED RATES:**

- 4.1** Contractor shall quote his rates for various relevant items in the tender on the basis of provisions of this clause detailed hereunder and on the basis of the price of cement at site of work as mentioned in Annexure "P" attached herewith (hereinafter called the Basic Price of Cement).

4.2 APPROVAL OF SOURCE OF PURCHASE AND PRICE:

Contractor shall purchase cement from approved reputed cement manufacturers such as ACC, UltraTech, J. P. Rewa, Vikram, Shree Cement, Birla Jute, CCI, Madras cement, Chettinad cement, India cement etc. as approved by Ministry of Industry, Govt. of India and having license to use ISI Certification mark for their products and from C&F agents and authorized_dealers (with dealership certificate). Cement shall be Ordinary Portland Cement 33 / 43 Grade of fresh manufacture conforming to IS: 269/ IS: 8112 respectively; Portland Pozzolana Cement: IS: 1489 (Part 2): 1991; Portland Slag Cement: IS: 455 (1989) or relevant Indian Standards (latest revision). Cement shall be purchased and transported to the work site by the contractor in bulk quantity required to achieve desired progress in next 3 months, from the above source of purchase (including brand of cement). At the time of starting the work, the request for approval shall be submitted within 15 days of receipt of tender acceptance letter. The contractor shall intimate the EE/SE the quantity of cement being procured, with the names, full addresses and telephone numbers of cement suppliers. For subsequent approvals the contractors shall approach Employer's Engineer at site at least 20 days in advance of the desired date of delivery of cement. The contractor shall submit his request for the approval through Employer's Engineer at site with one copy of the letter to EE/SE. The contractor's request letter shall mention the quantity of cement to be/ being purchased and also the quantity of cement in stock at site on the date of submitting the request.

4.3 BASIC PRICE OF CEMENT:

The basic price of cement stated in Annexure 'P' is inclusive of all taxes and costs upto the site of work (without GST), transportation charges including loading and unloading charges at all points (except unloading at site), transit insurance and any other expenses (*expenditure*) not mentioned above but required. All other costs such as unloading the cement at site, handling, stacking, storage, providing watch and ward arrangements, loss

due to pilferage, theft, damages if any including cement which may become unfit for consumption due to prolonged storage or due to rains etc. shall be to contractor's account and shall be included by the contractor in rates quoted in the tender.

4.4 QUALITY OF CEMENT:

The contractor shall satisfy himself that the cement arriving at site is ordinary port-land cement conforming to the requirement of IS: 269/8112 for 33 / 43 Grade respectively; Portland Pozzolana Cement: IS: 1489 (Part 2); Portland Slag Cement: IS: 455 (1989) or relevant Indian Standard and shall procure Manufacturer's Certificate to this effect. In case the contractor has any doubt regarding the quality of cement, it is up to him to have it tested at his own cost and make sure before incorporation in the works that the cement is of right quality. Each consignment of cement supplied should have Test Certificate of the Manufacturer.

4.5 PAYMENT DUE TO ESCALATION ON PRICE OF CEMENT

Escalation on the price of cement shall be worked out as per below formulae and any such escalation shall be effected only for stipulated period of contract including the justified contract period extended without imposition of compensation for delay in the form of penalty.

However for work done/during the justified period extended as above, it will be limited to prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less. In case of extension granted with imposition of compensation for delay in the form of penalty, no price escalation shall be allowed during extended period, only recovery due to price escalation shall be effected.

The increase/decrease of the prices of cement, shall be determined by.....under Ministry of commerce & industry GOI for period under consideration.

Note : The Indices for Grey Cement shall be used where Ordinary Portland Cement/ Portland Pozzolana Cement is used in the works, the Indices for Slag Cement shall be used where PSC (Portland Slag Cement) is used in the works and the average of Grey Cement and Slag Cement shall be used where both Ordinary Portland Cement and Portland Slag Cement are used in the works. Indices published by Economic Advisor, DIPP, Government of India from time to time for Cement shall be considered.

The Amount will be worked out as per given below formula.

Adjustment for component of Cement,

$V = P \times Q \times \frac{C_1 - C_0}{C_0}$ where,

V=variation in cement cost i.e.increase or decrease in amount to be paid or recovered.

P=Basic price of cement as indicated in Annexure P, valid at the time of last stipulated date of receipt of tender including extension if any.

Q= Quantity of cement consumed

CLO= All india WSPI FOR CEMENT AS ISSUED BY OFFICE OF Economis Adviser,Depptt. Of Industrial policy & promotion under Ministry of commerce GOI AS VALID ON LAST DATE OF STIPULATED DATE OF RECEIPT OF TENDER INCLUDING EXTENSION IF ANY.

Cl= All india WSPI FOR CEMENT AS ISSUED BY OFFICE OF Economis Adviser,Depptt. Of Industrial policy & promotion under Ministry of commerce GOI for period under consideration.

4.6 CONTRACTOR'S OTHER RESPONSIBILITIES / LIABILITIES:

- (i) Contractor shall comply with all requirements/procedures etc. that may be stipulated if any, by Government /controlling authority from time to time and accordingly obtain the requisite supply of cement for the work.
- (ii) Even though the source of cement is approved by the employer but the employer shall not be responsible for quality of cement or any loss/ damage in transit, delays due to non-availability of cement with the factory / C&F agents /authorized dealers and/or required transport etc. The contractor shall not be entitled to make any claim and Extension of time or Cost on the employer on such grounds.
- (iii) Cement shall be kept in custody of the contractor at site. The contractor shall be responsible for the safety of the cement by providing watch and ward as is necessary and directed. In case any cement is damaged, unaccounted for or lost due to pilferage or any other reason either in transit or at site, the accountability will be with contractor. If any quantity of cement is found in excess of requirement or left over after completion of the work, same shall not be removed from site without the written permission of the Engineer-in-charge.
- (iv) The contractor shall maintain a stock register at the site and shall record therein the receipt and consumption of cement, the same day it is received or consumed. He shall also get the entries in the register for receipt and consumption of cement countersigned by Employer's Site Engineer, on the same day cement is received or consumed.
- (v) Pozzolana/ Slag cement shall be used only if specifically permitted by the Chief Engineer. The Chief Engineer reserves the right not to allow the use of Pozzolana/ Slag cement. In case Pozzolana / Slag cement is used, the Contractor shall have to observe increased periods for striking form and additional period of one week for curing for which no claim shall be entertained.
- (vi) The cement shall be got tested by the Engineer-in-charge of employer as and when new consignment comes and there is change in manufacturer's brand. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. The cost of tests shall be borne by the contractor/Department in the manner indicated below:-
 - (a) By the contractor, if the results show that the cement does not conform to relevant BIS codes.

- (b) By the Department, if the results show that the cement conforms to relevant BIS codes.
- (vii) The contractor is allowed to use reasonable quantity from the cement brought at site for constructing temporary water storage tank to store water for construction, site office and godowns at site. The quantity used for this purpose shall not be account for payment due to price variation defined elsewhere.
- (viii) The actual issue and consumption of cement on work shall be regulated and proper accounts maintained. The theoretical consumption of cement shall be worked out as per procedure prescribed elsewhere in the contract. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment shall be made.
- (ix) If the work executed is not conforming to acceptable standard as prescribed in the tender elsewhere, the work will not be considered for payment.

The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in-charge shall get it removed at the cost of the contractor.

Chief Engineer may change the brand of Cement depending upon availability in local market, if needed. Instructions in this respect can be issued by them at regular intervals. The name of manufacturers should be finalized after taking into consideration the suggestions of contractors during pre bid meeting, if any.

Similar conditions for cement of other types like slag cement etc. may be incorporated wherever required by the authority by providing for relevant BIS Codes, suitable brands of cement and instructions issued by the department.

5. MILD STEEL BARS AND HIGH STRENGTH DEFORMED BARS FOR REINFORCEMENT IN R.C.C. WORK TO BE SUPPLIED BY CONTRACTOR:

1.1 CONTRACTOR'S QUOTED RATES:

Contractor shall quote his rates for relevant items in the tender on the basis of provisions of this clause detailed hereunder and on the basis of price of steel at site of work as mentioned in Annexure "P" attached herewith (hereinafter called the Basic Price of Steel).

5.2 APPROVAL OF SOURCE OF PURCHASE

(1) The contractor shall procure TMT bars of Fe415/ Fe500 grade (the grade to be procured is to be specified) from primary producers such as SAIL or TISCO or RINL as approved by Ministry of Steel. The TMT bars procured from primary producers shall conform to manufacturer's specifications. In case of non-availability of steel from primary producers,

the approving authority may permit use of TMT reinforcement bars procured from secondary producers. In such cases following action is to be followed:

(a) The grade of the steel such as Fe415/Fe500 or other grade to be procured is to be specified as per BIS 1786 /2008.

(b) The secondary producers must have valid BIS license to produce HSD bars conforming to IS 1786: 2008. In addition to BIS license, the secondary producer must have valid license from either of the firms Tempcore, Thermex, Evcon Turbo & Turbo Quench to produce TMT Bars.

(c) The TMT bars procured from primary producers shall conform to manufacture's specifications.

(d) The TMT bars procured from secondary producers shall conform to the specifications as laid by Tempcore, Thermex, Evcon Turbo & Turbo Quench as the case may be.

(e) TMT bars procured either from primary producers or secondary producers, the specifications shall meet the provisions of IS 1786 : 2008/2012 pertaining to Fe415D or Fe 500D grade of steel as specified in the tender (while preparing Tender the grade of the steel to be specified).

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

(3) Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications as defined under para (1)(d) & (1)(e) above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in-Charge to do so.

(4) The steel reinforcement bars shall be brought to the site in bulk supply required to achieve desired progress of the work in next 3 months, from the above source of purchase (including brand of steel) as decided by the Engineer-in-charge. At the time of starting the work, the request for approval shall be submitted within 15 days of receipt of tender acceptance letter. The contractor shall intimate the EE/SE the quantity of steel being procured, with the names, full addresses, and telephone numbers of steel suppliers. For subsequent approvals the contractors shall approach Employer's Engineer at site **at least 20 days** in advance of the desired date of delivery of steel. The contractor shall submit his request for the approval through Employer's Engineer at site with one copy of the letter to EE/SE. The contractor's request letter shall mention the quantity of steel to be/ being purchased and also the quantity of steel in stock at site on the date of submitting the request.

(5) The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this

account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

(6) For checking nominal mass, tensile strength, bend test, re-bend test etc. specimens of sufficient length shall be cut from each size of the bar at random, and at frequency not less than that specified in the tender.

5.3 BASIC PRICE OF STEEL:

The basic price of steel reinforcement stated in Annexure 'P' is inclusive of all taxes and costs upto the site of work (without GST), transportation charges including loading and unloading charges at all points (except unloading at site), transit insurance, and any other expenses (*expenditure*) not mentioned above but required. All other costs such as unloading the steel at site, handling, stacking, storage, providing watch and ward arrangements, loss due to pilferage, thefts or any other reasons shall also be to contractor's account and shall be included by the contractor in rates quoted in the tender.

5.4 QUALITY OF STEEL:

The contractor shall satisfy himself that the steel arriving at site is TMT bars of Fe415/ Fe500 grade as per BIS 1786-2008/ 2012 or other grade bars procured either from primary producers or secondary producers, the specifications shall meet the provisions of IS 1786 : 2008/ 2012 pertaining to Fe 415D or Fe 500D grade of steel as specified in the tender and shall be supported by test certificate from the suppliers. In case the contractor has any doubt regarding the quality of steel, it is up to him to have it tested at his own cost and make sure before incorporation in the works that the steel is of right quality. Each consignment of steel supplied should have Test Certificate of the Manufacturer.

5.5 CONTRACTOR'S OTHER RESPONSIBILITIES/LIABILITIES

- (i) Contractor shall comply with all requirements/procedures etc. that may be stipulated if any, by Government /controlling authority from time to time and accordingly obtain the requisite supply of steel for the work.
- (ii) Even if the source of steel is approved by the employer, ~~but~~ the employer shall not be responsible for quality of steel, correctness of diameter/ size or any loss /damage in transit, delays due to non-availability of steel with the manufacturer/suppliers and/or required transport etc. The contractor shall not be entitled to make any claim & Extension of Time or Cost on the employer on such grounds.
- (iii) The contractor shall be responsible for proper storing arrangement at site. Steel shall be kept in custody of the contractor at site. The contractor shall be responsible for the safety of the steel by providing watch and ward as is necessary and directed. In case any steel is damaged, unaccounted for or lost due to pilferage or any other reasons either in transit or at site, the accountability will be with contractor. If any quantity of

steel is found in excess of requirement or left over after completion of the work, same shall not be removed from site without the written permission of the Engineer-in-charge.

- (iv) The contractor shall maintain a stock register at the site and shall record therein the receipt and consumption of steel (category wise), the same day it is received or consumed. He shall also get the entries in the register for receipt and consumption of steel countersigned by Employer's Site Engineer, on the same day steel is received or consumed.
- (v) The wastage shall be to contractor's account and shall be taken away by the contractors after obtaining written permission from the **Engineer-in-charge** and the rates quoted shall allow for the same.
- (vi) The payment of steel reinforcement shall be made on weight worked out on the basis of measurement of lengths of various categories as incorporated in the work and sectional weights mentioned in tender.
- (vii) The contractor shall obtain a test certificate from the manufacturer for the lot of steel purchased for the work. The employer's site Engineer may also order testing of steel when new consignment comes and / or there is change in manufacturer's brand, by the contractor before allowing its use in the work irrespective of the test certificate and in such case the contractor shall supply free of charge the steel required for testing including its transportation cost to testing laboratories. The cost of tests shall be borne by the contractor/Department in the manner indicated below but not any other incidental expenses for arranging the testing, which shall be to contractor's account and included in quoted rates:-
 - a. By the contractor, if the results show that the steel does not conform to relevant BIS codes.
 - b. By the Department, if the results show that the steel conforms to relevant BIS codes.
- (viii) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained. The theoretical consumption of steel shall be worked out as per procedure prescribed elsewhere in the contract. In case the steel consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment shall be made.
- (ix) The substitution of any category of steel shown in drawing with any other category of steel shall be done only if permitted by the EE/SE in writing.
- (x) The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

5.6 PAYMENT DUE TO ESCALATION IN PRICE OF STEEL

Escalation on the price of Steel shall be worked out as per below formulae and any such escalation shall be effected only for stipulated period of contract including the justified contract period extended without imposition of compensation for delay in the form of penalty.

However for work done/during the justified period extended as above, it will be limited to prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less. In case of extension granted with imposition of compensation for delay in the form of penalty, no price escalation shall be allowed during extended period, only recovery due to price escalation shall be effected.

The increase/decrease of the prices of cement, shall be determined by.....under Ministry of commerce & industry GOI for period under consideration.

The amount will be worked out as per the formula given below for individual material:-

Adjustment for component of steel.

$$V = P \times Q \times \frac{CI - Clo}{Clo}$$

Where,

V = Variation in Steel cost i.e. increase or decrease in the amount to be paid or recovered.

P = Base Price of steel as indicated in Annexure 'P' valid at the time of the last stipulated date of receipt of tender including extensions, if any.

Q = Quantity of Steel consumed in the worksite i.e. as measured and recorded since previous bill.

Wastage if any, to be on contractor's account.

Clo = All India Whole Sale Price index for steel, as issued by Office of the Economic Advisor, Dept. of Industrial Policy & Promotion under Ministry of Commerce and Industry, Government of India as valid on the last stipulated date of receipt of tenders including extensions, if any.

CI = All India Whole Sale Price index for steel, as issued by Office of the Economic Advisor, Dept. of Industrial Policy & Promotion under Ministry of Commerce and Industry, Government of India for period under consideration.

Note : The Indices for Rebar shall be uses for adjustment purpose. The Indices published by Economic Advisor, DIPP, Government of India from time to time for Steel shall be considered.

6. WASTAGE OF CEMENT AND STEEL :

6.1 The wastage of Cement and Steel shall be to the contractor's Account and the rates quoted shall allow for the same.

7. BALANCE STOCK OF CEMENT/STEEL ON COMPLETION OF JOB :

- 7.1** Irrespective of what is mentioned anywhere else in this tender the surplus stock of Cement/Steel remaining at the site on completion of work, shall be the property of the Contractor. However, he shall remove the surplus stock only after furnishing the necessary details of such stock in writing to the Corporation's Engineer and obtaining written permission from him.

8. STEEL OTHER THAN USED FOR REINFORCEMENT:

- 8.1** Rolled steel sections such as angles, joists, channels, flats etc. and mild steel used for M.S. Grills, railing, gates and M.S. Plates etc., shall be procured by the Contractor and Annexure "P" will not apply for cost of these items.

9. TESTING OF MATERIALS INCLUDING CEMENT AND STEEL :

- 9.1** Testing of all materials including cement & steel during the progress of work shall be as per frequency given in Table A, Clause 2 of Special Conditions.

- 9.2** Contractor shall facilitate testing of materials viz., Cement, Steel, Cubes and any other material as per the frequency / sampling mentioned in the Table 2 of the Special Conditions. Contractor shall also facilitate testing of any material to be incorporated in work even if it is not specifically mentioned. The testing charge against invoice shall be directly remitted by the corporation to the test house. If the material/s fails to conform to the standards, the test charges shall be recovered from contractor's bill.

- 9.3** For all other materials listed in Special Conditions, expenses towards testing shall be borne by LIC . If the material/s fails to conform to the standards, the test charges shall be recovered from contractor's bill.

- 9.4** The Corporation's Engineer may get tested any material to be incorporated in work even if it is not specifically mentioned. In all such cases, testing charges will be borne by LIC. If the material/s fails to conform to the standards, the test charges shall be recovered from contractor's bill. However, charges for any tests specified in Item description but not listed in Table A shall be to Contractor's account.

- 9.5** For all tests, incidental charges such as cutting, loading, unloading, casting wherever applicable such as mortar briquettes / cubes and facilitating in transportation, shall be borne by contractor.

10. "PRINCIPAL MAKE/S OR OTHER EQUAL AND APPROVED" FOR MATERIALS/ PRODUCTS :

- 10.1** The Contractor shall note that materials having "ISI" monogram shall primarily be used in the work. Materials of brands as specified in relevant literature of CPWD shall be incorporated. If in the tender "Certain Principal Make / Makes or other equal and approved of any material/Product is mentioned in any item or Trade Preambles relating to the particular items in its respective Trade Schedule, the Contractor shall have to use the Principal Make/Makes specified in the relevant item or the trade Preambles. In case the specified particular Principal make/makes of the materials product is/are not readily available, the

Contractor shall take prior permission and approval of the Chief Engineer in writing before use of the alternative equivalent make of the Material / Product.

- 10.2** All principal makes specified for any item shall be treated at par as per the accepted quoted rate.
- 10.3** Use of the make other than the Principal Make/Makes (which shall be treated as an Equivalent make) shall be at the discretion of the Chief Engineer and such Make/Makes shall be used after the approval of the Chief Engineer.
- 10.4** In such cases the Contractor will not be paid any extra payment over the accepted quoted rate in any case. However if it is ascertained that the price of approved Equivalent Make or the Material/Product is lower than that for the Principal Make/Makes of the same material/product the difference of the price shall be payable by the contractor to LIC. Such difference of price shall be suitably decided by the Chief Engineer whose decision shall be final and binding to the Contractor in this regard.

11. ADJUSTMENT IN PRICES OF MATERIALS AND LABOUR (OTHER THAN CEMENT & STEEL):

- 11.1 Escalation on Material and Labour shall be payable in accordance to formula given in tender.**
- 11.2** Adjustment in prices of material & labour shall be allowed on the basis of clause-11.6, 11.7, 11.8 & 11.9 subject to the condition given below.
- 11.3** Adjustment shall be made only for tender items and deviated items for the stipulated contract period.

11.4 & 11.5

In case of extension of time, the escalation is paid as follows:

- a) When there is authorized extension i.e. no imposition of Compensation in the form of Penalty, escalation may be paid for the extended period with prevailing index during the extended period.
- b) Extension granted but with imposition of Compensation in the form of Penalty:– The escalation may be paid by considering index as that prevailing on scheduled date of completion or that prevailing on the date of billing during the extended period of contract whichever is lower .
- c) Extension granted due to failure on the part of the contractor but due to reasons beyond his control, the Department has taken a lenient view for not imposing Compensation in the form of Penalty for delay of work, no escalation shall be paid whatsoever after scheduled date of completion.

ADJUSTMENT OF MATERIALS:

- 11.6** For the purpose of adjustment in price of materials, the component shall be 60% of the value of work done upto a given stage. While computing the adjustment, the cost of cement, steel or any other materials for which basic price has been stipulated in the tender shall be deducted from the component

worked out at 60% of the value of work. The cement and steel as covered under Clauses 4 and 5 of the General Preambles to schedule of quantities shall be excluded from the purview of the adjustment.

$V_m = \{ 60/100 (R_n - R_{n-1}) - C_m - M_{n-1} + M_n \} \times (W - W_0) / W_0$ Where,

V_m = Variation in price for materials i.e. increase or decrease in the amount in rupees to be paid or recovered.

R_n = Total value of work done (excluding prime cost items, extra items, and advance on materials at site upto the period under reckoning) on the basis of accepted tender rates. The deviated items worked out fully on the basis of rates prevailing at the time of last date of receipt of tender to be included.

C_m = Total value of cement and steel at basic price stipulated in the tender and shall comprise of C & S as explained below and any other material which basic price is mentioned:

C = Cost of cement used in the work and recorded for any specific bill period under reference and worked out at basic price stipulated in Annexure 'P' attached in the tender.

S = Cost of steel for reinforcement (covered under Clause 5.1 AND 5.2 of the General Preambles to schedule of quantities) used in the work and recorded for any specific bill period under reference and worked out at issue price / basic price stipulated in the tender.

R_{n-1} = Total value of work done (excluding prime cost items, extra items and advance on materials at site) considered in the bill prior to the period under reckoning. The deviated items and such other items shall be considered as per R_n above.

M_n = Advance being allowed in the bill under consideration against materials at site (other than cement and steel)

M_{n-1} = Advance allowed in the bill prior to the period under scrutiny against materials at site (other than cement and steel)

w_0 = All India Wholesale Price Index for all commodities (Base = 100; Year 2004-05) as prevailing on the last day for submission of tender (including extended date, if any).

W = Average All India Wholesale Price Index for all commodities Base = 100; year 2004-05; as published in the RBI Bulletin for the period of the bill under consideration viz. from the date of previous bill (date of commencement in case of first bill) to date of current bill (date of virtual completion in case of final bill or any earlier cut off date as fixed).

- 11.7 The adjustment on materials is worked out on the basis that material component in the building construction work is 60% of the value of work done, the rest being labour and profit. But in the initial stages of construction work, it might so happen that the cost of materials used exceeds 60% which is taken as an average and therefore adjustment gets worked out on negative side even though the economic index might have gone up. In such cases, the negative adjustment shall also have to be made in the bill.

ADJUSTMENT ON LABOUR:

- 11.8 The contractor shall pay wages to the skilled and unskilled labour not less than the rates prescribed under the minimum wages act and as stated in clause no.18 of the General Instructions to contractors for Builders' work. Variation in prices of labour shall be worked out by applying the following formula and necessary payment/ recovery made:

$$VL = 25 / 100 \times (R_n - R_{n-1}) \times (I - I_0) / I_0$$

VL = Variation in price for labour i.e. increase or decrease in the amount in rupees to be paid or recovered

I = Average All India Consumer Price Index for Industrial Workers (base 100 year – 2001) declared by Labour Bureau, Govt. of India, as published in Reserve Bank of India Bulletin during the period under reckoning.

Average All India Consumer Price Index for Industrial Workers for the period of the bill under consideration viz. from date of previous bill (date of commencement in case of first bill) to date of current bill (date of virtual completion in case of final bill or any earlier cut off date as fixed)

I₀ = All India Consumer Price Index for Industrial workers (base 100-year 2001) ruling on the last date of submission of tender (including extended date, if any)

Rn = As defined under 11.6 above

Rn-1 = As defined under 11.6 above

11.9 If the last date for submission of tender / date of bill is between 1st to 15th of a particular month the relevant economic index (W, W0, I, I0) for the previous month is to be considered. However, if the last date of submission of tender / date of bill is between 16th and end of month, the relevant economic index for the month shall be reckoned while calculating the material / labour price adjustment.

NOTE:

- 1) The adjustment in prices of Materials and Labour shall be considered /effected only when the Contractor submits authentic data for prevailing indices along with the RA/Final Bill. The Employer reserves the right to set aside certain amount from the Bill if the Contractor does not submit the authentic data of prevailing indices along with the bill.
- 2) For adjustment in prices of materials & labour the indices (WPI / CPI) published by RBI as mentioned above which are available as on the date of submission of final bill (final / provisional indices) will only be considered for settlement of final bill . No further review will be done, even if there are variations in indices (WPI / CPI) after the final bill is settled.
- 3) In case during the period of contract, the base years for publishing Economic Indices are changed as per statute, then the revised indices will be considered as per the published data available at the time of settling the bill/s.

MEASUREMENT OF WORK

Note : All items having a financial value shall be entered in the Measurement book. All measurements and levels shall be taken jointly by the Site Engineer or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by both the parties in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to the effect with reason, signed by both parties and referred to EE whose decision in the matter shall be final and binding. Measurements can also be recorded through electronic medium where specifically approved by Chief Engineer.

The Standard Operating Procedure for recording Measurement, Test Check shall be as under:-

1.The Measurements of Project works will be recorded in EXCEL format (**Annexure A1& A2**) by the Contractor/ Authorized Representative of Contractor at the site as work progress. The description of items is to be imported in totality from **the approved protected soft file (Excel File) of BOQ in tender**. However any inadvertent deviations after importing the file , the original contract document will prevail upon.

Any extra /deviated work executed during the period will also be measured in EXCEL format after/ following all laid down procedures as per tender conditions.

2. The EXCEL Sheet Measurement will be submitted by the Contractor to the LIC Site Engineer in both hard and soft format . The measurement then will be checked 100% by LIC Site Engineer and if required , the same shall be corrected by LIC Site Engineer to establish that the measurements so given by the Contractor is in order and complete in all respects.

3. The corrected hard copy of the EXCEL Measurement Sheet thereafter will be test checked by the Higher Officials as per the laid down process and if there exists zero correction , such Excel measurement sheet will be PDF formatted.

All concealed measurements shall be verified by LIC Site Engineer and Test Checked by Higher Officials, wherever required before its concealing and hard copy duly signed by Contractor and LIC Engineer shall be maintained /preserved.

4. If there is any variation of measurement after the test checking, the particular measurement will be re-entered by the LIC Site Engineer and then the corrected EXCEL

measurement sheet will be converted to PDF formatted measurement sheet. A print of such PDF formatted Measurement Sheet will be taken and signed by the LIC Site Engineer, Test Checking Engineer and the Contractor on the Hard Copy. (A Sample copy is attached for reference as per **Annexure-A1 & A2**).

5. Abstract of Bill (**Annexure-B**) in EXCEL and PDF will be submitted by Contractor. The description of the items, Tender Qty, unit and Rates will be imported from the approved soft file of BOQ in the tender. The Contractor will only Key in the quantities of the corresponding items from the PDF formatted measurement Sheet. However any inadvertent deviations after importing the file, the original contract document will prevail upon.

6. The hard copy of PDF formatted measurement sheet, Bill processing Note initiated by the LIC Site Engineer and Abstract Sheet as corrected by LIC Site Engineer (attached as per **Annexure-B**) will be submitted to Engineering Account section for all necessary verification.

The soft copy of measurement sheet and abstract in EXCEL Format may also be submitted to Accounts Section to facilitate speedy checking of the bills. However correction by Accounts Section will be done only on Hard Copy of PDF Formatted measurement sheets and thereafter on Abstract sheet. The certified contract documents must be referred during account checking.

7. After scrutiny of the bill and certification by Engineering Account Section, all corrected documents in Hard copy will be shared with Contractor.

8. The Contractor on receipt of the corrected Hard copy of abstract of bill from LIC will prepare their tax invoice on their Letter head. (A sample copy is attached for reference as per

Annexure-C) and submit to LIC of India for further processing of their bill for release of payment. The Tax invoice will have Zero correction.

Enclosures:- **Annexure-A1, A2, B and C.**

BASIC PRICE OF CEMENT at the Work-Site:

(Refer Clause No. 4.3 of the General Preambles to Schedule of Quantities).

Contractor's Quoted rates shall be Based on the BASIC PRICE of Cement at the work-site which includes purchase price of Cement (without GST), transportation charges from factory / stockist's go-down to the work site, loading and unloading charges at all points, transit insurance etc.

**A) Ordinary Portland Cement / Pozzolana
Portland Cement / Other Specified Cement**

**Rs. 5700 / M.T (Rupees Five Thousand
Seven Hundred Only)**

BASIC PRICE OF STEEL at the Work-Site:

(Refer clause No. 5.3 of the General Preambles to Schedule of Quantities)

Contractor's QUOTED rates shall be based on the BASIC PRICE of Steel at the Work-Site which includes purchase price of Steel (without GST), Transportation Charges from the factory / stockiest go-down to the work-site including bending and binding charges at all points, Transit Insurance, Weighment charges, etc.

A) High Strength Deformed Bars(TMT Fe 500 & Fe 500D) or other specified reinforcing steel of all diameters in coil or in straight lengths	Rs.46,000/ M.T (Rupees Forty Six Thousand Only)
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Note:

1. Packing of Cement (like gunny bags, polythene bags. etc.) cost of which is included in the purchase price, shall be **THE PROPERTY OF THE CONTRACTOR.**

SCHEDULE - "A"**TO BE READ IN CONNECTION WITH ANNEXURE "P"**

- a. Contractor shall note that although the materials and the basic prices for the same have been mentioned in this schedule, the responsibility of procurement of the materials shall rest with the Contractor.
- b. Contractor shall consider in his quoted rates for the relevant item/s the basic rate mentioned in this schedule. The basic rates for the items mentioned in this schedule are ex-work site and are inclusive of:-
 - i. Cost of material,
 - ii. All taxes levied by Central/State Government/Local Bodies except GST. GST Shall be paid extra as applicable.
 - iii. Transportation from factory/suppliers/stockiest/ dealers go-down/ shop/depot including loading and unloading charges at all points except unloading at work site, transit insurance.
 - iv. All other expenses including wastage shall be to the Contractor's account and shall be included in his quoted rates.
 - v. Contractor shall purchase those materials which basic price is mentioned in the tender items other than cement and steel in required quantities from the approved source after the Dy.C.E/S.E/EE. has approved the price of materials to be purchased and brought on the site of work.
 - vi. Any increase in the price of any of the material other than cement & steel (mentioned in this schedule) procured and brought on site for incorporating in the work by the Contractor from approved source, over the basic price of the material mentioned in this schedule shall be reimbursed to the Contractor.
In case the price of any of the materials mentioned in this schedule, purchased and brought on site by the Contractor is below the basic price of the materials mentioned in this schedule, the same shall be recovered from the Contractor.

For the purpose of working out variation, Contractor shall produce the vouchers/bills in support of the material purchased and brought by him from the approved supplier. Rate of transportation, loading and unloading from suppliers' shop/depot to the work site shall be got approved from the Dy.C.E. /S.E. before the commencement of transportation of material.

- c. Reimbursement/Recovery of any variation in the price of material shall be made to the extent the quantity of material actually/theoretical used and recorded whichever is less for the item involving the use of such material.
- d. Storage and safety of the material shall be the Contractors responsibility.

ANNEXURE - "Q"

**STATEMENT SHOWING QUANTITIES OF THEORETICAL CONSUMPTION OF CEMENT
FOR MAJOR ITEMS OF WORKS**

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
1.	PLAIN CEMENT CONCRETE WORK		
	A) Cement concrete (1:2:4)	Cu.M.	3.20
	B) Cement concrete (1:3:6)	Cu.M.	2.20
	C) Cement concrete (1:4:8)	Cu.M.	1.70
	D) Cement concrete (1:5:10)	Cu.M.	1.30
2.	DAMP PROOF COURSE		
	A) 25mm thick in C.C. (1:2:4)	100 Sq.M	8.0
	B) 38 mm thick in C.C. (1:2:4)	100 Sq.M	12.16
	C) 50 mm thick in C.C. (1:2:4)	100 Sq.M	16.0
3.	REINFORCED CEMENT CONCRETE WORK		
	A) R.C.C work in C.C. (1:2:4)	Cu.M.	3.20
	B) R.C.C. work in C.C. (1:1½ :3)	Cu.M.	4.00
	C) R.C.C. work in C.C. (1:1:2)	Cu.M.	6.10
	D) Providing and fixing precast R.C.C. (1:2:4) set in partition in CM 1:2 including finishing with cement plaster 1:3 of thickness not exceeding 6mm	Cu.M.	3.80
	i) Kerb, step and the like	Cu.M.	3.80
	ii) Copings, bed plates, Anchor blocks, window sills and the like	Cu.M.	3.80
	iii) Small lintels not exceeding 1.5m clear, coping, shelves and the like	Cu.M.	3.77
4.	A) Brickwork (all classes) In cement mortar 1:3		
	i) with modular thick	Cu.M	1.12
	ii) with F.P.S. brick	Cu.M	1.28

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	B) Brick work (all classes) in mortar 1:4		
	i) with modular thick	Cu.M	0.84
	ii) with F.P.S. brick	Cu.M	0.95
	C) Brick work (all classes) In mortar 1:5		
	i) with modular thick	Cu.M	0.68
	ii) with F.P.S. brick	Cu.M	0.78
	D) Brick work (all classes) In mortar 1:6		
	i) with F.P.S. brick	Cu.M	0.62
	E) Half Brick work (all classes) In mortar 1:3		
	i) with modular thick	100 Sq.M	12.75
	ii) with F.P.S. brick	100 Sq.M	14.28
	F) Half Brick work (all classes) In mortar 1:4		
	i) with modular thick	100 Sq.M	9.50
	ii) with F.P.S. brick	100 Sq.M	10.64
	G) Brick work 3" thick in cement mortar 1:3 with F.P.S. brick	100 Sq.M.	9.23
	H) Honey comb brick work half brick thick in C.M. (1:4)		
	i) with modular brick	100 Sq.M	5.54
	ii) with F.P.S. brick	100 Sq.M.	6.56
	I) Brick drip course at junction of roofs and walls in C.M. (1:4)		
	i) 10 cm thick with modular brick	100 M	0.84
	ii) 7.6 cm thick with F.P.S. brick	100 M	0.83
	J) Brick drip course at junction of rooms and walls in C.M. (1:6)		
	i) 10 cm thick with Modular brick	100 M	0.55
	ii) 7.6 cm thick with F.P.S. Brick	100 M	0.54

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	K) Providing brick band 5cm projected from wall face in C.M. (1:4)		
	i) 10cm thick 5 cm Projected with modular brick	100 M	0.42
	ii) 7.6 cm thick 5.7 cm projected with F.P.S. brick	100 M	0.41
5.	STONE WORK		
	A) Random Rubble masonry within foundations or superstructure in cement mortar 1:6 including leveling up with cement concrete 1:6:12 at plinth or sill or ceiling level	Cu.M.	0.85
	B) coarse rubble masonry in foundation and super structure in cement mortar 1:6	Cu.M.	0.75
	C) Stone work plain ashlar cyclopean, sunk or moulded and ashlar punched in cement mortar 1:6 including pointing with cement mortar 1:2 with an admixture of pigment matching the stone shade.	Cu.M.	0.54
	D) Stone work plain ashlar cyclopean sunk or moulded arch, dome or circular moulded and curved columns in cement mortar 1:3 including pointing with cement mortar 1:2 with an admixture of pigment matching the stone shade.	Cu.M.	1.07
	E) Stone work plain in coping cronies; string courses and plinth course in cement mortar 1:6 including pointing with cement mortar 1:2 with an admixture of pigment matching the stone shade.	Cu.M.	0.54
	F) Stone work for wall lining etc. average thickness 40mm to 70mm in cement mortar 1:3 including pointing with cement mortar 1:2 with an admixture of pigment matching the stone shade	100 Sq.M	8.75

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	G) 30mm thick sand stone shelves, fixed in walls in cement mortar 1:3 including finishing complete	100 Sq.M.	1.64
6.	FLOORING		
	A) Brick flooring in cement mortar 1:4	100 Sq.M.	11.02
	B) Brick flooring in cement mortar 1:6		7.25
	C) 25mm thick cement concrete flooring 1:2:4 finished with a floating coat of neat cement		12.20
	D) 40mm thick cement concrete flooring 1:2:4 finished with a floating coat of neat cement		17.00
	E) 50mm thick cement concrete flooring 1:2:4 finished with a floating coat of neat cement		20.20
	F) 75mm thick cement concrete flooring 1:2:4 finished with a floating coat of neat cement		28.20
	G) Cement concrete pavement (25mm to 50mm thick) with 1:2:4 including finished complete	Cu.M.	3.20
	H) 50mm thick cement concrete flooring with metallic concrete hardener topping, under layer of 40 mm thick cement concrete 1:2:4 and top layer 10mm thick metallic cement, hardener consisting of mix 1:2 by volume with metallic hardening compound of approved quality is mixed in the ratio of 4:1.	100 Sq.M	21.10
	I) 40mm thick cast - in situ m.m. flooring (28mm thick under layer and 12mm thick top layer)		
	i) Neutral shade with Grey cement	100 Sq.M	19.07
	ii) Light shade with white cement Grey Cement	100 Sq.M	8.10
	iii) Medium shades 50% Grey Cement White cement	100 Sq.M	10.97 15.02 4.05
	J) Pre-cast terrazzo tiles 22mm thick with marble chips of sized upto 6mm, laid in 20mm thick bed of cement mortar 1:6, cement slurry, jointing with gray cement		

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	i) Light shade using White cement Grey cement	100 Sq.M	4.40 10.00
	ii) Dark shades (with Grey cement)	100 Sq.M	14.40
	K) Pre-cast terrazzo tiles 22mm thick with marble chips of sizes upto 6mm. In skirting on walls, laid on 12mm thick cement plaster (1:3) jointed with neat cement slurry.		
	i) Light shade using white cement Grey cement	100 Sq.M	2.20 13.94
	ii) Medium shade using 50% white cement & 50% grey cement. White cement Grey cement	100 Sq.M	1.10 12.84
	iii) Dark shades (with Grey cement)	100 Sq.M	16.14
	L) checkered terrazzo tiles 22mm thick with marble chip of sizes upto 6mm on 25mm thick bed of lime mortar jointed with neat cement slurry		
	i) Light shade using white cement Grey cement	100 Sq.M	4.40 12.90
	ii) Medium shade using 50% white cement & 50% grey cement. White cement Grey cement	100 Sq.M	2.20 15.10
	iii) Neutral shades (with Grey cement)	100 Sq.M	17.30
	M) White glazed tiles 5.5 mm thick in flooring, treads and risers of steps, skirting and dado on 12mm thick cement plaster 1:3 in base and jointed with white cement slurry etc. White cement Grey cement	100 Sq.M 100 Sq.M	2.50 9.42
	N) Marble stone slab flooring over 20mm thick base lime mortar and jointed with grey cement slurry etc.		
	i) 20mm thick	100 Sq.M	5.0
	ii) 30mm thick	100 Sq.M	5.12
	iii) 40mm thick	100 Sq.M	5.36

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	O) Marble stone slab flooring over 20mm thick base of cement mortar (1:4 and jointed with Grey cement slurry) i) 25mm thick ii) 30mm thick iii) 40mm thick	100 Sq.M 100 Sq.M 100 Sq.M	13.51 13.63 13.87
	P) Extra if white cement slurry used instead of Grey cement slurry in joints of stone flooring. (White cement)	100 Sq.M	0.76
	Q) Marble tiles 25mm thick in riser of steps, skirting and pillars, laid on 12mm thick cement mortar (1:3) and jointed with grey cement slurry	100 Sq.M	12.34
	R) Kotah stone slab flooring over 20mm thick base of lime mortar and jointed with cement slurry etc. i) 25mm thick ii) 30mm thick iii) 40mm thick	100 Sq.M 100 Sq.M 100 Sq.M	6.40 6.80 7.60
	S) Kotah stone slab flooring over 20mm thick base of cement mortar (1:4) and jointed with neat cement slurry etc. i) 25mm thick ii) 30mm thick iii) 40mm thick	100 Sq.M 100 Sq.M 100 Sq.M	14.91 15.31 16.11
	T) Kotah stone slab 25mm thick in riser in steps, skirting dado and pillars laid on 12mm thick cement mortar 1:3 and jointed with neat cement slurry etc.	100 Sq.M	13.74
	U) 40mm thick sand stone flooring over 30mm thick base of cement mortar 1:5 with joints finished flush.	100 Sq.M	7.75
	V) 40mm thick sand stone flooring over 20mm thick base of cement mortar 1:5 including pointing with cement mortar 1:2 (1cement 2 stone dust)	100 Sq.M	9.31
	W) 40mm thick sand stone flooring over 20mm thick lime mortar including pointing with cement mortar 1:2	100 Sq.M	1.56

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	X) 40mm thick fine dressed and rubbed stone flooring over 20mm thick base of cement mortar 1:5 (1cement 5 sand) with joints 5mm thick finished flush.	100 sq.M	8.28
	Y) 40mm thick fine dressed and rubbed stone, flooring, over 20mm thick base of cement mortar 1:5 with joints 5mm thick including pointing with cement mortar 1:2 (1cement 2 stone dust)	100 Sq.M	9.84
7.	FINISHING		
	A) 12mm cement plaster 1:3	100 Sq.M	7.34
	B) 12mm cement plaster 1:4	100 Sq.M	5.47
	C) 12mm cement plaster 1:5	100 Sq.M	4.46
	D) 12mm cement plaster 1:6	100 Sq.M	3.60
	E) 15mm cement plaster 1:3	100 Sq.M	8.77
	F) 15mm cement plaster 1:4	100 Sq.M	6.54
	G) 15mm cement plaster 1:5	100 Sq.M	5.33
	H) 15mm cement plaster 1:6	100 Sq.M	4.30
	I) 20mm cement plaster 1:3	100 Sq.M	11.42
	J) 20mm cement plaster 1:4	100 Sq.M	8.51
	K) 6mm cement plaster 1:3 to ceiling	100 Sq.M	3.67
	L) 6mm cement plaster 1:4	100 Sq.M	2.74
	M) Neat cement punning	100 Sq.M	2.20
	N) 18mm cement plaster in two coats underlay 12mm cement plaster 1:5 finished with a top layer 6mm thick cement plaster 1:6	100 Sq.M	6.26
	O) 18mm cement plaster in two coats under layer 12mm cement plaster 1:5 finished with a top layer 6mm thick cement plaster 1:3	100 Sq.M	8.13

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	P) 12mm cement plaster 1:2 (1 cement 2 stone dust)	100 Sq.M	9.79
	Q) 18mm thick or artificial red stone plaster of 12mm thick under layer of cement plaster 1:4 with 6mm thick finishing coat of cement mortar 1:1:3 mixed with red oxide (1cement:1marble dust:3stone dust)	100 Sq.M	9.47
8.	POINTING A) Flush or ruled or cut or Weather pointing on brick work with cement mortar 1:3 B) Raised and cut pointed on brick work with cement mortar 1:3 C) Flush or ruled pointing on stone work with cement mortar 1:3 D) Raised and cut pointing on stone work with cement mortar 1:3	100 Sq.M 100 Sq.M 100 Sq.M 100 Sq.M	 1.53 2.04 1.17 2.35
9.	MORTAR A) Cement mortar 1:1 B) Cement mortar 1:2 C) Cement mortar 1:3 D) Cement mortar 1:4 E) Cement mortar 1:5 F) Cement mortar 1:6	Cu.M Cu.M. Cu.M. Cu.M. Cu.M Cu.M	10.20 6.80 5.10 3.80 3.10 2.50
10.	SANITARY INSTALLATIONS: A) Fixing long pan or Orissa Pattern, squatting or pedestal type W.C pan B) Fixing Flat back or wall corner type lipped front urinal basin	Each Each	0.025 0.01

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	C) Fixing sink or wash basin	Each	0.015
	D) Fixing Holder bat clamps for 100 / 75 / 50 mm dia sand cast iron pipes	Each	0.005
	E) Fixing sand cast iron trap	Each	0.025
	F) Providing and fixing G.I fittings and clamps including cutting and making good the walls etc. (Internal work)		
	Exposed Walls		
	15mm dia	100 RM	0.05
	20mm dia	100 RM	0.06
	25mm dia	100RM	0.07
	32mm dia	100 RM	0.075
	40mm dia	100 RM	0.08
	50mm dia	100 RM	0.08
	G) Concealed pipe including ceiling chases and making good the walls 15/20 mm normal bore	100 R.M	0.88
	H) 100 mm dia SWG pipes	100 RM	22.91
	I) 150mm dia SWG pipes	100 RM	26.01
	J) Fixing square mouth S.W Gully trap	Each	0.40
	K) Inspection chambers Inside size 0.75 x 0.75 x 1.00 m depth	Each	2.13
	L) Inspection chamber Inside size 1.20 x 0.90 x 1.00 m to 2.00 depth	Each	3.70
11.	MISCELLANEOUS		
	A) Lime concrete terracing average 10cm thick with 25mm brick ballast and 50% lime concrete 1:2 (1 Lime putty: 2 surkhi) rammed and finished with gur and belgri finished with gur and belgri treatment and covered with flat brick tiles grouted with cement mortar 1:3 over 12mm layer of cement mortar 1:3	100 Sq.M	6.63

Sl.No.	Description	Units	Quantity of cement per unit / Quantity of work in quintal
	B) Providing and laying average, 10cm thick cement based water proofing treatment with brick bat coba as per manufactures specification	100 Sq.M	(*)
	C) Providing and filling with waterproof brickbat cement concrete	100 Sq.M	(*)
	D) Rough cast or pebble dash plaster in two layers under layer 12mm cement plaster 1:4 and top layer 10mm cement plaster 1:3	100 Sq.M	11.59
	E) Plinth protection 50mm thick in cement concrete 1:3:6 over 75mm bed of dry brick ballast	100 Sq.M	11.0
	F) Brick edging 10cm wide 10cm deep to plinth protection including grouting with cement mortar 1:4	100 Sq.M	1.14
	G) Fixing of precast cement concrete jalli 1:2:4 in cement mortar 1:3	100 Sq.M	1.64
	i) 50mm thick		
	ii) 40mm thick		
	iii) 25mm thick		
	H) CC blocks for hold fasts	100 Nos.	1.10
	i) CC blocks for hold fasts for windows	100 Sqm.	1.30

(*) As specified by the specialist firm at the time of tendering

NOTE: For any other item of work, Site Engineer shall refer to the CPWD specification and norms. In case no coefficient is available for a specific item, the decision of Chief Engineer, shall be final and binding on the contractor.

LIFE INSURANCE CORPORATION OF INDIA
FORM OF GUARANTEE FOR WATERPROOFING

(To be given by Waterproofing Agency)

Name of the work : _____

Name of the Main contractor : _____

Name of Water Proofing Agency

M/s. _____

We M/s. _____

_____ hereby guarantee that the surfaces treated by us for waterproofing in the above work, for M/s. _____ the General builders Contractors for the above work, shall remain entirely watertight, Should, however, due to any unforeseen defect left out in the work carried out by us at the time of execution of the work, there be any leakage from any surface treated by us during the period of **ten years** from the date of virtual completion of work i.e. from _____ to _____ the same shall be rectified by us without any cost to the Life Insurance Corporation of India.

However, we shall not be responsible in any way if our work is tampered with or if the body of the structure is damaged due to sinking, cracking and/or by any other act of God.

The intimation received from LIC of India during Guarantee period shall be deemed to have been received from Main Builder's Contractor and inspection as well as necessary work shall be carried out and reported upon by us forthwith.

Signature of Waterproofing Agency

Signature of the Main Builders' Contractor

ANNEXURE - "T"**(PROFORMA OF GUARANTEE FOR ANTI-TERMITE TREATMENT)
(To be given on stamp paper of Rs. 10/-)**

Name of the firm/Company & its address :-

To,

The L.I.C. of India,

Dear Sirs,

Sub:- Pest control – Pre construction anti termite treatment
Treatment – Guarantee regarding _____

We hereby certify that the foundation's and structure/s of the premises of the Life Insurance Corporation of India described in the schedule below, have been pre-treated by us against subterranean termite infestation in accordance with our procedure for pre-treatment set out in our letter/s No..... dated..... And in accordance with the terms and conditions under which the said works are carried out.

2. We hereby guarantee that the foundation/s structure/s of the said premises of the L.I.C. of India, shall be safe against subterranean or infestation for a period of 5 years from To..... (FIVE)

3. In the event of said structure/s and foundations of the premises of the L.I.C. of India being or becoming subject to subterranean termite attack or infestation at any time during the guaranteed period of 5 years, we agree to carry out as often as it becomes necessary, at our cost and expenses all and every treatment that may be necessary to render the said foundation/s and structure/s free from such subterranean termite attack or infestation.

3. The question whether the foundation/s and structure/s of the premises are or become subject to subterranean termite attack or infestation and whether any anti termite is or has become necessary shall be decided by the L.I.C. of India and we agree that their decision in this regard shall be final and binding on us.

Yours faithfully,

Signature of specialized
Agency / firm with seal.

Signature of Bldg. Contractor who have done the Builder's work.

Specifications to Bill of Quantities

All Plywood shall be Fire Retardant conforming IS 5509

All laminates 1.0 mm thick shall be Fire Retardant.

Contractors have to submit Proof of Purchase of Fire Retardant Materials or Certificate from Manufacturers that their products are used in the work.

T.I. No 1: Mineral Fiber False Ceiling

Providing and fixing mineral fiber false ceiling tiles at all heights of size 595X595mm of approved texture, design and pattern. The tiles should have Humidity Resistance (RH) of 99%, Light Reflectance 85%, Thermal Conductivity $k = 0.052 - 0.057 \text{ w/m K}$, Fire Performance as per (BS 476 pt - 6 & 7) in true horizontal level suspended on interlocking T-Grid of hot dipped all round galvanized iron section of 0.33 mm thick (galvanized @120 gsm) comprising of main T runners of 15x32 mm of length 3000 mm, cross T of size 15x32mm of length 1200 mm and secondary intermediate cross T of size 15x32 mm of length 600 mm to form grid module of size 600x600 mm suspended from ceiling using galvanized mild steel item (galvanised@80gsm) 50 mm long 8mm outer diameter M-6 dash fasteners, 6 mm diameter fully threaded hanger rod up to 1000 mm length and L-shape level adjuster of size 85x25x2 mm, spaced at 1200 mm centre to centre along main 'T'. The system should rest on periphery walls /partitions with the help of GI perimeter wall angle of size 24x24X3000 mm made of 0.40 mm thick sheet, to be fixed to the wall with help of plastic rawl plug at 450 mm centre to centre & 40 mm long dry wall S.S. screws. The exposed bottom portion of all T-sections used in false ceiling support system shall be pre-painted with polyester baked paint, for all heights. The work shall be carried out as per specifications, drawings and as per directions of the engineer-in-charge. With 16 mm thick beveled regular mineral fiber false ceiling tile (NRC 0.55 to 0.6).

The cost of item shall include the frame work, tiles and coves for fixing light fixtures. The light fixtures shall not be fixed directly on to the tiles. Cut outs will not be deducted while measuring the ceiling area.

T.I.NO 2 Gypsum False Ceiling

Providing & fixing at all height false ceiling with GYP STEEL ULTRA SECTIONS 0.55 mm thick. perimeter channel having flange of 20 mm & another flange of 30 mm & web of 27 mm fixed at 610 mm c/c and connected to suspended GI intermediate channel (15 x 45 x 0.9 mm) at 1220 mm centers with ceiling angles of size 25 x 10 x 0.55 mm thick. of Gypsteel of "India Gypsum" Make fixed to soffit with GI cleat & steel expansion fasteners.

Ceiling section of 0.55 mm thick having knurled web of 51.5 mm & two flanges of 26 mm each with lips of 10.5 mm are to be fixed to the intermediate channel with the help of connecting clip and in direction perpendicular to intermediate channel at 475 mm centers including fixing of 12.5 mm thick tapered edge gypsum board of "India Gypsum" make (conforming to IS : 2095-1982 & 2542-1981) with drywall screws at 230 mm c/c, to have a flash finish of tapered and square edges of the gypsum board with recommended filler ,paper tapes, finisher, all as per manufactures specification.

The Boards shall be painted with a coat of primer suitable for gypsum board, two or more coats of LOW VOC Acrylic Paint of. of approved shade and also including making necessary openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as per drawing and manufacturer's specification and direction.

(Note : Only plan area shall be measured for the payment. Drops below AC ducts of any depth will not be measured for payment. The drops for design purpose which are provided as directed will be measured and paid separately. No deductions for light cuttings separately)

T.I.No 3: 66 mm Thick Calcium Silicate Full Height Partitions:

Providing and fixing partition up to ceiling/false ceiling height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/ sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and a coat of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete.

66mm overall thickness Partition with 8mm thick double skin Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./sq.cm with two coats of low VOC interior grade acrylic emulsion paint of approved make and shade

Mode of measurement: The measurement shall be for height up to false ceiling level.

T.I.NO 4 : 66 mm Thick Full Height Partly Glazed Partitions:

Providing and fixing partition up to ceiling/false ceiling height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/ sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the

studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and one coat of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete.

66mm overall thickness Partition with 8mm thick double skin Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./sq.cm with two coats of low VOC interior grade acrylic emulsion paint of approved make and shade.

The partition shall be provided with additional 2 horizontal members at 900 mm above floor level and at 2100 mm above floor level to facilitate fixing of glass. The channel section shall be filled with 12 mm thick plywood and on all 4 sides to facilitate fixing of glass and teak wood beading. The vertical sections would be fixed between Floor & 900 mm level horizontal member, from 2100 mm level to ceiling level.

Mode of measurement: The measurement shall be for height up to false ceiling level.

T.I. No 5. Low Height Partitions

Providing and fixing low height partition 1200 mm height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/ sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and one coat of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete.

66mm overall thickness Partition with 8mm thick double skin Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./sq.cm with two coats of low VOC interior grade acrylic emulsion paint of approved make and shade.

The top of low height partition shall be provided with 75 x 40 mm teak wood capping and melamine polished.

T.I.No 27 Cash Counter:

P/F Cash counter of overall width 900mm and overall height 1190mm (approx.) made out of Fire Retardant (IS : 5509) Plywood 19mm thick .all as per drawing and consisting of the following:

Details of counter and printer table:

Minimum 16 mm th. Machine cut, machine polished black granite of approved shade with double front edge rounded properly and other edges properly polished at service top of 350 mm width approx fixed on 19mm thick Fire Retardant Ply, the height of the service top to be 1120 mm from the floor level. The width of the service top to be 350 mm, 12 mm thick float glass of size 600 X 100 mm with CP polished edges to be fixed in the middle portion of the service top towards the cashier side. The Granite and the 19mm thick fire retardant plywood of the service top are to be suitably cut for fixing the above mentioned glass.

The working table top of width 900 mm made of 19 mm thick. Fire Retardant plywood finished with 1 mm thick Fire Retardant laminates on top including half round TW beading of sect. 20 X 12 mm melamine polished. The height of the working platform/table top shall be to be 750 mm from the floor with provision of cable manager and cap. On the Left side of table top, provision shall be made for placing printer by cutting 1 slots of size 450 X 20 mm finished with PVC Gasket in the working platform top.

One drawer unit (at every 1500-1700 mm length of counter) of 400mm wide (clear `Fire Retardant ply at sides and rear side, 6mm thick fire retardant ply at bottom, 19mm thick fire retardant plywood at front including cash separation arrangement in top drawer only with 6mm BWR ply. The drawers are to be fixed on Quadrial slides (QSDS 50 of ebco Make). Front surface finished with 1.0mm thick fire retardant high pressured laminate and internal surface with 0.8 mm thick balancing laminate etc. complete .The external sides of drawers are to be provided with varnish.

Printer Table On the left side with two compartment of 400mm external width top for paper stationary and bottom for CPU. The top compartment is to be divided in to two equal part by sliding shelf of size 400 X 350 mm made of 19 mm thick fire retardant (IS:5509) Ply wood sliding on sliding channels of approved make finished synthetic enamel paint. a side hung shutter to be provided with locking arrangement the back of this compartment is to be provided with 9mm fire retardant ply wood. The bottom compartment made up of 19 mm thick fire retardant plywood of size 400x500mm fixed 75mm above floor level. This box for CPU , open from the front and back to be painted with synthetic enamel paint of approved shade & make incl. a coat of primer , putty all complete. Top of the unit shall have 1 mm thick high pressured laminate and all the exposed edges of the plywood to be provided with TW lipping of size 20 X 6 mm duly polished.

one M S powder coated keyboard tray with mouse tray as manufactured by Ebco (KBTM 45) or EGL (KBT-M-001) including sliding channel as per manufacturers specification to be provided below the working platform,

Providing & fixing 12 mm th plain glass on counter top in suitable size Sal wood frame (above) covered with fire retardant plywood and 1 mm high pressured laminate with a rectangular slit of 125 mm dia at service top level and slit of 50 mm at 1.5 meter level from Floor including etching as per design and necessary exposed edges grounded and polished etc. complete as per drawing or as directed.

1 mm thick high pressured lamination of approved shade and make to be provided on top of working platform, on face of each of the 3 drawers, side hung shutter and on the vertical sides of the counter on the customer side. All exposed edges of the 19 mm thk. ply wood to be provided with TW lippings of size 20 X 6 mm duly melamine polished. All the inner sides of the counter not exposed from customer side including the bottom of table top to painted with one coat of wood varnish (touchwood)

Foot rest of Sal wood with support of section 70 X 35 mm to be provided finished with painting, making circular slit for cable manager and straight cutting for paper slit including P/F cable manager and paper slit manager all complete as directed.

T.I.No 28 FULL HEIGHT STORAGE UNIT

P/F 450mm deep full ht. storage units of reqd. length with overall ht. 2100mm approx with 5 equal compartments made of 19mm thick fire retardant plywood confirming to IS : 5509 with T.W. lipping/ laminate at edges, 19mm thick fire retardant plywood confirming to IS: 5509 in verticals at every 900mm or part thereof at sides & at top as per drawing. The shutters shall be 19 mm Block Board with 19 mm x 10 mm hardwood lipping and rebate for double leaf shutters. The shutters (i.e. set of 4 shutters in 900x2100mm) (one shutter should not be more than 450mm wide and 1200mm high). The bottom shutters (900x 1200mm double leaf) shall be fixed with 3nos Soft closing hinges and top panel (900x 900 mm) with 2 nos soft closing hinges. Each shutter shall be provided with 2 nos of 75mm tower bolt (one top and Bottom), magnetic catchers, cupboard lock for each pair of shutters & SS 304 75 mm long handles all approved make incl. finishing with 1.0 mm thick high pressured lamination of approved shades at front, sides and 0.8 mm thick balancing high pressured laminate to all the internal surfaces etc. complete all as directed.

T.I.No 29: Low Height Storage Unit:

P/F 450mm deep full ht. storage units of reqd. length with overall ht. 1200 approx with 3 equal compartments made of 19mm thick fire retardant plywood confirming to IS : 5509 with T.W. lipping/ laminate at edges, 19mm thick fire retardant plywood confirming to IS: 5509 in verticals at every 900mm or part thereof at sides & at top as per drawing. The shutters shall be 19 mm Block Board with 19 mm x 10 mm hardwood lipping and rebate for double leaf shutters. Each shutter shall be fixed with 2 No soft closing hinges. Each shutter shall be provided with 2 nos of 75mm tower bolt (one top and Bottom), magnetic catchers, cupboard lock for each pair of shutters & SS 304 75 mm long handles all approved make incl. finishing with 1.0 mm thick high pressured lamination of approved shades at front, top & sides and 0.8 mm thick balancing high pressured laminate to all the internal surfaces etc. complete all as directed.

T.I NO 30 Agents Counter:600 MM Widd

The running counter shall be made of 19 mm thick Fire Retardant Plywood with 1 mm thick high pressured lamination on top. Vertical supports @ 1350 mm or less made out of 19 mm thick fire retardant plywood finished with 1 mm thick high pressured lamination both sides and once coat of wood varnish or Touch wood on all inner surface which are not covered by laminate. Providing and fixing teak wood lipping on all exposed edges finished with melamine polish, sal wood foot rest of section 75 mm x 50 mm finished with synthetic enamel paint etc. complete all as per design and as directed

T.I No 31: Computer Table:

Providing & making Computer table of size 600 (W) X 750 mm (height) x Length as per site requirement, made out of 19 mm thk. Fire Retardant (IS : 5509) plywood as detailed below.

Table top made of 19 mm thk. Fire retardant ply wood finished with 1 mm thk high pressured lamination on top surface and a coat of touchwood varnish on underside.

Drawer unit of width 300mm (clear internal) at every 1200 to 1500 length or part thereof, consisting of set of 3 nos. of drawers (2 small drawer and one file drawer). Each drawer to be made of Fire Retardant Plywood confirming to IS : 5509 : 19 mm thick for the front and back, 12mm thick for sides and 6 mm thk. bottom sliding on Quadrail slides as manufactured by Ebco(QSDS50). including teak wood lipping of size 19 X 6 mm on edges for the drawer.

The front face of the drawers to be finished with 1 mm thick high pressured laminate of color matching with table top laminate. Inside drawers shall be finished with 0.8 mm thick balancing fire retardant high pressure lamination. All vertical edges of the drawer unit to be provided with teak wood beading of sect. 20 X 12 mm and rounded off after fixing the laminate and duly polished. No vertical edge of the drawer unit should be left sharp.

one M S powder coated keyboard tray with mouse tray as manufactured by ebco (KBTM 45) or EGL (KBT-M-001) including sliding channel as per manufacturers specification including making circular slit in table top for cables.

The table to be supported on three sides with 19 mm thick fire retardant plywood finished with 1 mm thk high pressured lamination on outer surface & paint on inner surface including rounded teak wood beading of sect. 20 X 12 mm on all edges duly polished.

Footrest of salwood of sect 70 x 35 mm painted with synthetic enamel paint of approved make & shade.

The vertical edges of the table to be provided with teak wood beading of sect. 20 X 12 mm and rounded off after fixing the laminate and duly polished.

T.I no 41 : SBM/BM's table (over all size 1800 x 900 x 750 mm)

Table Top : Made out of 19 mm thick Fire Retardant Plywood confirming to IS:5509 of approved make in one piece with front & back edge finished in half round or any other approved shape &

other edges . The table top, sides, modesty panel shall be mad of 19 mm Fire Retardant Plywood and covered with 1 mm Fire Retardant Laminate.

One cable manager with ABS cover is to be provided as shown in the drawing.

The bottom of the gable end (side Supports) is to be provided with PVC/rubber gasket so the scratches will be avoided.. The gable ends shall be with a allowance for adjustment in height upto +/- 25 mm.

Key Board Tray: Made out of 1 mm thick CRCA steel sheet duly powder coated in approved colour & with provision for Mouse Tray. The key board tray shall be provided with telescopic slides & Size shall be 500x210x75 mm.

The drawer pedestal (refer drg. no.6) shall be made out of 19 mm thick Fire Retardant Plywood IS : 5509 of approved make , in size of 375X550x715mm having 2 nos of drawer of equal size at top & 1 nos filing unit at bottom, all as per drawing. The inner of drawers & filing unit shall be of 12 mm thick Fire Resistant Plywood confirming to IS : 5509 with machine pressed 0.8 mm thick Fire Resistant High Pressured Lamination having one Central Lock, telescopic sliders & SS 304 Grade Handles 75 mm long. The bottom portion shall be 6 mm Plywood and the front portion of the desks shall be provided with 1.0 mm laminate and all internal faces with 0.8 mm balancing laminate. All faces where laminate is not provided shall be painted with one coat of touch wood. All edges of plywood shall be covered with Teak wood lipping.

Side Unit for Branch Manager:

Size 900x450x722mm

Top 19 mm Fire Retardant Plywood with Edge lipping and 1 mm Fire Retardant Laminate and 0.8 mm laminate on internal face. Bottom shall be made of 19 mm Fire Retardant Plywood and provided with 0.8 mm laminate on internal face and one coat of varnish/touch wood on the reverse side.

Shelf: One shelf (horizontal) made of 19 mm Fire Retardant Plywood and provided with 0.8 mm laminate on all sides.

Sides: 19 mm Fire Retardant Plywood with 1 mm Fire Retardant Laminate and 0.8 mm laminate on internal face

Back: 6 mm Fire Retardant Plywood with one coat of wood Varnish and 0.8 mm laminate on internal face

Front/shutters: 19 mm Fire Retardant Plywood sliding shutters fixed on Aluminum guide rails and rollers, finished with 1 mm laminate on front side and 0.8 mm laminate on internal face with one tower bolt and lock , and pair of recessed handles.

Rear Credenza for Branch Manager:

Top 19 mm Fire Retardant Plywood with Edge lipping and 1 mm Fire Retardant Laminate and 0.8 mm laminate on internal face

Sides: 19 mm Fire Retardant Plywood with 1 mm Fire Retardant Laminate and 0.8 mm laminate on internal face. Vertical supports inside the credenza @ 900 mm c/c or part thereof made of 19 mm Fire Retardant Plywood and provided with 0.8 mm laminate on all sides.

Shelf: One shelf (horizontal) made of 19 mm Fire Retardant Plywood and provided with 0.8 mm laminate on all sides.

Back: 6 mm Fire Retardant Plywood with one coat of wood Varnish and 0.8 mm laminate on internal face

Front/shutters: 19 mm Fire Retardant Plywood shutters (pair of shutters in 900 mm width) with 1 mm laminate on front side and 0.8 mm balancing laminate on internal face. The shutters shall be fixed with pair of soft closing hinges, SS 304 handles 75 mm long, magnetic catchers and lock.

46. Development Officers' table: Overall size 1350x 600x 750 mm .

Top 19 mm Fire Retardant Plywood with Edge lipping and 1 mm Fire Retardant Laminate one coat of varnish underside of top. Extra 100 mm wide 19 mm plywood on front side to make 38 mm and teak wood beading of 38 x38 mm on front side.

Sides: 19 mm Fire Retardant Plywood with 1 mm Fire Retardant Laminate and a coat of varnish/touch wood on internal faces

Modesty Panel: 19 mm Fire Retardant Plywood with 1 mm Fire Retardant Laminate and a coat of varnish/touch wood on internal faces

Drawer Unit: The drawer pedestal (refer drg. no.6) shall be made out of 19 mm thick Fire Retardant Plywood IS : 5509 of approved make , in size of 375X550x715mm having 2 nos of drawer of equal size at top & 1 nos filing unit at bottom, all as per drawing. The inner of drawers & filing unit shall be of 12 mm thick Fire Resistant Plywood confirming to IS : 5509 with machine pressed 0.8 mm thick Fire Resistant High Pressured Lamination having one Central Lock, telescopic sliders & SS 304 Grade Handles 75 mm long. The bottom portion shall be 6 mm Plywood and the front portion of the desks shall be provided with 1.0 mm laminate and all internal faces with 0.8 mm balancing laminate. All faces where laminate is not provided shall be painted with one coat of touch wood. All edges of plywood shall be covered with Teak wood lipping.

47.Side Unit for AAO/DO/HGA/ASST/RC

Size 900x450x722mm

Top 19 mm Fire Retardant Plywood with Edge lipping and 1 mm Fire Retardant Laminate and 0.8 mm laminate on internal face

Sides: 19 mm Fire Retardant Plywood with 1 mm Fire Retardant Laminate and 0.8 mm laminate on internal face. Vertical supports inside the credenza @ 900 mm c/c or part thereof made of 19 mm Fire Retardant Plywood and provided with 0.8 mm laminate on all sides.

Shelf: One shelf (horizontal) made of 19 mm Fire Retardant Plywood and provided with 0.8 mm laminate on all sides.

Back: 6 mm Fire Retardant Plywood with one coat of wood Varnish and 0.8 mm laminate on internal face

Front/shutters: 19 mm Fire Retardant Plywood sliding shutters fixed on Aluminum guide rails and rollers, finished with 1 mm laminate on front side and 0.8 mm laminate on internal face with one tower bolt and lock , and pair of recessed handles.

SINGLE WINDOW CLEARANCE TABLE:-

P/F Single window clearance cum enquiry counter table of with overall width 750mm & taking front apron up to 1000mm high(from floor level) with 150mm wide top counter finished with 18mm th. Machine cut, machine polished black granite. TW beading / of size 20 x 12 mm finished with melamine polish. 1 mm thk. Fire Resistant High pressured laminate on exposed surfaces & fire retardant synthetic enamel paint internally etc. complete. 19 mm thick table top of fire retardant plywood confirming to IS : 5509 of approved make in approved shape as per design with TW beading of sect 20 x 15 mm at edge finished with melamine polish . P/F 1.0mm thick high pressured fire resistant lamination of approved shade . Drawer unit of width 300mm(clear internal) at every 1500 length or part thereof, consisting of set of 3 nos. of drawers, Each drawer to be made of fire retardent plywood (IS : 5509) of 19 mm thk. for the front and back, 12mm thick for sides and 6 mm thk. bottom sliding on Quad rail slides as manufactured by ebco(QSDS50). including teak wood lipping of size 19 X 6 mm on edges for the drawer. The front face of the drawers to be finished with 1 mm thick high pressured laminate of colour matching with table top laminat and internal surface of drawers are to be provided with 0.8 mm thick high pressured fire resistant balancing lamination. All vertical edges of the drawer unit to be provided with teak wood beading of sect. 20 X 12 mm in approved pattern after fixing the laminate and duly melamine polished. No vertical edge of the drawer unit should be left sharp. Footrest of salwood of sect 70 x 35 mm painted with synthetic enamel paint of approved make & shade One M S powder coated keyboard tray with mouse tray as manufactured by ebco (KBTM 45) or EGL (KBT-M-001) including sliding channel as per manufacturers specification Including making circular slit in table top for cables. Providing 19mm thk ply box for keeping CPU. Gable Ends/Vertical support : Made out of 19mm thick BWR fire retardent plywood . Both outer and inner surfaces are to be finished with 1 mm thick high pressured lamination at site of approved make and shade and design. The bottom of the gable ends are to be provided with PVC / rubber gasket so the scratches will be avoided etc, complete all as directed. Providing individual 'Godrej'/ebco Multidrawer lock and approved brass handle for each drawer. Providing circular holes in table top for cables with PVC cable managers and cap. Painting / polishing the internal surfaces, bottom surface of table top, counter top, drawers & inside the drawer unit with synthetic enamel paint of apprd. shade with primer, putty etc. complete. One foot rest of salwood of sect. 70 X 35 mm finished with painting . (All as per approved design)

HGA /ASSISTANT TABLE :-

P/S table for HGA /ASSTT. of overall size 1350x675x750mm made of 19mm th. Fire Retardant Plywood confirming to IS : 5509 for top,side and apron with teak wood moulding at edges & top (incl. making circular slit for cable manager) side & at front.providing 100mm wide band of 19mm th.Fire Retardant Plywood confirming to IS : 5509 of approved make on underside all around to make the thickness of top 38mm & providing Teak wood moulding of sect. 38x38mm. Incl. providing one No. acrylic ready made Key board with telescopic sliding, channels

Drawer unit of width 400mm(clear internal) consisting of set of 3 nos. of drawers (2 small drawer and one file drawer), Each drawer to be made of Fire Retardent Plywood confirming to IS : 5509 :19 mm thk. for the front and back, 12mm thick for sides and 6 mm thk. bottom sliding on Quadrail slides as manufactured by ebco(QSDS50). including teak wood lipping of size 19 X 6 mm on edges for the drawer. consisting of one tea tray at top. Salwood foot rest of sect. 70x35mm. Providing multipurpose lock & recessed handle of approved make one each for the drawer providing 1mm th. fire retardant high pressured laminates of approved make on all exposed surfaces, natural polish to T.w. lippings, fire retardant painting to internal surfaces & drawers etc. complete al as per drawing & as directed.

Including one no. Shelf for paper on other side of Drawer of size 600x400mm, one no. box for CPU of size 200x125mmx600mm made of 19mm th. BWR ply incl. painting with 2 or more coats of synthetic enamel paint over a coat of wood primer etc. complete. The contractor should note that the tables are to be prepared independently and to be fixed at the work station as directed.

AO/AO TABLE:-

P/S L shape table for Officers of overall size 1500x750x750mmht. made of 19mm th. Fire Retardant Plywood confirming to IS : 5509 with teak wood lipping at edges & top (incl. making circular slit for cable manager) side & at front. providing 100mm wide band of 19mm th. Fire Retardant Plywood confirming to IS : 5509 of approved make on underside all around to make the thickness of top 38mm & providing Teak wood moulding of sect. 38x38mm. Incl. providing one No. acrylic ready made Key board with telescopic sliding, channels.

Drawer unit of width 400mm(clear internal) consisting of set of 3 nos. of drawers (2 small drawer and one file drawer), Each drawer to be made of Fire Retardent Plywood confirming to IS : 5509 :19 mm thk. for the front and back, 12mm thick for sides and 6 mm thk. bottom sliding on Quadrail slides as manufactured by ebco(QSDS50). including teak wood lipping of size 19 X 6 mm on edges for the drawer. consisting of one tea tray at top. Salwood foot rest of sect. 70x35mm. Providing multipurpose lock & recessed handle of approved make one each for the drawer providing 1mm th. fire retardant high pressured laminates of approved make on all exposed surfaces, natural polish to T.w. lippings, fire retardant painting to internal surfaces & drawers etc. complete al as per drawing & as directed.

LIST OF PRINCIPAL MAKES / AGENCIES / BRANDS OF VARIOUS MATERIALS

1. Materials used in the work should be from the following list of principal makes/ brands. All brands appearing under each specific head shall be treated as being on "at par". In case of non-availability of these makes/brands, Chief Engineer shall allow materials licensed by BIS bearing "ISI" monogram at par with principal makes.
2. For all other manufactured materials for which principal makes are not mentioned the materials allowed to be used in the work shall have BIS certification and samples for which are to be got approved prior to use of the same in the work.
3. For some materials BIS certification may not be available. In such cases the samples shall have to be got approved before using in the work.

SN	MAKES / AGENCIES / BRANDS	SN.	MAKES / AGENCIES / BRANDS
1.	Ordinary Portland Cement/ Pozzolana Portland Cement	2.	Reinforcement Steel – (Primary Producers)
	ACC		RINL
	Ultratech		SAIL
	Vikram		TATA STEEL Ltd.
	Shree Cement		
	Birla Jute		
	J. P. Rewa		
	CCI		
	Madras Cement		
	India Cement		
	Chettinad		
	J K		
3.	GI PIPES	4.	GI PIPE FITTINGS
	a. Jindal		a. R-Brand
	b. Zenith		b. K.S.Brand
	c. Apollo		c. Zoloto
	d. GST		d. RR
	e. Prakash		e. SSS
	f. QST		f. NMC
5.	COPPER PIPES / TUBES	6.	MULTI LAYER COMPOSITE PIPES
	a. Rajco Metal Industries		a. Ki TEC
	b. B.P.Conex		b. Kisan
	c. Comap		c. Flowguard CPVC Astral
7.	PVC PIPES AND FITTINGS	8.	UPVC (UNPLASTICIZED PIPES & FITTINGS)
	a. Chemplast		a. Prince
	b. Prince		b. Supreme
	c. Supreme		c. Paras
	d. Finolex		
	e. Oriplast		

SN	MAKES / AGENCIES / BRANDS	SN.	MAKES / AGENCIES / BRANDS
9.	GATE VALVES, GLOBE VALVES	10.	FOOT VALVES , CHECK VALVES
	a. Leader		a. Kirloskar
	b. Kirloskar		b. Leader
	c. Zoloto		c. Ashoka
	d. Orient		
11.	WATER METERS	12	FERRULES
	a. Capstan		a. Leader
	b. Anandaasahi		b. Hindco
	c. Dasmesh		c. Neta
	d. Remco		d. Annapurna
13	BIB COCKS, STOP COCKS, PILLAR TAPS ETC.	14	LOW LEVEL FLUSHING CISTERNS (PVC / CERAMIC)
	a. Jaquar (Continental Series)		a. Parryware
	b. Marc (Oriental Series)		b. Cera
	c. Essco		c. Hindware
	d. ARK		d. Commander
	e. GEM		
15.	VITREOUS SANITARY WARE LIKE IWC, WASH BASIN, URINALS, EWC ETC.	16.	PLASTIC SEAT AND COVER
	a. Kohler		a. Commander
	b. Jaquar		b. Parryware
	c. Parryware		c. Bestolite
	d. Cera		d. Duroshine
	e. Hindware		
	f. Neycer		
17.	BATHROOM FITTINGS	18.	CI PIPES & FITTINGS
	a. Jaguar		a. Hind
	b. Kohler		b. BIS
	c. Cera		c. BIC
	d. ARK		d. NECO
	e. Marc (Oriental Series)		
19.	CI NAHANI TRAP	20.	SW PIPE
	a. BIC		a. HIND
	b. SKF		b. PERFECT
	c. NECO		c. BURNS
	d. RAJCO		
SN	MAKES / AGENCIES / BRANDS	SN.	MAKES / AGENCIES / BRANDS
21.	PVC CABINET MIRROR	22.	SLUICE VALVE
	a. Commander		a. Leader
			b. Kirloskar

23. HDPE / LDPE / LLDPE WATER STORAGE TANKS	24. CERAMIC / GLAZED TILES
a. Sintex	a. Nitco
b. Polycon	b. Kajaria
c. G&P	c. Euro
	d. H. R. Johnson
	e. SOMANY
25. VITRIFIED TILES	26. PLY WOOD(BWR) BLOCK BOARD/ FIRE RETARDENT
a. Nitco	a. Kitply
b. Kajaria	b. Archid
c. RAK	c. Green Ply
d. EURO	d. Century Ply
e. SOMANY	e. Bhutan Board
	f. Sharon
	g. Anchor
	h. Swastik
	i. National
27. FLOAT GLASS	28. PVC DOORS & DOOR FRAMES
a. Saint Gobain	a. Rajshri
b. Modi Guard	b. Sintex
c. Triveni Sheet Glass	c. Supreme
d. Indo Asahi Glass Co.	
e. Tata	
f. Atul	
29. ALUMINIUM EXTRUDED SECTIONS	30. STAINLESS STEEL KITCHEN SINKS
a. Hindal	a. Nirali
b. Jindal	b. Farnkee
c. Indal	c. Jayna
d. Hindalco	d. Diamond
	e. Neelkanth
SN MAKES / AGENCIES / BRANDS	SN. MAKES / AGENCIES / BRANDS
31. PRE - LAMINATED / VENEERED PARTICLE BOARD	32. FLUSH DOOR SHUTTERS/FIRE RETARDENT
a. Novopan	a. Kuty Flush Doors
b. Green Lam	b. Century
c. Kitlam	c. Green Ply
d. Archid Lam	d. Shiva Hari Ply wood Ltd. (Corbett)
e. Swastik	e. Anchor Ply
	f. Swastik Ply
	g. Western India
	h. Parvathi Wood
	i. Samrat plywood Ltd.
	j. Archid

33. DECORATIVE LAMINATES	34. FLOOR SPRINGS
a. Green Lam	a. Everite
b. Merino	b. Hardwyn
c. Sunmica / Formica	c. Efficient Gadgets
d. Century	d. Garness
e. Durian	e. Dormer
f. Sundek	f. Godrej
g. Anchor	
h. Decolam	
i. Samrat Plywood	
j. Archid	
35. VENEERS	36. MDF BOARDS
a. Decowood	a. Duratuff
b. Euro Veneers	b. Nuwud
c. Durian	c. Century
d. Green Lam	d. Novopan
e. Archid	e. Kitply
	f. Green Ply
37. ADHESIVES	38. WOOD PRESERVATIVES
a. Fevicol-SH	a. Bison
b. Araldite	b. Godrej
c. Ciba Giegy	c. Kot
d. Mowiool -HV of Mafatlal	
39. HARDWARE FITTINGS	40. DOOR CLOSERS
a. Jyoti	a. Everite
b. Argent	b. Hardwyn
c. C.I.E.F.	c. Efficient Gadgets
d. Classic	d. Ebco
e. Everite	e. Dorma
f. Metaco India	f. Garness
g. JH Alumium	g. Hetich
h. PV Radhakrishna	h. Godrej
i. Etalia	
j. Hardwin	
k. Hetich	
l. Godrej	
41. DRAWER SLIDERS	42. LOCKS
a. Efficient Gadgets	a. Godrej
b. EBCO	b. Golden
c. Etahoa	c. Efficient Gadgets
d. Sisco	d. Mark
e. earl bihari	e. Sheet
f. Hetich	f. Vision
	g. Dorma
43. MIRRORS	44. WATER PROOFING COMPOUND
a. Atul	a. Impermo

	b. Sun		b. Cico
	c. Commander		c. Pidilite
	d. Saint Gobain		d. Roff
	e. Globe		e. Choksey
	f. Modi Guard		f. Hindustan Ciba Geigy
			g. Accoproof
			h. Sika
			i. Fosroc
47.	SPECIAL PROTECTIVE & DECORATIVE FINISH	48.	OIL BOUND DISTEMPER
	a. Snowcem Paints		a. Asian
	b. Asian Paints		b. Berger
	c. Berger		c. Jenson & Nicholson
	d. Jenson & Nicholson		d. ICI
	e. Kansai- Nerolac		e. Kansai-Nerolac
	f. ICI		f. Godawari
	g. Godawari		
SN	MAKES / AGENCIES / BRANDS	SN.	MAKES / AGENCIES / BRANDS
49.	CEMENT PAINT	50.	SURFACE TEXTURE
	a. Snowcem Plus		a. Heritage (Bakelite Hylam Ltd.)
	b. Berger		b. Spectrum
	c. Asian		
	d. Jenson & Nicholson		
	e. Kansai – Nerolac		
	f. ICI		
	g. Godawari		
51.	TEXTURED PAINT	52.	ENAMEL PAINT / PRIMERS / READY MIXED PUTTY FOR WOOD WORK, IRON & STEEL
	a. Snowcem India Ltd.-Sandtex matt		a. Asian
	b. Asian Paints		b. Berger
	c. Jenson & Nicholson		c. Jenson & Nicholson
	d. Berger		d. Kansai – Nerolac
	e. Kansai – Nerolac		e. ICI
			f. MRF
			g. Godawari
53.	WALL PUTTY	54.	EXTERIOR EMULSION
	a. Birla wall care		a. Asian Paints-Apex
	b. Snowcem paints		b. Berger Paints
	c. JK		c. Kansai – Nerolac
	d. Asian Paints		d. MRF
			e. Jenson & Nicholson
			f. ICI
			g. Godawari

55. CEMENT CONCRETE PIPES	56. EXPANSION JOINT BOARD
a. The Indian Hume Pipe	a. Shalimar Tar Products
b. Premiere Pre-stressed Co.	b. Lloyds insulations
	c. Fosroc
	d. Shalitek
57. FALSE CEILING	58. VERTICAL BLINDS
a. Indian Gypsum	a. Vista Levlor
b. Armstrong	b. Trac
c. Daikin	c. Mac
d. QED Panels	d. MARVEL
e. Insula	
e. Aerolite Ceiling System	
SN MAKES / AGENCIES / BRANDS	SN. MAKES / AGENCIES / BRANDS
59. ADHESIVE FOR TILE FIXING	60. PAVING TILES
a. Roffe	a. Eurocon
b. Bal Endura	b. Ultra
c. Cera Bond	c. Duracrete
d. Fosroc	
e. Choksey Chemicals	
f. Dr.Fixit	
g. Sika	
h. Sunanda	
61. PVC FLOORING	62. VINYL FLEXIBLE FLOORING
a. Flora	a. Wonder Floor
b. Armstrong	b. Armstrong
	c. BHOR
	d. Rikvin
	e. Tusker
63. FIBRE GLASS DOORS	64. SS / CP FRICTION HINGES
a. Master craft	a. Ebco
	b. Jyoti
	c. Everest
	d. Magnum
65. SOFT BOARD	66. SCREW
a. Jolly Board	a. Nettlefold
	b. GKW
67. FIBRE REINFORCED COMP.DOOR	68. Premix Plaster
a. Loknath Unique	a. Birla
	b. JK Lakshmi
	c. Ultra Tech
	d. Perma
69	

APPROVED MAKE OF SUPPLY OF CHAIRS:

- 1.Godrej & Boyce Mfg.co.Ltd.**
- 2.De Bono Flexcom**
- 3.Methodex Systems Ltd.**
- 4.Eurocotic products Ltd.**
- 5.Featherlite collection**
- 6.Wipro Ltd.**
- 7.Transteel**
- 8.SPARK INTERNATIONAL,DELHI**

Or any other manufacturerers accredited by BIFMA.

APPROVED MAKE OF MATERIALS LIST FOR ELECTRICAL WORKS.

Sl. No.	Description	Make
	SUB-STATION RELATED ITEMS	
1	Oil Type Transformer	CROMPTON GREAVES / AREVA / KIRLOSKAR / BHEL/ VOLT AMP /EMCO/ABB/SIEMENS / ALSTOM
2	11 KV RMU Panel With SF6 Circuit Breaker	ABB/ BHEL/ CROMPTON GREAVES / KIRLOSKER / SIEMENS / SCHNEIDER/C & S
3	Synthetic Insulating Mats	CPRI certified for required voltage level.
4	Lightning Arrestors	LAMCO/ ELARO/ INTERNATIONAL/ ATLAS/ AREVA/CGL/OBLUM
5	Advance Lighting Arrester (Early Streamer Emission Type / Online Surge Arrester)	INDELEC/ ERICO / PHEONIX / TERCEL/ FRANKLIN/ABB
6.	Isolator	OBLUM / ALLIANCE / PEI/ M/S Siemens Limited
7	CT,PT & CVT FOR 66/11 kv Substation	SCT, CGL, GE, ABB, Siemens
8	Connector	BHEL,FRA MOURO, CG,
9	Battery	Prestolite/ Exide/ Amco/ Standard
10	Battery charger	Chloride Solutions Amara Raja Power Systems Ltd.
11	Circuit Breaker	CGL,GE, Alstom, Schneider, ABB, Siemens
12	Control & Relay Panel	CGL,GE, Alstom, Schneider, ABB, Siemens, System

		Control & Automation, Alstom, Schneider
13	Terminal	Elmex, Connectwell, GE
14	Fuses & Fuse Base	GE, Areva, Havells, Anchor
15	ACB/MCB	L&T, Siemens, Schnider, Areva

LIST OF APPROVED MAKES FOR INTERNAL ELECTRICALS & HT CABLES

SL No.	ITEMS	APPROVED MAKES
1.	PVC pipes and accessories	Precision/BEC/AKG
2.	Copper multi-strand wires	Polycab/Finolex/KEI/Skytone
3.	Switches/Sockets/TV Socket etc. (modular)	Anchor(wood/Roma)/Legrand (Mosaic)/MK(wrapround)/North West
4.	MCB/ELCB/RCCB/D.B/ MCCB	Legrand/Siemens/Group Schneider/hager/L & T
5.	SFU/Fuse switch Unit	Schneider/Siemens/L & T/C & S
6.	Outdoor Boxes	Clipsal/ Henzel/ Hunter/ Sintex/ National
7.	HRC Fuses	Schneider /L&T/Siemens / HPL/ABB
8.	Industrial sockets	Clipsal/Legrand/Crompton
9.	Fan Regulator	Anchor(wood/Roma)/Legrand (Mosaic)/MK(wrapround)/North West
10.	UG Cables	Polycab /Finolex/KEI/ Skytone
11.	Cable glands	Dowels/Braco/Siemens/Comet
12.	Cable Jointing	Raychem /Cabseal/M seal/Denson
13.	Ceiling Fan/Exhaust fan	Crompton/Bajaj/Hevells/Orient
14.	Light Fixture	Philips/Bajaj/Wipro/K-Lite

15.	Telephone Wire/cables	Finolex/Tata(Lucent)/ITL/Skytone
16.	Cable Tray & Raceways (Factory Fabricated)	legrand/venus/Steelways.
17.	Network Cable	D Link/Digi Link/Avaya/Panduit
18.	Transformer	CROMPTON GREAVES / AREVA / KIRLOSKAR / BHEL/ VOLT AMP /EMCO/ABB/SIEMENS
19.	DG Set(Assembled by Authorized OEA/OEM)	<u>Engine</u> - Cummins/Perkins/Catterpillar/ KOEL/Greaves cotton.
20.	Capacitor	<u>Alternator</u> - Stamford/Jyoti/Crompton Greaves/KEC Siemens/Asian/Khatau Junkar/L&T/ABB/ Universal / EPCOS
21.	ACB	Siemens/L&T/ABB/Schneider/ Legrand
22.	VCB/HT with Cubical/SF6	Siemens/ABB/Crompton/Areva/L&T
23.	CT's/PT's	AE/Kappa/Ricco/Pragati/ Megavin
24.	APFC Relay	L&T/GEC/Emerson/Alstom
25.	Contactor/Timer/Starter	L&T /Schneider/Siemens/HPL
26.	Energy meter	AE/Rishab/C&S/Siemens/ schneider/L&T
27. 8	EPABX	Avaya/Coral/NEC/LG Aria/Siemens
28.	Telephone Instrument	BPL/Tata/Siemens/Panasonic/beetel
29.	Ammeter/voltmeter/Power factor meter/Frequency meter/ Prepaid Meter	AE/Rishab/Meco/C&S/Genus/
30.	Lightning Pro. System	Synergy/Indelec/Stormaster(LPI)
31.	LT Panels	Legrand/ Tricolite /Advance /Tri OEM/ABB/ Schneider
32.	G.I Pipe	Zenith/Tata/Jindal
33.	UPS/Inverter	Power Ware/Emerson/APC/Delta
34.	Batteries	Exide/Amaron/Panasonic
35.	RMU/HT Panel with Cubical	Siemens/Schneider/ABB/CGL/ L&T

36.	66/11 kV HT Switchgear	ABB/Siemens/CGL
37.	Change Over switch	HPL/Socomac/C&S/L&T
38.	BUS DUCT	C&S, Legrand, Schneider, ABB, L&T, Siemens

APPROVED MAKES OF EQUIPMENT & MATERIALS FOR HVAC WORKS

S.No	Equipment / Material	Approved Makes
1	Water Chilling Machine – Screw Chillers	Carrier / Mac Quay/ York / Trane
2	Split Casing Pump	
2.1	Primary Chilled Water Pump & Condenser Water Pump	ITT Bell & Gossette / Grundfoss / Mather & Platt
2.2	Secondary Chilled Water Pump with VFD, Differential Pressure Sensor / Transmitter	ITT Bell & Gossette / Grundfoss / Mather & Platt
3	Hot Water Generators	Khokhar/ Rapid Cool/Emerald
4	Cooling Towers	Paharpur / Advance / Bell
5	Scale Preventor	Scale Guard/Scaloid
6	Air Handling Units	Flaktwood / Edgtech/VTs/Waves/Zeco
7	Fan Coil Units	Flaktwood / Edgtech/VTs/Waves/Zeco
8	Cooling/Heating Coils	Flaktwood / Edgtech/VTs/Waves/Zeco
9	Heat Recovery Unit	Bry air/DRI
10	Variable Frequency Drives (VFDs)	ABB/Siemens/Danfoss
11	BTU Meters	Siemens/Honeywell/Shehnitec/Belimo
12	CO/CO2 Sensors	Siemens/Honeywell
13	Centrifugal Fans (Blowers)	Humidin//Kruger/Nicotra/Comfrei/Airflow
14	Kitchen Scrubber	Carryaire/Humidin/Ambassador/Airflow/Brightflow
15	Air Washer (Wetting Peds)/Package Air	Humidin/Ambassador/Roots Cooling/Airflow/Brightflow
16	Axial Flow Fans	Kruger/greenheck/Systemair
17	Fan Sections	Humidin/Edgetech/Waves/Airflow/Brightflow
18	Inline Fans	Caryaire / Kanalfakt / Kruger/ Greenheck
19	Propeller Fans	Khaitan/Crompton Greaves
20	Prefilters	Thermadyne / Anfilco/Airtech/Purolater
21	Piping (Chilled/Condenser/Drain) Upto 200 MM Dia	Jindal Star/ Tata/ Sail
22	Piping (Chilled/Condenser) Above 200 MM Dia	Jindal Star/ Sail / Tata/ Mukut
23	Pressure Independent Control & Balancing Valves	Danfoss/ Johnson control/Siemens
24	Y- Strainers	Rapidcontrol / Sandhu / Maharaja/Emerald
25	Butterfly Valves(Water Duty)	Audco / Advance / Castle
26	Check Valves(Water Duty)	Advance / Inter Valve / Castle
27	Balancing Valves(Water Duty)	Audco/ Advance / Castle
28	Two Way/Three Way Valves	Honeywell / Johnson control / Sauter/Landis & Staefa
29	Ball valves (with & W/o strainers)	Rapid control/Leader/Castle

30	Pressure Gauges	H.Guru / Feibig/ Sant Engg/Emerald
31	Thermometers	H.Guru/Emerald / Japsin / Fiebig
32	Water Flow Switch	Rapid control / Anergy/ABB
33	Modulating Motor	Honeywell / Johnson control / Belimo / Rapid Control
34	Proportional Thermostat	Honeywell / Johnson control / Siemens
35	Air Distribution/Ducting GI Sheets	Sail / Tata / Jindal
36	Factory Fabricated Duct & Flanges	Rolastar / Zeco / Ductofab / Technofab
37	Self Adhesive Sealing Gasket for Ducts	Prima Seal/Air Flow/Trocellen
38	Extruded Aluminium Grills/Diffusers	Air Track Control/ Caryaire / Ravistar
39	VCD/Gravity Louvers/Exhaust & Fresh Air Louvers	Air Track Control/ Caryaire / Ravistar
40	Fire / Smoke Dampers	Air Track Control/ Caryaire / Ravistar
41	Extruded Polystyrene Insulation board (XPS) for overdeck Insulation	Supreme/ Llyods
42	Expanded Polystyrene Product (EPS) for Underdeck Insulation	Styrene Packing/Perfect Tech/Supreme
43	Insulation : a) Fibre Glass – Aluminum faced	UP Twiga / Owens Corning
	Insulation : b) Close Cell Cross linked Polyethylene Foam	Trocellene / Supreme/ Armaflex
	: c) Insulation protecting coating	Star Bond 30-36
44	Electric Motors	Siemens / ABB / Crompton
45	RP Tissue	UP Twiga / Styrene Packing
46	Red Oxide, Zinc Chromate Primer	ICI / Berger
47	Dash Fasteners	HILTI / Fischer / Cannon / Wurth
48	Extruded Aluminium Sections	Mahavir / Jindal
49	Automatic Air Vent	Anergy / Rapid Control/ABB/Castle

LIST OF APPROVED MAKES OF MATERIAL FOR FIRE FIGHTING WORKS

S.N.	MATERIALS	I.S.	BRAND NAME
1.	G.I.PIPES/M.S.PIPES	1239 3589	JINDAL (HISSAR)/ SAIL/ Surya / TATA
2.	G.I.FITTINGS(MALLEABLE CAST IRON)	1879	UNIK, R/ DRP-M
	MS FITTINGS		IVC / DRP-M
3.	BALL VALVES		CASTLE/ SKG/AIP
4.	NON RETURN VALVES (DUAL PLATE TYPE)		ATAM/CASTLE/ZOOTO
5.	BUTTERFLY VALVE		CASTLE/ AIP VALVES /SKG

S.N.	MATERIALS	I.S.	BRAND NAME
6.	EXTERNAL PIPECOATING		PYPKOTE, CORPOTAPE
7.	ENAMEL, BITUMASTIC PAINTS AND PRIMERS		ASIAN/Barger
8.	DASH FASTNERS		HILTI/ CANON
9.	VIBRATION-ELIMINATOR PADS/ FLEXIBLE PIPE CONNECTIONS		RESISTOFLEX,
10.	ELECTRICAL CONTROL PANELS		ANY. MANUFACTURER COMPETENT AS PER CPRI APPROVED WORK
11.	CENTRIFUGAL PUMPS		MATTER & PLATT / GRUNDFOS / EBARA / KIRLOSKAR
12.	SUBMERSIBLE PUMP		MATTER & PLATT / EBARA/ GRUNDFOS EBARA / KIRLOSKAR
13.	FIRE HOSE-PIPE.		OMEX/ Exflame/SAFE GAURD
14.	EXTERNAL-FIRE HOSE-BOX.		OMEX/ Exflame/SAFE GAURD
15.	FIREMAN AXE		SUPEREX, LIFEGUARD, Exflame
16.	HYDRANT VALVES, HOSEREELS, SHORT BRANCH PIPES AND COUPLING		OMEX/ Exflame/SAFE GAURD
17.	FOUR-WAYS AND TWO WAYS COLLECTING HEAD		OMEX/ Exflame/SAFE GAURD
18.	FIRE EXTINGUISHER		OMEX/ Exflame/SAFE GAURD
19.	ANCHOR FASTNERS		HILTI, FISCHER/Canon
20.	PRESSURE SWITCHES		Control & Switchgear DANFOS
21.	SPRINKLER HEAD, ALARM VALVE		HD FIRE PROTECT TYCO-SPRAYS SAFE
22.	SPRINKLER MAKES		TYCO/HD

LIST OF APPROVED MAKES FOR LIFTS

Description	Makes				
Lifts	Kone	Mitsubishi	Otis	Schiendler	Thyssenkrupp

Note:

1. For any other item required for successful completion, but not included in the above list the Contractor shall take prior written approval from the LIC Of India.
2. The Contractor shall confirm in writing that he has quoted his price for the material & equipments from the List of Makes, which are compliant to Energy Conservation Building Code (ECBC) norms even the specification doesn't ask for, and would mention specifically for the same to enable the building/property to get extra credit point for the green building.

BANK ACCOUNT AND OTHER DETAILS**ANNEXURE****To be submitted along with Tender copy**

1. Name of the Company/Firm/Entrepreneur
Institute, etc. _____
2. Address _____

Phone number _____ STD Code.....NO.....
E- Mail ID _____
3. Bank Account Details
A. Account No. _____
B. Type of Account _____
C. IFSC/RTGS code _____
(enclose Xerox copy of the Cheque leaf)
4. PAN No.* _____
5. VAT/TIN Registration No. * _____
6. Service tax Registration No. * _____

I declare that, the above furnished information is correct. During the contract period, if any changes took place in the above said information, the same will be informed with the valid reasons.

SIGNATURE

(* Self Attested copies to be enclosed)

TECHNICAL SPECIFICATIONS FOR BUILDING WORKS

SUB: PROPOSED CONSTRUCTION OF BRANCH OFFICE BUILDING INCLUDING MODERNIZATION WORK AND ALL RELATED SERVICES & OTHER ANCILLARY WORKS AT SECTOR 7,GOHANA (HARYANA).

1. EARTH WORK**1. SITE CLEARANCE :**

Contractor's rate shall cover for clearing the site of shrubs, brush wood, under growth and trees not exceeding 30cm. in girth measured at 1 meter above ground before commencement of work. The rubbish which may thus be obtained would be disposed off as directed.

2. BLOCK LEVEL PLAN:

Before starting earth work on site, the requisite block level of the entire site shall be taken by the contractor in consultation with Executive Engineer/Superintending Engineer of LIC of India. The record of levels shall be prepared and shall be jointly signed by the contractor and the Executive Engineer/Superintending Engineer countersigned by the concerned Dy.Chief Engineer of LIC of India. The copy of the said level sheet shall be sent to the Chief Engineer of LIC of India for record.

Excavation in trenches/overareas - Rates shall include for cartage of materials outside the/Contractor's own dump including all cost for transportation.

3. FILLING WITH APPROVED EXCAVATED EARTH:

The plinth and low laying areas on site shall be first filled in by approved excavated surplus earth, consolidated and quantity of filling measured. Before the item of filling with approved sand/soil brought from outside is operated, the contractor shall take prior permission of the Executive Engineer. The rate of Contractor shall include the filling of approved excavated earth, unless otherwise specified in description of item.

4. FILLING WITH APPROVED EARTH BROUGHT FROM OUTSIDE BY THE CONTRACTOR:

a. Black cotton soil shall not be used for back filling. Soil used for filling shall be free from roots and vegetable moulds and shall be approved by the Executive Engineer.

b. Earth for filling brought by the contractor from his own source from outside shall be of approved quality and from approved source.

5. METHOD OF EARTH FILLING:

Earth filling shall be in layers not exceeding 15 cms. (30 cms in case of site filling) thick, watered and thoroughly consolidated. All lumps clods are to be broken up so as to allow a regular subsidence of the work through out. The finished surfaces shall be formed to correct lines, levels, slopes, shapes, etc. as directed.

6. RATES OF EARTH/SAND FILLING BROUGHT FROM OUTSIDE BY THE CONTRACTOR:

Rates quoted shall include cost of earth, royalty, taxes, octroi, duties, all transport, plant and machinery required for carrying, handling, dumping and consolidation, labour, loading and unloading at all points, stacking, lead and lifts, dumping sectioning, dressing consolidation, making payments and deposits to all concerned (local and Government) authorities. Rates shall also include bailing out surface water due to rains or sub soil water if encountered and dewatering by pumps wherever required.

7. TEMPORARY DRAINAGE ARRANGEMENTS:

Adequate drainage arrangement must be made to provide katcha drainage at suitable intervals as directed by the Executive Engineer, so as to prevent flooding in the locality on account of filling, Some gaps may also be kept and suitable pipe drain or katcha culverts be provided so as to keep the area dry. No extra payment will be made for the temporary drainage arrangements so provided.

8. MODE OF MEASUREMENTS :

**i. (Mode of taking cross sectional areas :
(IN CASE OF FILLING OF LARGE AREAS)**

- a) Before commencing filling in the low lying site detailed cross sections shall be taken at every 5 mtrs or at suitable intervals, as may be required both ways as decided by Executive Engineer. For this purpose a base line shall be fixed along edge of the area and parallel cross sections lines will be fixed at every 5 mtrs. or suitable intervals along this base line. Levels shall be taken at sufficiently close intervals and at salient points along each of these cross section lines. In all cases leveling must precede filling. The cross section along which levels are taken will be permanently demarcated with their starting and terminal points to represent fixed chain age of their respective cross section. all further leveling for finding out quantities will be done on these cross sections only.

- b) In order to fix these base lines and cross section lines etc., before start of work the contractor shall provide the pillars for bench marks at his cost and maintain them till

completion of work and till final measurements are recorded. The said pillars for bench marks shall be 25 cms x 25cms brick masonry with plaster.

- c) After levels in a 5 mtrs. (or suitable intervals as may be decided) grid have thus been taken and jointly signed by the contractor and Executive Engineer the filling shall be commenced. The method of quarrying, conveying and filling is left to the contractor who shall however have to get the same approved by Executive Engineer before starting the work. The materials may be quarried by a bull dozer, shovel, etc., and conveyed by trucks to site.
- d) The final measurement of the filling will be with reference to the stipulated level as directed by the Executive Engineer only. Other measurements being treated as purely interim for part payment. Thus the final measurements will be for the quantity inclusive of consolidation that takes place till then.
- e) The interim payments shall be based on the quantity of filling arrived at by cross sections used on average of existing Ground level and the top levels of filling under development of area. However, for final measurements the quantity of the earth filling should be worked out on sectional method.
- f) The contractor shall carry out the filling in the area marked by boundary stones as and when directed. No payment shall be made for materials dumped in any other area without the knowledge and permission of the Executive Engineer.
- ii. Interim payments will be made by taking spot levels and thereby arriving at the average depth of filling which will be multiplied with area to arrive at cubical contents.
- iii. The final measurement will be by section measurements using following formula:
- A. Area of cross section = $d/3 \{(\text{first ordinate} + \text{last ordinate}) + 4 (\text{total of even ordinates}) + 2 (\text{total of odd ordinates})\}$ where d = Distance between the ordinates.

The above formula shall be used for odd number of ordinates.

Note: In case the numbers of ordinates are even, the area of last section shall be computed on the basis of average ordinate of last section.

B.
$$\text{Volume} = D/3 \{(\text{area of first section} + \text{Area of last section}) + 4 (\text{total of areas of even sections}) + 2 (\text{total of areas of odd sections})\}$$

Where D = Distance between the Section.

NOTE: The above formula shall be used for odd number of sections. In case the number of section is even the volume of last section shall be computed by average method.

- iv. **The net quantity of filling for payment shall be arrived at by applying five percent (5%) deductions from the total consolidated quantity of filling computed as above.**

2. CONCRETE WORK

GENERAL :

P.C.C shall mean Plain Cement Concrete.

R.C.C. shall mean Reinforced Cement Concrete.

R.M.C shall mean Ready Mixed Concrete

1. All concrete specified in this tender shall be ordinary mix./ Design Mix/ Ready Mix concrete.

2. **MIXES OF CONCRETE:**

Concrete used shall be in volumetric mix such as 1:4:8, 1:3:6, 1:2:4, 1:1.5:3, 1:1:2, etc. (Cement: Sand: Stone Chips) / Design Mix/ RMC such as M20, M25 etc.

3. **WORKABILITY:**

Workability of concrete should be controlled by direct measurement of water content, making allowance for any surface water in the fine and coarse aggregates. The slump test or compacting factor test shall be carried out at intervals as directed by the Corporation's Engineer. The slump test is suitable for slump of 5 cm. to 15 cm.

4. ALLOW IN RATES FOR CONCRETE ITEMS:

Apart from various factor mentioned elsewhere in the tender, rates quoted for all concrete items shall include for:-

- a) All labour, materials, use of equipments, tools and plants etc.
- b) All necessary operations for the proper volume batching, mixing, handling, transporting, placing, directed, hacking of concrete surfaces where they have to receive plaster (but the plaster on concrete surfaces shall be measured and paid separately under respective plaster items) etc.
- c) Pouring concrete around reinforcement for reinforced concrete work but reinforcement shall be measured and paid for separately, unless otherwise stated in the tender.
- d) Rates quoted for all concrete items shall include for concreting of structural members of any shape and sections as per drawings including providing slopes to slabs, beams, chajjas, canopies etc. wherever required. Form work shall be measured and paid separately.
- e) Allowing work of another agencies being carried out by them like laying conduits, boxes, pipes, clamps etc. as directed before laying concrete and coordinating with other agencies viz, electrical, sanitary ,air conditioning and ventilation Contractor and other agencies working on site.
- (f) Filling the bolt holes (of the shuttering) on concrete surface with cement mortar (1:3) and finishing the same as directed.

5. FORM WORK:

- a) Irrespective of what is stated in general specifications for builder's work, trade preambles for "CONCRETE", contractor's rates quoted for concrete items shall be exclusive of form work. Formwork for all concrete items shall be measured and paid for separately. Form work or shuttering shall be water tight and for all concrete of mix 1:2:4 and higher grades shall be of timber/Steel/Plywood unless otherwise specified. Area of shuttering in contact with concrete surface shall be measured for payment purposes.
- b) Unless otherwise stated, rates quoted for formwork shall include columns /slabs /beams etc. at regular floor heights upto 3.5 meter or at smaller heights as shown on the drawings.

- c) The materials used for shuttering, if not confirming to the specifications required for providing waterproof shuttering, shall be rejected.
- d) For the purpose of measurement of formwork for external side of external/end beams full heights from top of slab to bottom of beams shall be considered under formwork for the beams.

6. ALLOW IN RATES FOR FORM WORK:

Apart from various factors mentioned elsewhere in the tender, rates quoted for the formwork items shall include for:-

- a) All labour, materials, use of equipments, tools, nails, bolts, screws, Centering, oiling etc. required for formwork specified in the tender.
- b) All necessary operation for the proper erection and removal of the formwork when directed.
- c) For necessary provision in the formwork for forming holes and pockets for bolts, balusters, for taking out dowels bars, fan hooks and for other inserts in the concrete as shown including making provisions for other large size openings for doors/ windows/ ventilators/grills etc. in the walls.
- d) For formwork of any shape and sections as per drawings including providing necessary slopes, camber to slab, etc. wherever required.
- e) For necessary provisions in the formwork for forming chamfers, bands, splays, drip moulding, rounded or curved angles, chases, grooves, rebates, making notches, dowels etc. in the concrete wherever directed.
- f) For making construction joints and dummy joints as directed.
- g) Work involving plain or circular, straight or curved forms or in slopes etc. as directed.
- h) Sinking of formwork wherever shown on drawings.

7. CEMENT SHOULD CONFORM TO FOLLOWING STANDARDS (IS: 269-1976 / IS: 8114) / IS: 455:

- a) **FINENESS:**

When tested for fineness in terms of specific surface by Blaines' air permeability method as directed in IS:4031-1968, the cement shall comply with the following requirements:

Type of Cement	Specific Surface Sq/Cm/g
Ordinary	Not less than 2250
Low heat	Not less than 3200

b) SOUNDNESS:

- b.1. When tested by the 'Le Chatelier' method described in IS:4031-1968, unaerated ordinary and low heat Portland cements shall not have an expansion of more than 10mm.
- b.2. In the event of the cement failing to comply with the above requirement, a further test shall be made by the 'Le Chatelier' method described in IS:4031 - 1968, from another portion of the same sample, after aeration, by being spread out to a depth of 75mm at a relative humidity of 50 to 80 % for a total period of 7 days, when the expansion of each of the two types of cements mentioned above, shall not be more than 5mm.
- b.3. Unaerated ordinary and low heat Portland cements having a magnesia content of more than 3 % shall be tested for soundness by autoclave test described in IS:4031-1968 and shall not have an expansion of more than 0.8%. However, if specified by the purchaser at the time of placing the order, cements having a magnesia content of less than or equal to 3%, shall be also tested for autoclave expansion as described in IS:4031-1968 and shall not have an expansion of more than 0.8%.

c) SETTING TIME:

The setting time of the cements, when tested by the Vicat apparatus method described in IS: 4031-1968 shall confirm to the following requirements:

	<u>Ordinary</u>	<u>Low heat</u>
i) Initial setting time in Minutes, not less than	30	60
ii) Final setting time in Minutes, not more than	600	600

- d) Compressive Strength: The average compressive strength of at least three mortar cubes (area of face 50 Sq.cm.) composed of one part of cement, three parts of standard sand (Confirming to IS: 650-1966) by mass and $P/4 + 3\%$ (of combined mass of cement plus sand) water and prepared, stored and tested in the manner described in IS: 4031-1968 shall be as follows:

Kgf/SqCm.	Ordinary	Low Heat
a) 72 + 1h, not less than	160	100
b) 168 + 2h, not less than	220	160
c) 672 + 4h, not less than	-	350

Note 1: Standard sand shall confirm to IS:650-1966

Note 2: P is the percentage of water required to produce a paste of standard consistency.

8. WATER PROOFING COMPOUND:

Cement water proofing compound wherever mentioned in the items shall be "IMPERMO" manufactured by M/s SNOWCEM (India Ltd.) , 2% by weight of cement or "CICO" waterproofing compound manufactured by M/s STRUCTURAL WATERPROOFING Co. Pvt. Ltd., Kolkata, 3% by weight of cement or other equal and approved as per Manufacturer's Specification and rates quoted shall include for the same (As per approved materials).

9. MATERIALS: ALL MATERIALS SHALL BE OF APPROVED QUALITY.

10. AGGREGATES:

Aggregates shall conform to IS:383/1970 and IS:2386-1963 and shall be from approved sources.

11. LOADING OF FLOOR SLABS:

Materials shall not be stored or stacked on suspended floors and roofs without the Corporation's Engineer's prior approval.

12. WATER :

Water used for both mixing and curing shall be potable and free from injurious amounts of deleterious materials which are likely to affect the strength or durability of

concrete. Water containing any sugar shall not be allowed for use. Also, water which fails to satisfy the following requirements shall be not be used

- a. To neutralize 100 ml. sample of water, it should not require more than 5 ml. of 0.2 normal HCL.
- b. To neutralize 100 ml. sample of water, it should not require more than 25 ml. of 0.02 normal H_2SO_4 .
- c. Water should not contain solids in excess of the following :-

Organic	200 mg/ltr.
Inorganic	3000mg/ltr.
Sulphate (as SO_4)	400mg/ltr.
Chloride (as Cl)	2000mg/ltr. (for P.C.C)
Chloride (as Cl)	500 mg/ltr. (for R.C.C)
Suspended matter	2000mg/ltr.

The PH value of water shall be between 6 to 8.

13. SAMPLES AND TEST:

Every facility shall be provided to enable the Corporation's Engineers to obtain samples and carry out test on the materials of construction, if these tests show that any of the materials of construction do not comply with the requirements of this specification, the Contractor will be responsible for the cost of the tests and the replacement of the defective materials and/or construction.

14. REJECTED MATERIALS:

All materials which have been damaged contaminated or have deteriorated or do not comply in any way with the requirements of the specifications shall be rejected and shall be removed immediately from the site at the Contractor's own expense.

3. BRICK WORK

1. Nominal Size of brick shall be 230 x 115 x 75 mm. from approved source. Bricks shall be well burnt first quality, having regular shape with sharp corners, edges and should stand all tests as required by I.S.I. specification. One brick wall shall be considered as 250 mm thick, half brick thick shall be 115 mm thick and brick on edge shall be 75 mm thick.
2. The brick should have minimum crushing strength of 75 kg per sq.cm.

3. The rates quoted shall include for all work like those in walls, jambs, pillars, mullions, steps, kerbs or thresholds, corbels, nibs and raking out joints, cutting, scaffolding and curing.
4. The rates quoted shall also include for recesses, cutouts etc., in brick work for electrical/plumbing works if required.
5. Sand for masonry mortars shall be as per I.S. 2116-1965 as applicable to unreinforced brick work.
6. For exposed brick work, selected and approved facing, bricks shall be used having uniform colour, size and sharp edges. Faces of bricks shall be protected from staining by cement mortar splashing.

4. STEEL AND IRON WORK

1. Rates for M.S. Door and window frames shall include for fabrication, cutting and bending to required size and shape, drilling, punching, counter sinking, welding, filling etc. finishing, erecting, fixing in position and all concrete work for grouting/ embedding wherever required including painting. Concrete for grouting/embedding shall not be considered in the measurement of the weight and shall not be paid separately also.

SPECIFICATION FOR PRESSED STEEL DOOR FRAMES:

I. MATERIAL:

- a. Steel door framed shall be manufactured from commercial mild steel shall be 1.25mm thickness conforming to I.S.:435±-1976.
- b. Steel door framed with or without fan light shall be made in the profiles described which may be manufactured to suit doors of either and, opening inwards or outwards as directed by Engineer-in-Charge.

II. CONSTRUCTION:

Each door framed shall consist of hinges, jamb, lock jamb, head and if Required, angle threshold. The whole shall be welded or rigidly fixed together by mechanical means. Where no angle threshold is required, temporary bar tie shall be screwed to the feet of frames in order to form rigid unit. Where no specified base ties shall be pressed mild steel 1.25mm thick adjustable to suit floor thickness of 35 or 40 mm and removable, or alternatively, threshold shall be provided for external frames

FABRICATION: The fixing lugs there shall be 3 adjustable lugs with the split and tail to each jamb without fan light, and 4 for

jamb with a light. The head of the fixing lugs shall be of one of the following lengths.

- i. 95mm long for use with profile A.
- ii. 120mm long for use with profile B.
- iii. 160mm long for use with profile C.

The head shall be made from flat steel strip 25mm wide and not less than 1.6 mm thick. The tail of the locks shall be 200mm long and shall be made to steel strips not less than 40mm wide and not less than 3mm thick.

Hinges 100mm mild steel butt thickness shall be used. For frames for door shutters width less than 90 cm. 3 hinges shall be welded to one jamb for single shutter. For frames for door shutters width more than 90 cm. 4 hinges shall be welded to one jamb for single shutter. 3 hinges of each jamb of framed shall be welded for double shutters.

In all cases the hinges, shall be fixed, that the distance from inside of the head rivet to the top of the upper hinges and the bottom of the lower, to floor is about 175 mm.

Hinges shall be made of steel 2.5 mm thick with a zinc coated removable pin of 6mm dia. The space between the two leaves of the hinge when closed shall be 3 mm and the leaf that is not welded to the frame shall have for counter sunk holes to take No. 10 wood screws.

MORTAR GUARDS:

Mortar guards as instructed by Engineer-in-charge shall be provided. These shall be welded to the frame, at the head of the frame for double shutter doors to make provision for bolts.

LOCKS STRIKE PLATE:

There shall be an adjustable lock strike plate of Steel, complete with mortar guard, to make provision for locks or latches complying with the relevant Indian Standards. Lock strike plate shall be of galvanized mild steel and fixed at 95 cm from the head of the frame.

SHOCK ABSORBERS:

For side hung door shutters, there shall be not less Than buffers of rubber suitable material inserted in the holes in the rebate and one shall be located on the CENTRE line of the lock strike plate and other two at least 45 cm. above and below the centre

line of the lock strike plate. For double shutter doors, there shall be two buffers of rubber or similar suitable material inserted in holes in the rebate in the lock jamb only at the head and spaces 15 cm. at either side of the centre line of the door.

FINISH :

The door frame shall be either hot drip galvanized or painted or as specified. The surface shall be thoroughly cleaned, free of dust, mill-scale dirt, oil etc. Either by mechanical means, for example, sand or shot blasting or by chemical means such as picking and then painted or galvanized as directed by Engineer-in-charge.

After pre treatment of the surface one coat of steel primer (Zinc Chromate) and two coats of enamel paints as directed by Engineer-in-charge shall be applied to the exposed surface.

MEASUREMENT:

The length shall be measured in running meter correct to a cm. out to out of the frames.

RATE:

The rate shall include the cost of labour and material involved in all the operation described above including one coat of approved steel primer (Zinc Chromate) and two coats of enamel paint etc., complete as directed.

5. WOOD WORK AND JOINERY

1. Unless otherwise specified, rates quoted shall include for cost of copper oxidized iron butt hinges heavy quality extruded section, 3 nos. 100 mm size per shutter of doors and 2 Nos. 75 mm size per shutter of windows and ventilators with mild steel pins and copper oxidized screws. Hardware other than the hinges shall be paid separately.
2. Unless otherwise specified, rates quoted shall include for clear sheet waveless glass of approved make such as Triveni, Modi, Asahi or other Equivalent.
3. Doors shall be painted with 3 coats of synthetic enamel paints (First quality) of approved colour and shade including suitable primer. Although 3 coats of paints are specified, Contractor will have to do additional coats of paint, if well finished surface is not obtained to the satisfaction of the Superintending Engineer, Executive Engineer and there shall be no extra payment on account of this.

4. Panel inserts for door shall be both side commercial veneered particle water proof quality bonded with phenol formaldehyde synthetic resin adhesive and conforming to I.S./3097:1980.
5. Timber in contact with masonry or concrete shall be coal tarred or creosoted before fixing and rates quoted shall include for the same.
6. Rates quoted for wood work and joinery shall include for rebates, joints, chamfers, molding, grooves, beads laps, rounded angles, notches, nails, screws, pins, anti-termite treatments etc.
7. Hardware for doors and windows shall be of approved make, all hardware shall be fixed with screws to match the hardware and rates quoted shall include for the same.
8. For factory made door shutters B.W.R. ply used as panel insert should confirm to I.S.: 303-1989.
9. All internal doors shall be provided 2 coats/or more if necessary at Synthetic enamel painting over a coat of primer.
10. Rate quoted by the contractor shall allow for above factors, all labour charges, all taxes and conveyance excluding cost of fixtures only.
11. Prime cost of item : Contractor shall purchased in the open market at competitive rates and fix in position hardwares, fixtures and fittings for doors etc., such as door handles, tower bolts, aldrobs, night latches, door stopper, safety chain, magic eye etc., of quality size and make approved by the Chief Engineer or his authorised representative, Contractor shall quote in item the percentage amount he would charge over the actual cost of the material and fixing them in position (Contractor will be paid the actual cost of materials, supported by vouchers plus percentage amount over it as per the quotation in this item.

A set of the approved samples shall be lodged with the Chief Engineer until the completion of the work. The rates for the purchase of materials must be competitive. In case the Chief Engineer is able to obtain the quotation in the open market for any material similar in specification to the one obtained by the Contractor as per vouchers produced by him, then the Contractor will be paid only according to the competitive rates obtained by the Chief Engineer plus percentage amount over it as per this item and not according to the Contractor's claim. Hardwares for doors and windows shall be approved make and shall be fixed with required screws to match the hardware and rates quoted shall include for the same.

12. Flush doors shall be solid core ISI marked.
13. Factory makes panel door shutters as per IS: 1003 made from approved hard wood duly kiln seasoned as per IS-1141, chemically treated as per IS-401.

6. **FLOORING AND FINISHING**

1. Plain or colour cement tiles and terrazzo tiles shall be manufactured as per latest version of I.S.:1887/195¹ using gray or white cement and pigments and marble chips of sizes as required. Tiles shall be of size 250 X 250 X 20mm (10" X 10" X 7/8") or any other approved size. Thickness of wearing layer of the tiles shall not be less than 8 mm. Tiles shall be of approved colour, shade and make. A few approved samples of tiles is to be used shall be deposited by the Contractor in the office of the Corporation's Engineer.
2. White Glazed earthen ware tiles shall be of first quality as per our approved material list enclosed:-

	<u>Minimum</u>	<u>Maximum</u>
a. Glazed	- 5 mm. :	7mm
b. Ceramic	- 6 mm. :	8mm

3. **KOTA STONE** : Kota Stone specified in the item shall be got approved from Chief Engineer. At its thinness part, no stone shall be thinner than minimum thickness specified in the tender item. Kota Stone used in the work shall be hard, sound, durable, resistant to wear. It shall be cut to shape and size as directed. Rough Kota stone shall have plain surface.

For machine polish Kota Stone, the exposed surface of the stone slab shall be machine polished, having smooth even and true plane. The stone slab shall be without any soft veins, cracks or flaws and shall have uniform colour. Kota stone for flooring, skirting, trade and risers shall have even natural surface free from broken flakes on top and shall be machine cut, edges shall not be marred by careless dressing of slab.

TOLERANCE:

The thickness or slab shall be as specified in the description of item. Tolerance of plus minus 2mm shall be allowed for the thickness. In respect of length and

breadth of slabs, a tolerance of plus minus 5 mm. is allowed.

4. Cement Waterproofing Compound wherever mentioned shall be " IMPERMO" manufactured by M/s Snowcem (India) Ltd., 2% by weight of cement or CICO water proofing compound manufactured by M/s. Structural Water roofing Company Pvt. Ltd., Kolkata, 3% by weight or Cement or other equal and approved as per manufacturer's specification. The rates quoted shall include for the same.
5. Terrazzo / Marble mosaic/Ceramic/Kota/Kudappa/Shahabad/Tandur Stone/ Glazed tile in flooring, skirting, dado, treads and risers shall be laid as described in the schedule.
6. Rate quoted in the tender shall allow for above factors with all cost of labour, materials, taxes, conveyance, royalties, T&P etc., complete.
7. Internal Cement plaster to brick walls, columns, beams, lintels etc., shall be 12mm thick. R.C.C. slab soffits shall have cement plaster not less than 6mm thick. External cement plaster shall be 20mm thick in two coats (Under coat 12mm thick and finishing coat 8mm thick. except for R.C.C. members not flush with brick work which shall be 12mm thick in 2 coats (Under coat 8mm thick and finishing coat 4mm thick) such as R.C. facials, chajjas, canopies, drop walls, beam ribs, projected slabs etc. the rates quoted for plastering and finishing items shall include for Jambs, sills, drip moulds, bands, forming grooves, chambers, curved Angles, arises etc., and such other projections, which shall not be measured separately and paid for.
8. Rates quoted for painting and colour washing etc., shall include for providing shade or approved colour.

In case of painting, white washing and colour washing items, although number of coats are specified, Contractors will have to do additional coats if well finished surface is not obtained to the satisfaction of the Executive Engineer and there shall be no extra payment on account of this.

Sand for mortar bedding for floors shall be from approved source and shall conform to I.S. 2216-1965 as applicable to unreinforced masonry works.

Sand for plaster shall be from approved source, and shall conform to I.S. 1542-1977 as applicable to internal walls and ceiling plastering and external wall plastering.

SPECIFICATION FOR SAND FOR PLASTER (IS:1542-1977):-

Table - I Grading of sand for internal wall or external wall or ceiling plaster:

<u>SIEVE OF NOMINAL APPERTURE SIZE PASSING</u> [See IS:460 (Part-I)-1978*]	<u>PERCENTAGE</u>
9.50mm	100
4.75mm	95-100
2.36mm	95-100
1.18mm	90-100
600 micron	80-100
300 micron	20- 65
150 micron	00- 15

NOTE : For crushed stone sands, the permissible limit on 150 micron nominal aperture size sieve is increased to 20% allowance permitted in

4.1 applying to other sieve size.

* specification for test sieves: part - I wire cloth test sieve (second revision).

7. WATER PROOFING
GENERAL :

Specifications, as applicable for the trades and as given elsewhere in the tender are applicable in Toto except where otherwise mentioned in following pares or in the working of items. The rates quoted shall cover for complying with the same. Respective Trade Preambles wherever applicable shall apply to this section also.

The water proofing work shall be got executed from the specialist agency as approved by the competent authority, as per their specification under the overall supervision of the main builder's contractor. Rates quoted by the main Builder's contractor shall include for the waterproofing treatment through the water proofing agency and will cover for all over heads and profits.

Name of Specialized agencies:

7.1 CRAZY MARBLE MOSAIC FLOORING/TOPPING ON TERRACES :

Work of Crazy Marble Mosaic tile topping on terraces shall be as given in the specification for Builders' work. Rates quoted shall include for the following factors also:

- a) Tile pieces shall be laid on screed of lime mortar 1:3 (1 lime: 3 sand) or Cement mortar 1:6, 20 mm thick (average) and floated in neat Cement slurry in required levels and slopes in crazy fashion.
- b) The joints between the pieces shall not exceed 3 mm. In width and shall be solidly filled with Cement mortar 1:3 mixed with waterproofing compound and finally flush pointed on top with neat Cement mixed with waterproofing compound.
- c) Cement waterproofing compound shall be as manufactured by one of the manufacturer/s as per the attached list and as per manufacturer's specification and shall be added to mortar bedding and Cement floating coat.
- d) The junctions of the topping/paving and the parapet wall shall be rounded/coved to be 75 mm radius and the topping/paving shall be extended up to the parapet wall for 15 cm. The top edge shall be finished in a neat horizontal line and tucked in a groove in a groove in the wall. Bell mouths around rain water pipe inlets etc. wherever required for effecting drainage, shall be formed in crazy marble mosaic tile-piece finish. Necessary channels/dishing as required shall be also formed.
- e) After the topping/paving has been laid as required or the day's fixing work is completed, the surplus Cement grout that may have out of the joints on compacting shall be cleaned off.
- f) Proper slopes shall be imparted to the finished surface to drain off the rain water easily without any stagnation anywhere on the finished surface.
- g) Bitumen painting of slab shall extend upto parapet/curb/up stand for 150 mm.
- h) Necessary rounding/coves near parapet/curb/up-stand shall be done and junction made leak proof
- i) Dishing near rain water outlets.
- j) Preparation of channels as required.

7.2. MEASUREMENTS :

Measurements for Lime Concrete as well as for crazy marble mosaic flooring/topping on terrace shall be only the respective flat area in plan of the terrace between the

exposed internal faces of parapet walls/curbs/up stand portions. Cover/rounding etc. shall not be measured. While measuring the average thickness mentioned in the item, thickness of rounding/coves near the parapet walls/curb and the portion carried over the in the parapet wall shall not be considered.

- 7.3. Wherever the R.C.C. and brick corbelling courses are required to be provided on the same terrace floor, they shall be in line and level with each other.
- 7.4. The Contractors shall ensure water tight/leak proof construction. The Contractors, if they so desire may carry any further (in addition to the waterproofing treatment specified above) for waterproofing of surfaces as considered necessary by them, however the rates quoted by them for the items shall be amount shall be paid for the same.

7.5. **WATERPROOFING- "CETROOF" TREATMENT:**

(CEMENT BASED WATERPROOFING TREATMENT THROUGH SPECIALIST AGENCIES)

I. TERRACE WATERPROOFING :

Terrace waterproofing shall be "CETROOF SURFACE TREATMENT" (Permanent waterproofing treatment) by one of the Specialized Agencies mentioned in the list attached and shall be as per their Specification and shall be under Guarantee of 10 years against leakage.

This treatment shall start directly over R.C.C. slab and shall include for providing and laying of brick bat coba with necessary gradient for the easy flow of water. This coba shall be done in special waterproof mortar and shall be finally covered with "CETROOF" waterproof joint less plaster, finished smooth with trowel in grey cement colour, marked into 30 X 30 cms. False squares. The treatment shall be carried along the inside of parapet or other adjoining walls upto a height of about 300 mm. In the shape of round vata (rounding off). The surface provided shall be hard; and tough, suitable for all normal domestic purpose. Rate quoted shall include for making round vata and also for tucking the treatment on the vertical face of the parapet at required height including making necessary groove in the parapet for tucking. Rate quoted by the Contractor shall include for the above waterproofing treatment of Specialized Agencies, with all overhead and profits.

MODE OF MEASUREMENT FOR CETROOF TREATMENT OVER TERRACE:

Unless otherwise specified in the item in Schedule of Quantities, flat area covered between inside of the parapet wall (unfinished) shall be measured.. To this the area of the vertical surface treatment calculated by taking the inside perimeter of the parapet wall and the height of treatment over parapet wall measured from finished horizontal "CETROOF" treatment shall be added. In case the treatment is continued over the horizontal portion of the parapet on top, the same shall also be added to the areas calculated as above.

II. TOILET WATERPROOFING:

Toilet waterproofing by approved specialist firm under guarantee of 10 years.

- a) The main contractor shall while the concrete is still green, carry out smooth cement punning in thin layer to the bottom of side of sunk portions at the time of concreting of the slab.
- b) The brick bats from well-burnt bricks of about 40 mm. Size completely saturated with water shall be used for filling in sunk portion of toilets including space around W.C. pan.
- c) The surface of sunk portion where waterproofing is to be done shall be thoroughly cleaned with wire brushes. All loose scales shall be removed and dusted off. The cleaned surface shall be treated with neat cement slurry admixed with acrylic waterproofing compound to penetrate into services and fill up all porosities in the surface. The cracks observed, if any, in the slab shall be appropriately treated.
- d) After treatment at II (c) above, brick bats fully saturated with water shall be laid in position within layers of cement mortar 1:1 duly admixed with acrylic water proofing compound. The topmost layer of brick bat shall not be covered with cement mortar.
- e) Treatments at and II (g) shall follow except that top layer will be 12 mm. Thick and finished.
- f) This item shall be carried out after nahani traps, W.C. pan, all pipes are laid in position and are duly jointed. The treatment shall be worked well around the nahani taps. "P" or "S" traps, pipes and their joints, holes made in the walls shall also be treated suitable.
- g) 12 mm. Thick waterproof plaster in cement mortar 1:4 with acrylic waterproofing compound shall be carried out upto proposed height of dado in the toilets. Before carrying out waterproofing treatment on the wall, the wall surface shall be thoroughly cleaned and the joints of brick work shall be raked out if required

treatment of Cement slurry admix with acrylic waterproofing compound be carried out to the wall. Junction of wall and top of slab/beam shall be treated with cement slurry with acrylic, W.P. compound by injection method.

h) MODE OF MEASUREMENT :

- a) The filling of waterproof brick bat coba in sunk floors of toilet blocks shall be measured in Cu.M. as actually laid at site to the required level.
- b) Waterproofing plasters treatment to floor and walls of toilet block above the sunken slab/beam shall be measured separately in Sq.M. as actually provided at site over the required areas.

III. RATES TO INCLUDE:

- a) Contractor shall obtain a guarantee for a period of 10 years from the Specialist Agency carrying out the work and shall be jointly responsible for any defects noticed in the work during the above period. Rate quoted shall include for the same.
- b) Rates quoted by the Main Builder Contractor shall include for the above water proofing treatment by one of the Specialized Agencies with all overheads and profits to execute the work and no extra will be paid.
- c) Rates quoted by the Contractor shall also allow for the leakage test to be carried out as stated below. Any leakage/dampness noticed shall be rectified by the Contractor at his won cost.

- IV.** Waterproofing work shall be guaranteed for then years in approved proforma (see Annexure "R" attached herewith) acceptable to the Employer, on a stamp paper of required denomination. This guarantee will be given by the Specialist agency carrying out the work directly to LIC of India and counter signed by the Main Builder's Contractor and furnished to LIC of India as soon as the work is virtually completed and before the final bill is settled.

Although the waterproofing work is guaranteed by the Specialist Agency for 10 years, the Main Builders' Contractor shall be responsible, if at any time during the defects liability period, the surfaces treated for waterproofing by the Specialist Agency given way to the inadequacy of the work carried out or used or for any other reason what so ever relating to materials, workmanship etc. and shall be liable without any extra cost and inconvenience to the Employer or the occupants to carry out the necessary remedial measures as and when required during Defect Liability Period.

V. LEAKAGE TESTS:

(Applicable to all types of waterproofing treatments to terrace and toilet blocks).

After completion of waterproofing work of terraces as well as toilet blocks, the leakage test shall be carried out by impounding the water 75mm. to 150 mm. deep, over the surfaces treated for a period of 10 days, without any extra cost.

"Joint inspections shall be carried out by the Contractor daily with LIC of India's representative to find out leakage/dampness of the surface if any. In case, any leakage/dampness is noticed, the same shall be rectified by the Contractor without any extra cost to LIC. Rates quoted by the Contractor shall allow for the above test also.

8. ALUMINIUM DOORS, WINDOWS AND VENTILATORS

1. Aluminium alloy section shall be as per "LIST OF PRINCIPAL/APPROVED MAKES "
2. All aluminium work shall be free from defects impairing strength, appearance and shall be of the best available quality for the purpose specified. All aluminium alloy sections used in the fabrication shall be of heavy quality, sturdy, extruded sections to withstand wind pressure of high intensity, other forces and day to day handling and shall be free from rattling, leakage, etc-all conforming to latest versions of IS-733-1956 and IS-1285-1958 for "Specifications for wrought Aluminium, Anodised Aluminium alloys, bars, rods and sections and extruded round, tube and hollow sections (for General Engineering Purposes only)."
3. Anodic coating shall be of minimum thickness of 15 microns. Anodising shall be of mat finish natural/coloured as specified, conforming to latest version of IS-1868-68. Anodising shall be carried out on all exposed faces. Surfaces in contact with masonry, concrete, plaster or any other dissimilar materials shall be coated with Zinc chromate primer conforming to IS-104-1950. Further the contractors shall cover all anodised, finished work with a thick layer of clear, transparent laquer, based on methacrylates or cellulose butyrate to protect the surfaces from wet cement during installations. This lacquer coating shall be removed on completion. if necessary, the contractors shall provide for visits to his workshops where the manufacture of members, anodising, etc are being carried out by him.
4. Contractors shall commence manufacturing Doors, windows, ventilators, etc. only after the shop drawings showing full size sections, thickness of metal, detail of construction, hardware, etc. are approved by the Chief Engineer.
5. In case any modification in size, thickness and weight are required to any members of Doors, windows, ventilators, etc. same shall be carried out by the contractors and suitable adjustment shall be made on the basis of relevant tender items.

6. The Chief Engineer reserves the right to delete any or all items of this trade and allot the work under this head to any specialized agency/agencies. No claim whatsoever shall be entertained on this account.

7. **HARDWARE :**

Hardware shall be of best quality extruded section and shall be of anodised Aluminium with natural/Bronze finish. Hinges shall be of heavy pattern with stainless Steel pins and nylon/stainless steel washers. Contractor's rate shall include for necessary Screws, Bolts and other devices for neat and secure hardware arrangement. The bolts and wood screws etc. shall be cadmium plated brass, sheet metal screws wherever used shall be GKW or equivalent approved, of required size to securely and permanently fix the hardware in place. No steel or iron screws shall be used.

8. **GENERAL :**

All the manufactured Doors, windows, ventilators, etc. shall be stacked on site under cover. Damaged surfaces with defects like scratches, etc on finished work shall not be accepted. Fabricated materials shall be created in an approved manner to protect the material against any damage during transportation. Loading and unloading shall be carried out with utmost care. The Doors, windows, ventilators, etc. on arrival at site shall be carefully examined to detect any damaged pieces. Arrangements shall be made for expeditious replacement of damaged pieces/parts. Materials found to be acceptable on inspection only shall be used.

9. The frames shall be square and flat and corners of the frames being fabricated to true right angles. Both the fixed and opening frame shall be of sections which have been cut to length, mitered and mechanically jointed and/or electrically welded at corners as required for satisfactory performance. Subdividing bars shall be toned and riveted into the frames. All frames shall be accurately machine milled and fitted to form hair fine joints. The jointing accessories such as cleats, brackets, etc., shall be of such material as not to cause any bimetallic action and as per approved samples.

Dimensions shown in the drawings and tender are overall heights and widths to the outside of the frames of Doors, windows, ventilators, etc. and shall be considered as approximate, structural dimensions, only. Contractors are advised to verify the

dimensions before fabricating and fixing the Doors, windows, ventilators, etc. in position after allowing the margins for sub frames (40 to 50 mm) as well. Payment shall be based on actual size provided.

10 **METHOD OF FIXING :**

- a) Aluminium members coming in contact with masonry shall be fixed by means of slotted steel lugs, not less than 100 mm x 16 mm, 3mm with counter sunk galvanized machine screws and nuts 19x 6.3 mm and to concrete works by means of 45 mm No.10 galvanized wood screws.

- b) Fixing screws and lugs

Outer frame/sub frame shall be provided with fixing holes centrally in the web of the section at approved intervals. Any steel lugs coming in contact with Aluminium should be either galvanized or given one coat of bituminous paint. After fixing the members in position as stated above, the space between the concrete surface and the frame of Doors, windows, ventilators, etc. shall be pressure grouted with CM 1:4 so as to achieve absolute water tightness between the frame and inside surface. Care shall be taken that exposed surface of opening is not damaged while fixing Doors, windows, ventilators, etc.

Further, all vertical, horizontal members of Doors, windows, ventilators, etc. shall be provided with Neoprene/ EPDM weather stripping.

The contractors shall design, fabricate and fix in position, sub frames, Doors, windows, ventilators, etc. in such a way that water penetration is totally and effectively sealed and any dampness on inner surfaces is totally eliminated. The shop drawing submitted by the contractor shall show the method of sealing the water penetration also.

Doors, windows, ventilators, etc. shall be fixed to sub frames by means of screws of adequate size and numbers, which shall be cadmium plated brass. The method of fixing as above shall generally be followed and members used in the manufacturing of units shall be designed accordingly. However, contractors are free to adopt any other equivalent, approved method of fixing. In no case, fixing shall be allowed over wooden runners.

Doors, windows, ventilators, etc. shall be designed not only for their strength, stability, stiffness against all odds but also for easy operation, water tightness, easy replacement of glass and cleaning from inside.

11. **GLASS & GLAZING :**

Glass shall be of specified thickness and shall be ASAHI or MODI float waveless glass or equivalent, approved, clear sheet glass or tinted as specified in schedule of quantities.

Before installation of glass, contractor shall ensure the following:-

- a) All glazing rebates shall be square, plumb, true in plane, clear, dry and free of dust.
 - b) Glass edges shall be clear and cut to exact size, glass with chipped or damaged edges shall be rejected.
 - c) Glass shall be set in glazing clips and so installed as to achieve proper water tightness.
 - d) Suitable Neoprene, EPDM gaskets shall be used for fixing glass so as to prevent rattling.
 - e) Beading shall be of anodised Aluminium section as per schedule of quantities.
 - f) Putty shall be applied to beading face in contact with glass and if necessary also filled at back-conforming to the latest version of IS-420-1953. On completion of job, all glass shall be thoroughly cleaned and freed from dirt, putty or other adhering material.
 - g) Wastage in cutting shall be to contractors' account. Frosted/Ground glass shall be set with smooth surface outside.
12. Contractors shall submit detailed drawings showing various members of Aluminum Doors, windows, ventilators, etc. which they propose to use, along with their filled in tender.

13. **MODE OF MEASUREMENTS:**

Aluminium Doors, windows, ventilators shall be measured in Kg. Any fixture or projection embedded in concrete/masonry work shall not be measured. Samples of all sections, accessories, beadings, etc. shall be got approved, weighed and preserved at site.

Rate shall include for fittings and fixtures shown on the shop drawings approved by the Chief Engineer.

14. RATE TO INCLUDE:

Part from other factors mentioned elsewhere in this tender document, rates for the items for supplying and fixing aluminium doors, windows and ventilators shall also include for the following:

- a) All accessories, for fixing doors, windows and ventilators to concrete/masonry surface as described in the trade.
- b) Filling sealants as per details to ensure water tightness. All the sealants must be permanently resilient and of non-bleeding nature.
- c) EPDM weathering strips as directed.
- d) Drip strip to drain out water falling on the members of the frame.
- e) Pressure grouting in CM 1:4 the space between the concrete surface and the frame of windows and ventilators, or sub frames, as per site conditions.
- f) EPDM gaskets for fixing glass.
- g) Cadmium plated brass wood screws wherever specified.
- h) Galvanized/ Aluminum channels pieces, coach screws, raw plugs, etc. of required size and nos. for fixing doors, windows and ventilators frames in position.
- i) Necessary scaffolding/cradle for erection of aluminum doors, windows and ventilators in position.
- j) Rates for sliding/ doors/ windows and ventilators to include for adequate arrangements for draining out water collected in the channels of the outer frame.
- k) For all Doors, windows, ventilators, etc. openings, contractor shall prepare MS retrieval template frames with necessary tolerance for obtaining correct dimensions of openings in masonry/concrete works.
- l) Suitable, approved cleats, etc. at every joint of outer frame.

15. VARIATION OF WEIGHTS:

The contractors shall base their quoted rates on total weight of Aluminium content for Doors, windows, ventilators units excluding hardware and glass, proposed by LIC in the item

**GENERAL CONDITIONS FOR MAINTENANCE OF FIRE
FIGHTING SYSTEMS DURING DEFECT LIABILITY PERIOD
OF ONE YEARS.**

- i. Quarterly checking up keeping and replacement of the any component or sub-components of the system for proper operation of the system.
- ii. During the Defect liability period the contractor will responsible to keep the Fire Fighting & Fire Alarm system in perfect running condition including fitting of parts accessories, repair etc,
- iii. In case of any defect cropped up, it shall be attended within 04 hours of getting information over telephone/ email as and when is required.
- iv. The contractor has to give proper authorization of engineer / supervisor responsible for maintenance of units and has to provide their contact number so that we can contact them as and when required.
- v. In case the services rendered by the contractor are not found satisfactory, during any time of defect liability period, LIC will engage some other agency to carry out the work at contractors' risk & cost and the amount spend shall be recovered from Security Deposit.
- vi. Safety controls should be tested and replaces in case of malfunctioning.
- vii. Arranging demonstration / testing at least once in every three month.
- viii. Any defect in electrical items and control wiring of fire fighting systems should be attended.
- ix. The replacement of all the parts if any should be original, genuine make and old replaced should be shown or handed over to LIC Maintenance Engineer-in-charge. The material whichever needs to replace, should take prior approval from the Competent Authority.
- x. Ensuring proper working entire Fire Fighting & Fire Alarm systems.

Agreed and confirmed

Signature of company with seal and date

**GENERAL CONDITIONS FOR MAINTENANCE OF LIFTS DURING DEFECT
LIABILITY PERIOD OF ONE YEARS.**

- i. Monthly checking, up-keeping and replacement of the any component or sub-components of the system for proper operation of the system.
- ii. During the Defect liability period the contractor will responsible to keep the Lifts & Escalators in perfect running condition including fitting of parts accessories, repair etc,
- iii. Apart from attending monthly services, the contractor shall promptly attend within three hours all breakdown calls as & when needed.
- iv. In case the services rendered by the contractor are not found satisfactory, during any time of defect liability period, LIC will engage some other agency to carry out the work at contractors' risk & cost and the amount spend shall be recovered from Security Deposit.
- v. The contractor has to give proper authorization of engineer / supervisor responsible for maintenance of units and has to provide their contact number so that we can contact them as and when required.
- vi. Safety controls should be tested and replaces in case of malfunctioning.
- vii. Any defect in electrical items and control wiring of Lift & Escalators should be attended.
- viii. The replacement of all the parts if any should be original, genuine make and old replaced should be shown or handed over to LIC Maintenance Engineer-in-charge. The material whichever needs to be replaced, should take prior approval from the Competent Authority.

Agreed and confirmed

.....
Signature of company with seal and date

TERMS AND CONDITIONS & SCOPE OF WORK FOR COMPREHENSIVE A.M.C OF VARIOUS AC UNITS.

The Comprehensive AMC period of the AC units will commence automatically after the successful completion of Defect liability period of 1 year. No advance payment will be made to the contractor at the beginning of the AMC. Some salient features of the AMC as follows :

- 1) The annual maintenance contract is comprehensive in nature and is inclusive of all spare parts & accessories (such as compressor, outer and front grill cover, base tray, fan and blower motor, gas charging, operating knobs, filters, thermostat, capillary strainer, thermostat, switch fan blade, condensing oil, cooling oil, ventury, relays, starting and running capacitor, rewinding of stator coil, bearing, piston oil, over hauling and de scaling of cooling coil, condensing unit and cleaning of blower motor, changing of filter pad painting, etc.) Which are required for the smooth & effective functioning of the AC units. Contract shall also include attending the breakdown calls as and when required.
- 2) The AC units shall be serviced once in three months. The routine quarterly comprehensive AMC work shall include :
 - Cleaning/ replacement of filters if found defective.
 - Checking operation of the controls of the air conditioners such as selector switch, thermostat relays remote control etc.
 - Checking air flow through the supply air grill, return air grill, condenser.
 - Checking operation of the voltage stabilizers and electrical power outlet/ MCB/MCCB.
 - Checking operation of drive motors and fans.
 - Checking air temperature at the following locations:-
 - i) Supply air grill
 - ii) Return air grill
 - iii) Inlet air condenser
 - iv) Outlet air from the condenser.
 - Checking firmness of the supporting arrangement for the compressor, blower motor, air conditioners casing & fixing of the air conditioners etc.
 - Replacement of any component of the air conditioner (outdoor & indoor units, inlet & outlet pipelines, electrical connections etc. found defective after the above cheks and tests.
 - Charging of refrigerant gas during the period of contract if need arises.
 - Replacement of spares as required for smooth functioning of AC units.

3) The overhauling of each AC unit (once during the period of contract or yearly shall include all the checks and tests as detailed above in point 2 and following additional works as given below :

- Cleaning of condenser & evaporator coils with suitable detergent/ chemical solutions and flushing with high pressure jets of water.
- Greasing/ oiling of blower motors and all moving parts.
- Prevention of rusting of units by application of suitable paint of approved shade.

Apart from above on call AMC services shall include attending to any complaint any time of the year on receipt of verbal / written complaint from the Engineer – in –Charge or any authorized LIC official. In case any defect cropped up, it shall be attended within 24 hrs at ZONAL / DIVISIONAL Head Quarters and within 48 hrs outside of ZONAL / DIVISIONAL of getting information over telephone as and when is required. If defect requires machine to be shut down for more than three days or to be taken to factory, a stand by machine has to be provided. Non- compliance of this provision shall attract a penalty of Rs. 500/- (Rupees Five hundred only) per complaint per day or part thereof and the same shall be deducted from the AMC bill of the contractor.

- 4) Payment will be made on quarterly basis after getting proper acknowledgment from the respective Office that maintenance is done satisfactorily. Contractor shall depute competent and skilled personnel for executing the works.
- 5) Prior confirmation has to be given to concerned LIC office for necessary gate pass etc for entry/exit permissions.
- 6) Transportation cost shall be in the scope of the contractor, to carry out the jobs at various locations.
- 7) Contractor has to give proper authorization of Engineer/Supervisor responsible for maintenance of units and maintain proper record of services rendered.
- 8) In case the CAMC is not attended as per schedule then the penalty will be imposed and any defects cropped up due to non attendance of the CAMC will be rectified on risks and costs of the vendor. This amount shall be recovered from any payments of the contractor lying with LIC.
- 9) Separate service reports are to be maintained for routine service and Break down services.



PART-II BO GOHANA

- 10) Contractor has to provide high standard of work in a disciplined manner and required to inform about the progress of the work to the Engineer –in –charge of LIC on day to day basis.
- 11) After completion of the contract period the agency has to handover all the AC units & equipments in perfect working condition to LIC of India or their authorized representative.

Chief Engineer

Agreed and confirmed

Signature of company with seal and date



Annexure-A2

E-MEASUREMENT SHEET (Reinforcement)
R.A. BILL..... / FINAL BILL

- i) Name of the work
- ii) Agreement No & date / Contract Ref.
- iii) Name of the Construction Associate & address
- iv) Name, Designation of LIC measurer with S.R. No
- v) Period of measurement
- vi) Name of the Construction Associate's authorised Engineer/s attending measurement

[illegible]

Signature of LCI Test Checking
Engineer
(Name & S.P. No)

Signature of LCI Site Engineer
(Name & S.R. No)

Signature of Construction Associate's
Engineer.
(Name)



Authorised Signatory of Construction
Name & Designation

[illegible]

Authorised Signatory of Construction Associate Name & Designation	Signature	Date

Date of Submission :

BILL OF QUANTITY

CIVIL WORK:-					
S.No.	Description of Item	Qty	Unit	Rate	Amount
1	<u>EARTH WORK</u>				
1.01	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth.1.5m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth, lead upto 50m and lift upto 1.5m, As directed by Engineer in Charge.				
(a)	All kinds of soil. (from 0.00 mts to 1.50 mts.)	500	cum	159.45	79723.81
(b)	All kinds of soil. (from 1.50 mts to 3.00 mts.)	50	cum	238.71	11935.55
1.02	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :				
(a)	All kinds of soil				
(i)	Pipes, cables etc. not exceeding 80 mm dia.	100	metre	195.53	19552.83
(ii)	Pipes, cables etc. exceeding 80 mm dia.but not exceeding 300 mm	250	metre	319.33	79833.41
103 (a)	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50 m and lift upto 1.5 m.	295	cum	192.59	56814.34

S. No.	Description of Item	Qty	Unit	Rate	Amount
b	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.	1000	cum	284.00	283998.25
1.04	P/L Stone soling of 22.5 cm thick of approved stone including Supply of stones and preparing surface complete, i.e. properly hand packed and set on ends with interstices filled in tight with stone chips and blinded at top with coarse sand including watering and consolidation.	365	sqm	640.25	233689.61
1.05	Cleaning Jungle/including uprooting of vegetation, brushwood, trees., saplings of girth up to 30 cm (measured at 1 meter from GL) and rubbish removal up to lead of 50 m and lift 1.50 m	1139.05	sq m	11.00	12534.04
	TOTAL				778081.83
2. CEMENT CONCRETE (PCC)					
2.01	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
(a)	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) in floor bedding.	90	cum	5076.37	456873.30
(b)	1:5:10 (1 Cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) in foundation.	1.64	cum	4840.25	7938.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
2.02	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor, etc., up to floor five level , excluding the cost of centering, shuttering and finishing:				
(a)	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) For Coping etc	63	cum	7500.66	472541.43
(b)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) For Stub Columns	7	cum	7036.39	49254.71
2.03	Centering and shuttering including strutting, propping etc. and removal of form work for				
(a)	Foundations, footings, bases for columns	40	sqm	249.76	9990.36
(b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	30	sqm	534.24	16027.18
2.04	Providing and laying damp-proof course 40 mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 mm nominal size).	40	sqm	305.04	12201.67
2.05	Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7 kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	0	sqm	80.58	0.00
2.06	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	5	Per 50 Kg cement	49.58	247.92
	TOTAL				1025074.57

3. RCC WORK

S. No.	Description of Item	Qty	Unit	Rate	Amount
3.01	Centering and shuttering including strutting, propping etc. and removal of form for :				
(a)	Foundations, footings, bases of columns, etc. for mass concrete	255	sqm	249.76	63688.51
(b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	50	sqm	534.24	26711.97
(c)	Suspended floors, roofs, landings, balconies and access platform.	1200	sqm	607.67	729206.49
(d)	Shelves (Cast in situ)	50	sqm	607.67	30383.60
(e)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	950	sqm	484.04	459839.98
(f)	Columns, Pillars, Piers, Abutments, Posts and Struts	455	sqm	643.31	292708.02
(g)	Stairs, (excluding landings) except spiral-staircases	170	sqm	545.68	92765.89
(h)	Arches, domes, vaults up to 6 m span	50	sqm	1502.15	75107.41
(i)	Vertical and horizontal fins individually or forming box louvers band, facias and eaves boards	100	sqm	897.46	89745.73
3.02	Centering and shuttering including strutting, propping etc. and removal of form for : Small lintels not exceeding 1.5 m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.	10	sqm	249.76	2497.59

S. No.	Description of Item	Qty	Unit	Rate	Amount
3.03	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
(a)	All works up to plinth level	180	cum	7012.10	1262177.99
(b)	All works above plinth level up to floor V level	320	cum	8242.74	2637678.21
3.04	Providing and laying Reinforced cement concrete work in vertical and horizontal fins individually or forming box louvers, facias and eaves boards up to floor five level,with minimum compressive cube strength of 25 N/ Sqmm at 28 days, excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size).	5	cum	7496.93	37484.66

S. No.	Description of Item	Qty	Unit	Rate	Amount
3.05	Providing and laying Reinforced cement concrete work in arches, archribs, domes, vaults, shells, folded plate and roofs having slope more than 15° up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement, with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	1	cum	9021.48	9021.48
	TOTAL				5809017.54
4	BRICK WORK				
4.01	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in Cement mortar 1:6 (1 cement : 6 coarse sand) in all shapes and sizes				
(a)	All work in foundations and up to plinth level	8	cum	5398.90	43191.23
(b)	All works in superstructure above plinth level up to floor V level	175	cum	6655.37	1164689.83
4.02	Half brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in Cement mortar 1:4 (1 cement : 4 coarse sand)				
(a)	All work in foundations and up to plinth level	8	Sq.m	678.43	5427.44
(b)	All works in superstructure above plinth level up to floor V level	300	Sq.m	817.27	245181.94
4.03	Extra for providing and placing in position 2 Nos. 8mm dia. M.S. bars at every third course of half brick masonry .(300+8=308)	308	Sq.m	70.23	21631.57
TOTAL					1480122.01
5	STEEL REINFORCEMENT and STEEL WORKS				
5.01	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete for all levels.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
(a)	Thermo-Mechanically Treated bars Grade Fe500 D or more	57	MT	73213.50	4173169.66
5.02	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
	Using M.S. angles 40x40x6 mm for diagonal braces	8	Sq.m	3882.64	31061.11
5.03	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp , of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	57	each	151.03	8608.72
5.04	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
(a)	In gratings, frames, guard bar, ladder, railings, brackets, gates, Grills and similar works.	900	kg	114.86	103375.71

S No.	Description of Item	Qty	Unit	Rate	Amount
5.05	Providing and fixing stainless steel (Grade 304) railing as per enclosed Architectural drawing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	700	kg	504.56	353191.58
5.06	Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size, with top and bottom rail of T-iron 40x40x6 mm, with 40 mm dia steel pulleys, complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer.	10	Sq.m	7602.37	76023.67

S. No.	Description of Item	Qty	Unit	Rate	Amount
5.08	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters. 10.6.1 80x1.25 mm M.S. laths with 1.25 mm thick top cover sq. M	6	Sq.m	2581.41	15488.47
	TOTAL				4852080.71

S. No.	Description of Item	Qty	Unit	Rate	Amount
6	FLOORING & GRANITE WORK				
6.01	Providing and laying Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent in flooring, treads etc in required design and patterns, in linear as well as curvilinear portions of the building, all complete as per the architectural drawings, thickness ranging from 16 to 18 mm 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. (Basic Rates @ Rs.1800-per sqm.)				
(a)	Stair case	200	sqm	3092.15	618430.51
6.02	Extra for pre finished nosing to treads of steps of Granite/Marble /Kota stone.	105	metre	464.93	48817.40
6.03	Extra for Marble stone flooring in treads of steps and risers using single length up to 2.00 metre.	32	sqm	546.03	17473.04
6.04	Providing & fixing Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand)				
(a)	25 mm thick	45	sqm	1343.14	60441.25

S. No.	Description of Item	Qty	Unit	Rate	Amount
6.05	Providing & fixing Kota stone slabs 20 mm thick in risers of steps, skirting , dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	35	sqm	1587.07	55547.35
6.06	Providing and fixing 16-18 mm thick Granite of any colour and shade gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms , vanity counters, window sills, facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.	50	sqm	3513.94	175697.06
6.07	Providing edge moulding to 18 mm thick stone counters, Vanities, etc., including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.				
(a)	Granite work	275	metre	329.90	90722.27
6.08	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	10	Each	644.06	6440.60

S. No.	Description of Item	Qty	Unit	Rate	Amount
6.09	Extra for fixing marble /granite stone, over and above corresponding basic item, in facia/ horizontal surface and drops of width upto 150 mm with epoxy resin based adhesive, including cleaning etc. complete.	100	metre	380.75	38075.41
6.10	Providing and fixing stone slab with table rubbed, edges rounded and polished of size 75x50 cm deep and 1.8 cm thick fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-Charge and finished smooth.				
(a)	White Agaria Marble Stone / Granite Stone of Approved Shade	5	Sq.m	2820.60	14103.02
6.11	Providing and Laying 1st quality ceramic glazed wall tiles of size 300x450 mm conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black 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 sq.m, including pointing in white cement mixed with pigment of matching shade complete.(Basic rate of Tiles @ Rs.40/-per Sq ft.).	200	Sq.m	1166.16	233231.04

S. No.	Description of Item	Qty	Unit	Rate	Amount
6.12	Providing and laying rectified Glazed Ceramic floor tiles of size 300x300 mm or more (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in colours White, Ivory, Grey, Fume Red Brown, 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., complete Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4)Coarse sand), including pointing the joints with white cement and matching pigment etc, complete.(Basic rate of tiles @ Rs.40/- per Sq ft.)	75	sqm	1063.04	79728.19
6.13	Providing and laying Vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete. (Basic Rate of Vitrified Tile to be Rs.600.00 per Sq.m).				
(a)	Size of Tile 600x600 mm	450	sqm	1315.69	592062.69

S. No.	Description of Item	Qty	Unit	Rate	Amount
6.14	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 600x600 mm. (Basic Rate of Vitrified Tile to be Rs.600.00 per Sq.m).	20	sqm	1355.41	27108.29
6.15	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete				
i)	40 mm thick with 20 mm nominal size stone aggregate	250	sqm	436.96	109239.37
	TOTAL				2167117.49
7	FINISHING				
7.01	Providing & applying 12 mm cement plaster of mix 1:6 (1 cement: 6 coarse sand) for Internal work on walls	1800	sqm	231.08	415949.15
7.02	Providing & applying 6 mm cement plaster of mix 1:3 (1 cement : 3 fine sand) for Internal work on Ceiling/ RCC Work	1825	sqm	199.34	363799.87
7.03	Providing & applying 18 mm thk. External cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough with sponge.	1100	sqm	365.23	401758.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
7.04	Providing & applying 12 mm thick External cement plaster of mix 1:4 (1 cement: 4 coarse sand) on external RCC work.	150	sqm	242.13	36319.60
7.05	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.	186	Per bag of 50 Kg cement used in the mix	52.39	9744.41
7.06	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade :				
	New work (two or more coats) over and including water thinnable priming coat with cement primer	3700	sqm	134.55	497821.13
7.07	Finishing walls with textured exterior paint of required shade: Like weather coat of M/S Berger/Apex Ultima of M/S Asian Paints etc or equivalent.				
(a)	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	1250	sqm	203.42	254274.44
7.08	Painting with synthetic enamel paint , having VOC (Volatile Organic Compound) content less than 150 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
(a)	Two coats	150	sqm	106.58	15986.41
7.09	White washing with lime to give an even shade for New work (three or more coats) over ceiling above false ceiling.	510	sqm	25.03	12766.77
	TOTAL				2008419.77

8	WOOD WORKS AND PVC WORK				
S. No.	Description of Item	Qty	Unit	Rate	Amount
8.01	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fasteners shall be paid for separately)				
(a)	Second class teak wood	0.3	Cum	114145.59	34243.68
(b)	Sal wood	8	Cum	92351.78	738814.20
8.02	Providing and fixing ISI marked flush door shutters conforming to IS :2202 (Part I) non-decorative type , core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters including 2 nd class teakwood lipping minimum 25 mm thick all round th door:				
(a)	30 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	40	sqm	1947.58	77903.02
8.03	Providing & Fixing 1 mm thick decorative high pressure laminated sheet of plain /wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality.	100	sqm	629.24	62924.16
8.05	P/F Teak wood beading 19 x 6 mm	132	Metre	65.76	8680.40

S. No.	Description of Item	Qty.	Unit	Rate	Amount
8.06	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embedding in cement concrete block 30x10x15cm 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size).	160	each	157.12	25139.85
8.07	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).	10	sqm	187.68	1876.81
8.08	Providing and fixing 25mm thick pre-laminated medium density fibre board exterior grade (Grade-I) IS:14587:1998 marked one side decorative and other side balancing lamination for cupboard shutters edges to be sealed with PVC edge bending tape 2.00 mm thick of approved brand including ISI marked nickeled plated bright finishing M.S. piano hinges IS:3818 marked with necessary screwed complete.	10	sqm	1592.94	15929.42
8.09	Prime cost for hardware fittings		LS		50000.00
8.1	Contractor's percentage	50000			10000.00
	TOTAL				1025511.54

9	ALUMINIUM WORK				
S. No.	Description of Item	Qty	Unit	Rate	Amount
9.01	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make confirming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitered and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
(a)	For Fixed Portion:-				
(i)	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	400	kg	371.72	148689.17
(b)	For shutters of doors, windows and ventilators including providing and fixing hinges/pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)				

S. No.	Description of Item	Qty	Unit	Rate	Amount
(i)	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	560	kg	371.72	208164.84
9.02	Providing and fixing glazing in aluminium door, window , ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item):				
(a)	With float glass panes of 5.0 mm thickness	80	sqm	1136.69	90935.55
(b)	With float glass panes of 4.0 mm thickness	5	sqm	876.46	4382.29
(c)	With float glass panes of 8.0 mm thickness	3	sqm	1282.20	3846.60
9.03	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.				
(a)	Up to 5mm depth and 5 mm width	75	metre	69.66	5224.68

S. No.	Description of Item	Qty	Unit	Rate	Amount
9.04	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight up to 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge. With stainless steel cover plate minimum 1.25 mm thickness	8	Each	2115.30	16922.40
	TOTAL				478165.54
10	WATERPROOFING WORK				
10.01	Providing and laying water proofing treatment in sunken portion of WCs , bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	100	Sqm	408.24	40824.20

S.No.	Description of Item	Qty	Unit	Rate	Amount
10.02	Providing & applying 20 mm thk. cement plaster in 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement.	130	Sqm	403.95	52512.93
10.03	Providing and laying brick bats with mortar using brick bats 25 mm to 115 mm with 50%1:5 cement coarse sand mixed with WP compound confirming to IS 2645	12	Cum	1436.00	17232.00
10.04	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300	500	sqm	1226.22	613108.29

	mm square 3 mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in- Charge with average thickness of 120 mm and minimum thickness at khurra as 65 mm.				
	TOTAL				723677.42
11	WATER SUPPLY				
S. No.	Description of Item	Qty	Unit	Rate	Amount
11.01	Providing and fixing G.I. Pipes complete with G.I. fittings and clamps,i/c making good the walls etc. concealed pipe, including paintingwith anti corrosive bitumastic paint, cutting chases and making goodthe wall :the same including testing of joints complete as per direction of Engineer in charge.				
(a)	Concealed Internal work, including cutting chases and making good the walls etc.				
(i)	15 mm nominal outer dia pipes	38	metre	392.46	14913.46
(ii)	20 mm nominal outer dia pipes	37	metre	433.23	16029.55
11.02	Providing and fixing G.I. pipes complete with G.I. fittings including clamps etc.trenching and refilling etc.mplete as per direction of Engineer in Charge. External work				
i)	15 mm nominal outer dia pipes	10	metre	196.54	1965.37
ii)	20 mm nominal outer dia. Pipes.	10	metre	248.84	2488.38
iii)	25 mm nominal outer dia pipes	91	metre	319.64	29087.29
iv)	32 mm nominal outer dia pipes	40	metre	372.38	14895.22
v)	40 mm nominal outer dia pipes	20	metre	423.63	8472.60
11.06	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
(i)	20 mm nominal bore.	10	each	403.51	4035.07
(ii)	25 mm nominal bore.	9	each	435.91	3923.15
(iii)	32 mm nominal bore.	4	each	509.64	2038.58
(vi)	40 mm nominal bore.	4	each	594.83	2379.31

S.No.	Description of Item	Qty	Unit	Rate	Amount
11.07	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete				
	25 mm nominal bore	3	each	345.46	1036.39
11.08	Providing and fixing gun metal non- return valve of approved quality (screwed end) : 32 mm nominal bore Horizontal	3	each	562.69	1688.08
11.09	Providing and fixing brass ferrule with C.I. mouth cover including boring and taping the main :				
(a)	20 mm nominal bore	2	each	298.42	596.84
11.1	Constructing masonry Chamber 30x30x50 cm inside , in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for stop cock , with C.I. surface box 100x100x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation , foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design:				
(a)	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	1	each	1387.51	1387.51

S.No.	Description of Item	Qty	Unit	Rate	Amount
11.11	Constructing masonry Chamber 60x45x50 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for water meter complete with C.I. double flap surface box 400x200x200 mm (inside) with locking arrangement and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation , foundation concrete 1:5:10 (1 cement : 5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	4	each	7636.23	30544.92
11.12	Providing and placing on terrace (at all floor levels) polyethylene water storage tank , ISI: 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipe but without fittings and the base support for tank.				
(a)	For BO - 2000 & 5000 for Fire	7000	Litre	7.72	54011.40
11.13	P/F GI pipe C class complete with GI fittings and clamps, i/c trenching and refilling .-External work.				
a	25 mm dia. Nominal bore	10	rm	319.64	3196.41
b	32 mm dia. Nominal bore	45	rm	372.38	16757.12
c	40 mm dia. nominal bore	110	rm	423.63	46599.30
d	50 mm dia. Nominal bore	5	rm	495.62	2478.08

S.No.	Description of Item	Qty	Unit	Rate	Amount
11.14	Professional charges for getting water connection from local authority including water meter of approved make, filling necessary application with authorities & getting demand note for fees etc. follow up with local authority diligently till connection is granted ,installing ferrule/tee connection with all fittings as required getting connection.LIC shall bear only fees to be deposited to authority.	1	Job	50000.00	50000.00
	TOTAL				308524.01
12	SANITARY INSTALLATION				
12.01	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast iron P or S trap, 10 litre low level white P.V.C. flushing cistern , including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :				
	White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests.	3	each	4753.62	14260.85
12.02	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/ 6 litre (adjustable to 4 litre/ 8 litres),including seat cover, and cistern fittings, nuts, bolts and gasket etc, complete.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
(a)	W.C. pan with ISI marked white solid plastic seat cover and lid.	6	each	12145.94	72875.67
12.03	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350mm , with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556,				
	Range of single half stall urinals	7	each	3093.00	21651.00
12.04	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
	White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap	6	each	2201.18	13207.10
12.05	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 : Kitchen Sink without drain board of size 610x510 mm bowl depth 200 mm.	1	each	3184.17	3184.17
12.06	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.				
S. No.	Description of Item	Qty	Unit	Rate	Amount
	Flexible pipe				
(a)	32 mm dia	10	each	93.01	930.12
(b)	40 mm dia	1	each	93.01	93.01

S. No.	Description of Item	Qty	Unit	Rate	Amount
12.07	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	10	each	1124.99	11249.89
12.08	Providing and fixing 600x120x5 mm glass shelf with edges round off, supported on anodized aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete	10	each	738.10	7380.97
12.09	Providing and fixing CP brass fittings.				
(a)	Providing and fixing CP brass bib cock short body as per approved quality conforming to IS 8931.: 15 mm nominal bore	14	each	367.34	5142.74
(b)	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.	5	each	484.31	2421.53
(c)	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931.: 15 mm nominal bore	9	each	531.57	4784.09
(d)	Providing and fixing C.P. brass angle valve of approved quality conforming to IS:8931 a) 15 mm nominal bore.	18	each	466.46	8396.32
(e)	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet 150mm diameter.	2	each	165.54	331.08
12.1	Providing and fixing uplasticised PVC connection pipe with brass unions : 45 cm length 15 mm nominal bore	26	each	72.78	1892.15

S. No.	Description of Item	Qty	Unit	Rate	Amount
12.11	Providing and fixing soil, waste and vent pipes :				
(a)	100 mm dia. Centrifugally cast (spun) iron socketed & spigot (S&S) pipe as per IS: 3989.	50	metre	957.65	47882.51
(b)	75 mm dia. Centrifugally cast (spun) iron socketed & spigot (S&S) pipe as per IS: 3989.	30	metre	869.84	26095.13
12.12	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. :				
(a)	For 100 mm dia. Pipe	40	each	252.04	10081.54
(b)	For 75 mm dia. Pipe	40	each	248.49	9939.50
12.13	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
(a)	100 mm dia. Centrifugally cast iron S&S as per IS - 3989	8	each	404.78	3238.23
(b)	75 mm dia. Centrifugally cast iron S&S as per IS - 3989	6	each	337.35	2024.11
12.14	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
(a)	100x100x100mm Centrifugally cast iron S&S as per IS - 3989	4	each	633.54	2534.15
(b)	75x75x75mm Centrifugally cast iron S&S as per IS - 3989	4	each	481.67	1926.70

S. No.	Description of Item	Qty	Unit	Rate	Amount
12.15	Providing and fixing terminal guard :				
(a)	100 mm Centrifugally cast iron S&S as per IS 3989	3	each	341.43	1024.29
(b)	75 mm Centrifugally cast iron S&S as per IS 3989	3	each	271.68	815.04
12.16	Providing and fixing collar :				
(a)	100 mm Centrifugally cast iron S&S as per IS 3989	5	each	359.01	1795.05
(b)	75 mm Centrifugally cast iron S&S as per IS 3989	5	each	224.73	1123.63
12.17	Providing and filling the joints with spun yarn, cement slurry and cementmortar 1:2 (1 cement : 2 fine sand) in S.C.I./ C.I. Pipes :				
(a)	100 mm	35	each	130.16	4555.68
(b)	75 mm	55	each	110.48	6076.28
12.18	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors :				
	100 mm inlet and 75 mm outlet Centrifugally cast iron S&S as per IS: 3989.	21	each	1384.88	29082.38
12.19	Providing and fixing on wall face centrifugally cast iron (spun) spigot & socket pipe as per IS:3989 rain water pipes				
a)	100 mm dia	60	metre	957.65	57459.01
b)	75 mm dia.	20	meter	869.84	17396.76
12.22	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	11	each	41.43	455.72
12.23	Prime cost for purchase of Sanitary fittings & fixtures	LS			50000.00
12.24	Contractors over head for purchasing transportation and fixing of prime cost items@20% of cost of fixtures.	0.2			10000.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
12.25	P/F wash basin below counter top, 15 mm CP Brass pillar tap, 32 mm CP Brass waste of standard pattern, painting brackets. White oval basin of size 545x400x185 mm of approved pattern and make.	4	each	2572.00	10288.00
TOTAL					461594.40
13	DRAINAGE				
13.01	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
(a)	100 mm diameter	20	metre	277.99	5559.84
(b)	150 mm diameter (for drainage and rainwater harvesting)	50	metre	438.58	21928.98
13.02	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:				
(a)	100 mm diameter S.W. pipe	20	metre	716.35	14327.05
(b)	150 mm diameter S.W. pipe	50	metre	876.06	43803.16
13.03	Providing and fixing square-mouth S.W. gully trap class SP-1 Complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
(a)	150 x 100 mm size P type. : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	8	each	2031.92	16255.33

S. No.	Description of Item	Qty	Unit	Rate	Amount
13.04	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
(a)	100mm dia. R.C.C. pipe	10	metre	364.53	3645.33
(b)	150mm dia. R.C.C. pipe	5	metre	405.61	2028.06
13.05	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design :				
(a)	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	9	each	9561.64	86054.76

S.No.	Description of Item	Qty	Unit	Rate	Amount
(b)	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500mm internal diameter , total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2	each	20113.68	40227.36
13.06	Extra for depth for manholes				
(a)	Size 90x80 cm With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2	metre	6578.69	13157.39
(b)	Size 120x90 cm With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	2	metre	7886.54	15773.08
13.07	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	10	each	4567.38	45673.83
	(For Rainwater harvesting)				
13.08	Constructing brick masonry road gully chamber 110x50x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame and vertical grating complete as per standard design : with common burnt clay F.P.S.(non modular) bricks of class designation 7.5	4	each	8635.82	34543.27
	(For Rainwater harvesting)				

S.No.	Description of Item	Qty	Unit	Rate	Amount
13.09	Filing necessary application with local authority for sewer connection getting demand notice for fee follow up diligently till permission is granted. Rate includes complete services from construction associate for approval/sanction for sewer connection, all incidentals expenses fittings etc. LIC shall bear fees to be deposited to local authority for getting connection.	1	Job.	20000.00	20000.00
	TOTAL				362977.42
14	ROAD WORK				
14.01	Filling with earth brought from outside in plot, plinth, foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering etc.	745	cum	424.29	316094.26
14.02	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth with lead up to 50 metres.	750	Sqm	137.44	103079.79
14.03	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40 mm nominal size) in pavements , laid to required slope and camber in panels as required including consolidation finishing and tamping complete.	20	cum	5998.11	119962.30
14.04	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				

S.No.	Description of Item	Qty	Unit	Rate	Amount
(a)	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	75	cum	5076.37	380727.75
14.05	Providing and laying factory made coloured chamfered edge Cement Concrete paver blocks of required strength, thickness & size/shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of fine sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with jamuna sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand in footpath, parks, lawns, drive ways or light traffic parking etc. complete as per manufacturer's specifications & direction of Engineer-in-Charge. 60mm thick C.C. paver block of M-35 grade with approved colour, design & pattern	280	Sqm	775.76	217211.75
14.06	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design& shape, laid in required colour and pattern over and including 50mmthick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	210	Sqm	753.49	158231.92

S.No.	Description of Item	Qty	Unit	Rate	Amount
14.07	Providing and placing in position 100mm thick factory made machine batched & machine mixed Precast RCC Rectangular Covers on drains of footpath of various sizes, of M-25 grade cement concrete for RCC work, including cost of centering, shuttering, reinforcement of 8mm dia TMT bars of Fe 500 grade @ maximum 100mm c/c on both ways , neat cement punning on finished surface, properly encased on all edges with 1.6 mm thick , 100mm wide MS sheet duly painted over priming coat , reinforcement to be welded at edges with MS sheet and providing 2 Nos. 12 mm dia bar for hooks etc i/c cost of cartage ,all leads & lift, handling at site etc. all complete as per direction of Engineer-in-Charge.	110	sqm	1108.86	121974.13
14.08	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement : 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-Charge)	15	cum.	7344.28	110164.18

S.No.	Description of Item	Qty	Unit	Rate	Amount
14.09	P/L Stone soling of 22.5 cm thick of approved stone including Supply of stones and preparing surface complete, i.e. properly hand packed and set on ends with interstices filled in tight with stone chips and blinded at top with coarse sand including watering and consolidation.	670	sqm	640.25	428964.49
	TOTAL				1956410.57
15	RAIN WATER HARVESTING				
15.01	Providing and laying in position cement concrete of grade 1:5:10 (1 Cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) excluding the cost of centering and shuttering - All work up to plinth level	2	cum	4840.25	9680.49
15.02	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in Cement mortar 1:6 (1 cement : 6 coarse sand) in all shapes and sizes				
(a)	All work in foundations and up to plinth level	20	cum	5398.90	107978.08
15.03	Providing & applying 12 mm cement plaster of mix : Internal work on walls				
(a)	1:6 (1 cement: 6 coarse sand)	60	sqm	231.08	13864.97
15.04	Providing & applying 6 mm cement plaster of mix : Internal work on Ceiling/ RCC Work				
(a)	1:3 (1 cement : 3 fine sand)	10	sqm	199.34	1993.42
15.05	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete for all levels.				
(a)	Thermo-Mechanically Treated bars	1	MT	73213.50	73213.50

S. No.	Description of Item	Qty	Unit	Rate	Amount
15.06	Providing and laying in position reinforced cement concrete of grade 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) for all works with minimum compressive cube strength of 25 N/ Sqmm at 28 days, excluding the cost of centering, shuttering, finishing and reinforcement				
(a)	All works up to plinth level	2	cum	6767.43	13534.85
15.07	Providing and fixing C.I. Manhole cover with frame (light duty) of size 610 x 455 mm , total weight to be not less than 38 kg . (weight of cover 23 kg and weight of frame 15 kg) including making locking arrangement and painting etc., complete.	2	cum	1641.39	3282.77
15.08	Centering and shuttering including strutting, propping etc. and removal of form for :				
(a)	Suspended floors, roofs, landings, balconies and access platform.	20	sqm	607.67	12153.44
15.09	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, upto 90 metre depth below ground level.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
(a)	All type of soil : 300 mm dia	40	metre	449.19	17967.56
15.1	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of 150 mm nominal size dia , conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.	10	metre	605.66	6056.55
15.11	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs of 150 mm nominal size dia , conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.	30	RM	654.23	19626.92
15.12	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm , in recharge pit , in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	8	cum	1163.13	9305.04
15.13	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm , in the recharge pit , over the existing layer of boulders , in required thickness, for all leads & lifts, all complete as per direction of Engineer-in charge.	8	cum	1163.13	9305.04
15.14	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit , in required thickness over gravel layer , for all leads & lifts, all complete as per direction of Engineer -in-charge.	8	cum	1163.13	9305.04

S.No.	Description of Item	Qty	Unit	Rate	Amount
15.15	Gravel packing in tube well construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	8	cum	1313.20	10505.57
15.16	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for bore well of 200 mm dia.	1	each	184.79	184.79
15.17	Filling brick ballast 40-65mm size in RH pit	60	cum.	1052.17	63130.21
	TOTAL				381088.25
16	UNDERGROUND WATER STORAGE TANK AND PUMP ROOM				
16.01	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposal of surplus excavated soil as directed, within a lead of 50 m.				
(a)	All kinds of soil. (from 0.00 mts to 1.50 mts.)	10	cum	159.45	1594.48

S.No.	Description of Item	Qty	Unit	Rate	Amount
16.02	P/L Stone soling of 22.5 cm thick of approved stone including Supply of stones and preparing surface complete, i.e. properly hand packed and set on ends with interstices filled in tight with stone chips and blinded at top with coarse sand including watering and consolidation.	10	sqm	640.25	6402.46
S.No.	Description of Item	Qty	Unit	Rate	Amount
16.03	Providing and laying in position cement concrete of grade 1:5:10 (1 Cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) excluding the cost of centering and shuttering - All work up to plinth level	1	cum	4840.25	4840.25
16.04	Providing and laying in position reinforced cement concrete of grade 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) for all works with minimum compressive cube strength of 25 N/ Sqmm at 28 days, excluding the cost of centering, shuttering, finishing and reinforcement.				
(a)	All works up to plinth level	8	cum	6767.43	54139.41
(b)	All works above plinth level up to floor V level	1	cum	8159.58	8159.58
16.05	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete for all levels.				
(a)	Thermo-Mechanically Treated bars	1	MT	73213.50	73213.50
16.06	Centering and shuttering including strutting, propping etc. and removal of form for :				
(a)	Foundations, footings, bases of columns, etc. for mass concrete	3	sqm	249.76	749.28

S.No.	Description of Item	Qty	Unit	Rate	Amount
(b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	45	sqm	534.24	24040.77
(c)	Suspended floors, roofs, landings, balconies and access platform.	10	sqm	607.67	6076.72
16.07	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
	Using M.S. angles 40x40x6 mm for diagonal braces	2	sqm	3882.64	7765.28
16.08	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in Cement mortar 1:6 (1 cement : 6 coarse sand) in all shapes and sizes				
(a)	All works in superstructure above plinth level	5	cum	6655.37	33276.85
16.09	Providing & applying 12 mm cement plaster of mix : Internal work on walls				
(a)	1:6 (1 cement: 6 coarse sand)	25	sqm	231.08	5777.07
16.10	Providing & applying 6 mm cement plaster of mix : Internal work on Ceiling/ RCC Work				
(a)	1:3 (1 cement : 3 fine sand)	10	sqm	199.34	1993.42
16.11	Providing & applying 18 mm thk. External cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough with sponge.	60	sqm	365.23	21914.07
16.12	Providing & applying 12 mm cement plaster finished with a floating coat of neat cement of mix				
(a)	1:3 (1 cement: 3 coarse sand)	30	sqm	307.01	9210.43

S.No.	Description of Item	Qty	Unit	Rate	Amount
16.13	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade :				
	New work (two or more coats) over and including water thinnable priming coat with cement primer	40	sqm	134.55	5381.85
16.14	Finishing walls with textured exterior paint of required shade :				
(a)	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	60	sqm	203.42	12205.17
S.No.	Description of Item	Qty	Unit	Rate	Amount
16.15	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, sunken floor, etc., up to floor five level , excluding the cost of centering, shuttering and finishing:				
(a)	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	0.25	cum	7500.66	1875.16
16.16	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate), 40 mm thick with 20 mm nominal size stone aggregate finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.	10	sqm	436.96	4369.57

S.No.	Description of Item	Qty	Unit	Rate	Amount
16.17	Providing and fixing C.I. Manhole cover with frame (light duty) of size 610 x 455 mm, total weight to be not less than 38 kg. (weight of cover 23 kg and weight of frame 15 kg) including making locking arrangement and painting etc., complete.	2	cum	1641.39	3282.77
	TOTAL				286268.11
17	ANTI TERMITE TREATMENT				
17.01	Injecting chemical and emulsion chloropyrifos emulsifiable concentrate IS: 6944- 1974 - 1% (20 EC) to be used as per manufacturer's specifications for pre-constructional anti termite treatment and creating a chemical barrier as per IS - 6313 PART II, 1981 (or latest) in wall trenches, foundations, basement, top surfaces of plinth filling, junction of walls and floors along the external perimeter of the bldg. surrounding of pipes etc. complete. The work shall be executed through approved agency / agencies and with guarantee of 10 years. including as directed below.				
	Using chemical emulsion as per IS Specification for :-				
1	Back filling in immediate contact with masonry foundations.				
2	Junctions of walls and floors.				
3	External perimeter of the bldg.				
4	Bottom and sides of trenches.				
5	Top surface of plinth filling.				
	(Rate shall be quoted for plinth area at Ground floor only. Plinth area shall be measured for payment.)	365	sqm	352.48	128654.10
	TOTAL				128654.10

S.No.	Description of Item	Qty	Unit	Rate	Amount
18	COMPOUND WALL				
18.01	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sq.m on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposal of surplus excavated soil as directed, within a lead of 50 m.				
(a)	All kinds of soil. (From 0.00 mts to 1.50 mts.)	10	cum	159.45	1594.48
18.02	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering .				
(a)	1:5:10 (1 Cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) for all work in foundation	1	cum	4840.25	4840.25
(b)	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) for all work in Super structure - Coping	7	cum	7500.66	52504.60

S. No.	Description of Item	Qty	Unit	Rate	Amount
18.03	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/recoverable separately).				
(a)	All works up to plinth level	3	cum	7012.10	21036.30
(b)	All works above plinth level up to floor V level	1	cum	8242.74	8242.74
18.04	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in Cement mortar 1:6 (1 cement : 6 coarse sand) in all shapes and sizes				
(a)	All work in foundations and up to plinth level	8	cum	5398.90	43191.23
(b)	All works in superstructure above plinth level up to floor V level	3.75	cum	6655.37	24957.64
18.05	Half brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in Cement mortar 1:4 (1 cement : 4 coarse sand)				
(a)	All work in foundations and up to plinth level	2	sqm	678.43	1356.86
(b)	All works in superstructure above plinth level up to floor V level	10	sqm	817.27	8172.73

S.No.	Description of Item	Qty	Unit	Rate	Amount
18.06	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete for all levels.				
(a)	Thermo-Mechanically Treated bars	0.5	MT	73213.50	36606.75
18.07	Centering and shuttering including strutting, propping etc. and removal of form for :				
(a)	Foundations, footings, bases of columns, etc. for mass concrete	25	sqm	249.76	6243.97
(b)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	10	sqm	534.24	5342.39
(c)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	20	sqm	484.04	9680.84
(d)	Columns, Pillars, Piers, Abutments, Posts and Struts	12	sqm	643.31	7719.77
18.08	Providing & applying 18 mm thk. External cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough with sponge.	600	sqm	365.23	219140.73
18.09	Providing & applying 12 mm thick External cement plaster of mix 1:4 (1 cement : 4 coarse sand) on external RCC work .	25	sqm	242.13	6053.27
18.1	Finishing walls with textured exterior paint of required shade :Like 'weather coat of M/S Berger/Apex Ultima of M/S Asian Paints.				
(a)	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	500	sqm	203.42	101709.78

S.No.	Description of Item	Qty	Unit	Rate	Amount
18.11	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
(a)	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	2800	kg	114.86	321613.33
18.12	Painting with synthetic enamel paint , having VOC (Volatile Organic Compound) content less than 150 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
	Two Coats	120	sqm	106.58	12789.13
18.13	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.	800	Kg	125.78	100622.53
18.14	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	600	sqm	34.20	20517.32
	TOTAL				1013936.64

22	MODERNIZATION				
NOTE :					
1. Plywood where ever mentioned in the Item shall be Fire Retardant Plywood confirming to IS : 5509 of approved make.					
2. 1 mm laminate where ever mentioned in the items shall be fire retardant high pressured laminates of approved make.					
3. Calcium silicate board to be as per BS 476 or equivalent					
4. Certificate from manufactures that their products (fire retardant ply and fire retardant laminates etc.) are used are to be submitted					
5. .Agency has to provide CAMC for 3 years after Expiry of DLP and has to take back to back AMC with respective AC supplier					
S. No.	Description of Item	Qty	Unit	Rate	Amount
1.01	FALSE CEILING : Suspended Ceiling System of Armstrong at all level or equivalent grid false ceiling	100	Sqm	958.00	95800.00
a	Providing & Fixing of Armstrong Mineral Fibre Acoustical Suspended Ceiling System with FINE FISSURED (Bevelled Tegular) Edge Tiles With Armstrong 15mm Exposed GRID. The tiles should have Humidity Resistance (RH) of 99%, NRC 0.5, Colour White, Fire Performance UK Class 0 / Class 1 (BS 476 pt - 6 &7) in module size of 600 x 600 x 16mm . the tile shall be laid on Armstrong Suprafine 32 with 15 mm wide T - section flanges colour white having rotary stitching on all T sections i.e. the Main Runner, 1200 mm & 600 mm Cross Tees with a web height of 27mm/25mm and a load carrying capacity of 14 Kgs/M2 & minimum pull out strength of 100 Kgs.. The T Sections have a Galvanizing of 90 grams per M2 and need to be installed with Suspension system of Armstrong make. The Tile & Grid system used together should carry a 30 year warranty (Along with warranty certificates from manufacturer only.)				

S. No.	Description of Item	Qty	Unit	Rate	Amount
b	INSTALLATION: To comprise main runner spaced at 1200mm centres securely fixed to the structural soffit using Armstrong suspension system (specifications below) at 1200mm maximum centre. The First/Last Armstrong suspension system at the end of each main runner should not be greater than 450mm from the adjacent wall. Flush fitting 1200mm long cross tees to be interlocked between main runners at 600mm centre to form 1200 x 600 mm module. Cut cross tees longer than 600mm require independent support. 600 x 600mm module to be formed by fitting 600mm long flush fitting cross tees centrally between the 1200 mm cross tees. PeriRM trim to be Armstrong wall angles of size 3000x19x19mm, secured to walls at 450 mm maximum centres.				
c	SUSPENSION SYSTEM accessories consisting of M6 Anchor Fasteners with Vertical Hangers made of Galvanised steel of size 26 x 26 x 25 x 1.2mm with a Galvanised Thickness of 80gsm, A pre Straightened Hanger wire of dia 2.5 mm of required length., thickness of 80gsm along with Adjustable hook clips of 0.8mm thick, galvanised spring steel for 2.68 mm . The adjustable clip also consists of a 3.5 mm aquiline wire to be used with the main runner.				
	Note: Provision for light fittings, AC grills and diffusers have to be made at no extra cost, supported with tees. Angles suitably fixed all complete as per drawing and direction. The area of these cutouts which is less than 0.5 sqmt for one unit will not be deducted while measuring the ceiling area.				

S.No.	Description of Item	Qty	Unit	Rate	Amount
1.02	GYPSUM BOARD FALSE CEILING	375	Sqm	979.88	367454.00
	Providing & fixing at all height false ceiling with GYP STEEL ULTRA SECTIONS 0.55 mm thk. Per RM channel having flange of 20 mm & another flange of 30 mm & web of 27 mm fixed at 610 mm c/c and connected to suspended GI intermediate channel (15 x 45 x 0.9 mm) at 1220 mm centers with ceiling angles of size 25 x 10 x 0.55 mm thk.of Gypsteel of "India Gypsum" Make fixed to soffit with GI cleat & steel expansion fasteners.				
	Ceiling section of 0.55 mm thick having knurled web of 51.5 mm & two flanges of 26 mm each with lips of 10.5 mm are to be fixed to the intermediate channel with the help of connecting clip and in direction perpendicular to intermediate channel at 475 mm centers including fixing of 12.5 mm thick tapered edge gypsum board of "India Gypsum" make (conforming to IS : 2095-1982 & 2542-1981) with drywall screws at 230 mm c/c, to have a flash finish of tapered and square edges of the gypsum board with recommended filler,paper tapes, finisher, all as per manufactures specification.				
	Including two coats of primer suitable for gypsum board, two or more coats of O.B.D. of approved shade and also including making necessary openings for light fittings, grills, diffusers, cutouts made with frame of periRM channels suitably fixed all complete as per drawing and manufacturer's specification and direction.				
	(Note : Only plan area shall be measured for the payment. Drops below AC ducts of any depth will not be measured for payment. The drops for design purpose which are provided as directed will be measured and paid seperately. No deductions for light cuttings seperately)				

S.No	Description of Item	Qty	Unit	Rate	Amount
1.03	P/F.Decorative Architrave T.W. Mouldings of approved design etc. complete incl. painting / POLISHING two or more coats. Complete.				
a	50X25	150	RM	144.00	21600.00
2	PARTITIONS				
	NOTE : For all items of partitions, frame work shall be made by using GYP STEEL ULTRA sections and all fittings/ accessories for fixing partitions shall be of Gypsum India Limited. Rates of partition are inclusive of fixing frame work upto roof ceiling for proper fixidity, providing necessary plywood plank for fixing of electrical conduit, cutting section for conduit laying, making door opening as per requirements. For payment purpose, the height of partition provided with panels shall be measured.				
2.01	FULL HT. PLAIN DOUBLE SKIN PARTLY GLAZED CALCIUM SILICATE BOARD PARTITIONS	55	Sqm	1555.00	85525.00
a	P/F Overall 66 mm thick Full ht. double skin partition, with following specifications :				
b	Providing and fixing partition upto ceiling height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/ sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia RM 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a				

	spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and painting with two or more coats of O.B.D WITH PUTTY FOR SURFACE PREPARATION .over two coats of primer suitable for board as per manufacture's specification etc. and direction of engineer in charge all complete.				
c	Both side of partition shall be provided with 8mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./sq.cm. Providing 75 mm heigh skirting of 8 mm thick double skin (both sides) Board fixed on both sides of partition by 25 mm long dry wall screws on studs, floor channels at the spacing of 300 mm centre to centre, with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher. and painting with two or more coats of O.B.D.over two coats of primer suitable for board as per manufacture's specification etc.and direction of engineer in charge all complete.				

d	5.5 mm thick clear float glass in middle panel with etching of approved design fixed with Teak wood beading of sect. 27x12mm on both side incl. polishing the beading with melamine polish and laminates on exposed framework. ht. of glass panel shall be about 900mm or as directed. Cutting GI frame sections for fixing glass panel in desired pattern including fixing additional frame members all round the glass panel if required.				
e	Providing 75 mm height skirting of 12.5 mm thick double skin (both sides) Board fixed on both sides of partition by 25 mm long dry wall screws on studs, floor channels at the spacing of 300 mm centre to centre, with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and painting with two or more coats of O.B.D. over two coats of primer suitable for board as per manufacture's specification etc and direction of engineer in charge all complete. Rates are inclusive of Cutting GI frame sections for fixing glass panel in desired pattern including fixing additional frame members all round the glass panel if required. Making Door openings at required locations as per drawings including P/F additional frame member (if required) at door opening, concelining/ insertion of hard wood runner to facilitate fixing of hinges of door shutter and locks including making rebate by providing plywood & lamination of same type all round the door opening as directed.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
2.02	FULL HT. PLAIN DOUBLE SKIN CALCIUM SILICATE BOARD PARTITIONS	6	Sqm	1742.00	10452.00
	Ditto as in Item No. 2.01 above but P/F aluminium anodized deco grill 102 of approved design & pattern in middle panel including fixing the same by P/F27x12 mm teaklk wood beading finished with melamine polish in place of 5.5 mm thick glass. The height of grill panel shall be approx. 900 mm or as directed all complete.				
2.03	FULL HT. PLAIN DOUBLE SKIN BLIND CALCIUM SILICATE BOARD PARTITIONS	37	Sqm	1384.00	51208.00
	P/F Overall 66 mm thick Full ht. double skin blind partition, with following specifications :				
a	Providing and fixing partition upto ceiling height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/ sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia RM 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended				

	jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and painting with two or more coats of O.B.D. over two coats of primer suitable for board as per manufacture's specification etc. and direction of engineer in charge all complete.				
b	Both side of partition shall be provided with 8mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./ sq.cm. Providing 75 mm high skirting of 8 mm thick double skin (both sides) Board fixed on both sides of partition by 25 mm long dry wall screws on studs, floor channels at the spacing of 300 mm centre to centre, with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher. and painting with two or more coats of O.B.D. over two coats of primer suitable for board as per manufacture's specification etc. and direction of engineer in charge all complete.				
c	Providing 75 mm high skirting of 12.5 mm thick double skin (both sides) Board fixed on both sides of partition by 25 mm long dry wall screws on studs, floor channels at the spacing of 300 mm centre to centre, with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and painting with two or more coats of O.B.D. over two coats of primer suitable for board as per manufacture's specification etc.and direction of engineer in charge all complete.				
	Rates are inclusive of Cutting GI frame sections for fixing glass panel in desired pattern including fixing additional frame members all round the glass panel if required.Making Door openings at required locations as per drawings including P/F additional frame member (if required) at door opening, concelining/ insertion of hard wood runner to facilitate fixing of hinges of door shutter and locks including making rebate by providing plywood & lamination of same type all round the door opening as directed.				
2.04	LOW HEIGHT PLAIN DOUBLE SKIN BLIND CALCIUM SILICATE BOARD PARTITIONS	85	Sqm	1691.00	143735.00

S.No.	Description of Item	Qty	Unit	Rate	Amount
	P/F LOW HEIGHT PLAIN DOUBLE SKIN CALCIUM SILICATE BOARD PARTITIONS app. 1200 mm high, with following specifications :				
a	Providing and fixing LOW HEIGHT PLAIN DOUBLE SKIN CALCIUM SILICATE BOARD PARTITIONS app. 1200 mm high consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/ sqm(both side inclusive), consisting of floor and top channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and top (1200 mm height) at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia RM 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and painting with two or more coats of O.B.D.over two coats of primer suitable for board as per manufacture's specification etc.and direction of engineer in charge all complete.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
b	Both side of partition shall be provided with 8mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./ sq.cm. Providing 75 mm heigh skirting of 8 mm thick double skin (both sides) Board fixed on both sides of partition by 25 mm long dry wall screws on studs, floor channels at the spacing of 300 mm centre to centre, with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher. and painting with two or more coats of O.B.D.over two coats of primer suitable for board as per manufacture's specification etc and direction of engineer in charge all complete.				
c	Providing 75 mm high skirting of 12.5 mm thick double skin (both sides) Board fixed on both sides of partition by 25 mm long dry wall screws on studs, floor channels at the spacing of 300 mm centre to centre, with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and painting with two or more coats of O.B.D. over two coats of primer suitable for board as per manufacture's specification etc and direction of engineer in charge all complete.				
d	Top and exposed edges of low height partition shall be provided with 8mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fibre manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./ sq.cm. Including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and painting with two or more coats of O.B.D. over two coats of primer suitable for board as per manufacture's specification etc and direction of engineer in charge all complete.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
	Rates are inclusive of Cutting GI frame sections for fixing glass panel in desired pattern including fixing additional frame members all round the glass panel if required. Making Door openings at required locations as per drawings including P/F additional frame member (if required) at door opening, concelining/insertion of hard wood runner to facilitate fixing of hinges of door shutter and locks including making rebate by providing plywood & lamination of same type all round the door opening as directed.				
d	Top and exposed edges of low height partition shall be provided with 8mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./ sq.cm.including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and painting with two or more coats of O.B.D.over two coats of primer suitable for board as per manufacture's specification etc.and direction of engineer in charge all complete.				
3	DOOR AND FRAMES				
3.01	Providing and Fixing fully Glazed Doors made of Teak wood of 100 x 40 mm top rail; 150 x 40 mm bottom rail,and 12mm thick toughened glass. The teak wood members shall be melamine polished and the door shall be fixed usingheavy duty floor and pivot arrangement Including door Handles and Locking arrangement.(Floor spring shall be paid seperately.)the toughened glass edges shall be polished.	15	sqm	4465.00	66975.00

3.02	P/F 39mm th. shutter partly panelled partly glazed door shutter made of the following - A) sal frame work of styles & top rail of size 25x100 mm Lock & bottom rail of 25x150mm size with two additional members of sal wood section 25 X 50 mm in the bottom panel between lock rail and bottom rail (b)6 mm thick grade FRP(Fire Retardant Ply) confirming to IS -5509 :2000 on both sides of sal wood frame excluding area of glass panel. (c) 5.5 mm thick clear float glass in top panel (fixed at 900 mm above floor level matching with adjoining partition) , fixed with teakwood beadings of size 20-18 X 12 mm in given design and pattern duly melamine polished.(d) 1mm thick Fire Retardant high pressure laminate of approved make & shade to be pasted on both sides of ply using approved fire retardant adhesive (e)12 mm thick teak wood lipping to be fixed on all the edges of the shutter, duly melamine polished matching to shade of laminate .(f) Shutter to be fixed with 4 Nos. 125 mm SS hinges with necessary screws etc. complete as directed at site . Other hardware shall be paid separately .	10	Sqm	2820.00	28200.00
3.03	Providing & Fixing 1 mm thick decorative fire retardant high pressure laminated sheet of approved make and of plain / wood grain in gloss / matt/ suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality all complete as directed.	38	Sqm	634.00	24092.00
3.04	Providing vision panel in door shutter by cutting the shutter in desired approved shape and pattern. Overall area of door shutter to be measured for payment.	12	Sqm	152.52	1830.25
3.05	Extra for providing and fixing 5.00 mm thick clear float glass panes in door shutter in desired approved shape and pattern including teak wood beading of required size finished with melamine polish all complete as directed. Only glass area to be measured for payment.	4	Sqm	922.00	3688.00

4	MISCLENEOUS				
S. No.	Description of Item	Qty	Unit	Rate	Amount
4.01	Providing & fixing 6 mm thk. Fire Retardant Plywood (IS:5509) of approved make in partition/ furniture/ wall panelling/ column cladding/ shelves or wherever required including wastage, cost of nails/ screws/ fevicol, labour charges all complete as directed	10	Sqm	776.00	7760.00
4.02	Providing & fixing 19 mm thk. Fire Retardant Plywood (IS:5509) of approved make in partition/ furniture/ wall panelling/ column cladding/ wherever required including wastage, cost of nails/ screws/ fevicol, labour charges all complete as directed	10	Sqm	1723.00	17230.00
4.03	Providing & fixing 12 mm thk. Fire Retardant Plywood (IS:5509) of approved make in partition/ furniture/ wall panelling/ column cladding/ wherever required including wastage, cost of nails/ screws/ fevicol, labour charges all complete as directed	10	Sqm	1115.00	11150.00
4.04	Providing & fixing 9 mm thk. Fire Retardant Plywood (IS:5509) of approved make in partition/ furniture/ wall panelling/ column cladding/ wherever required including wastage, cost of nails/ screws/ fevicol, labour charges all complete as directed	10	Sqm	898.00	8980.00
4.05	P/F 38x38mm to T.W Moulding wherever required including cost of melamine polish of approved shade.	30	RM	161.00	4830.00
	Above column panelling				
4.06	P/F 25x25mm to T.W Moulding wherever required including cost of melamine polish.	10	RM	59.00	590.00
4.07	P/F 25x12 mm to T.W Moulding wherever required including cost of melamine polish of approved shade.	30	RM	59.00	1770.00
	Above wall panelling				
4.08	P/F 12x12 mm to T.W Moulding wherever required including cost of melamine polish of approved shade.	10	RM	45.00	450.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
4.09	P/F 8 mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process with Compressive Strength 225 kg/sq.cm, Bending Strength 100 kg./sq.cm of approved make confirming to British Standard including fixing the same wherever required by using dry wall screws, westage etc. all complete as directed. (In wall as paneling)	5	Sqm	404.00	2020.00
	Fixing of boards by 25 mm long dry wall screws on studs, floor and ceiling channels or wall at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work / wall with joints staggered to avoid through cracks, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete.				
4.1	S/F 8mm th clear float glass including T.W beading of Section 15x26 mm on both side including melamine polishing the beading etc. as directed.	0	Sqm		0.00
4.11	Prime cost for purchase of hardware fittings and fixture (not covered in various tender items) as per approval of LIC including procuring the fittings/ fixtures at site.	50000	LS		50000.00
4.12	Contractor's percentage profit and over heads for purchasing hardware fittings/ fixtures mentioned in TI No. 4.11 including labour cost, cost of screws, T&P etc. for fixing these hardware fittings / fixtures	20	%		10000.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
4.13	P/F frosted film in approved design and pattern	20	Sqm	442.00	8840.00
4.14	P/F 0.8 mm thick High Pressured balancing Laminate of approved make with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S, including cost of adhesive of approved quality all complete as directed.	10	Sqm	381.00	3810.00
4.15	Providing & Fixing 12 mm thick soft board fixed with 6 mm thick fire retardant (IS: 5509) plywood of approved make backing with approved cloth including teak wood moulding of required size & pattern with melamine polish and fixing the same with partition/ wall all complete as directed.	10	Sqm	2498.00	24980.00
4.16	Wall and Column panelling : Frame work consisting of 80 mm width Gypsteel Ultra channel section 0.5 mm thick having two flanges of 26 mm each placed at 610 mm centre to centre or less in 25x25 mm gypliner wall angle 0.5 mm thick having two flanges of 25 mm each fixed to floor level and top level of paneling with nylon sleeves and steel screws at 610 mm centres including fixing channel on wall / column by steel screws finally providing and fixing 9 mm thick fire retardant plywood confirming to IS : 5509 by drywall screws and finished with 1 mm thick fire retardant high pressured lamination with recommended adhesive and fixing teak wood beading finished with melamine polish (beading to be paid separately under respective item) on top of wall / column panelling all complete as directed. Note : Scope and rate of item cover for providing and fixing Extra Channel at horizontal joint of plywood panel or increased height of panelling beyond 1.2 mtr height.	31	Sqm	2614.00	81034.00
5.01	Providing & fixing approved make and in approved pattern Roller l blinds of approved fabric of approved shade, design with top rail, rods for adjustment of blinds, heavy nylon cord and fixing brackets etc. complete as per condition with Vista / trac make. Note:- The area of window opening / panels shall be measured for payment. Any opening if required in blind as per the site conditions will be deducted from the measurements.	90	Sq.M	935.00	84150.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
6	FURNITURE: Note: All tables, side storage units etc. to be made out of a combination of 19 mm, 12 mm, 9 mm and 6 mm thick Fire Retardant Plywood confirming to IS : 5509 of approved make as mentioned in respective items. The top and exposed sides of the tables as well as storage units to be finished with 1 mm thick Fire Retardant High Pressured laminate of approved make and shade. All table tops to be provided with 12 X 20 mm approved pattern teakwood beading on edges duly melamine polished unless otherwise mentioned in the respective items. For all exposed edges of the plywood, teak wood lipping of size 20 X 6 mm to be provided finished with approved polish. For all vertical edges of the tables as well as storage units, teak wood beading of size 20 X12 mm to be provided and duly melamine polished. No vertical edge of the tables & storage units should be left sharp. All drawers in tables as well as storage units to be provided with individual "Godrej" make multipurpose locks and cupboard locks respectively. All the edges of the BWR plywood in contact with the floor also to be provided with Teak wood lipping of size 20 X 6 mm.				
	Nylon Buffers of suitable size to be provided under the tables and storage units fixed with screws .Wherever required				
6.01	CASH COUNTER AND TERMINAL TABLE	5	RM	18846.00	94230.00
	P/F Cash counter of overall width 900mm and overall height 1190mm (approx.) made out of Fire Retardant (IS : 5509) Plywood 19mm th. with t.w. lipping at edges all as per drawing consisting of the following:				
	Details of counter and printer table:				

a)	Minimum 16 mm th. Machine cut, machine polished black granite of approved shade with double front edge rounded properly and other edges properly polished at service top of 350 mm width approx fixed on 19mm thick Fire Retardant Ply, the height of the service top to be 1120 mm from the floor level. The width of the service top to be 350 mm. 12 mm thick. float glass of size 600 X 100 mm with CP polished edges to be fixed in the middle portion of the service top towards the cashier side. The Granite as well as the 19mm thk. fire retardant plywood of the service top to be suitably cut for fixing the above mentioned glass.				
b)	The working table top of width 900 mm made of 19 mm thk. Fire Retardant plywood finished with 1 mm thk high pressured laminates on top & painted with synthetic enamel paint on bottom surface incl half round TW beading of sect. 20 X 12 mm duly polished. The height of the working platform to be 750 mm from the floor with provision of cable manager and cap . On the left side of table top provision to be made for placing printer by cutting 1 slots of size 450 X 20 mm finished with PVC Gasket in the working platform top				
c)	One drawer unit (at every 1500-1700 mm length of counter) of 400mm wide(clear internal size) drawer unit having three drawers below to be made out of 12 mm thick Fire Retardant ply at sides, 6mm thick fire retardant ply at bottom, 19mm thick fire retardant plywood at front and rear including cash separation arrangement in top drawer only with with 6mm BWR ply sliding on Quadrial slides (QSDS 50 of ebco Make). Front surface finished with 1.0mm th. fire retardant high pressured laminate and internal surface with 0.8 mm thick same type balancing laminate etc. complete.				

d)	Printer Table On the left side with two compartment of 400mm external width top for paper stationary and bottom for CPU. The top compartment is to be divided in to two equal part by sliding shelf of size 400 X 350 mm made of 19 mm thick fire retardant (IS:5509) Ply wood sliding on sliding channels of approved make finished synthetic enamel paint. a side hung shutter to be provided with locking arrangement the back of this compartment is to be provided with 9mm fire retardant ply wood. The bottom compartment made up of 19 mm thick fire retardant plywood of size 400x500mm fixed 75mm above floor level. This box for CPU , open from the front and back to be painted with synthetic enamel paint of approved shade & make incl. a coat of primer , putty all complete. Top of the unit shall have 1 mm thick high pressured laminate and all the exposed edges of the plywood to be provided with TW lipping of size 20 X 6 mm duly polished.				
e)	one M S powder coated keyboard tray with mouse tray as manufactured by ebco (KBTM 45) or EGL (KBT-M-001) including sliding channel as per manufacturers specification to be provided below the working platform,				
f)	Providing & fixing 12 mm th plain glass on counter top in suitable size GI / sal wood frame (above) covered with fire retardant plywood and 1 mm high pressured laminate with a rectangular slit of 125 mm dia at service top level and slit of 50 mm at 1.5 RM level from Floor including etching as per design and necessary exposed edges grounded and polished etc. complete as per drawing or as directed.				

g)	1 mm thick high pressured lamination of approved shade and make to be provided on top of working platform , on face of each of the 3 drawers, side hung shutter and on the vertical sides of the counter on the customer side . All exposed edges of the 19 mm thk. ply wood to be provided with TW lippings of size 20 X 6 mm duly melamine polished. All the inner sides of the counter not exposed from customer side including the bottom of table top to be painted / polished with synthetic enamel paint of appr. Shade and make incl. a coat of primer, putty all complete.				
h)	Foot rest of Sal wood with support of section 70 X 35 mm to be provided finished with painting.				
i)	making circular slit for cable manager and straight cutting for paper slit including P/F cable manager and paper slit manager all complete as directed.				
6.02	FULL HEIGHT STORAGE UNIT :P/F 450mm deep full ht. storage units of reqd. length with overall ht. 2100mm approx with 5 equal compartments. made of 19mm th. fire retardant plywood confirming to IS : 5509 with T.W. lipping/ laminate at edges. 19mm th. fire retardant plywood confirming to IS : 5509 in verticals at every 900mm or part thereof at sides& at top. Back of 6mm thick fire retardant plywood.& shelves of 19mm th. fire retardant ply one at 75mm above floor & 1 intermediate at ht 1200mm to have two compartment. Top compartment will have one intermediate of 19mm thick fire retardant ply wood. Bottom compartment should have 3 compartments by 19mm thick fire retardant ply wood self . 19mm th. fire retardant ply wood shutter (i e set of 4 shutters in 900x2100mm)(one shutter should not be more than 450mm wide and 1200mm high) provided with 3nos(for 1200 door) and 2 nos. for 900mm shutter 75mm long brass hinges for each shutter, two nos of 75mm tower bolt (one top and Bottom) ,magnetic catchers, cupboard lock with long keys & SS handles all approved make incl. finishing with 1.0 mm th. high pressured lamination of approved shades at front, top & sides and 0.8 mm thick balancing high pressured laminate to all the internal surfaces etc. complete all as	8	Sqm	9168.84	73350.74

	directed.				
6.03	FULL HEIGHT STORAGE UNIT:P/F 450mm deep full height Factory made modular MS powder coated storage unit of required length with over all height 2100mm approx with 5 equal compartments. Complete body, doors, shelves shall be made of CRS sheet of 22 gauge. Level adjuster shall be provided at the bottom of the unit. 2 nos. doors of width 900mm/750mm as required shall be provided for each unit. Rotating type 2-way locking system with duplicate keys shall be provided. Storage unit shall have recessed type press fit handle running from top to bottom. Doors shall be provided with auto closing hinges. Storage unit shall be powder coated with 45 micron.	30	sqm	9415.00	282450.00
6.04	LOW HEIGHT STORAGE UNIT : Do as above in item no. 6.02 of FR plywood but low height storage unit but height of 1200 mm approx.	5	Sqm	10662.46	53312.28
6.05	Low Height Storage Units :P/F 450mm deep low height factory made Modular Ms powder coated storage units of required length with over height 1200 mm with granite top 18 mm thick of approved shade. The body shall be made of CRS sheet 22 gauge. Level adjuster will be provided at bottom. Top shall be of 18 mm thick granite of approved shade/design.2 nos. doors of width 900 mm/750 mm as required shall be provided for each unit, rotating type 2-way locking system with duplicate keys shall be provided. Storage unit shall have recessed type press fit handle running from top to bottom. Doors shall be provided with auto closing hinges. storage unit shall be powder coated with 45 micron.(Granite stone will be paid separately)	25	Sqm	9415.00	235375.00
6.06	AGENT COUNTER				
	Providing and fixing agent's counter of width 450 mm and height 750 mm as detailed below:	20	R.M.	2117.00	42340.00

	Counter top made of 19 mm thk. Fire Retardant plywood finished with 1 mm thick high pressured lamination on top and all visible surfaces. Vertical supports @ 1350 mm or less made out of 19 mm thick fire retardant plywood finished with 1 mm thick high pressured lamination on visible vertical support and synthetic enamel painting in two or more coats over a coat of primer & surface preparation, applying putty etc. on all inner surface which are not visible both surfaces. Including providing and fixing teak wood liping on all exposed edges finished with melamine polish, sal wood for rest of section 75 mm x 50 mm finished with sy. enamel paint etc. complete all as per design and as directed				
6.07	SINGLE WINDOW CLEARANCE TABLE	2	R.M.	10288.00	20576.00
(b)	Drawer unit of width 300mm(clear internal) at every 1500 length or part thereof, consisting of set of 3 nos. of drawers, Each drawer to be made of fire retardent plywood (IS : 5509) of 19 mm thk. for the front and back, 12mm thick for sides and 6 mm thk. bottom sliding on Quadrail slides as manufactured by ebco(QSDS50). including teak wood lipping of size 19 X 6 mm on edges for the drawer.The front face of the drawers to be finished with 1 mm thick high pressured laminate of colour matching with table top laminat and internal surface of drawers are to be provided with 0.8 mm thick high pressured fire resistant balancing lamination. All vertical edges of the drawer unit to be provided with teak wood beading of sect. 20 X 12 mm in approved pattern after fixing the laminate and duly melamine polished. No vertical edge of the drawer unit should be left sharp.Footrest of salwood of sect 70 x 35 mm painted with synthetic enamel paint of approved make & shade.				

(c)	One M S powder coated keyboard tray with mouse tray as manufactured by ebco (KBTM 45) or EGL (KBT-M-001) including sliding channel as per manufacturers specification Including making circular slit in table top for cables. Providing 19mm thk ply box for keeping CPU.				
(d)	Apron or Modesty panel: made out of two numbers 6 mm thick fire retardent plywood. Outer surface is to be made in curved shape as per drawing and finished with 1mm thick high pressured post lamination at site of approved make and shade as per design shown in drawing.Two nos. lamination stripes of skirting colour and of 25 mm or suitable width and as per drawing are to be fixed on the apron. Vertical grooves of 1 mm thickness or any other approved pattern are also to be made in lamination including providing and fixing 6 mm thick Rubber wood beading matching with lamination colour. Internal invisible portion is to be finished with synthetic enamel paint of approved make & shades. The bottom of the apron is to be provided with PVC/ rubber buffer to avoid scratches.				
(e)	Gable Ends/Vertical support : Made out of 19mm thick BWR fire retardent plywood . Both outer and inner surfaces are to be finished with 1 mm thick high pressured lamination at site of approved make and shade and design. The bottom of the gable ends are to be provided with PVC / rubber gasket so the scratches will be avoided etc, complete all as directed.				

(f)	Providing individual 'Godrej'/ebco Multidrawer lock and approved brass handle for each drawer.Providing circular holes in table top for cables with PVC cable managers and cap. Painting / polishing the internal surfaces, bottom surface of table top, counter top, drawers & inside the drawer unit with synthetic enamel paint of apprd. shade with primer, putty etc. complete. One foot rest of salwood of sect. 70 X 35 mm finished with painting . (All as per approved design)				
	COMPUTER TABLE				
6.08	Providing & making Computer table of size 600 (W) X 750 mm (height)x Length as per site requirement , made out of 19 mm thk. Fire Retardent (IS : 5509) plywood as detailed below.	6	R.M.	6449.00	38694.00
(a)	Table top made of 19 mm thk. Fire retardent ply wood finished with 1 mm thk high pressured lamination on top surface and synthetic enamel paint on bottom surface with half round teakwood beading of sect. 20 X 12 mm duly polished on all four edges. CPU Platform below by 19 mm fire retardant plywood.				
(b)	Drawer unit of width 300mm(clear internal) at every 1200 to 1500 length or part thereof, consisting of set of 3 nos. of drawers (2 small drawer and one file drawer), Each drawer to be made of Fire Retardent Plywood confirming to IS : 5509 :19 mm thk. for the front and back, 12mm thick for sides and 6 mm thk. bottom sliding on Quadrail slides as manufactured by ebco(QSDS50). including teak wood lipping of size 19 X 6 mm on edges for the drawer.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
(c)	The front face of the drawers to be finished with 1 mm thick high pressured laminate of colour matching with table top laminate. Inside drawers shall be finished with 0.8 mm thick balancing fire retardant high pressure lamination. All vertical edges of the drawer unit to be provided with teak wood beading of sect. 20 X 12 mm and rounded off after fixing the laminate and duly polished . No vertical edge of the drawer unit should be left sharp.				
(d)	one M S powder coated keyboard tray with mouse tray as manufactured by ebco (KBTM 45) or EGL (KBT-M-001) including sliding channel as per manufacturers specification. Including making circular slit in table top for cables. Providing 19mm thk ply box for keeping CPU.				
(e)	All the internal surfaces of the box for CPU to be painted with synthetic enamel paint with primer and putty.				
(f)	The table to be supported on three sides with 19 mm thick fire retardent plywood finished with 1 mm thk high pressured lamination on outer surface & paint on inner surface incl rounded teak wood beading of sect. 20 X 12 mm on all edges duly polished.				
(g)	Footrest of salwood of sect 70 x 35 mm painted with synthetic enamel paint of approved make & shade.				
(h)	The vertical edges of the table to be provided with teak wood beading of sect. 20 X 12 mm and rounded off after fixing the laminate and duly polished.				
	TOTAL CIVIL / INTERIOR WORK PART (A)				20,58,481.247

PART - B MODULAR FURNITURE					
S. No.	Description of Item	Qty	Unit	Rate	Amount
9	Factory made Work Stations 1500/1500 x 600d x 25mmthk for HGA/Asst./RC				
	Work Top				
	Curvilinear Size : 1500/1500 x 600d x 25mmthk. Work top shall be of 25mm thick Particle board of exterior grade conforming to IS 12406 with laminate finish of approved colour shade and pattern. Work Top shall have 2mm PVC edging of approved make, quality ,shade and colour on exposed area and 1mm on covered area. The Work top shall be supported with J Legs of 725 mm madeup of 1.25 mm cRCA powder coated steel, with powder coating of 40-60 microns wih specially designed cable cover as integrated part of system,giving concealed wire management facility. Cable beam made of 1.25 mm CRCA powder coated steel with snap cover section. The table shall be supported on J legs and supports from low height partitions	8	Each	9195.00	73560.00
9.1	Mobile Pedestal Units with 3 drawers,made of CRS sheet of 22 swg.Level adjuster shall be provided at the bottom of the unit.Top of the unit shall be of 25mm thick prelaminated board with front long edge shall be post formed.Rest three sides shall have 2mm thick PVC edge banding tape.Doors shall have wheels at bottom for smooth running of sliding doors.One push lock in the centre to be provided for both the doors with duplicate keys.One shelf in the centre shall have to be provided for making 2 compartments.Complete unit shall be powder coated with minimum 45 micron. Size 450 x 515 x 725 mm.	8	Each	8300.00	66400.00
9.2	CPU Stand Made of powder coated sheet metal with lockable castors to take safe load 12 Kgs and width adjustment 115mm to 210 mm (Ebco Model CPUS E1) or equivalent approved	8	Each	300.00	2400.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
9.3	Articulated key Board station Flexible 360 swivel enabled, Ebco Make(AKS1M model) or equivalent approved , to move freely as per sitting posture with mouse tray, soft palm rest and stow away soft pad to provide support single knob system to enable height and tilt angle as required.	8	Each	1000.00	8000.00
10	Factory made Free Standing Tables 1500X 750x750 mm (AO/AAOs)				
a	Free standing table without frame work made out pre laminated particle board having 25 mm thick approved shade laminate top with ducknose PVC moulding on the lengths and 0.3 mm laminate edging and 16 mm thick approved shade prelaminated vertical legs and front modesty (450 mm) with 0.3 mm dark PVC edging.	8	each	8600.00	68800.00
10.1	Free standing side cabinet of size 900 X450 x 750mm complete body ,doors & shelf to be made of CRS Sheet of 22 swg.Level adjuster will be provided at the bottom of unit.Top of unit shall be o 25mm thick particle board with front long edge shall be post formed.Rest three sides shall have 2mm thiock PVC edge banding tape.Doors shall have wheels at bottom for smooth running of doors.One push lock in the centre shall be provided to lock both doors with duplicate keys.One shelf in the centre shall be provided for making 2 compartments.Complete unit shall be powder coated with minimum 45 micron.	8	Each	7600.00	60800.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
10.2	Mobile Pedestal Units with 3 drawers,made of CRS sheet of 22 swg.Level adjuster shall be provided at the bottom of the unit.Top of the unit shall be of 25mm thick prelaminated board with front long edge shall be post formed.Rest three sides shall have 2mm thick PVC edge banding tape.Doors shall have wheels at bottom for smooth running of sliding doors.One push lock in the centre to be provided for both the doors with duplicate keys.One shelf in the centre shall have to be provided for making 2 compartments.Complete unit shall be powder coated with minimum 45 micron. Size 450 x 515 x 725 mm.	8	Each	8300.00	66400.00
10.3	Articulated key Board station Flexible 360 swivel enabled, Ebco Make(AKS1M model) or equivalent approved , to move freely as per sitting posture with mouse tray, soft palm rest and stow away soft pad to provide support single knob system to enable height and tilt angle as required.	8	Each	1000.00	8000.00
10.4	CPU Stand Made of powder coated sheet metal with lockable castors to take safe load 12 Kgs and width adjustment 115mm to 210 mm (Ebco Model CPUS E1) or equivalent approved	8	Each	300.00	2400.00
11	Factory made Free Standing Tables 1800 x 900x 750 mm (MM/DM/ADM)				
11.1	Free standing table without frame work made out pre laminated particle board having 25 mm thick approved shade laminate top with duck nose PVC moulding on the lengths and 0.3 mm laminate edging and 16 mm thick approved shade pre-laminated vertical legs and front modesty (450 mm) with 0.3 mm dark PVC edging.	1	Each	10640.00	10640.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
11.2	Free standing side cabinet of size 1200 X450 x 750mm complete body ,doors & shelf to be made of CRS Sheet of 22 swg. Level adjuster will be provided at the bottom of unit.Top of unit shall be o 25mm thick particle board with front long edge shall be post formed.Rest three sides shall have 2mm thiock PVC edge banding tape.Doors shall have wheels at bottom for smooth running of doors.One push lock in the centre shall be provided to lock both doors with duplicate keys.One shelf in the centre shall be provided for making 2 compartments. Complete unit shall be powder coated with minimum 45 micron.	1	Each	10225.00	10225.00
11.3	Mobile Pedestal Units with 3 drawers,made of CRS sheet of 22 swg.Level adjuster shall be provided at the bottom of the unit.Top of the unit shall be of 25mm thick prelaminated board with front long edge shall be post formed.Rest three sides shall have 2mm thick PVC edge banding tape.Doors shall have wheels at bottom for smooth running of sliding doors.One push lock in the centre to be provided for both the doors with duplicate keys.One shelf in the centre shall have to be provided for making 2 compartments.Complete unit shall be powder coated with minimum 45 micron. Size 450 x 515 x 725 mm.	1	Each	8300.00	8300.00
11.4	Articulated key Board station Flexible 360 swivel enabled, Ebco Make(AKS1M model) or equivalent approved , to move freely as per sitting posture with mouse tray, soft palm rest and stow away soft pad to provide support single knob system to enable height and tilt angle as required.	1	Each	1000.00	1000.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
11.5	CPU Stand Made of powder coated sheet metal with lockable castors to take safe load 12 Kgs and width adjustment 115mm to 210 mm (Ebco Model CPUS E1) or equivalent approved	1	each	300.00	300.00
12	Free standing Table for Development Officer of size (1500x600x750 mm) with out frame work made of 25 mm thick prelaminated particle board with top sides,apron and drawer of approved laminate with ducknose PVC moulding on the length and 03 mm laminate edging and 16 mm thick approved shade prelaminated vertical legs.	15	each	7500.00	112500.00
12.1	Side Unit for DO:(750x450x750 mm) complete body, doors & shelf to be made of CRS sheet of 22 swg.Level adjuster will be provided at the bottom of unit.Top of unit shall be of 25 mm thick particle board with front long edge shall be post formed.Rest three sides shall have 2 mm thick PVC edge banding tape. Doors shall have wheels at bottom for smooth running of of doors.One push lock in the centre shall be provided to lock both doors with duplicate keys. One shelf in the centre shall be provided for making 2 compartments.Complete unit shall be powder coated with minimum 45 micron.	15	Each	6212.00	93180.00
12.2	Mobile pedestal units with three drawers made of CRS SHEET OF 22 swg.Level adjuster shall be provided at the bottom of the unit. Complete unit shall be powder coated with minimum 50-60 micron with 7 tank process.The drawers shall be two regular desks and one for filing size 450x515x725 mm.	15	Each	6900.00	103500.00
	TOTAL MODULAR FURNITURE PART (B)				6,96,405.00

PART C- CHAIRS					
S. No.	Description of Item	Qty	Unit	Rate	Amount
1.01	Providing & supplying of High back cushioned chair with following specification:	1	Each	8000.00	8000.00
	Seat size –500mm (W) X 460mm (D) approx.				
	Back Size -500mm (W) X 660mm (H) approx.				
	(For MM / DM / ADM / SBM / BM (I/C))				
	Seat & Back assembly				
	The seat & back shall be made of 12mm thick hot pressed plywood & moulded polyurethane foam 50 mm thick with density of 45+/-2 Kg/Cum in seat and 32+/-2 Kg/Cum in back and hardness 20Kg on Hamden machine at 25% compression including PVC lipping. The back foam is designed with contoured lumber support for extra comfort.				
	Fabric:				
	Acrylic fabric for tapestry of LIC approved colour & pattern. The fabric shall be tested for colour fastness and wear & tear. (Basic cost of fabric shall be minimum @ Rs.250/- per metre)				
	Tilting & Revolving Mechanism:				
	The adjustable central tilting system shall be designed for 17 degree max. tilt. The tension shall be adjustable. It shall be provided with upright locking system. A full 360 degree swivel mechanism shall allow for fluid lateral movement.				
	The revolving & Synchronised tilting mechanism with locking arrangement in different positions & anti shock back mechanism is provided alongwith height adjustment mechanism & anti toppling mechanism.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
	Gas lift:				
	The gas lift shall be maintenance free, environment friendly, chrome free cylinder tube fixed in a M.S. black powder coated central column tube 38mm dia, 2.0mm thick, 100mm stroke length & gas pressure of 300N force.				
	Pedestal assembly :				
	The pedestal shall be made of arc shaped CRC metal folded base with 2.3 mm thick steel strips and fitted with 5 nos. twin wheel pin castors of min. wheel dia. 50 mm. The 5 prongs shall be welded to a central bush made for 2.5 mm thick ERW steel tube with 63 mm OD and 60 mm length. The bush shall accommodate the housing of the gas lift. DiaRM of CRC metal base shall be 660 mm with 5 pronged legs duly powder coated having powder coating thickness 50 to 60 microns. The M.S. pedestal is covered with ABS moulded cover for modern and aesthetic looks.				
	Telescopic bellow assembly :				
	The bellow shall be 3 piece telescopic type and injection moulded in black Polypropylene.				
	Twin wheel castors :				
	The twin wheel castors shall be injection moulded in 30% glass filled nylon & extra smooth.				
	Polyurethane armrest :				
	The one piece armrest of diamond / rectangular / elliptical shape or any other approved shape are made of black integral skin polyurethane with 50-70 share "A" hardness and reinforced with M.S. insert The armrest shall be scratch proof & weather resistant. Armrests are fitted to the seat with powder coated armrests bracket made of 5mm thick HR Steel.				

S. No.	Description of Item	Qty	Unit	Rate	Amount
	Powder coating :				
	All the steel components shall have epoxy polyester powder coating with dry film thickness of 45 microns (min).				
1.02	-Do- as item no. 1.01 above but for medium back cushioned chairs but having following size:	40	Each	7000.00	280000.00
	Seat size -500mm (W) X 460mm (D) approx.				
	Back Size -500mm (W) X 550mm (H) approx.				
	(For AO / AAO / HGA / Asst / RC & Other Staff)				
1.03	Providing & supplying low back fixed cushioned chair with tubular cantilever type frame made of 25.4mm dia, 14 BG ERW tube with powder coated but having following size:	50	Each	4000.00	200000.00
	Seat size -550mm (W) X 450mm (D) approx.				
	Back Size -500mm (W) X 470mm (H) approx.				
	(For visitors)				
1.04	Supplying & fixing multipurpose perforated chair in waiting lobby area made of 16 gauge M.S. perforated net with hole size 3mm for seat & Backrest. The structure made of CRC pipes 14 gauge - 50mm dia, pipe ,19mm dia. Pipe, Bar of size 100mm x 75mm, with 32mm wide Arms for individual seats, steel caps and adjustable steel screw. All the steel components shall have epoxy polyester powder coating with dry film thickness of 45 microns (min). Sizes: Seat depth – 450 mm, seat width – 450 mm, back height – 350 mm, seat height - 441mm & overall height – 775 mm (approx.)				
	Cluster of 3 seater	4	Each	4500.00	18000.00

S. No.	Description of Item	Qty	Unit	Rate	Amount
1.05	Supplying and fixing Sofa single / two / three seater as per requirement for SDM's cabin consisting of the following:				
	a) Fully upholstered / cushioned sofa in configuration of seats as per drawings or as directed with seat size 560 x 560 mm each, back 450 mm & arms 150 mm wide.				
	b) Made out of good quality Seasoned Hard wood frame work and teak wood arm rest under carriage and grid work of non sag spring, inclusive of 100 mm thick in seat and 75mm thick in back cushion of high density (45+/- Kg/Cum) PU foam, upholstered with fabric of approved shade & texture complete as directed. (Basic cost of fabric shall be minimum Rs.300/- per metre).	4	Seat	5000.00	20000.00
	TOTAL CHAIRS PART (C)				5,26,000.00

ELECTRICAL WORKS:

S.No.	Description of work	Qty.	Unit	Rate	Amount
20.1	Providing point wiring with 3x1.5 Sq.mm. ZHFR (HFFR)/FRLS copper conductor stranded wires for light point/ fan point/ exhaust fan point/ call bell point in surface / recessed medium class FRLS PVC conduit, with modular switch, modular plate, suitable GI box etc. and other accessories if required. Note: 1. Circuit wiring in sepa Rates quoted shall be inclusive of cost of providing necessary circuit wiring from LDB to switch boards with 3x2.5 Sq.mm. size ZHFR (HFFR)/FRLS copper conductor stranded wires complete as required. 2. Point wiring for Light holder points/ call bell points shall be with 2x1.5 Sq.mm.ize ZHFR (HFFR)/FRLS copper conductor stranded wires complete as required.	153	Point	867.00	1,32,651.00
20.2	Wiring for twin control light point with 1.5 sq.mm ZHFR (HFFR)/FRLS copper conductor stranded wires in surface / recessed medium class FRLS PVC conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. HFR (HFFR)/FRLS copper conductor stranded wires etc. complete as required. (for Inspection Room)	2	Point	926.00	1,852.00
20.3	Providing group control point wiring with 3x1.5 Sq.mm. ZHFR (HFFR)/FRLS copper conductor stranded wires for light point in surface / recessed medium class FRLS PVC conduit and other accessories if required. (Car Parking/Stairs/Entrance Lobby) Note: 1. Circuit wiring in separate medium duty FRLS PVC Coduits & accesories : Rates quoted shall be inclusive of cost of providing necessary circuit wiring from LDB to switch boards with 3x2.5 Sq.mm. size ZHFR (HFFR)/FRLS copper conductor stranded wires complete as required. 2. Point wiring for Light holder points/ call bell points shall be with 2x1.5 Sq.mm.ize ZHFR (HFFR)/FRLS copper conductor stranded wires complete as required.	38	Each	800.00	30,400.00

S.No.	Description of work	Qty.	Unit	Rate	Amount
20.4	Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	2	Each	197.00	394.00
20.5	Supply, Installation, Testing & Commissioning of 2 HP, single phase, 3000 RPM, 20 RM head (minimum), along with pump starter with overload safety and concerned accessories and connections for their proper functioning complete as required with necessary inter connections complete as required. (Kirloskar KDS-225)	2	Each	15104.00	30,208.00
20.6	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	2	Each	5450.00	10,900.00
20.7	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm). 3m each	6	RM	114.00	684.00
20.8	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required.	20	RM	423.00	8,460.00
20.9	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	1	Each	10341.00	10,341.00
20.10	Providing and laying earth connection from earth electrode with 4.00 mm dia copper wire in 15 mm dia G.I. pipe from earth electrode including connection with copper thimble excavation and re-filling as required.	10	RM	225.00	2,250.00
20.11	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing as required.	16	RM	112.00	1,792.00
20.12 (a)	Supplying and transporting to site 3.5 C x 95 sq.mm., XLPE insulated, aluminium conductor armoured cable of 1.1 KV grade complete with 2 nos. 8 SWG G.I. earth wire as required. (Measurement shall be as per the actual quantity laid at site)	55	RM	509.00	27,995.00

S.No.	Description of work	Qty.	Unit	Rate	Amount
(b)	Laying of above cable in the existing RCC/ HUME/ METAL pipe complete as required.	4	RM	41.00	164.00
(c)	Laying of above cable on wall/surface complete as required. (clamped with 25X3mm MS flat clamp)	17	RM	90.00	1,530.00
(d)	Supplying and making end termination with brass compression gland and aluminium lugs for above cable as required.	2	Each	414.00	828.00
(e)	Laying of above cable direct in ground including as required, but excluding sand cushioning and protective covering.	34	RM	313.00	10,642.00
20.13 (a)	Supplying and transporting to site 4 Core 16 sq.mm., XLPE insulated, copper conductor armoured cable of 1.1 KV grade complete with 1 no. 8 SWG G.I. earth wire as required. (Measurement shall be as per the actual quantity laid at site)- For AC TPN DB	50	RM	846.00	42300.00
(b)	Laying of above cable on wall/surface (clamped with 1 mm thick saddle) complete as required.	50	RM	34.00	1700.00
(c)	Supplying and making end termination with brass compression gland and copper lugs for above cable as required.	4	Each	218.00	872.00
20.14 (a)	Supplying and transporting to site 4 Core 6 sq.mm., XLPE insulated, copper conductor armoured cable of 1.1 KV grade complete 1 no. 8 SWG G.I. earth wire as required. (Measurement shall be as per the actual quantity laid at site) - For UPS TPN DB & Lift	64	RM	365.00	23360.00
(b)	Laying of above cable in the existing RCC/ HUME/ METAL pipe complete as required.	4	RM	26.00	104.00
(C)	Laying of above cable on wall/surface (clamped with 1 mm thick saddle) complete as required.	37	RM	34.00	1258.00
(d)	Supplying and making end termination with brass compression gland and copper lugs for above cable as required.	2	Each	192.00	384.00
(e)	Laying of above cable direct in ground including excavation and refilling the trench etc. as required, but excluding sand cushioning and protective covering.	23	RM	157.00	3,611.00
20.15 (a)	Supplying and transporting to site 3 Core 4 sq.mm., XLPE insulated, copper conductor armoured cable of 1.1 KV grade complete 1 no. 8 SWG G.I. earth wire as required. (Measurement shall be as per the actual quantity laid at site) dor Light DB, Common DB	113	RM	207.00	23391.00

S.No.	Description of work	Qty.	Unit	Rate	Amount
(b)	Laying of above cable on wall/surface (clamped with 1 mm thick saddle) complete as required.	113	RM	34.00	3842.00
(c)	Supplying and making end termination with brass compression gland and copper lugs for above cable as required.	16	Each	173.00	2768.00
20.16	Providing, laying and fixing 150 mm dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc. as required. (for road crossing of main cable)	4	RM	524.00	2,096.00
20.17	Providing, laying and fixing following 50mm dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep) and re-filling etc as required.	40	RM	469.00	18,760.00
20.18.A	Supplying installation testing and commissioning of Sleek type cubical panel fabricated out of heat steel and suitable frame work having independent compartments for MCCB's/ MCB's etc. The panel shall be wall/floor mounted on suitable MS frame, it should be degreased, anti rust treated with two coats of red oxide primer and finished with two coats of powder coated paint. The panel shall have ventilator slots covered with wire mesh from inside. The panel door shall be inter locked with switch gears and have neoprene gasket. The design of the panel shall be such as to offer maximum safety and ease for maintenance. The bus bars shall be supported on non inflammable epoxy cast iron insulators. <u>(Note: Drawing of panel has to be approved by LIC before fabrication)</u> The depth of the panel should be 300mm. Measurement shall be taken of front elevation only. i.e. (LXh)	1.5	Sqm	7584.00	11,376.00
	Providing and fixing following rating and breaking capacity MCCB/ MCB/ Switch gears in existing cubicle panel board/ enclosure including drilling holes in cubicle panel, making connections, including lead wires etc. as required.				
B	200 A, 4P MCCB 36 kA (Main Incomer)	1	No.	13283.00	13,283.00
C	100 A, 4P MCCB 16 kA (Main Incomer for Fire Pump Panel)	1	No.	6468.00	6,468.00
D	63 A, TPN MCB, 10 kA 'C' curve (AC)	2	No.	2159.00	4,318.00

S.No.	Description of work	Qty.	Unit	Rate	Amount
E	40 A TPN MCB, 10 KA 'C' curve (UPS)	1	No.	1919.00	1,919.00
F	32 A TPN MCB, 10 KA 'C' curve (Lift)	1	No.	956.00	956.00
G	40 A, DP MCB, 10 kA 'C' curve (LDB, Outdoor & stair case light DB, Inspection room DB)	6	No.	986.00	5,916.00
H	32A, DP MCB, 10 kA 'C' curve (Pump room & Spare)	2	No.	488.00	976.00
I	63Amp 4 pole change over switch	1	No.	4396.00	4,396.00
J	TPN BUS BAR Set, Tinned Copper Bus bar of size 25 x 5mm of suitable length	2	Set	1994.00	3,988.00
K	Digital RM for displaying volt, current, PF, C.T.'s of suitable ratio etc., with indicating lamps and connecting wires complete as required.	1	Set	4075.00	4,075.00
20.19	AC/POWER Distribution Board				
A	Supplying and fixing 4 way (4 + 12), double door, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB / RCCB / Isolator) (AC)	2	Each	2690.00	5380.00
B	Supplying and fixing 63 A, TPN MCB, 10 kA, 415 volts,"C" curve, suitable for inductive load in the existing MCB DB complete with connections,testing and commissioning etc. as required.	2	Each	1528.02	3036.00
C	Supplying and fixing 25 A, TPN MCB, 10 kA, 415 volts,"C" curve, suitable for inductive load in the existing MCB DB complete with connections,testing and commissioning etc. as required.	2	Each	957.00	3036.00
D	Supplying and fixing 20 A / 25 A, 10 kA rating, 240 volts,"C" curve, single pole miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. complete as required.	16	Each	174.00	2,436.00

S.No.	Description of work	Qty.	Unit	Rate	Amount
E	Supply and fixing of power unit for AC on surface/recess complete with suitable size GI box with modular plate & cover including starter, 15/16 A socket & 15/16A plug top including necessary interconnections between starter & power socket outlet complete as required.	16	Each	803.00	12848.00
F	Supplying and fixing 25 amps rating, 415 volts, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB/enclosure complete with connections, testing and commissioning etc. as required. For 3 TR AC	2	Each	956.00	1912.00
G	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 25amps 415 volts "C" curve TP MCB complete with connections, testing and commissioning etc. as required.	2	Each	1005.00	2010.00
20.20	Light Distribution Board				
A	Supplying and fixing 16 way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)LDB for 1st & 2nd Floor	2.00	Each	2150.00	4300.00
B	Supplying and fixing 12 way, double door, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) Outdoor Gate, Car parking & stair case	2	Each	1799.00	3,598.00
C	Supplying and fixing 8 way, double door, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) Inspection room 1 & 2	2	Each	1543.00	3,086.00
D	Supplying and fixing 32 A, double pole, (single phase and neutral) + ELCB, 240 volts, having a sensitivity current 30 milli amperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.	6.00	Each	2582.82	15496.92

S.No.	Description of work	Qty.	Unit	Rate	Amount
E	Supplying and fixing 10/16 A, 10 kA rating, 240 volts,"C" curve, single pole miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. complete as required.	42	Each	174.00	7,308.00
20.21	UPS Distribution Board				
A	Supplying and fixing 4 Way (4+12) double door, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)	1	Each	2690.00	2690.00
B	Supplying and fixing 40 A, TPN MCB, 10 kA, 415 volts,"C" curve, suitable for inductive load in the existing MCB DB complete with connections,testing and commissioning etc. as required.	1	Each	1518.00	1518.00
c	Supplying and fixing 20/32A, 10 kA, DP MCB, 415 volts,"C" curve, suitable for inductive load in the existing MCB DB complete with connections,testing and commissioning etc. complete as required.	4	Each	487.00	1948.00
D	Supplying and fixing 10 A, 10 kA rating, 240 volts,"C" curve, single pole miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.	4	Each	174.00	696.00
E	Supplying and fixing 40A, 10 kA, DP MCB, 415 volts,"C" curve, suitable for inductive load in the existing MCB DB complete with connections,testing and commissioning etc. complete as required.	3	Each	707	2120.51
F	Supplying and fixing 12 way, double door, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) Outdoor Gate, Car parking & stair case	3	Each	1799.00	3,598.00

S.No.	Description of work	Qty.	Unit	Rate	Amount
G	Supplying and fixing 16 A, 10 kA rating, 240 volts,"C" curve, single pole miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.	30	Each	174.00	5,220.00
H	Supply & fixing of 40 A, 10 kA DP MCB type changeover switch in suitable size MS box including necessary terminations complete as required required.	2	Each	1693.00	3,386.00
	Total				<u>5,38,831.43</u>
	External Electrical Work				
21.1	Supply, Installation, Testing and commissioning of 20 W LED Post Top fitting for(for gate) similar to Crompton make catalouge no. LPTH-20-WW. The work includes providing and fixing suitable length of class "B" GI pipe of appropriate dia compatible with the fitting for its mounting suitably grounded in gate pillar, wather proof MS box in the pillar comprising and including 10 A DP MCB, "C" curve and bakellite connector (or one link each for phase and neutral). Wiring from MS box to light fitting by means of 3x1.5 Sq.mm. ZHFR (HFFR)/FRLS copper conductor stranded wires in rigid medium duty FRLS PVC conduit complete as required.	4	Each	5055.00	20,220.00
21.2	Supply, Installation, Testing and commissioning of 30 W LED Street light fitting comparable to Crompton make, catalouge No. LSTS-30-CDL on pole made out of 50 mm dia B Class GI pipe with 12 mm base plate 300X300 mm. approximately welded to the bottom of pipe. The entire post shall be 4.5 mtr length. The post is to be installed in a pit of 1.5 mtr. (Min.) depth duly concereted upto ground level. The work is inclusive of providing concrete pedestal upto 300 mm above ground level, P/F weather proof MS box etc. , P/F of 1 no. 10 A DP MCB, Providing wiring from MS box to the luminaire by means of 3x1.5 Sq.mm. ZHFR (HFFR)/FRLS copper conductor stranded wires including painting of pole with one coat of red oxide primar and two coat of enamel paint of approved shade. The concreting shall be done in 1:2:4 PCC ratio.(Drawing to be got approved before installation)	14	Each	8133.00	1,13,862.00

S.No.	Description of work	Qty.	Unit	Rate	Amount
21.3 (a)	Supplying and transporting to site 3C x 2.5 sq.mm., XLPE insulated, copper conductor armoured cable of 1.1 KV grade complete with 2 nos. 8 SWG G.I. earth wire as required. (Measurement shall be as per the actual quantity laid at site)	361	RM	166.00	59,926.00
(b)	Laying of above cable in the existing RCC/ HUME/ METAL pipe complete as required.	121	RM	26.00	3,146.00
(c)	Laying of above cable direct in ground including excavation and refilling the trench etc. as required, but excluding sand cushioning and protective covering.	140	RM	157.00	21,980.00
(d)	Laying of above cable on wall/surface (clamped with 1 mm thick saddle) complete as required.	100	RM	34.00	3,400.00
(e)	Supplying and making end termination with brass compression gland and copper lugs for above cable complete as required.	40	Each	185.00	7,400.00
21.4	Supplying and embedding 32 dia G.I. pipe (medium class) in pole collar/foundation (during casting) for cable entry including bending the pipe to the required shape complete as required.	42	RM	284.00	11,928.00
	TOTAL				2,41,862.00

Modernisation-Electrical

S.No.	Description of work	Qty.	Unit	Rate	Amount
22.1.A	Supplying and fixing 400mm sweep wall fans with metal body & metal blade with speed & oscillation control suitable for use 220/230 volts 50 cycle single phase AC supply, complete with necessary connection as required.	34	Each	2951.00	100334.00
B	Supplying and fixing 225 mm sweep Fresh air fan with front protection gaurd suitable for 220/230 volts 50 cycle single phase AC supply in existing opening complete with necessary connection as required.	11	Each	1601.00	17611.00
C	Supplying and fixing 300 mm sweep Fresh air fan with front protection gaurd suitable for in existing opening complete with necessary connection as required.	2	Each	1989.00	3978.00
D	Supplying and fixing call bell/ ding dong suitable for single phase, 230 volts, complete as required.	3	Each	157.00	471.00

S.No.	Description of work	Qty.	Unit	Rate	Amount
22.2A	Providing & fixing of IP 20 36 watt LED recessed mounting square shape non dimmable light fixture size of 2'x2' suitable for false ceiling made from CRCA sheet metal body with opal acrylic / prismatic front cover diffuser. The fitting should complete with all accessories such as driver , heat sink, lamp and in compliance to IEC standards complete with necessary inter connections including lead wire complete as required.	57	Each	3096.00	176472.00
B	Providing & fixing of IP 20 18 watt LED recessed mounting square shape non dimmable light fixture size of 1'x1' suitable for false ceiling made from CRCA sheet metal body with opal acrylic / prismatic front cover diffuser. The fitting should complete with all accessories such as driver , heat sink, lamp and in compliance to IEC standards complete with necessary inter connections including lead wire complete as required.	3	Each	1776.00	5328.00
C	Providing & fixing of IP 20 10/12 W LED Surface/recess mounted square/round shape non dimmable down lighter with die cast aluminium housing & heat sink. With high purity reflector or opal acrylic / prismatic cover complete with necessary inter connections including lead wire complete as required.	7	Each	719.00	5033.00
D	Supplying and fixing 20 W, 4' LED , wall mounting, batten fitting of approved make with necessary inter connections including lead wire complete as required.	50	Each	564.00	28200.00
E	Supplying and fixing 20 W, 4' LED , wall mounting, batten fitting of approved make with necessary inter connections including lead wire complete as required.	4	Each	277.00	1108.00
F	Supplying and fixing 7W LED Bulb of approved make complete as required.	10	Each	115.00	1150.00

22.3	POINT WIRING				
A	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing and 5/6 amps modular switch, alongwith circuit wiring 3x1.5 Sq.mm. Sq.mm. ZHFR (HFFR) /FRLS copper conductor stranded wires in surface / recessed medium class FRLS PVC conduit including connection etc. complete as required. Note: (One circuit will run for maximum four plug points only) (Wall fan)	24	Each	638.00	15312.00
B	-- DO-- as above but on same switch board.	25	Each	160.00	4000.00
22.4A	UPS Point: Wiring with 3 x 2.5 Sq.mm. ZHFR (HFFR)/FRLS copper conductor stranded wires in surface / recessed medium class FRLS PVC conduit including providing and fixing 3 nos. 5/6 Amp 5 pin socket and 3 nos. 5 /6 Amp modular type switches all housed in modular plate, suitable GI box etc. and other accessories as required including necessary terminations. Note: (One circuit will run for maximum four plug points only)	16	Each	1104.00	17664.00
B	-- Do -- as above but looped from above point	16	Each	1012.00	16192.00
C	Suplly & Fixing following sizes of MS boxes fabricated out of 16SWG MS Sheet dully painted it antirusting primor and finnished with apporved shade of spray. Boxes are tobe grouted in floor including making good the damagees.				
(i)	4"x4"x2"	12	Each	122.00	1464.00
(ii)	6"x6"x2"	2	Each	203.00	406.00
(iii)	8"x6"x2"	2	Each	209.00	418.00
(iv)	10"x8"x2"	1	Each	228.00	228.00
(v)	12"x10"x2"	1	Each	373.00	373.00

22.5A	POWER POINT: Wiring for Power plug point with 3 x 4 Sq.mm. ZHFR (HFFR) // recessed medium class FRLS PVC conduit including providing and fixing 6 pin 15/5 Amp modular switch and socket housed in modular plate, suitable GI box etc. and other accessories as required including necessary terminations. Note: (One circuit will run for maximum 2 power plug points only)	3	Each	904.00	2712.00
B	-- Do -- as above but looped from above point with 3 x 2.5 Sq.mm. copper conductor stranded wires	3	Each	777.00	2331.00
TOTAL					400785.00

STRUCTURED CABLING

S.No.	Description of work	Qty.	Unit	Rate	Rate	Amount
23.1	Supply, Laying including Testing and Commissioning of 1 run UTP 4 Pair CAT 6 LAN Cable in existing rigid PVC medium duty conduit complete with termination on both sides of each circuit complete as required.	1200	RM	34.00	28.00	40800.00
23.2	Supply, Installation, Testing and Commissioning of Information Outlet & Face Plate and Gang Box suitable for UTP 4 Pair CAT 6 LAN cable.	44	Each	480.00	376.00	21120.00
23.3.a	Supply, Installation, Testing and Commissioning of factory made Mounting cord 1 RM, Cat 6 cable .	46	Each	170.00	177.00	7820.00
b	Supply, Installation, Testing and Commissioning of factory made Mounting cord 2 RM, Cat 6 cable	44	Each	182.00	210.00	8008.00
23.4	Supply, Installation, Testing and Commissioning of 24 Port Jack Panel suitable for UTP 4 Pair CAT 6 LAN cable.	2	Each	4067.00	4997.00	8134.00
23.5	Supply and Installation of factory made 9 'U' Rack fabricated out of , powder coated with side panels and vented top cover with fan mounting provision, front glass door with lock & key and wall mounting slots for equipments complete as required.	2	Each	6247.00	6549.00	12494.00

23.6A	Supply and Installation of Medium duty FRLS PVC Conduit of 20 mm size with all accessories including fixing with clamps & saddles or concealing in wall/ floor etc. as per requirement	200	RM	57.00	49.00	11400.00
B	-- do -- as above but of 25 mm size	500	RM	69.00	60.00	34500.00
C	-- do -- as above but of 50 mm size	20	RM	139.00	139.00	2780.00
23.7.a	Supply and drawing including testing and commissioning of insulated annealed copper conductor, unarmoured telephone cable through existing medium duty rigid PVC conduit/ casing & capping from tag block to the locations including terminations as required.	500	RM	19.00	13.00	9500.00
b.	--do-- as above but with 20 pair cable	50	RM	82.00	17.00	4100.00
23.8A	Supply, Installation, Testing and Commissioning of RJ-11 connector with face plate and gang box including termination charges for Telephone	10	Each	180.00	154.00	1800.00
B	--do-- as above but with double port RJ - 11 connector	10	RM	215.00	247.00	2150.00
23.9A	Supply, Installation, Testing and Commissioning of 10 pair powder coated telephone junction box with lock & key arrangement to be fixed on surface/recess as directed including Krone telephone block and necessary terminations complete as required.	1	Each	628.00	442.00	628.00
B	-- do -- as above but 20 pair Junction box	1	Each	964.00	796.00	964.00
TOTAL						1,66,198.00

AIR CONDITIONING WORK

Make for Air-condotiner - Voltas / Carrier / Bluestar / Hitachi Note: All AC units shall have copper condenser coil.

S.No.	Description of work	Qty.	Unit	Rate	Amount
24.1	Supply, Installation, testing & commissioning of following hi-wall split AC unit with Digital display on indoor unit, cord less remote, copper condenser & cooling coil unit, filling of R-22 Refrigeration gas and all accessories suitable for operation with 230V Single Phase AC Supply. The rate to include for interconnection of copper refrigerant pipe and Control cable up to 5.00 RM. length. (Quote the rate for STAR rated machine only as indicated in bracket). The rate to include for standard "L" type stand or standard angle iron frame with four legs for installation for Outdoor unit on wall or floor. (<u>Cat No. shall be specified along with technical literature</u>)				
a)	2.0 TR (BEE 05 Star rated INVERTER Split AC) with copper condensing coil.	12	Each	56000.00	672000.00
b)	1.5 TR (BEE 05 Star rated INVERTER Split AC) with copper condensing coil.	4	Each	43000.00	172000.00
c)	Supply, Installation, testing & commissioning of following cassette AC unit with Digital display on indoor unit, cord less remote, copper condenser & cooling coil unit, filling of R-410 Refrigeration gas and all accessories suitable for operation with 415V Three Phase AC Supply. The rate to include for interconnection of copper refrigerant pipe and Control cable up to 5.00 RM. length. (Quote the rate for STAR rated machine only as indicated in bracket). The rate to include for standard "L" type stand or standard angle iron frame with four legs for installation for Outdoor unit on wall or floor. (<u>Cat No. shall be specified along with technical literature</u>)				
	3.0 TR (INVERTER Casette type Air conditioners) with copper condensing coil.	2	Each	87740.00	175480.00

24.2	Providing & fixing Refrigerant copper pipe of required size with nitrile rubber insulation for 3.0/2.0/1.5/1.0 TR Split/ Casette AC units including complete accessories & duly insulated, The rates are inclusive of arrangement for properly clamping and connections. Note: suction & discharge line of each AC will be treated as one length .	16	RM	412.00	6592.00
24.3	Providing and fixing of necessary control cabling between Indoor & Outdoor units of 3.0/2.0/1.5/1.0 TR Split/ Casette AC units complete with all accessories including incoming and outgoing connections. In PVC FRLS medium duty conduit with necessary supporting clamps/spacer & saddles etc. complete as required.	18	RM	175.00	3150.00
24.4	Providing and fixing PVC medium duty drain pipe of size 25 mm with necessary supporting clamps/spacer & saddles etc. complete as required. Note: insulation on drain pipe is to be provided in false ceiling only.	146	RM	104.00	15184.00
24.5	Providing and fixing single phase 4 kVA capacity Automatic voltage Stabilizer suitable for input voltage of 160 to 270 V, and output voltage $\pm 5\%$ with inbuilt low and high voltage cut off sensitivity etc complete as required.	4	Each	2811.00	11244.00
24.6	Providing and fixing single phase 5 kVA capacity Automatic voltage Stabilizer suitable for input voltage of 160 to 270 V, and output voltage $\pm 5\%$ with inbuilt low and high voltage cut off sensitivity etc complete as required.	12	Each	3876.00	46512.00
TOTAL =					11,02,162.00

FIRE ALARM & SPRINKLER SYSTEM WORK

S. No.	Description of work	Qty.	Unit	Rate	Amount
25.1A	Supply, Installation, Testing and Commissioning of 4 zones Main Fire Alarm Panel with all audio- visual indications complete as required, in suitable enclosure with locking arrangement confirming to IS:2189, digital microprocessor based panel with fault, fire and healthy indication battery charger and inbuilt battery space as required. The panel box should be made of CRC sheet with powder coating with 2 layer primer. The display should be consisting of 80 chr backlite alphanumeric LCD display with keypad for operation and monitoring and it should display all types alarm condition, short, open condition. It should be suitable for input of 230V AC, 50 Hz single phase supply. The Panel should be including SMF batteries of suitable capacity including zoning plan as provided in panel to be framed and fixed near main panel and at every floor landing at prominent location of appropriate size	1	Each	7424.00	7424.00
25.2	Supply, Installation, Testing and Commissioning of following as per specification complete with junction box as and when required complete with all interconnections etc.				
A	Optical type Smoke Detector complete with base having blinking facility	38	Each	1000.00	38000.00
B	Rate of rise cum Fixed temperature type Heat Detector with base for Pantry & UPS room.	2	Each	927.00	1854.00
C	Manual call point enclosed in MS box with dual LED display complete with hammer and glass.	5	Each	316.00	1580.00
D	High intensity electronic hooter in MS box.	2	Each	477.00	954.00
E	Response indicator with twin LED in ABS plastic body.	7	Each	230.00	1610.00

25.3	Supply and laying of 3C x1.5 sq.mm., XLPE insulated, copper conductor armoured cable 1.1 KV grade complete with all accessoires as required to be laid in surface/wall above existing false ceiling complete with necessary junction box and end terminations at both ends.	400	RM	135.00	54000.00
25.4	Supply and fixing of 12"X6" EXIT signage photolumicent type made of Aluminium sheet.	4	Each	802.00	3208.00
TOTAL					1,08,630.00

SPRINKLER SYSTEM

26.1. A	PRESSURISATION PUMP ON TERRACE: Supply, Installation, Testing & Commissioning of electric driven terrace pump set suitable for automatic operation consisting of the following complete in all respect as per the specifications.	1	Set	85370.00	85370.00
	a) Horizontal type single/ multi stage, centrifugal split casing pump of cast iron body, bronze impeller, stainless steel shaft, mechanical seal & capable of delivering 450 LPM against a total head of 35 Mtr. Confirming to IS:1520				
	b) Suitable HP Squirrel cage induction motor TEFC type suitable for operation on 415 Volts, 3 phase, 50 HZ A.C. supply with IP 55 class of protection for enclosure, horizontal foot mounted type with Class F insulation confirming to IS:325.				
	c) M.S. fabricated common base plate, coupling, coupling guard, foundation bolts etc.as required. (As per manufacturer's recommendations.)				
	d) Suitable cement concrete foundation duly plastered with anti vibration pads. (As per manufacturer's recommendations.) <u>Approval of Make/ model and capacity to to be obtained fromm LICI before procurement</u>				

26.1. B	TERRACE PUMP CONTROL PANEL: Fabrication, Supplying, Installation, Testing & Set Commissioning of electrical control panel of cubical construction, floor mounted type, fabricated out of 2mm. thick CRCA sheet, compartmentalised with hinged lockable doors, dust and vermin proof, powder coated of approved shade, cable alley, inter-connection with lead wire/cable as required, having switchgears and accessories mounting and internal wiring, earth terminals, numbering etc. complete in all respect, suitable for operation on 415 V, 3 phase, 50 HZ. AC supply with enclosure protection class IP 42 as required. (Note: Drawing of panel has to be approved by LIC before fabrication) The depth of the panel should be 300mm. Measurement shall be taken of front elevation only.	1	Sqm	7584.63	7584.63
a)	Providing and fixing 100 A, 10 kA, 4 pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections including lead wire/cables etc. as required.	1	Each	2911.00	2911.00
b)	Digital RM for displaying voltage, current & frequency with C.T.'s of suitable ratio etc., with Selector switch for local/remote, auto/ manual/off operation ON/OFF indication lamp etc. including connecting wires complete as required.	1	Set	3490.00	3490.00
c)	Suitable HP fully automatic DOL Starter with over load protection, current sensing type single phase preventor complete with all accessories and internal wiring required for automatic operation.	1	Set	2214.00	2214.00
26.2. A	Supplying and transporting to site 4C x 4 sq.mm., XLPE insulated, Copper conductor armoured cable of 1.1 KV grade complete 1 no. 10 SWG G.I. earth wire as required. measurement shall be as per the actual quantity laid at site)	36	RM	261.00	9,396.00

B	Laying of above cable on wall/surface complete as required.	36	RM	34.00	1,224.00
C	Supplying and making end termination with brass compression gland and copper lugs for above cable as required.	2	Each	218.00	436.00
26.3	Supply, installation, Testing & Commissioning (SITC) of pressure gauge 0-200 PSI range, 3/8" BSP bottom entry 4" dial weather proof with stainless steel internals, siphon tube and gate valve/ Isolation cock including fittings, etc. complete as required.	1	Each	854.00	854.00
26.4	SITC of pressure switches for terrace pumps, including necessary connections complete as required with control panel.	1	Each	1092.00	1092.00
26.5	Providing, fixing, testing & commissioning of MS air cushion tank on top of each riser fabricated from 12mm thick MS plate, 200 mm in dia and 1.2 m in height with dished ends fabricated from 8mm thick MS plate with Air release valve with stop cock, flanged inlet connection and drain arrangement with 25mm dia valve, pressure gauge with gun metal stop cock complete with all accessories as required and conforming to IS:4736-1968. (The cushion tank should be suitable for rated working pressure).	2	Each	13878.00	27756.00
26.6	Providing, Fixing, Testing and Commissioning of C.I. Butterfly valve conforming to I.S:13095 class PN 1.6 rating with Fittings, Flanges, Nutbolts, Washers, Gaskets etc.of size:				
a	100 mm dia	10	Each	3612.00	36120.00
b	80 mm dia.	1	Each	2643.00	2643.00
c	65 mm dia	1	Each	2487.00	2487.00
d	50 mm dia.	1	Each	2230.00	2230.00

26.7	Providing, Fixing, Testing & Commissioning of C. I. Swing Check type Non-Return Valve confirming to IS:780 class PN 1.6 rating with fittings, flanges, nutbolts, washers, gaskets etc.of sizes:				
a	100 mm dia	2	Each	4049.00	8098.00
26.8	Providing, fixing, testing and commissioning of Above Ground M.S. ERW Black C Class Heavy duty pipes as per IS: 1239 (upto 150 mm dia.) and IS: 3589 (upto 200 mm dia. and above) including cutting, screwing, welding etc. and providing all fittings like flanges, bends, tees, elbows, reducers, clamps, hangers etc. as required with painting of one coat of primer and 2 or more coats of synthetic enamel paint of approved make / shade complete as per specification.				
a	100 mm dia	115	RM	1519.00	174685.00
b	80 mm dia	39	RM	1090.00	42510.00
c	65 mm dia	19	RM	944.00	17936.00
d	40 mm dia	11	RM	630.00	6930.00
e	32 mm dia	77	RM	514.00	39578.00
f	25 mm dia	220	RM	452.00	99440.00
26.9	Supplying, Installation, Testing and Commissioning of 100 mm dia CI body flanged (both ends) type Y strainer with (stainless steel / brass mesh) conforming to relevant IS specifications amended upto date complete including providing and fixing nuts, bolts, washers, gaskets etc. complete as required.	1	Each	5298.00	5298.00

26.10	Providing, fixing, testing and commissioning of Stainless Steel Fire hydrant Double Headed Landing valve with 80 NB flanged inlet, brass spindle controlled 63 mm dia female instantaneous outlet type SS coupling, blank cap, chain, twist release type lug & all accessories. Conforming to IS:5290. Including matching flanged tapping from wet riser and providing pressure gauge with gun metal ball valve with all accessories, nuts, bolts, gaskets, painting complete as required.	8	Each	7630	61040
26.11	Providing, fixing, testing & commissioning of non-percolating, Rubber Reinforced Lined Fire Hose Pipe(as per IS : 636, Type B) of 63 mm dia and 15mtr length. The hose shall be rated for burst pressure of 35.7 Kg/Sqcm. Hose shall be complete with ISI marked brass male & female coupling (IS:903) bound & riveted to hose pipe with copper rivets & 1.5 mm copper wire. (For Internal Fire Hydrant)	8	Each	5875	47000
26.12	Providing, fixing, testing & commissioning of 63 mm dia instantaneous pattern Short Branch Stainless Steel Metal Pipewith 20 mm dia nozzle conforming to IS 903, suitable for inter connection to hose pipe coupling complete as required.	8	Each	1959	15672
26.13	Providing, fixing, testing & commissioning of swinging type First Aid hose reel in red colour drumwith 36.5 mtr. long and 20 mm dia heavy duty rubber water hose, 20 mm dia globe valve stop cock, terminating with G.M coupling & nozzle of 6mm outlet with shut off valve confirming to IS 8090 - 1976 complete with MS socket for tap-off, drum and brackets (including painting) for fixing on wall with anchor fastener, bolts & nuts conforming to IS:884-1969 complete as required.	6	Each	7207	43242

26.14 (a)	Providing, fixing, testing & commissioning of Air release valve with 15mm dia stop cock, flanged inlet connection, pressure gauge with gun metal stop cock complete with all accessories as required and conforming to IS IS : 12992 (Part 1).	1	Each	2500	2500
26.14 (b)	Providing, fixing, testing & commissioning of Air release valve with 25mm dia stop cock, flanged inlet connection, pressure gauge with gun metal stop cock complete with all accessories as required and conforming to IS IS : 12992 (Part 1).	1	Each	6971	6971
26.15	Providing and fixing of Fire Hose Cabinet Door (including door frame) of size 2100mm High Approx x 900mm wideapprox. Fabricated from 16 gauge MS sheet of fully welded construction with hinged double front door with locking arrangements and Glazed with 5mm thick Float Glass. Suitably marked on the outside with the letters "FIRE HOSE". All M.S. work to be in Stove Enameled Fire Red Colour over appropriate primer. Fire Hose cabinte shall be suitable to house 2Nos 15 Mtr Long Hose pipe with couplings, 1 No. landing valve, 1 No. branch pipe, 1 No. First aid hose reel with drum. The width and height to depend upon the actual size of the fire shaft available. Contractor to make shop drawings and get it approved by Engineer-in-Charge/Consultant before fabrication. This item is only for masonary Internal Fire Hose Cabinet only.(Cost shall be inclusive of providing break glass box containing key for the cabinet along with hammer).	6	Each	4500	27000
26.16	Providing and fixing firemans axe with heavy rubber handle.	6	Each	326	1956

26.17	Providing, fixing, testing & commissioning of dial type (100 mm dia) pressure gauge with isolation ball valve suitable for working pressure of 250 PSI with no Syphon. Cost shall be inclusive of providing any short pieces, nipples, elbows etc as required.	8	Each	1094	8752
26.18	Providing, fixing, testing and commissioning of gun-metal Two way Fire Brigade Draw-out connection with 2 nos 63mm dia Instantaneous type female coupling as per IS: 902-1974 complete with all accessories as approved by fire authorities.	1	Each	7680	7680
26.19	Providing & fixing MS cabinet (to enclose fire brigade) fabricated from 16 g MS sheet with full front glass door and locking arrangement duly painted with one coat of primer and two or more coats of synthetic enamel paint of approved make and shade and suitably mounted on a raised masonry platform as required (Approx 0.6 m x 0.6 m x 0.45 m)	1	Each	2031.00	2031
26.20	Providing & fixing of fire extinguisher of following types-				
a	Carbon di oxide type -4.5kg capacity	6	Each	7387.00	44322
b	ABC powder type -5kgs capacity	6	Each	1847.00	11082
26.21	Providing, fixing, testing & commissioning of 25mm dia Screwed Gun Metal Ball valve (less than 15 Kg /sq.cm of the following size including providing necessary union / flange, nuts, bolts, washers, etc and painting as required.	2	Each	925.00	1850
26.22	15 mm dia. Quartzoid bulb type G.M. Sprinkler head suitable to operate at 68 deg.C (UL/FM/LPC listed /approved) Standard Response Pendant type in brass/chrome finish.	109	Each	225.00	24525.00

26.23	Providing, fixing, testing and commissioning of 150mm dia Installation Control Valve with turbine type automatic Alarm Gong to be connected with control valve, drain & test valve and all other necessary components as per manufacturer's specifications complete as required with , Nut, bolts & washers, painting etc.	1	Each	52617	52617
26.24	SITC of Aluminum flexible hose pipe of 1.0 Mtr. Length for fire sprinkler connection to connection Sprinkler Valves below the false ceiling including all clamps/ accessories (provisional)	2	Each	899.00	1798.00
26.25	Providing & Fixing inspectors test assembly complete with test valve, sight glass sectional drain valve, union with corrosion resistant orifice complete as required.	3	Job.	3323.00	9969.00
26.26	Supply and laying of 3C x1.5 sq.mm., XLPE insulated, copper conductor armored cable 1.1 KV grade complete with all accessories as required to be laid in surface/wall above existing false ceiling complete with necessary terminations at both ends.	80	RM	115.00	9200.00
26.27	Providing & fixing water flow switches with contacts for installation in 50 mm to 150 mm dia. M.S. pipe for a service pressure up to 10 Kg / Sq.cm. Rates are inclusive of connection with existing fire alarm system complete as required.	2	Each	1929.00	3858.00
26.28	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end).				
a	40 mm dia. Nominal bore	1	Each	678	678.00
b	32 mm dia. Nominal bore	2	Each	581	1162.00
26.29	Providing and placing on terrace polythylene water storage tank, IS:12701 marked with cover, suitable locking arrangement necessary holes for water inlet & outlet, overflow pipe but without fitting and the base support for tank.	10000	Ltr.	8.80	88000.00
TOTAL =					10,53,188.00

S. No.	Description of Work	Qty.	Unit	Rate in figure & Words (in Rupees)	Amount in figure & Words (in Rupees)
1	SITC of 01 No, 06 Passenger Automatic Lift, Gearless Machine located in the shaft on top of the guiderails (Machine Room Less), Simplex Collective Selective Lift, with V3F drive, ARD system and as per the specifications laid down in Technical Details in Technical Bid with Speed of 1 Meter/sec having 3 stop & 3 landing . The job includes supply, installation, testing & commissioning of the New Lift including all the required accessories and supporting equipments also including obtaining of License from the from Statutory authority.	1	Each	1101695	1101695
					1101695
Total for Schedule "A" =					

CAMC of AC UNITS

S. No.	Description of work	Qty	Unit	Rate (in Rs.)	Amount (in Rs.)
1	Charges for CAMC Split AC up to 2.0 TR 1st year after DLP	16	Per Year	2240.00	35840.00
	Charges for CAMCCassette AC up to 3.0 TR 1st year after DLP	2	Per Year	3510.00	7020.00
2	Charges for CAMC Split AC up to 2.0 TR 2nd year after DLP	16	Per Year	2240.00	35840.00
	Charges for CAMCCassette AC up to 3.0 TR 2nd year after DLP	2	Per Year	3510.00	7020.00
3	Charges for CAMC Split AC up to 2.0 TR 3rd year after DLP	16	Per Year	2341.00	37456.00
	Charges for CAMCCassette AC up to 3.0 TR 3rd year after DLP	2	Per Year	3668.00	7336.00

Total AC CAMC charges = **130512.00**

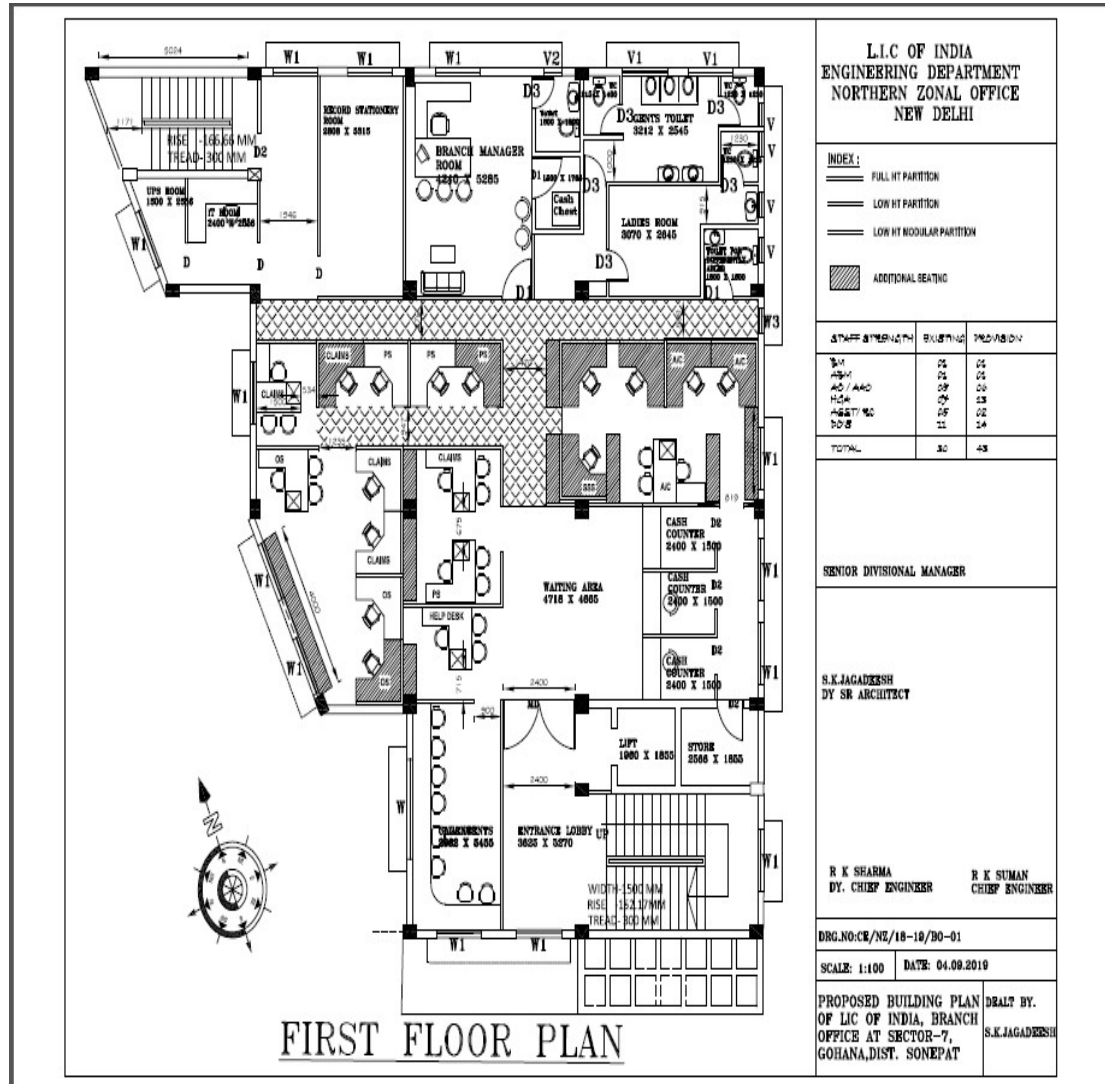
CAMC of LIFT

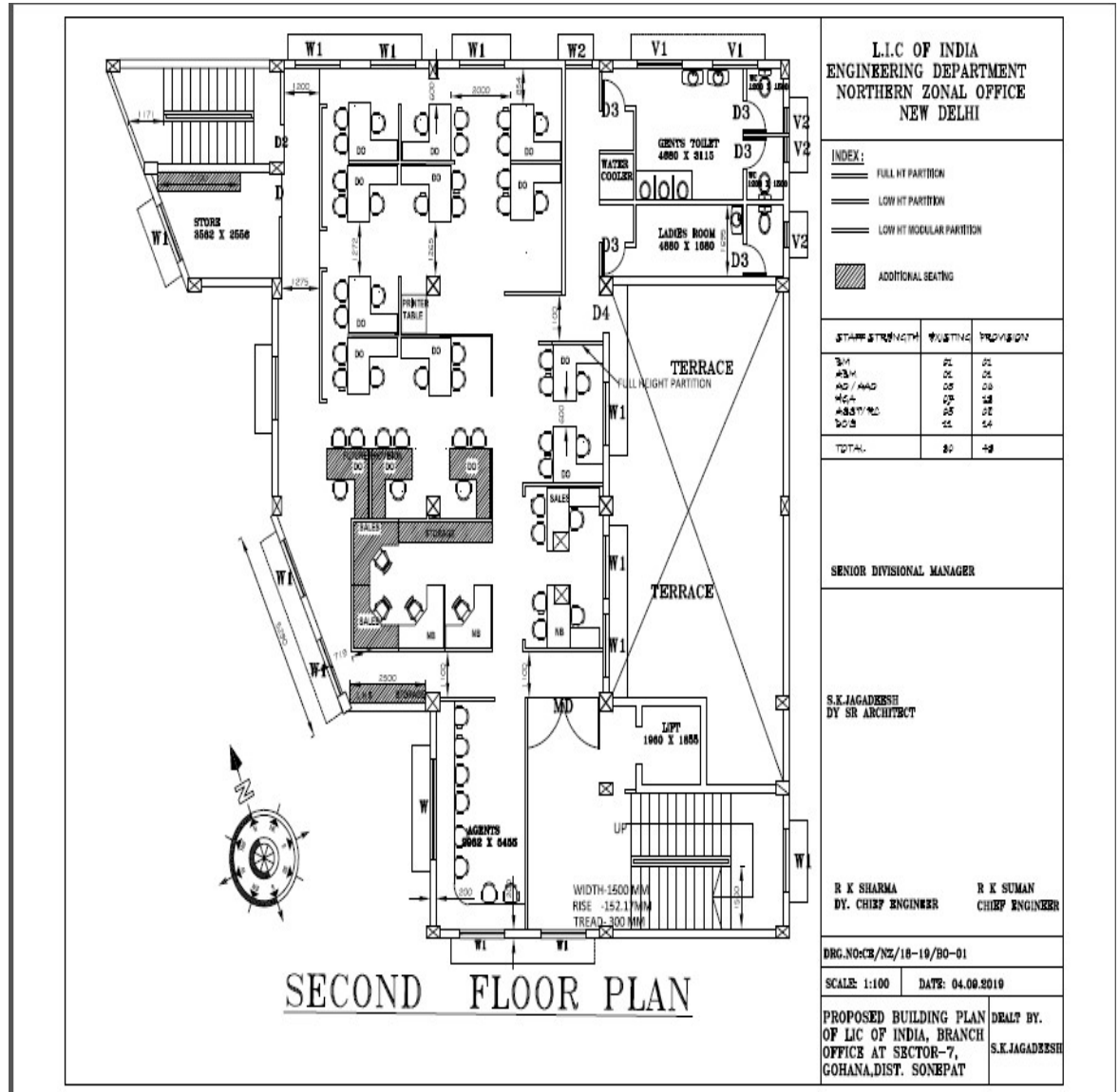
S. No.	Description of work	Qty	Unit	Rate (in Rs.)	Amount (in Rs.)
1	Charges for CAMC 1st year after DLP	1	Per Year	44068.00	44068.00
2	Charges for CAMC 2nd year after DLP	1	Per Year	44068.00	44068.00
3	Charges for CAMC 3rd year after DLP	1	Per Year	49576.00	49576.00
4	Charges for CAMC 4th year after DLP	1	Per Year	49576.00	49576.00
5	Charges for CAMC 5th year after DLP	1	Per Year	55085.00	55085.00

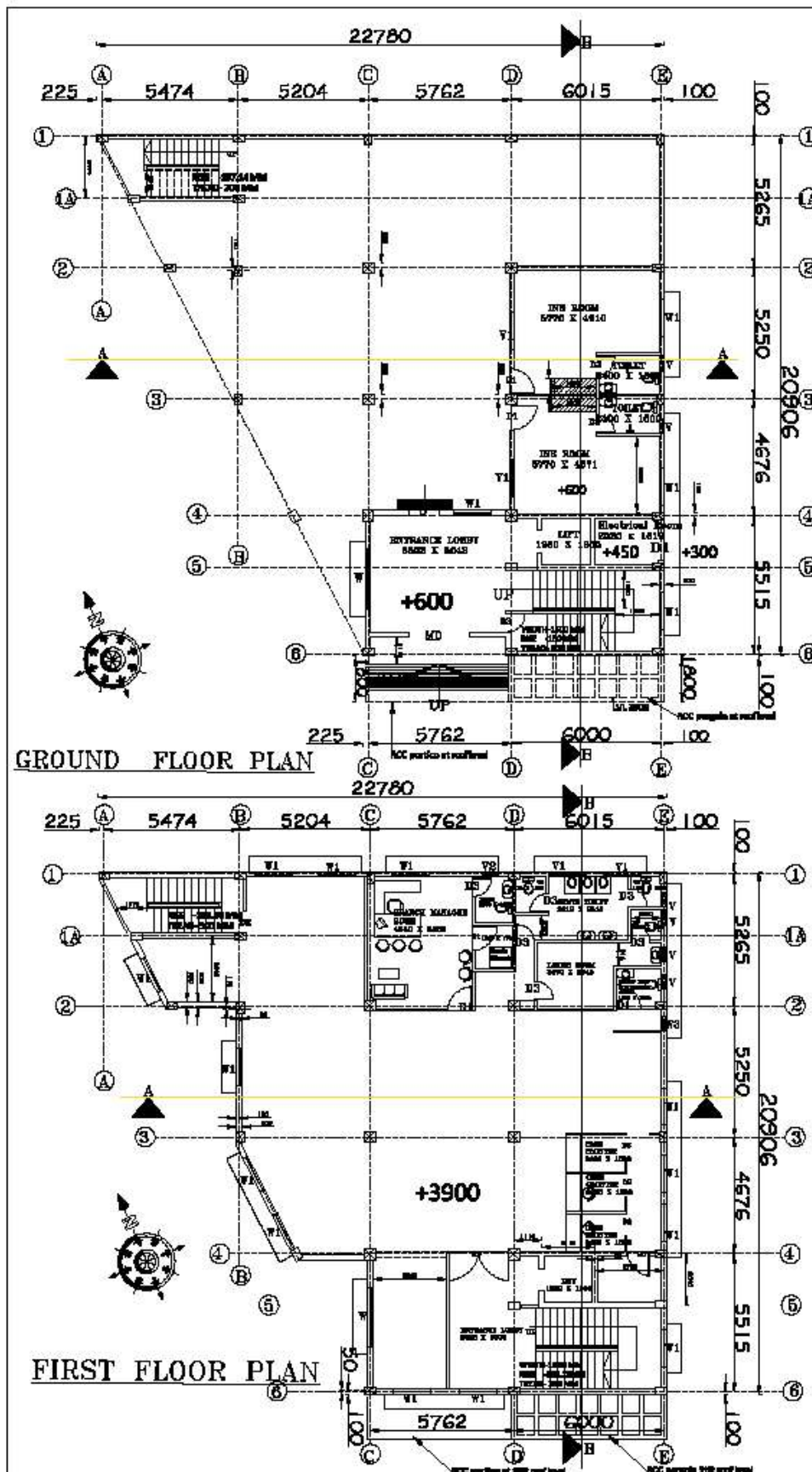
Total CAMC of Lift = **242373.00**

SUMMARY

S. No.	Description of Trades	Amount (In Rs.)
1	Civil work	25246721.91
	Interior work	2058481.24
2	Modular Furniture	696405.00
3	Chairs	526000.00
4	Internal Electrical work	538833.00
5	External Electrical work	241862.00
6	Modernization Elrctrical	400785
7	Data cabling	166198.00
8	Air conditioning	1102162.00
9	Fire Alarm system work	108630.00
10	Sprinkler system work	1053188.00
11	6 Passenger lift	1101695.00
12	Substation (Deposit work)	600000.00
	Total	3,38,40,961.00
1	AMC for CAMC OF AC	130512.00
2	AMC for CAMC OF LIFT	242373.00

TENTATIVE DRAWINGS






**L.I.C OF
ENGINEERING D
NORTHERN ZO
NEW I**

1. ALL DIMENSIONS ARE IN METERS
2. FOLLOW WRITTEN DIMENSIONS
3. DO NOT SCALE THE DRAWING
4. ANY DISCREPANCY FOUND IMMEDIATELY BE BROUGHT TO THE NOTICE OF ARCHITECT.

SCHEDULE OF OPENINGS

MD	2400 x 2100
D	1200 x 2100
D1	1000 x 2100
D2	900 x 2100
D3	760 x 2100
D4	900 x 1800 (Terrace)
W	2400 x 1200
W1	1500 x 1200
W2	900 x 1200
W3	900 x 1200
W4	1200 x 1200
V	800 x 800
V1	1500 x 600
V2	800 x 1200

DESIGNER: SYNTHEMAL MANAGER

BY: DR. ARCHITECT

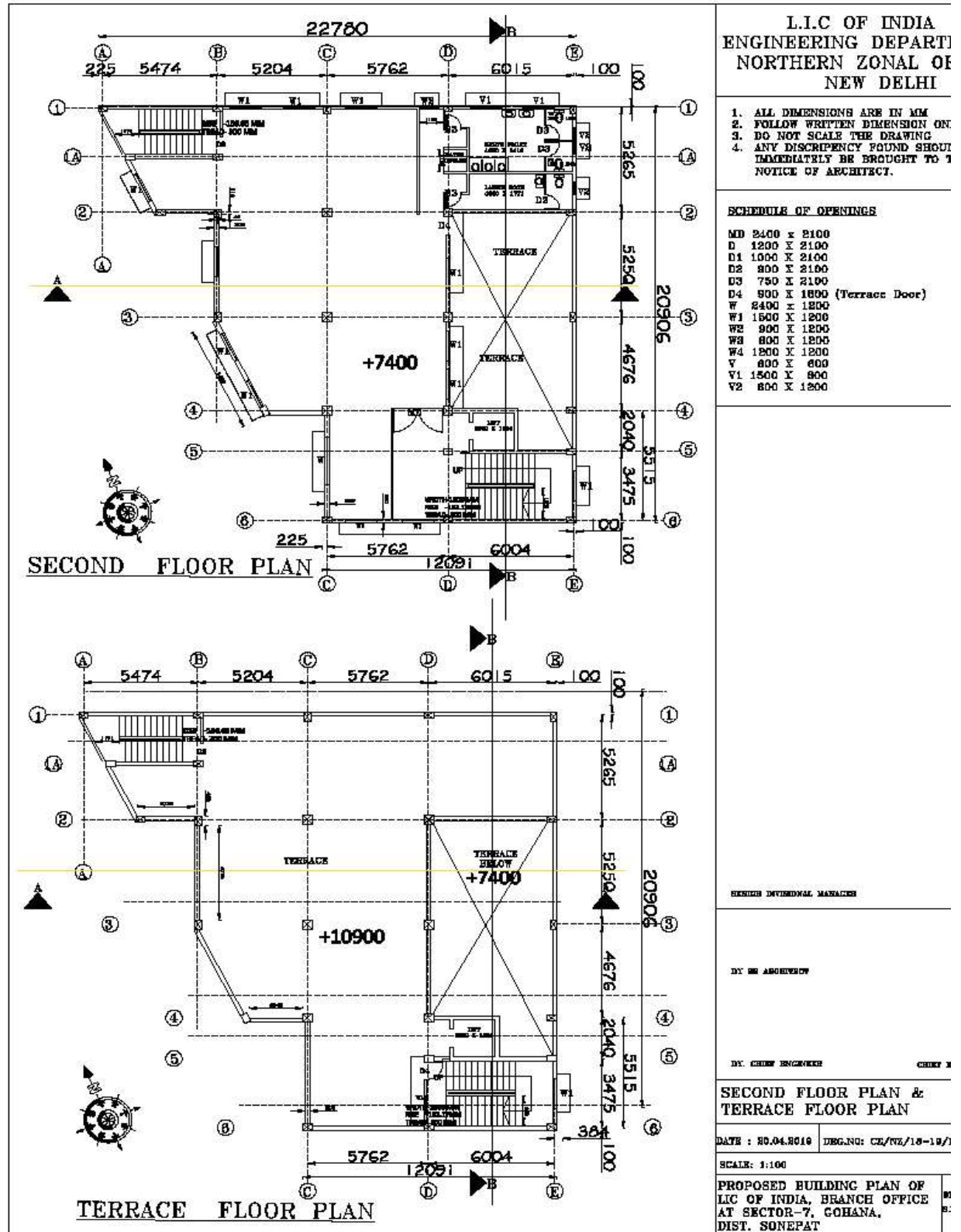
BY: CIVIL ENGINEER

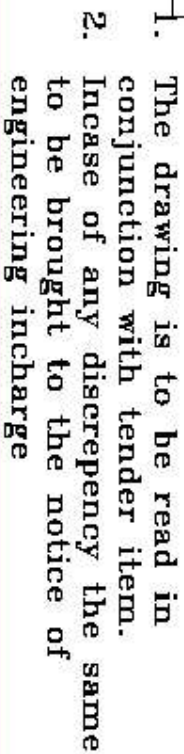
**GROUND FLOOR &
FIRST FLOOR PLAN**

DATE : 20.04.2019 DRG.NO: CH

SCALE: 1:100

**PROPOSED BUILDING PL
LIC OF INDIA, BRANCH
AT SECTOR-7, GOHANA,
DIST. SONEPAT**





DY. CHIEF ENGINEER

CASH COUNTER DETAILS

SCALE: 1:50

S.K.JAGAD
Dy Sr Arch