

*INVITATION FOR REQUEST FOR PROPOSAL (RFP/ TENDER)*

*For*

*CONSTRUCTION OF TECHNOLOGY PARK (Phase 1),*

*In*

*NEW SHILLONG, MEGHALAYA*



*11 MAY, 2018*

*Tender no/ RFP/ MITS.1/2018/116*



**Meghalaya**  
Information Technology Society

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## *Section - I*

### *Background*

## ***Section I: Background***

The Government of Meghalaya (GOM) created the Information Technology and Communication Department (IT&C) in May, 2001 with a view of making available the benefits of Information & Communication Technology to all citizens, especially the poor and disadvantaged section of the population, businesses and Government employees and all other stakeholders.

GOM through IT&C Department plans to realise its vision of transforming the state of Meghalaya into one of the most preferred and leading destinations for investments in IT/ITES, high-end technology & electronics industry.

Meghalaya has shown a positive economic outlook in the recent past. It has recorded a 7.7% GSDP growth rate over a five year period from INR 6,559 Crore (2004-05) to INR 10,259 Crore (2010-11). This GSDP growth is higher than the aggregate growth rate of the North-east region (6.3%) and only 1.1% lower than the National GDP growth rate during the period. Additionally, a shift has been observed in the sector contribution towards the GSDP as the share of primary activities towards the GSDP dropped by 7% and was covered by a 4% increase from the secondary and a 3% increase by tertiary sector.

Meghalaya has a young population with 53% of its residents between the ages 15 to 59 years. Additionally, the state has a high literacy rate at 74.4% and a major section of society that speaks fluent English. This has been made possible through the education infrastructure that has been established throughout the state. It covers institutions for school education, universities, Polytechnics, ITIs, Teacher training schools etc.

Government of Meghalaya, through the IT & ITeS Department has acquired around 70 acres of land for setting up of Technology Park in the State Capital. The land acquired is situated in Mawdiangdiang Area in the New Shillong Township side. The government wants to develop the area and to create a conducive environment for attracting IT companies from outside the state to set up offices in the Technology Park.

### **IT & ITeS Services**

Information technology is playing an important role in India today & has transformed India's image from a slow moving bureaucratic economy to a land of innovative entrepreneurs. The IT sector in India is generating direct employment for 2.5 million people and has developed India into one of the biggest IT capitals of the modern world. Meghalaya has vast potential to become the IT hub of the North-East by tapping into its human capital. With a high literacy rate and a major section of society that speaks fluent English, Meghalaya is in a good position to support the development of the IT industry. Furthermore, the supporting education infrastructure that covers institutions for school education, universities, Polytechnics, ITIs etc. provides potential for harnessing and nurturing young entrepreneurs.

### **ICT Research and Innovation**

ICT plays a critical role in improving the productivity, assists in monitoring or enables individuals to easily adopt leading practices. All these capabilities of ICT can be leveraged in diverse set of industries. The Technology Park at Shillong would support the following industries through research in technological innovation

### **Agro and Horticulture-based Industry**

The state produces a variety of fruit, vegetables, and other agro-based products that can be processed, packaged, and transported in various forms to other parts of the country. Fruits grown in the region include oranges, peaches, pineapples, pears, guavas, plums, and bananas, which can be prepared into jams, squashes, pulp, facial scrubs, and various other edibles and non-edibles for sale in markets away from the growing areas. Vegetables suitable for processing are jackfruit, tapioca, and so on. Turmeric of the best quality and a variety of medicinal herbs and plants are other items which flourish in the state and can be processed into herbal and health-based products.

There is further a sophisticated market for 'organic' nature and health products that any fruit and vegetable growing area should tap into. The large variety of medicinal plants and herbs can also be processed into products for export to the rest of the country. Under this category we also include activities such as grain processing (rice and flour milling), oil pressing, and so on, which can be done close to the planting sites, forming a source of rural non-farm based income and employment, which could help keep people in the rural areas. Globally, farmers have benefitted by ICT interventions across the value chain which includes production, packaging, storing, selling and marketing. Some common examples of ICT interventions are smartphone mobile apps, RFID applications, Global Positioning Systems etc.

### **Tourism & Hospitality**

Despite its myriad natural tourist attractions, the potential for tourism remains underdeveloped, despite its potential for expansion of employment and income in a state with limited opportunities. The multiplier or ripple effects of tourism on the economy have been well documented, and the sector could also become an important source of revenue in a state with few sources of resource generation.

Meghalaya has many advantages in this sector over its North-eastern neighbours. Meghalaya receives the second highest number of tourists in the North-east, followed by Tripura and Sikkim. While tourist arrivals, both domestic and foreign, have grown considerably since 2000, the state still receives only one-tenth of the number of visitors to Assam, the leading recipient of tourists in the region.

Shillong has had a tradition of hosting tourists for decades, and has a fairly active private hotel industry. Visitors do not need travel permits (as they do in some other states), and the security situation has improved substantially. Many Meghalaya youth have trained in the hospitality industry either within the State (at the Institute for Hospitality Management in Shillong) or in other parts of the country, and could provide a ready recruitment pool for developing the industry.

ICT plays an important role in the tourism, travel and hospitality industry. The Integration of ICT in the tourism industry is critical for success of tourism enterprise. ICT facilitates an individual to access information about tourism products anytime-anywhere. Tourism enterprises can also reach the targeted customers across the globe in a single click on the keypad after emergence of mobile computing, web technologies etc. Research initiatives at the Technology Park at Shillong may support the growth of such IT interventions.

#### **1.1 About MITS:**

The Meghalaya Information Technology Society (MITS) is a society registered under Information Technology Department, Government of Meghalaya, and the Meghalaya Societies Registration Act, 1983.

Meghalaya Information Technology Society (MITS) was established in the year 2008 under Meghalaya Society Registration Act 1983 and is the designated state nodal agency which carries out various projects and capacity building programs under National e-Governance Plan (NeGP). MITS has been driving various ICT projects, ICT promotional schemes, capacity building programs and other ICT enabling assistance activities in the state of Meghalaya. The major focus has been to implement and rollout various projects and framework belonging to the National e- Governance Plan (NeGP). MITS has achieved a commendable rate of implementation of NeGP initiatives and it has been able to establish some of the important infrastructure in the field of e-governance like the MSWAN, MSDC, Common Service Centers (CSCs), State Portal and State Service Delivery Gateway (SSDG) etc. MITS is the State Nodal Agency for implementing the Technology Park at New Shillong.

#### **1.2 Vision of the Technology Park**

“To promote entrepreneurship and technological innovation primarily in the ICT, ITeS, and Electronics sectors, by providing facilities which are self-sustainable and an environment, which is conducive for attracting investment, expertise and talent from high potential individuals and

organizations, thereby generating employment and contributing to the socio-economic development of the State and the region and building 'Brand Shillong' as a preferred investment destination.

### **Potential of Technology Park**

The Technology Park is to be built over 70 acres in the new Shillong Township. The Technology Park is to be a step in the direction of realising the government's vision of transforming Meghalaya into one of the most preferred and leading destinations for investments in the North-east region. The plan would look at the optimal utilisation of the 70 acres, the services envisaged to be provided by the Tech-Park, potential anchor tenants and other activities that would need to be performed to ensure success of the Tech-Park.

### **Service Offerings**

The facilities provided by the Tech-Park would be one of the main factors in attracting tenants. The services to be provided through the Park have been determined based on the strengths of the state and further influenced by factors that ensure success of Tech-Parks.

### **IT & ITeS Services**

Most global businesses are now dependent now on Outsourcing services. Business process outsourcing is a process to get many tasks done outside the office. It saves businesses time and cost and is an effective way of completing the business needs while using fewer resources. One of the main benefits of ITeS services is that businesses can get work done efficiently and completed within a stipulated time frame with the use of fewer resources at the business end. It means businesses can allocate some or multiple tasks of their business to an outsourcing agency and wholly focus on their core areas to maximize business output.

There are two basic types of business process outsourcing services – Voice based ITeS service and Non-voice based ITeS service.

**Voice Based ITeS services**

Various voice services can be outsourced like customer help desk services, marketing - selling services and many other value added services as voice based **ITeS** services. The role of the outsourcing firm in outsourcing voice services is to monitor the quality of the services with quantity production. The **ITeS** service provider company has skilled and experienced resources to meet the outsourcing requirements successfully. For example, big manufacturing companies that are aiming to give the best services to their customers during pre-sale or post sale, they may outsource the helpdesk to a **ITeS** service provider that has good public relations and experience in dealing with customer issues satisfactorily for its clients. Through this, the manufacturing firm can manage and satisfy all of its customers and can further increase sales.

**Non-voice based ITeS services**

Non-voice **ITeS** services is also known as Data business process outsourcing. Various types of services are included in this segment like data entry services, data processing services, document scanning services, document management, OCR services etc. Many companies need to maintain the large number of database of their customers or their companies' online inventory etc. Thus they need profession data entry service providers who can convert the hard data into the soft data in the required data format. Data entry is a particular type of expertise/skill that is built on fast and accurate data entry. Such services allow companies to outsource non-productive work and optimise usage of time and resources.

***Section - II***

***Invitation to Bid***

## 2.1 Invitation to Bid

The Bidders are advised to study the RFP/ TENDER document carefully. Submission of Bids shall be deemed to have been done after careful study and examination of the RFP/ TENDER document with full understanding of its implications. This section provides general information about the Issuer (i.e. MITS), important dates and addresses and the overall eligibility criteria for the Bidders.

- Bidders are advised to study all instructions, forms, requirements and other information in the RFP/ TENDER documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP/ TENDER document with full understanding of its implications.
- The response to this RFP/ TENDER should be full and complete in all respects. Failure to furnish all information required by the RFP/ TENDER documents or submission of a proposal not substantially responsive to this document will be at the Bidder's risk and may result in rejection of its Proposal.
- Bidders are allowed to form a consortium in which case the prime-bidder should meet the Pre-qualification criteria mentioned in this RFP/ TENDER.

### 2.1.1 Issuer

State Nodal Agency, hereinafter referred to as MITS (Meghalaya Information Technology Society) invites *Response For Proposal* (RFP/ TENDER) for “Construction of Technology Park Phase – I in New Shillong Meghalaya”.

### 2.1.2 Issuer and Address for Bid Submission & Correspondence

**Member Secretary,**  
Meghalaya Information Technology Society (MITS),  
NIC Building, Ground Floor, Secretariat Hill, Shillong 793 001 Meghalaya

E-Mail: dit-meg@nic.in Phone number: 0364/ 2500400

### 2.1.3 Key Events & Dates

<b>Event</b>	<b>Target Date</b>
Notice Inviting Tender	11 <sup>th</sup> May 2018 (Fri)
Last date to send in requests for clarifications on the tender document	18 <sup>th</sup> May 2018 till 04:00 P.M. (Fri)
Date and Time for Pre- Bid Conference	22 <sup>nd</sup> May 2018 at 4 PM. (Tue)
Response to Pre-Bid Clarifications	28 <sup>th</sup> May 2018 (Mon)
Last date for submission of Bids	8 <sup>th</sup> June 2018 till 3:00 PM. (Fri)
Opening of Pre-qualification Bids	8 <sup>th</sup> June 2018 at 4 PM. (Fri)
Opening of Technical Bids	11 <sup>th</sup> June 2018 at 11:00 AM. (Mon)
Presentation on technical Bid by short-listed Bidders	18 <sup>th</sup> June 2018 at 4:00 PM. (Mon)
Opening of commercial Bids	25 <sup>th</sup> June 2018 at 4:00 PM. (Mon)

#### Note:

1. This Tender Document is not transferable
2. Only prospective bidders who have paid the tender document fee of Rs. 10,000/- to MITS as specified below will be allowed to attend the Pre-Bid Conference

### 2.1.4 Procurement of RFP/ TENDER Document

The tender document can be downloaded from the State website <https://meghalaya.gov.in> or <http://ditmeghalaya.gov.in>. Tender fee of Rs. 10,000/- (Ten thousand only (non-refundable) to be remitted

through a Demand Draft, from any commercial Nationalized/ Scheduled bank, drawn in favour of “**Member Secretary, Meghalaya Information Technology Society**”, payable at Shillong, Meghalaya. The Bidder will not be allowed to attend the Pre-Bid Conference in the absence of the tender fee. The bid will also not be considered in the absence of the tender fee.

## **2.2 Pre Bid Conference**

MITS shall organize a Pre Bid Conference on the scheduled date and time in the Meghalaya Information Technology Society, NIC building, Secretariat Hill, Shillong 793 001. Please note that the Bidder will not be allowed to attend the Pre-Bid Conference in the absence of the tender fee. **MITS may incorporate any changes in the RFP/ TENDER based on acceptable suggestions received during the interactive Pre Bid Conference. The decision of MITS regarding acceptability of any suggestion shall be final and shall not be called upon to question under any circumstances.** The prospective Bidders shall submit their questions in writing as per the prescribed format given in this tender document not later than Date and Time indicated in the section above. It may not be possible at the Pre Bid Conference to answer questions which are received late. However, prospective Bidders are free to raise their queries during the meeting and responses will be conveyed to all the prospective Bidders (by way of hosting amendments/ clarifications on the website i.e. at <https://meghalaya.gov.in> or <http://ditmeghalaya.gov.in>, in accordance with the respective clauses of the RFP/ TENDER and no participant would be intimated individually about the response of MITS. **The prospective participants have to inform MITS on the mail id mentioned above regarding its intention to attend the pre-Bid conference. Only bidders who have paid the tender fees of Rs 10000 (ten thousand only) shall be allowed to attend the prebid conference.**

## **2.3 Amendment of RFP/ TENDER Document**

At any time till 7 days before the deadline for submission of Bids, MITS may, for any reason, whether at own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding document by amendment. All the amendments made in the document would be published on the website <https://meghalaya.gov.in> or <http://ditmeghalaya.gov.in>. **The Bidders are also advised to visit the aforementioned website on regular basis for checking necessary updates.** MITS also reserves the right to amend the dates mentioned in this Bid document.

## **2.4 Venue for submission of Proposal**

Proposals for CONSTRUCTION OF TECHNOLOGY PARK Phase-I must be received at the address specified below not later than dates specified in this RFP/ TENDER.

Member Secretary,  
Meghalaya Information Technology Society (MITS),  
Information Technology Department, Government of Meghalaya,  
Ground Floor, N.I.C. Building,  
Secretariat Hill Road, Shillong – 793001,  
Meghalaya  
E-Mail: [dit-meg@nic.in](mailto:dit-meg@nic.in)

Phone Number: 0364/2500400

Any proposal received by MITS after the deadline for submission of proposals mentioned in this RFP/ TENDER will be rejected and returned unopened to the Bidder. MITS shall not be responsible for any postal delay or non-receipt/ non-delivery of the documents. No further correspondence on the subject will be entertained after the expiry of the dates mentioned in this RFP/ TENDER.

### **2.4.1 Right to Terminate**

- MITS, GOM may terminate the RFP/ TENDER process at any time and without assigning any reason. MITS GOM makes no commitments, express or implied, that this process will result in a business transaction with anyone.

*This RFP/ TENDER does not constitute an offer by MITS, GOM.*

#### **2.4.2 Submission of Responses**

- The bids shall be submitted in a single sealed envelope and superscripted “**RFP/ TENDER for CONSTRUCTION OF TECHNOLOGY PARK Phase 1, NEW SHILLONG, MEGHALAYA**” and <File reference No.>. This envelope should contain two hard copies of RFP/ TENDER proposal marked as “First Copy” and “Second Copy” and one soft copy in the form of a non-rewriteable CD. CD media must be duly signed using a Permanent pen Marker and should bear the name of the bidder.
  - Bids shall consist of supporting proofs and documents as defined in the Pre-qualification section
  - Bidder shall submit all the required documents as mentioned in the annexure including various templates (Form 1 to Form 5). It should be ensured that various formats mentioned in this RFP/ TENDER should be adhered to and no changes in the format should be done.
- Envelope should indicate clearly the name, address, telephone number, Email ID and fax number of the bidder
- Each copy of the RFP/ TENDER should be a complete document and should be bound as a volume. The document should be page numbered, must contain the list of contents with page numbers and ***each page shall be initialed by the Authorized Representative of the bidder.***
- Different copies must be bound separately.
- Bidder must ensure that the information furnished by him / her in respective CDs is identical to that submitted by him in the original paper bid document. In case of any discrepancy observed by the IT&C Dept., GOM in the contents of the CDs and original paper bid documents, the information furnished on original paper bid document will prevail over the soft copy.
- The entire proposal shall be strictly as per the format specified in this Invitation for Expression of Interest and any deviation may result in the rejection of the RFP/ TENDER proposal.

#### **2.5 RFP/ TENDER Proposal Preparation Costs & related issues**

- The bidder is responsible for all costs incurred in connection with participation in this process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation of proposal, in providing any additional information required by MITS, GOM to facilitate the evaluation process.
- MITS, GOM will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- This RFP/ TENDER does not commit MITS, GOM to award a contract or to engage in negotiations. Further, no reimbursable cost may be incurred in anticipation of award or for preparing this RFP/ TENDER.
- All materials submitted by the bidder will become the property of MITS.

##### **2.5.1 Short listing of Bidder**

- MITS, GOM will shortlist only bidders who meet the Pre-Qualification criteria mentioned in this Response For Proposal (RFP)/Tender document for technical and subsequent evaluation.
- Any attempt by a Bidder to influence the bid evaluation process may result in the rejection of its RFP/ TENDER Proposal.

### **2.5.2 Evaluation Process**

- MITS, GOM will constitute an Evaluation Committee to evaluate the responses of the bidders
- The Evaluation Committee constituted by IT&C Dept., GOM shall evaluate the responses to the RFP/ TENDER and all supporting documents & documentary evidence. Inability to submit requisite supporting documents or documentary evidence, may lead to rejection of the RFP/ TENDER Proposal.
- Each of the responses shall be evaluated to validate compliance of the bidders according to the Pre-Qualification criteria, Forms and the supporting documents specified in this document.
- The decision of the Evaluation Committee in the evaluation of responses to the Expression of Interest shall be final. No correspondence will be entertained outside the evaluation process of the Committee.
- The Proposal Evaluation Committee may ask for presentation / meetings with the bidders to evaluate its suitability for the Consulting assignment
- The Proposal Evaluation Committee reserves the right to reject any or all proposals

***Section - III***

***Eligibility Criteria***

### **3.1 Eligibility Criteria**

*The Bidder must possess the requisite experience, strength and capabilities in executing projects to meet the requirements as described in the RFP/ TENDER document. Keeping in view the complexity & volume of the work involved, the following criteria are prescribed as Pre-Qualification Criteria for Bidder interested in undertaking the project. The Bidder must also possess the Technical know-how and the Financial wherewithal that would be required to successfully Construct the Technology Park Phase-I and required support services sought by MITS. The Bids must be complete in all respect and should cover the entire scope of work as stipulated in the RFP/ TENDER document. The invitation to Bid is open to all Bidders who qualify the eligibility criteria as given below:*

### **3.2 Pre-Qualification Criteria**

An Expression of Request For Proposal (RFP/ TENDER) is sought from Civil Construction firms with relevant experience subject to fulfilling the following criteria:

#### **Bidder Criteria Requirement:**

1. Bidder should have satisfactorily one completed building construction project during the last five (5) years of Rs10 Crores and at least two ongoing projects of Rs 15 crores each or more in any Government Organization/ Government Sector Co-operation/ Public Sector Organization/ Private Sector Organization. Work Orders and Completion/ Commissioning Certificates of the completed work should be submitted as proof.
2. Bidder should have minimum annual turnover in Civil and Interior Works/Construction of Rupees Thirty Crores (Rupees 30 Crores) for each of the last three financial years (from 2014-15 to 2016-17) that is to be furnished through a registered statutory Chartered Accountant.
3. The networth of the Bidder should be positive for the preceding three (3) financial years. Certificate to this effect issued by registered statutory Chartered Accountant should be submitted along with the RFP/ TENDER proposal.
4. Documentary Proof should be furnished that the bidder has been in building construction business for at least 5 years and must demonstrate that the firm has successfully and continuously been engaged as a General Contractor in providing building construction projects in Meghalaya for at least 3 years.
5. Bidder must submit copy of valid Class I Contractor Licence registered with either PWD (B) Meghalaya, CPWD (B) or MES.
6. Declaration in the form of an affidavit that the company has not been involved in any litigation in the past 5 years which resulted in damages being awarded to the litigant, based on either failure to execute or poor performance of the works taken up by the firm/ Individual.
7. Bidders must provide an undertaking for completion of scope of work (excluding operations & maintenance) as mentioned in RFP/ TENDER within 21 months from the date of agreement. Bidders should note that penalty will be imposed in case the bidder defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision of the Contract, MITS shall deduct the penalty thereof from the payment due to the Bidder.
8. The contract or any part thereof shall not be assigned, transferred or sublet by the Contractor to any other party.
9. Copy of consortium agreement ( If applicable)

## *Section - IV*

### *Scope of Work*

## **4.1 SCOPE OF WORK & GENERAL SPECIFICATIONS**

Brief Description of Work: Construction of Technology Park Phase 1

The Technology Park is to be constructed in the New Shillong area with smart features.

Detailed Scope of Work and Specifications: The scope of work includes Construction of IT & ITeS centre and Guest House for Phase I. Also included in the Scope of works are Internal and External Electrification, Landscaping and Site Development, Compound Fencing and Roads and Pathways.

The Construction drawings shall be submitted to the Bidder by MITS after award of the contract.

### **Scope of Work for Phase I**

To promote the development of IT & ITeS Services in Meghalaya. The IT Department has come up with a proposal to construct an IT Hub in its 70 acres site at Siejlieh East Khasi Hills. The ambitious project is divided into several phases of which the phase –I is construction Of:

1. IT & ITeS
2. Guest House
3. Approach Road and Parking
4. HVAC in IT and ITeS Building.
5. Split AC in Guest House.
6. Fire Fighting facilities in both buildings.

- **IT & ITeS BUILDING**

The IT and ITeS Building is a four storey building with the following facilities:

- i. Ground Floor = 2,470 sqm.

Incubation Centres -2 nos, Conference Hall - 3 nos, Back Up Power Hall, Skill Development Centres, Park Management Office.

- ii. First Floor = 2,400 sqm

Data Centre, Incubation Centres = 4 nos

- iii. Second Floor = 2,400 sqm  
IT & ITeS Centres - 5 nos

Third Floor = 2,400 sqm  
IT & ITeS Centres - 2 nos

Food Court and Food Stalls covering and area of 1,000 sqm

The Building is service by 2 staircases, 2 passenger lifts and 2 service lifts

- **GUEST HOUSE**

The Guest House is a three storey building with the following facilities:

- i. Ground Floor = 137 sqm

Reception, Lounge, Conference room 15 capacity, Kitchen, Dining room, Laundry room .

- ii. First Floor = 133 sqm  
Double Bedded = 2 nos, Single Bed = 1 no, Suite = 1 no

- iii. Second Floor = 133 sqm  
Double Bedded = 2 nos, Single Bed = 1 no, Suite = 1 no

The Building is serviced by staircases and lift.

**(A) Building Infrastructure**

**(i) IT & ITeS Centre**

**The building is a four storey R.C.C. frame structure.**

**Approximate Plinth Area:**

- **Ground Floor = 2470 sq.mts**
- **First Floor =2400 sq.mts**
- **Second Floor = 2400 sq.mts**
- **Third Floor =2400 sq.mts**
- **Staircase room = 203 sq.mts**

**BAR CHART FOR CONSTRUCTION OF TECHNOLOGY PARK PHASE-I OF  
MEGHALAYA INFORMATION TECHNOLOGY SOCIETY.  
BAR CHART FOR BUILDINGS- IT & ITeS SRVICES  
(Showing the target progress to be achieved in 21 months time.)**

Sl. No	Items of Work	1 =(2 months)	2=(2 months)	3=(2 months)	4=(2 months)	5=(2 months)	6=(2 months)	7=(2 months)	8=(2 months)	9=(2 months)	10=(2 months)	11= (1 month)
1	Site preparation	■	■									
2	Work up to plinth		■									
3	Casting of 1 <sup>st</sup> Floor Slab			■								
4	Casting of 2 <sup>nd</sup> Floor slab				■							
5	Casting of 3 <sup>rd</sup> Floor slab					■						
6	Casting of 4 <sup>th</sup> Floor Slab						■					
7	Brick Walling				■	■	■	■	■			
8	Plastering and Fixing of doors ,Windows						■	■	■	■	■	
9	Internal Electrification								■	■	■	■
10	Internal Water Supply and Sanitary fittings								■	■	■	■
11	Finishing items									■	■	■
12	Other Services such as Fire fighting, STP, HVAC, CCTV, Lifts ,.etc								■	■	■	■

**(One Unit = 2 months for column 1 to 10 and one unit = 1 month for column 11).**

**BAR CHART FOR CONSTRUCTION OF TECHNOLOGY PARK PHASE-I OF  
MEGHALAYA INFORMATION TECHNOLOGY SOCIETY.  
BAR CHART FOR BUILDINGS- GUEST HOUSE  
(Showing the target progress to be achieved in 15 months time.)  
( One Unit = 1 months).**

Sl No	Items of work	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Site preparation	■	■													
2.	Work up to plinth		■	■												
3.	Casting of 1 <sup>st</sup> Slab			■	■											
4.	Casting of 2 <sup>nd</sup> Slab					■	■									
5.	Casting of 3 <sup>rd</sup> Floor slab							■	■							
	Brick Walling					■	■	■	■	■						
6.	Plastering, fixing of doors and windows							■	■	■	■	■				
7.	Sanitary and Internal Water Supply										■	■	■	■		
8.	Electrification										■	■	■	■		
9	Finishing items including Lift, etc													■	■	■

**BAR CHART FOR CONSTRUCTION OF TECHNOLOGY PARK PHASE-I OF  
MEGHALAYA INFORMATION TECHNOLOGY SOCIETY.  
BAR CHART FOR INTERNAL ROAD AND APPROACH ROAD  
(showing the target progress to be achieved in 12 months time.)  
( One Unit = 2 months)**

SL No	Items of Works	0-2 months	3-4 months	5-6 months	7-8 months	9-10 months	11-12 months
1.	Earthwork in cutting	■					
2.	Stone masonry work	■	■	■	■		
3.	Earthwork in filling	■	■	■	■		
4.	Consolidation			■	■	■	
5.	Carpeting					■	■
6.	Cross Drainage/Culverts		■	■	■		
7.	Signals and Markings						■

**Facilities provision floor wise:**

**Ground Floor**

- **RECEPTION**
- **PARK ADMIN**
- **CONFERENCE ROOM 1**  
**(10 PEOPLE)**
- **CONFERENCE ROOM 2**  
**(20 PEOPLE)**
- **CONFERENCE ROOM 3**  
**(100 PEOPLE)**
- **SKILL DEVELOPMENT CENTRE 1**
- **SKILL DEVELOPMENT CENTRE 2**
- **INCUBATION CENTRE 1**
- **INCUBATION CENTRE 2**
- **RECORD ROOM / MAIL ROOM**
- **SECURITY CONTROL ROOM**
- **STAFF MAINTENANCE**
- **KITCHEN**
- **CAFETERIA**
- **STORAGE**
- **BACK UP POWER**
- **TOILETS**
- **CIRCULATION/ STAIRCASES/  
LIFTS**

**First Floor**

- **DATA CENTER**
- **IT AND ITeS SERVICES 1**
- **IT AND ITeS SERVICES 2**
- **IT AND ITeS SERVICES 3**
- **IT AND ITeS SERVICES 4**
- **TOILETS**
- **CIRCULATION/ STAIRCASES/  
LIFTS**

## **Second Floor**

- **IT AND ITeS SERVICES 1**
- **IT AND ITeS SERVICES 2**
- **IT AND ITeS SERVICES 3**
- **IT AND ITeS SERVICES 4**
- **IT AND ITeS SERVICES 5**
- **TOILETS**
- **CIRCULATION/ STAIRCASES/ LIFTS**

## **Third Floor**

- **IT AND ITeS SERVICES 1**
- **IT AND ITeS SERVICES 2**
- **IT AND ITeS SERVICES 3**
- **FOOD COURT**
- **TOILETS**
- **CIRCULATION/ STAIRCASES/ LIFTS**

**\* Inclusions: Interior Decorations for entrance lobby, Conference rooms, work station on Ground Floor only.**

**\* Services:**

- **Internal Electrification and Fittings**
- **Internal Water Supply and Sanitary Fittings**
- **HVAC**
- **Fire Fighting**
- **CCTV**

## **(ii) GUEST HOUSE**

**The Guest house is a 3 storey R.C.C. Frame Structure.**

### **Plinth Area:**

- **Ground Floor =133.7 sq.mts**
- **First Floor =133.7 sq.mts**
- **Second Floor = 133.7 sq.mts**
- **Staircase room = 16 sq.mts**

**Facilities provision floor wise:**

**Ground Floor**

- RECEPTION
- LOUNGE
- CONFERENCE ROOM
- DINNING HALL
- KITCHEN
- LAUNDRY ROOM
- TOILET
- LIFT/ STAIRCASE

**First Floor**

- LOBBY
- 3 GUESTROOMS WITH ATTACHED BATHROOM
- 1 SUITE WITH ATTACHED BATHROOM
- LIFT/ STAIRCASE

**Second Floor**

- LOBBY
- 3 GUESTROOMS WITH ATTACHED BATHROOM
- 1 SUITE WITH ATTACHED BATHROOM
- LIFT/ STAIRCASE

**\* Inclusions:**

- Interior Decorations for entrance lobby, lounge, guest rooms and suites
- Plumbing works

**\* Services:**

- Internal Electrification and Fittings
- Internal Water Supply and Sanitary Fittings
- Fire Fighting facilities

**(B) External Works**

- a. Internal approach road and parking

.

**b. External water supply from within the campus area to serve during construction works and the future needs of the IT & ITeS center and Guest House.**

Work under this RFP/ TENDER shall consist of furnishing all labor, materials, equipment and appliances necessary and required for construction including testing and commissioning of all the works including earthworks, roads, civil works, lighting, electrical works, drainage, sewage, finishing items, Without restricting to the generality of the foregoing, landscape works shall include the following:

Items not covered under these specifications due to any ambiguity or misprints or additional works, the work shall be carried out as per specifications for Buildings, roads, sanitary, plumbing, sewerage works.

**4.2 TIMEFRAME FOR COMPLETION OF PHASE-I OF TECHNOLOGY PARK**

The timeframe for completing the scope of work (except operations & maintenance) as mentioned in this RFP/ TENDER shall be **21 months** from the date of agreement.

*Section - V*

*Layout of the Technology Park*

**Phase I: Shillong Tech Park: IT & ITeS Layout.**



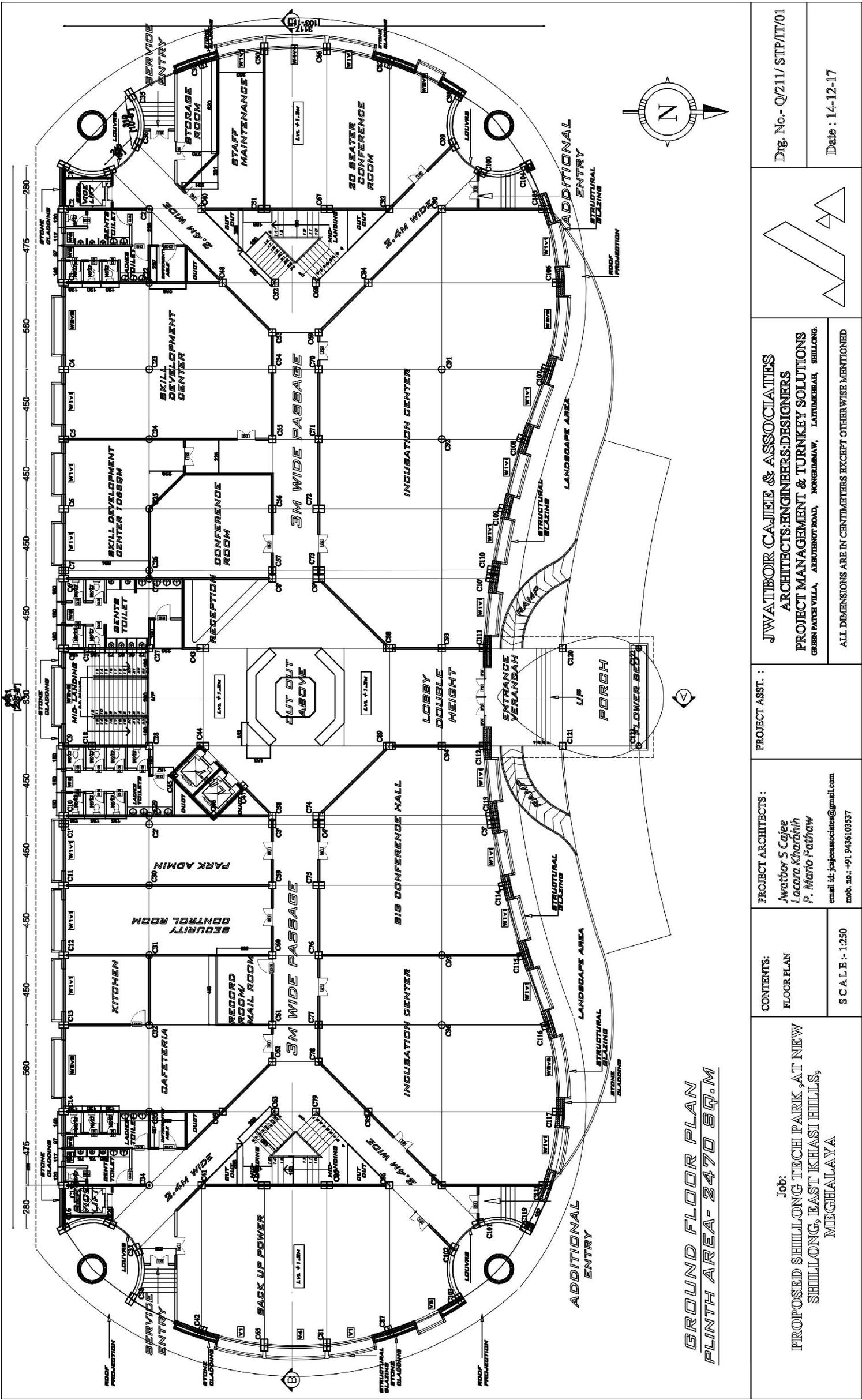
**REFERENCE**

1-	Boundary.
2-	Boundary Wall.
3-	Road.
4-	Stream.
5-	Side Drain.

**MAP**  
**SHOWING PORTION OF**  
**THE LAND OF**  
**INFORMATION TECHNOLOGY PARK**  
**AT UMSAWLI**  
**SHILLONG**  
**AREA = 20.13 Acres ( More or less )**  
**CONTOUR INTERVAL = 1 M**

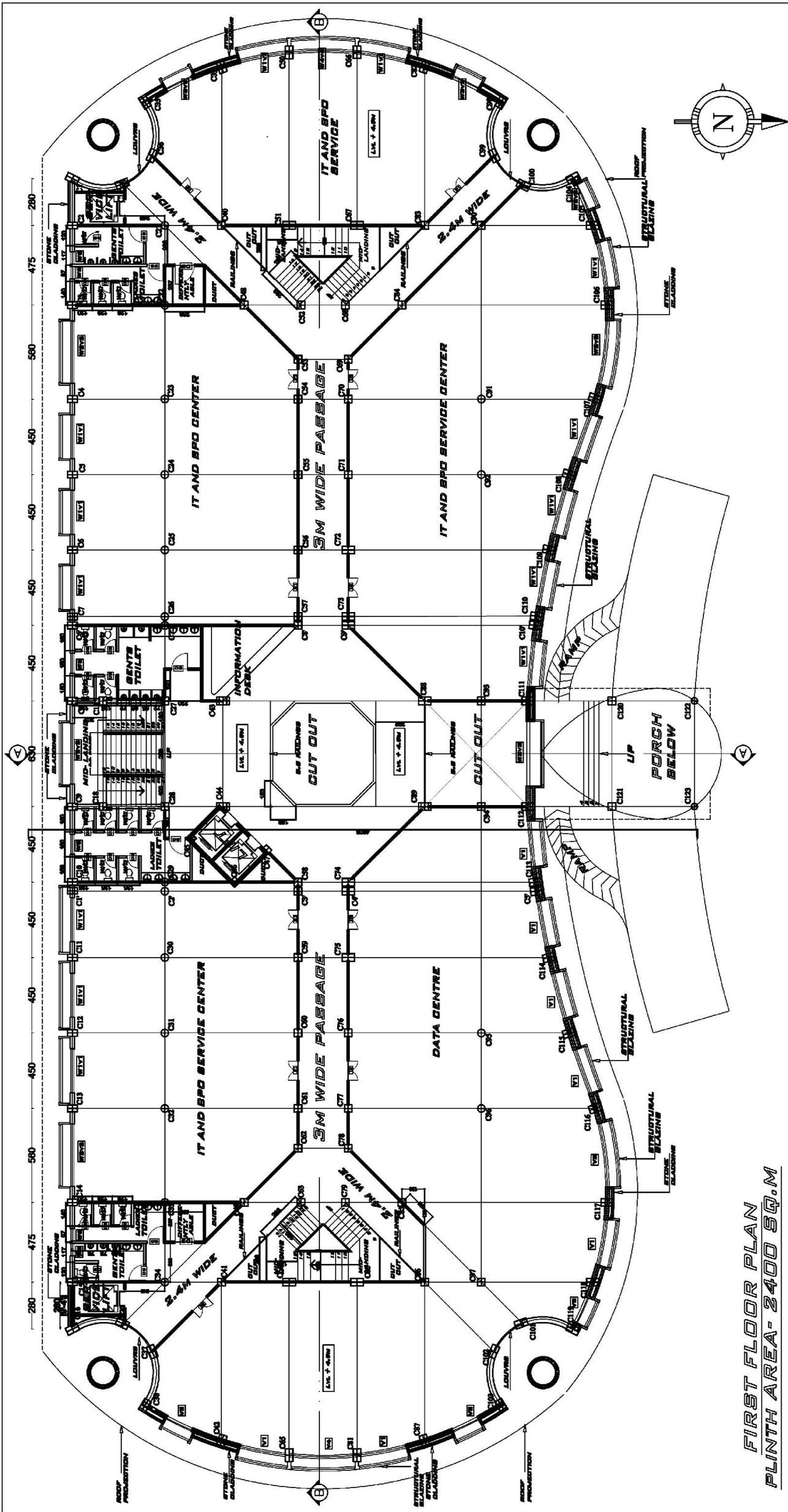


SHILLONG ←



**GROUND FLOOR PLAN**  
**PLINTH AREA- 2470 SQ.M**

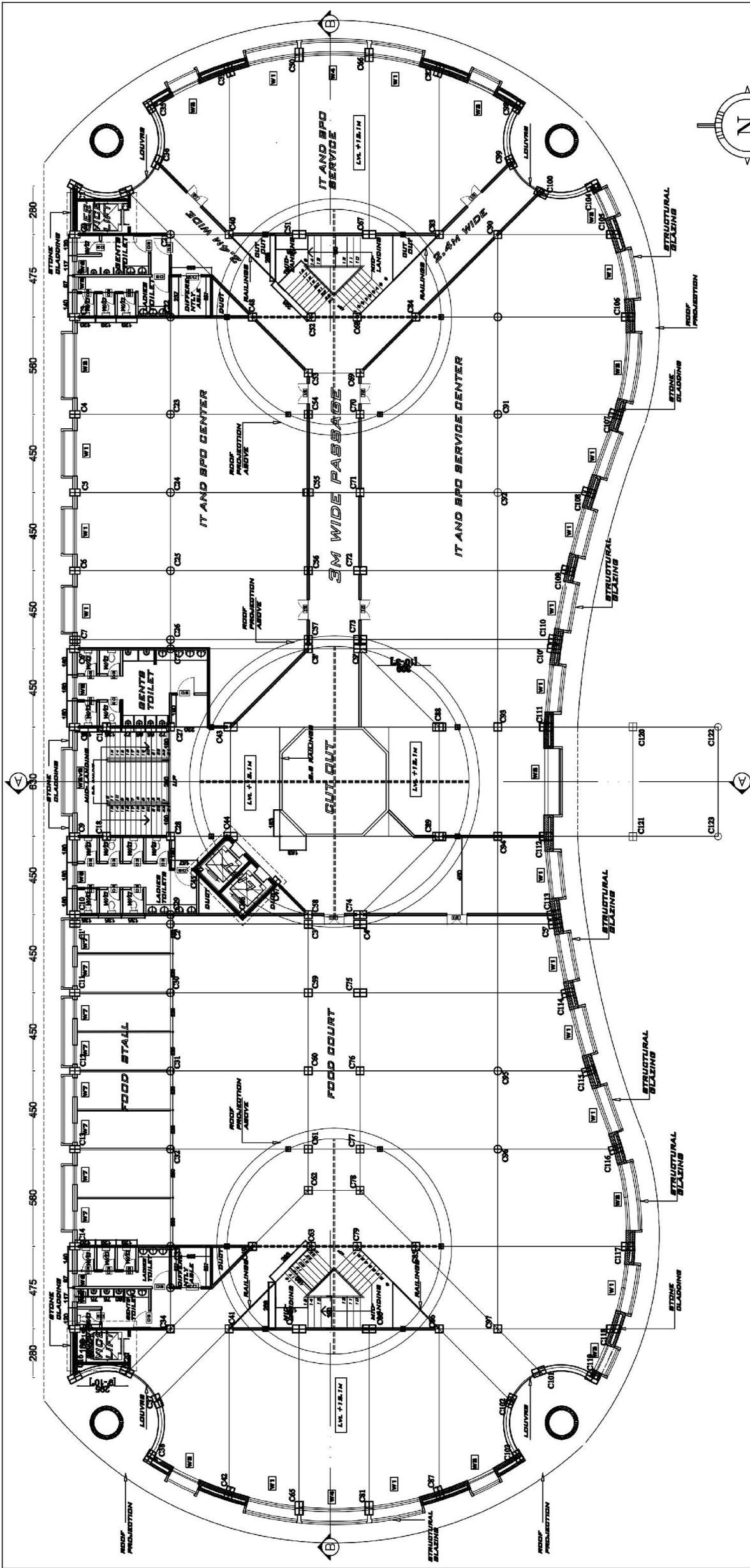
<p>Job:  <b>PROPOSED SHILLONG TECH PARK AT NEW SHILLONG, EAST KHASI HILLS, MEGHALAYA</b></p>	<p>Drg. No.- Q/211/STP/T/01</p> <p>Date : 14-12-17</p>
<p><b>JWATBOIR CAJIE &amp; ASSOCIATES</b>  <b>ARCHITECTS:ENGINEERS:DESIGNERS</b>  <b>PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS</b>      GREENPATCH VILLA, ARBUTHNOT ROAD, NONGSTOMAY, LAITUMGBAH, SHILLONG.</p>	<p>PROJECT ASST. :</p>
<p>PROJECT ARCHITECTS :  <i>Jwator S Cajie</i>  <i>Lacara Kharahin</i>  <i>P. Mario Pathaw</i>      email id: jwateassociates@gmail.com      mob. no.: +91 9436103537</p>	<p>CONTENTS:          FLOOR PLAN</p> <p>SCALE - 1:250</p>
<p>ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED</p>	



**FIRST FLOOR PLAN**  
**PLINTH AREA- 2400 SQ.M**

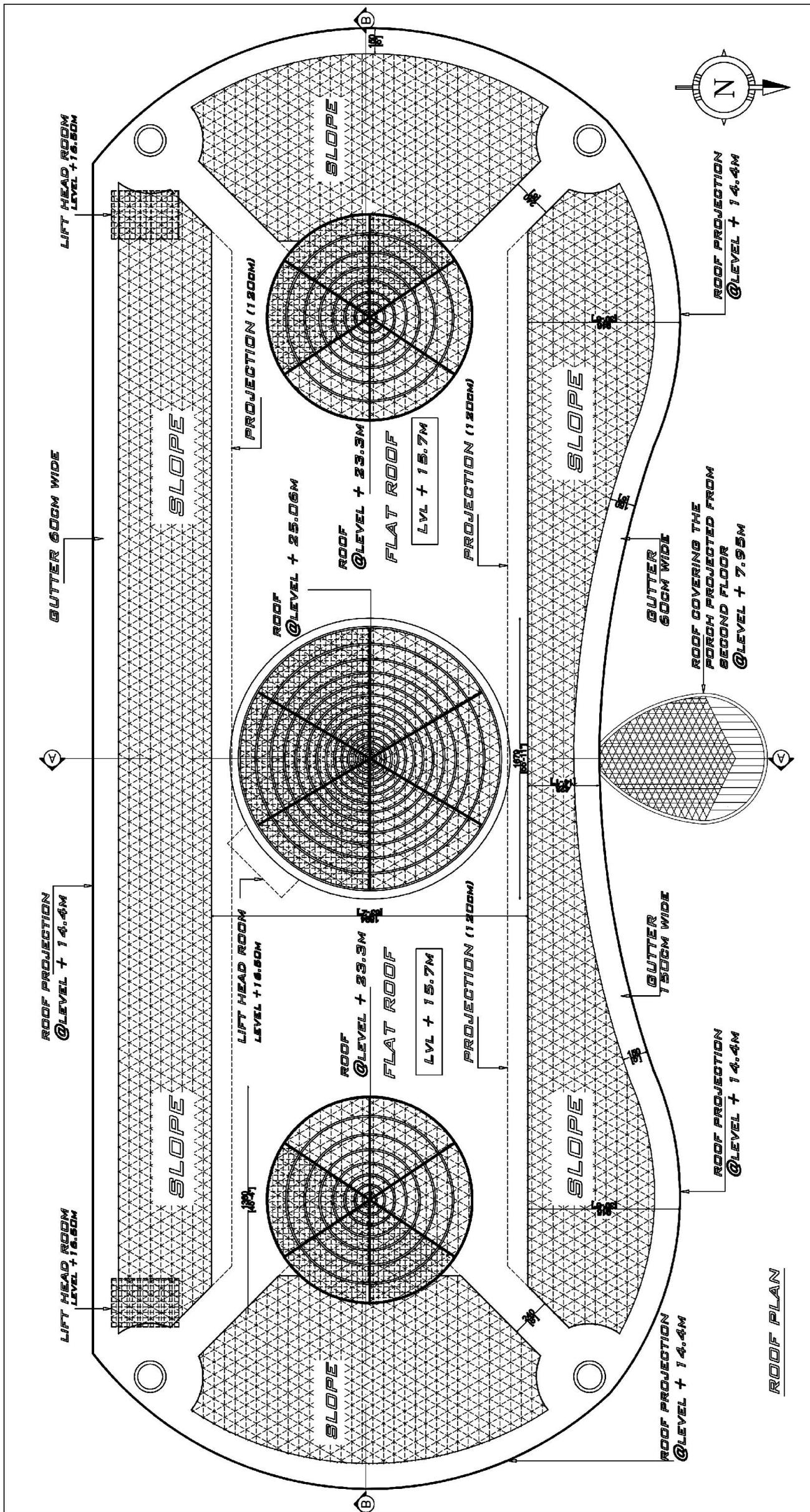
<p>Job:  <b>PROPOSED SHEILONG TECHI PARK ,AT NEW SHEILONG, EAST KHASI HILLS, MEGHALAYA</b></p>	<p>CONTENTS:  <b>FLOOR PLAN</b></p>	<p>PROJECT ARCHITECTS :  <i>Jwator S Cajee</i>  <i>Lacara Kharhith</i>  <i>P. Mario Pathaw</i>  <small>email id: jscjessocietines@gmail.com  mob. no.: +91 9456103537</small></p>	<p>PROJECT ASST. :</p>	<p><b>JWATOR CAJEE &amp; ASSOCIATES</b>  <b>ARCHITECTS-ENGINEERS-DESIGNERS</b>  <b>PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS</b>  <small>GREEN PARCH VILLA, AMRUTNOT ROAD, NONGSTOMAY, LAITUMGBAR, SHILLONG.</small></p>	<p>Drg. No.- Q/211/ STP/IT/02  Date : 14-12-17</p>
<p>ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED</p>					





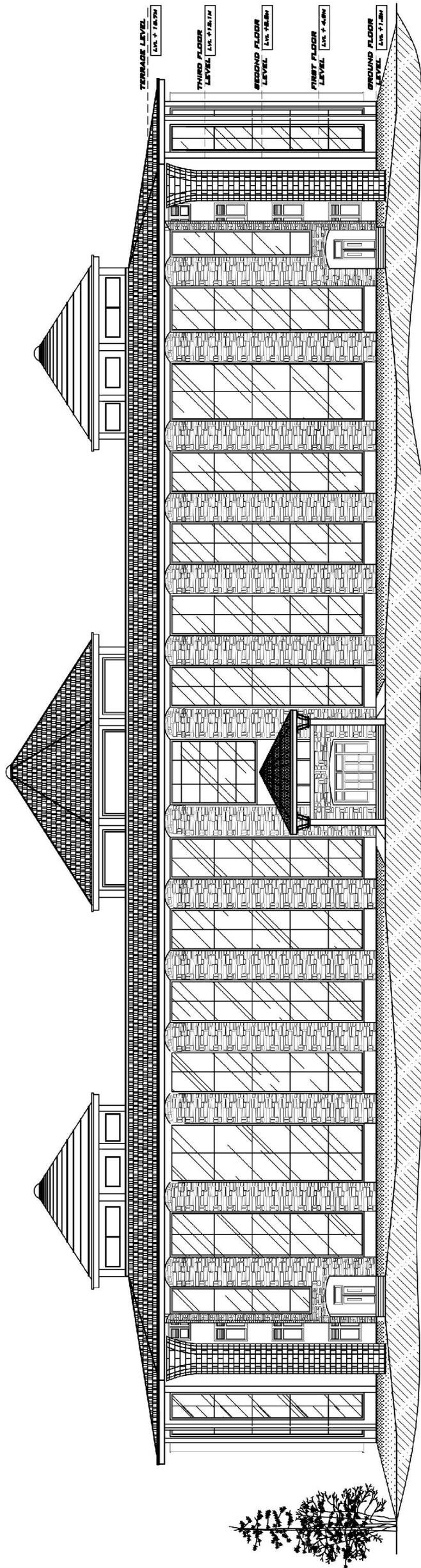
**THIRD FLOOR PLAN**  
**PLINTH AREA - 2400 SQ.M**

<p>Drg. No.- Q/211/ STP/IT/04</p>		<p><b>JWATBOR CAJIE &amp; ASSOCIATES</b>  <b>ARCHITECTS:ENGINEERS:DESIGNERS</b>  <b>PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS</b>          GREEN PACE VILLA, ARBUBHOT ROAD, NONGHMAW, LATUMCHBAE, SHILLONG.</p>	<p>PROJECT ASST. :</p>	<p>PROJECT ARCHITECTS :          Jwator S Cajie          Lacora Kharohh          P. Mario Pathaw          email id: jcajassociates@gmail.com          mob. no.: +91 9436103537</p>	<p>CONTENTS:          FLOOR PLAN</p>	<p>Job:  <b>PROPOSED SHILLONG TECH PARK AT NEW SHILLONG, EAST KHASI HILLS, MEGHALAYA</b></p>
<p>Date : 14-12-17</p>	<p>ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED</p>	<p>SCALE :- 1:250</p>				

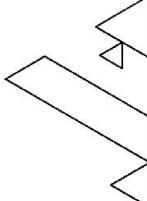


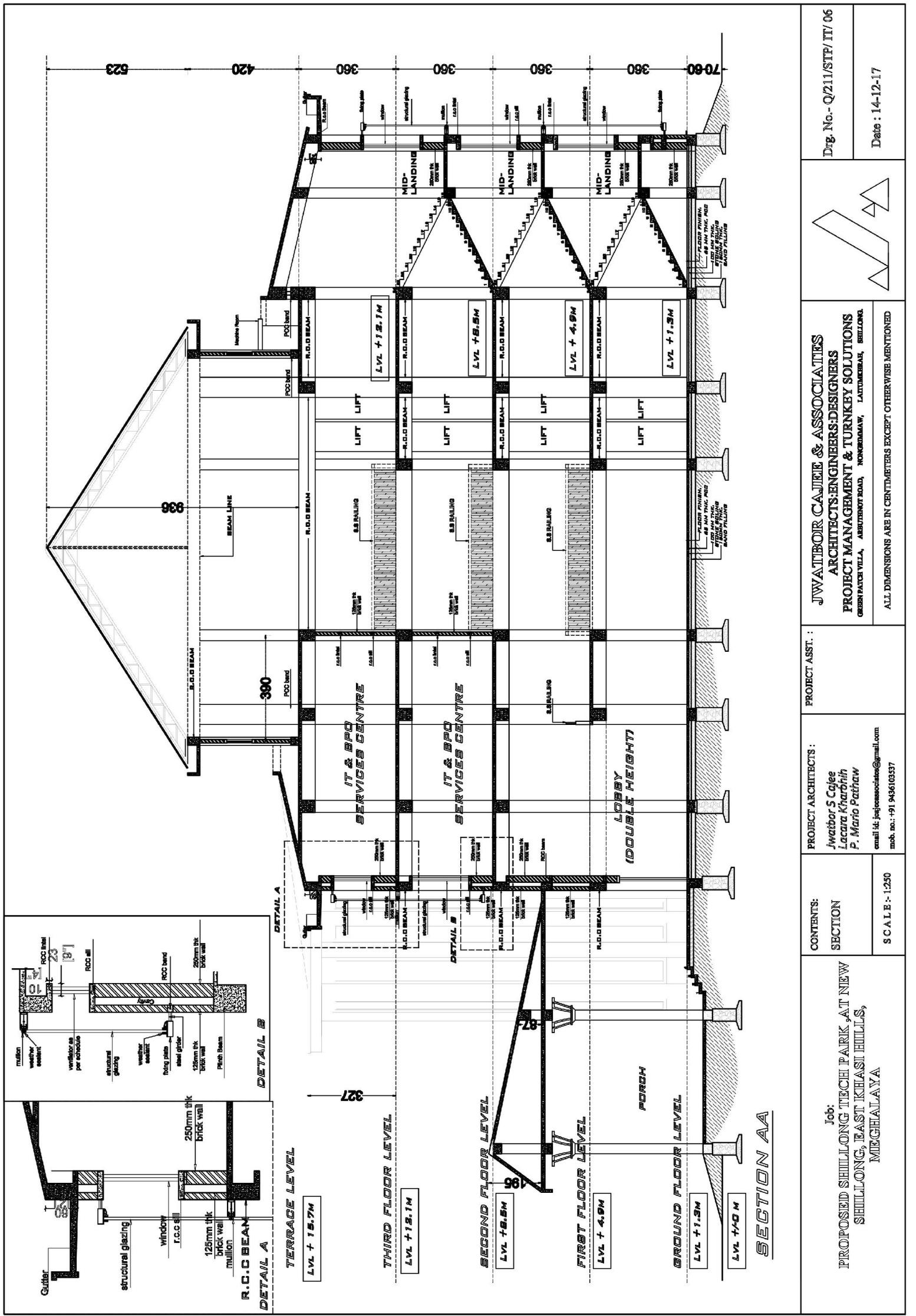
**ROOF PLAN**

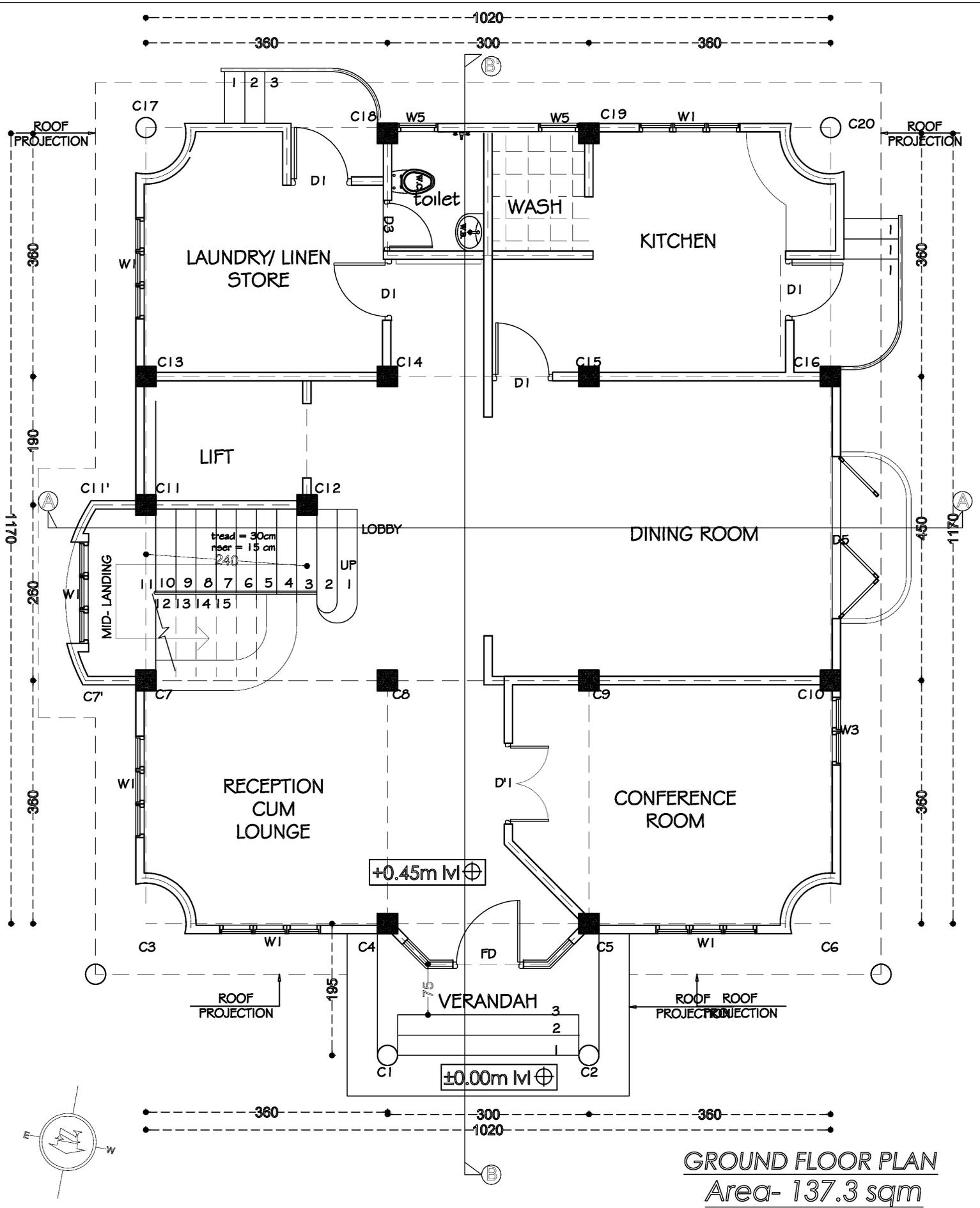
<p>Job:  <b>PROPOSED SHILLONG TECHI PARK, AT NEW SHILLONG, EAST KHASI HILLS, MEGHALAYA</b></p>		<p>CONTENTS:          ROOF PLAN</p>	<p>PROJECT ARCHITECTS :  <b>Jwator S Cajee          Lacara Kharshih          P. Mario Pathaw</b>  <small>email id: jcajeeassociates@gmail.com          mob. no.: +91 9436103537</small></p>	<p>PROJECT ASST. :</p>	<p><b>JWATOR CAJEE &amp; ASSOCIATES</b>          ARCHITECTS:ENGINEERS:DESIGNERS  <b>PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS</b>  <small>GREENPACH VILLA, ARBUSTROT ROAD, NONGMAW, LAITAKERAI, SHILLONG.</small></p>	<p>Drg. No.- Q/211/ STP/TT/05</p>
		<p>S C A L E - 1:250</p>			<p>Date : 14-12-17</p>	



**FRONT ELEVATION WITH  
STRUCTURAL BLAZING**

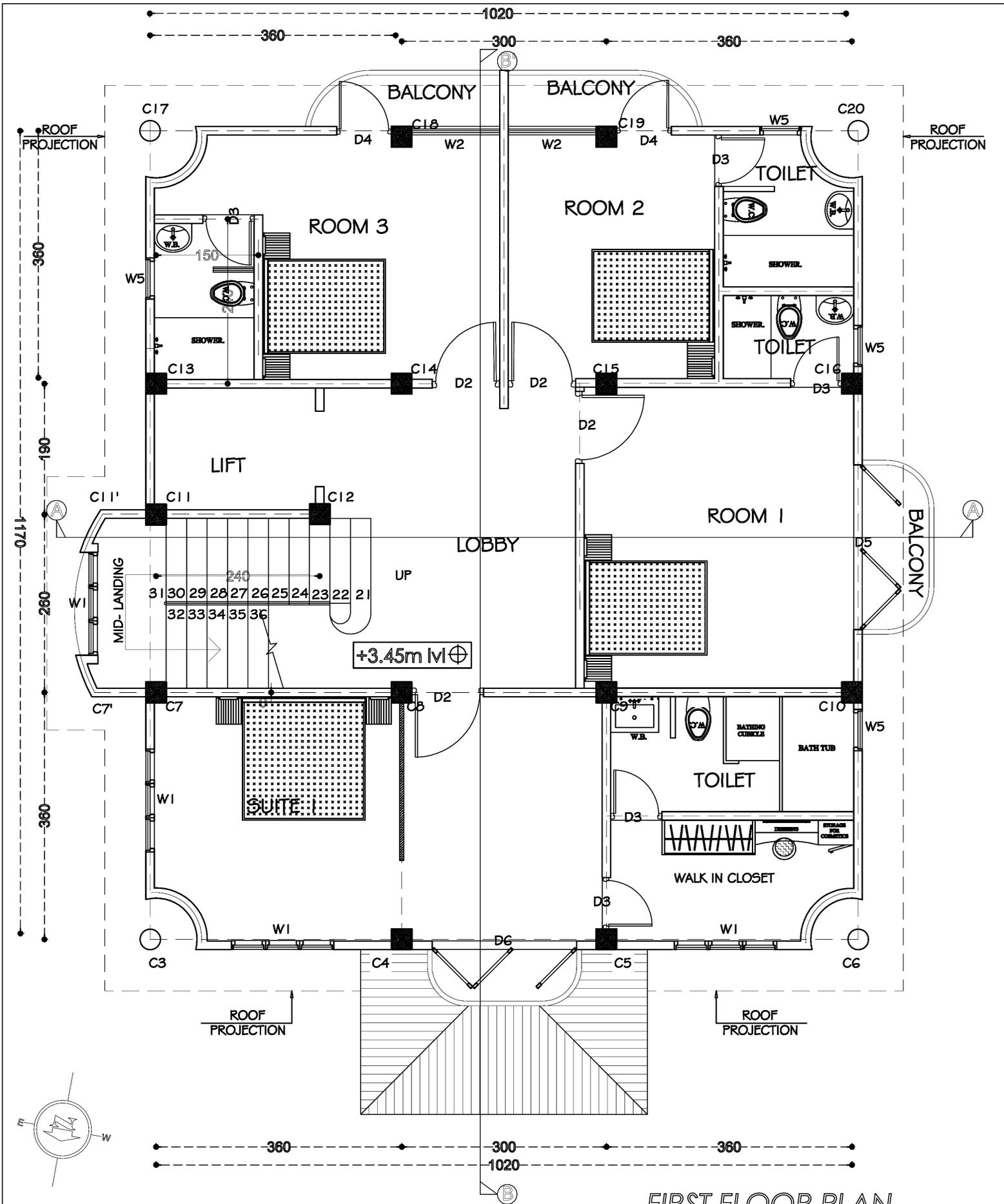
<p><b>Job:</b>  <b>PROPOSED SHILLONG TECH PARK ,AT NEW          SHILLONG, EAST KHASI HILLS,          MEGHALAYA</b></p>	<p><b>ELEVATION</b></p> <p><b>SCALE :- 1:250</b></p>	<p><b>PROJECT ARCHITECTS :</b>  <i>Jwator S Cajee</i>  <i>Lacara Kharshih</i>  <i>P. Mario Pathaw</i>          email id: <a href="mailto:jesjeassociates@gmail.com">jesjeassociates@gmail.com</a>          mob. no.: +91 9436105537</p>	<p><b>JWATOR CAJEE &amp; ASSOCIATES</b>  <b>ARCHITECTS:ENGINEERS:DESIGNERS</b>  <b>PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS</b>          GREEN PATCH VILLA, ABERNOT ROAD, NONGRIMAW, LATUKERAI, SHILLONG.</p> <p>ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHER WISE MENTIONED</p>		<p><b>Drg. No. - Q/211/STP/IT/08</b></p>	<p><b>Date : 14-12-17</b></p>
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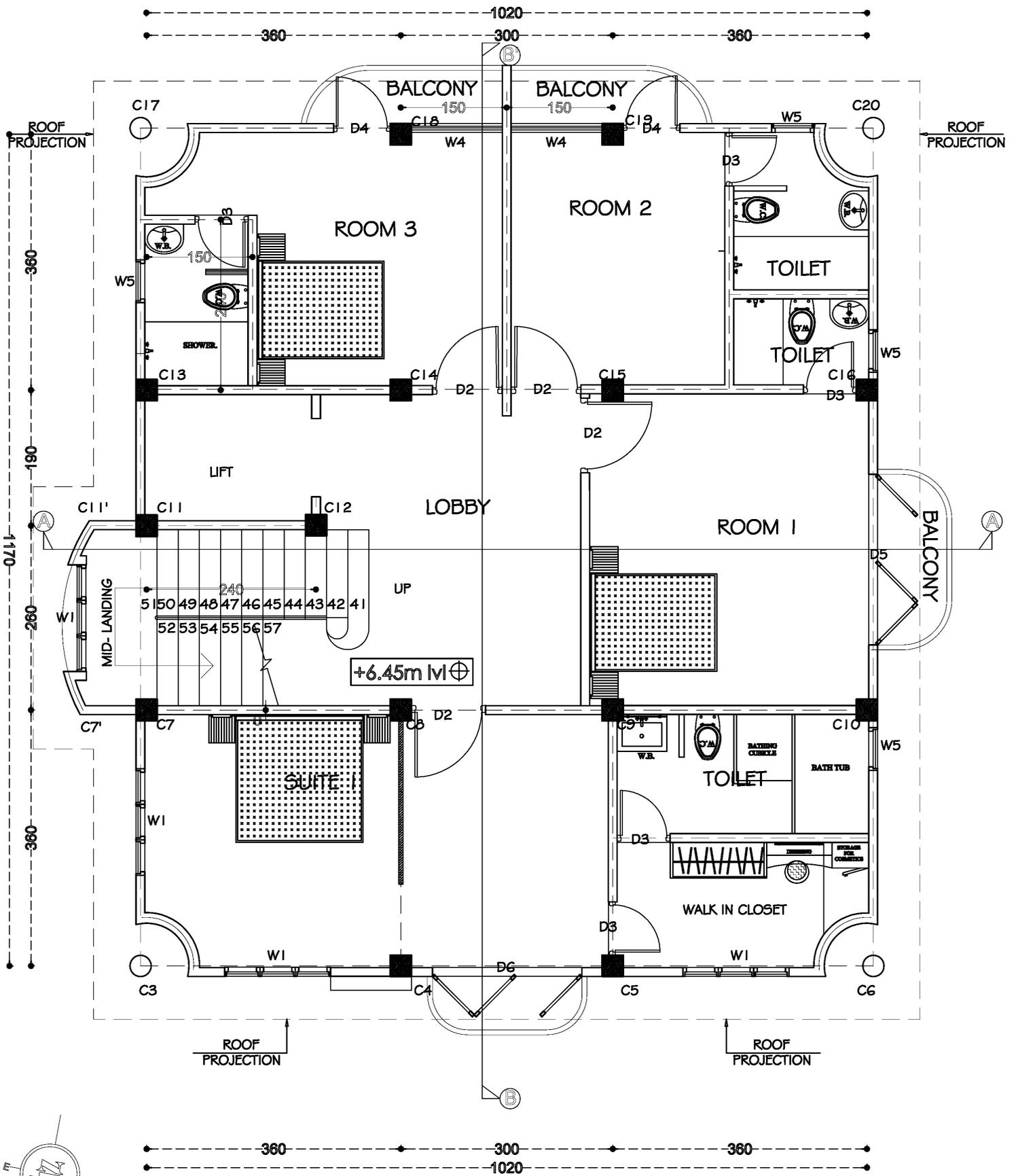
**GROUND FLOOR PLAN**  
 Area- 137.3 sqm

<b>Job:</b> PROPOSED GUEST HOUSE FOR SHILLONG TECH PARK AT NEW SHILLONG	<b>CONTENTS:</b> FLOOR PLAN	<b>PROJECT ARCHITECTS :</b> Jwator S Cajee email id: jwatorcajee@gmail.com	<b>JWATOR CAJEE &amp; ASSOCIATES</b> ARCHITECTS-ENGINEERS-DESIGNERS PROJECT MANAGEMENT & TURNKEY SOLUTIONS <small>CHENNAI, BANGALORE, HYDRABAD, MUMBAI, CHENNAI, BANGALORE, HYDRABAD, MUMBAI, CHENNAI, BANGALORE, HYDRABAD, MUMBAI</small>		Drg. No.- Q/211/STP/GH/01
	SCALE: 1:75	ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED			Date : 14-12-17



**FIRST FLOOR PLAN**  
Area- 133.7 sqm

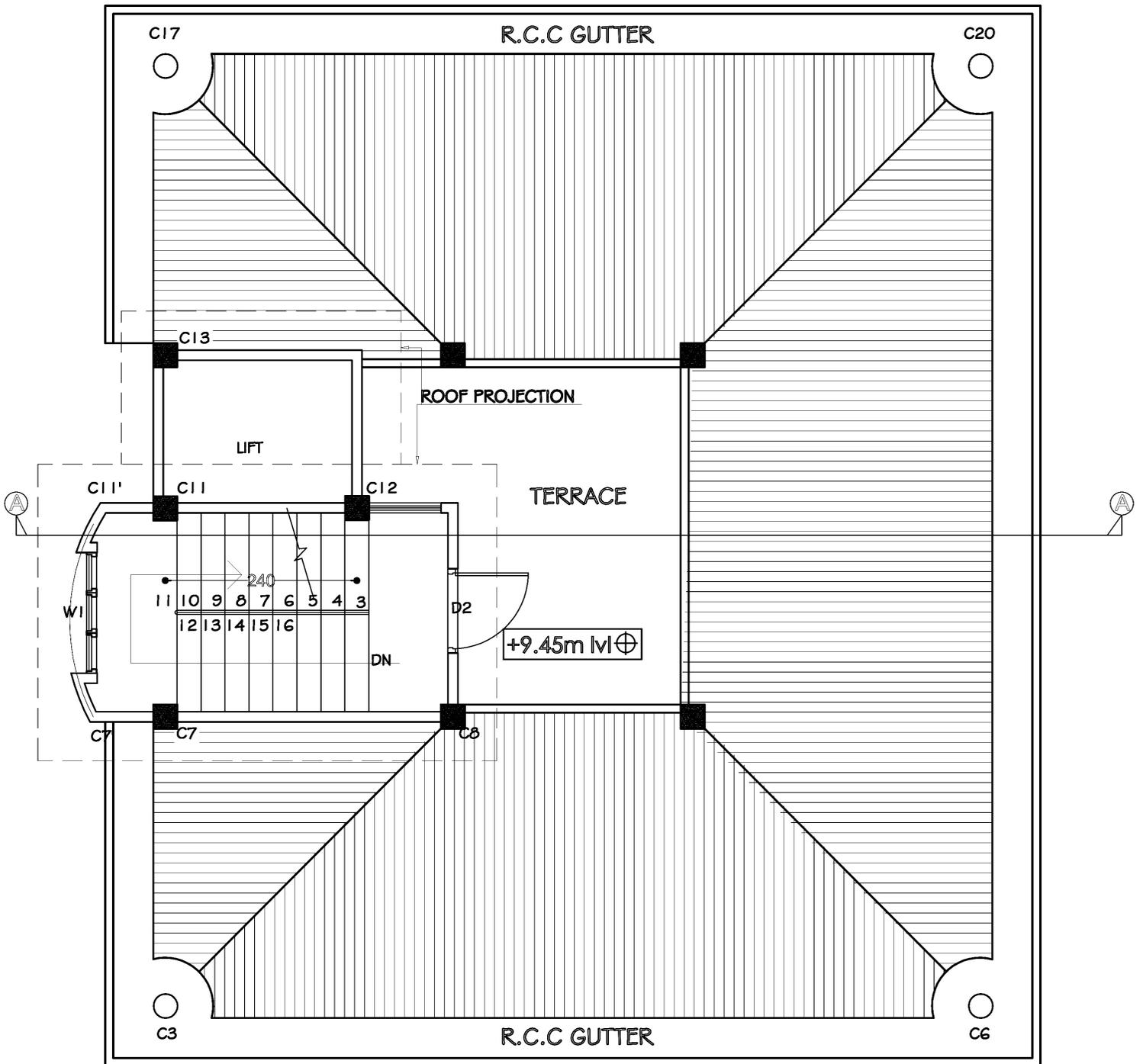
<p><b>Job:</b> PROPOSED GUEST HOUSE FOR SHILLONG TECH PARK AT NEW SHILLONG</p>	<p><b>CONTENTS:</b> FLOOR PLAN</p> <p>SCALE - 1:75</p>	<p><b>PROJECT ARCHITECTS :</b> Jwator S Cajee email: M. jwatorassociates@gmail.com</p>	<p><b>JWATOR CAJEE &amp; ASSOCIATES</b> ARCHITECTS-ENGINEERS-DESIGNERS PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS GHEBPAKCHILLA, ANSUTIBOY ROAD, NONGMAW, LAITUMBARA, SHILLONG.</p> <p>ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED</p>		<p><b>Dr. No.-</b> Q/211/STP/GH/02</p> <p><b>Date :</b> 14-12-17</p>
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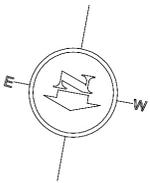
**SECOND FLOOR PLAN**

*Area- 133.7 sqm*

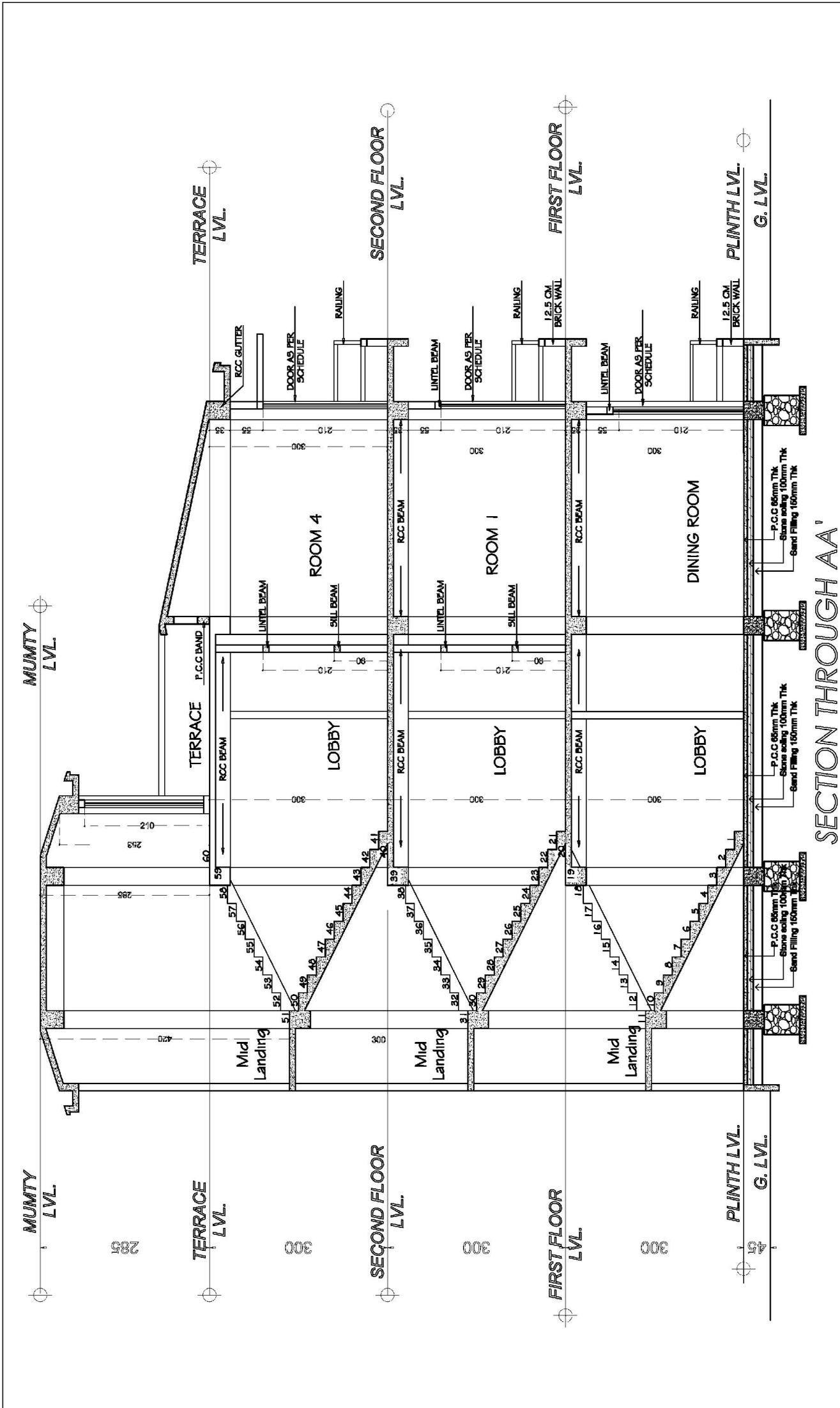
<b>Job:</b> PROPOSED GUEST HOUSE FOR SHILLONG TECH PARK AT NEW SHILLONG	<b>CONTENTS:</b> FLOOR PLAN	<b>PROJECT ARCHITECTS :</b> <i>Jwator S Cajee</i> <small>email id: jwatorscj@rediffmail.com</small>	<b>JWATOR CAJEE &amp; ASSOCIATES</b> ARCHITECTS-ENGINEERS-DESIGNERS <b>PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS</b> <small>CHERATANG VILLA, ARUNDETH ROAD, HOUSHEMBAW, LAITUMGERAB, SHILLONG.</small>		<b>Drp. No.-</b> Q/211/STP/GH/03
	<b>SCALE:</b> 1:75	<small>ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED</small>	<b>Date :</b> 14-12-17		



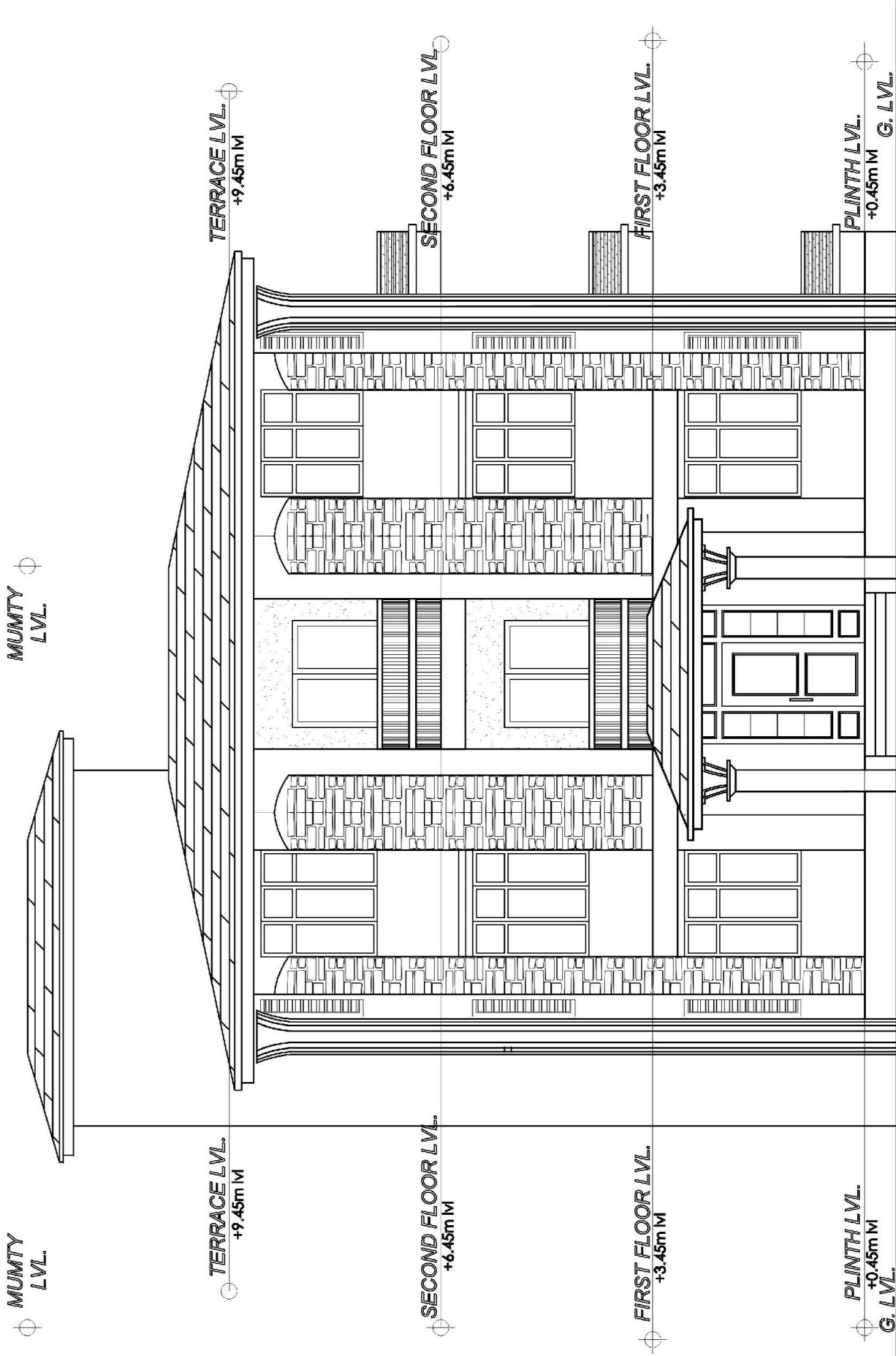
TERRACE PLAN



<b>Job:</b> PROPOSED GUEST HOUSE FOR SHILLONG TECH PARK AT NEW SHILLONG	<b>CONTENTS:</b> FLOOR PLAN	<b>PROJECT ARCHITECTS:</b> <i>Jwator S Cajee</i> <small>email id: jwatorsochator@gmail.com</small>	<b>JWATOR CAJEE &amp; ASSOCIATES</b> ARCHITECTS-ENGINEERS-DESIGNERS PROJECT MANAGEMENT & TURNKEY SOLUTIONS <small>GHENTRACHIVILLA, ANTIKNET ROAD, WINGHOBANG, LAITUMBERAB, SHILLONG.</small>		<b>Drq. No.-</b> Q/211/STP/GH/04
	SCALE: 1:75	ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED	<b>Date:</b> 14-12-17		



<p>Job: <b>PROPOSED GUEST HOUSE FOR SHILLONG TECH PARK AT NEW SHILLONG</b></p>	<p>CONTENTS: SECTION</p>	<p>PROJECT ARCHITECTS: <b>Jwator S Cajee</b> email id: jwatorcajee@gmail.com</p>	<p><b>JWATOR CAJEE &amp; ASSOCIATES</b> ARCHITECTS-ENGINEERS-DESIGNERS PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS GREEN PARK VILLA, AMBROSE ROAD, NONGMAIT, LAITHEBAI, BHELLO.</p>		<p>Dwg. No. - Q/211/STP/GH/05</p>
	<p>SCALE:- 1:85</p>	<p>ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED</p>			<p>Date : 14-12-17</p>



FRONT ELEVATION

<p>Job:  <b>PROPOSED GUEST HOUSE FOR          SHILLONG TECH PARK          AT NEW SHILLONG</b></p>	<p>CONTENTS:  <b>FRONT ELEVATION</b></p>	<p>PROJECT ARCHITECTS :  <b>Jwator S Cujee</b>          email id: jwatorassociates@gmail.com</p>	<p><b>JWATORBOIR CAJIEE &amp; ASSOCIATES</b>          ARCHITECTS-ENGINEERS-DESIGNERS          PROJECT MANAGEMENT &amp; TURNKEY SOLUTIONS          GREEN PARK VILLA, ARBUTHNOT ROAD, NUNGHEMAY, LAITUMBERAB, BELLONG.</p>	<p>Dwg. No.- Q/211/STP/GHI/07</p>
	<p>S C A L E :- 1:85</p>	<p>ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT OTHERWISE MENTIONED</p>		<p>Date : 14-12-17</p>

*Section - VI*

***FUNCTIONAL REQUIREMENT SPECIFICATION***

## Section-VI: Functional requirement specification

### GROUP A: CONSTRUCTION OF IT & ITeS

- SCHEDULE ITEMS (MAIN BUILDING)**

**I. CONSTRUCTION OF MAIN BUILDING** – *The bidder is requested to put his remarks Yes or No in the compliance column below*

<b>GROUND FLOOR</b>				
<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Quantity</b>	<b>Compliance (Yes/No)</b>
1	Earthwork in excavation in foundation trenches of footing, column walls, retaining walls, septic tank etc including bailing out water where necessary and removal of surplus earth with all lead and lift as directed and specified.	cum	3188.00	
2	Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete.	m <sup>2</sup>	1174.64	
3	Plain cement concrete works with coarse aggregate of sizes 13mm to 32mm in foundation bed for footing steps, walls, brick works etc. as directed and specified including dewatering if necessary, and curing complete (shuttering where necessary shall be measured and paid separately). 1:3:6	cum	147.01	
4	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C Work / R.B. Walling including straightening, cleaning, cutting and bending to proper shaped and length as per details.	qntl	2,302.96	
5	Providing form work of ordinary timber planking of thickness not less than 25mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0M as specified.	m <sup>2</sup>	6830.76	
	Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand & 20mm downgraded stone aggregate including dewatering if			

6	<i>necessary, and curing complete but excluding cost of form work and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid separately)</i>	<i>cum</i>	<i>1355.29</i>	
7	<i>Providing stone masonry work in retaining wall, wing wall, abutment, foundation, steps, plinth etc. in cement mortar in prop 1:6 with levelling course of 1:6:12 with unsize stone / mawthup both faces hammer dressed including bonding, providing face stone, through stone and centering including racking of joints, curing and supplying and all carriage of stone as directed.</i>	<i>cum</i>	<i>346.40</i>	
8	<i>Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete.</i>	<i>m<sup>2</sup></i>	<i>2562.28</i>	
9	<i>Providing cement concrete floor base in prop 1:3:6 laid in alternate bays as specified with coarse aggregate of size 13mm to 32mm including dewatering if necessary, and curing etc (35mm thick in prop 1:3:6)</i>	<i>m<sup>2</sup></i>	<i>2562.68</i>	
10	<i>Brick nogged wall with 1st class brick in cement mortar including racking out joints and curing complete as directed in super structure above plinth up to 1st floor level (protruding M.S rod/Tor steel of column to be embedded in cement mortar and will be measured and paid separately)</i>	<i>m<sup>2</sup></i>	<i>1632.84</i>	
11	<i>Brick work in cement mortar with 1st class brick including racking out joints and curing complete in super-structure above plinth level upto 1st floor level including dewatering if necessary as directed.</i>  <i>a) Ground floor</i>	<i>cum</i>	<i>223.34</i>	
12	<i>Providing, fitting and fixing M.S. grill of required pattern for windows/ clerestory windows/ opening/ railing with M.S. flats at required spacing in frame all round, square or round M.S. bars with round headed bolts and nuts or screws.</i>	<i>kg</i>	<i>1101.87</i>	
13	<i>Providing wood work in frame (chowkats) of doors, windows, clerestory windows and other similar works wrought, framed and fixed in position in contact with C.C or brick masonry wall including supplying, fitting and fixing with M.S. hold fast (40mmx3mmx250mm) as per design embedded in cement concrete block in proportion 1:2:4 and with two coats of kiricide</i>	<i>cum</i>	<i>2.15</i>	

	<i>oiling to the timber faces in contact with C.C and masonry as directed and specified.</i>			
14	<i>Providing and fixing flush door shutters solid core construction with frame of 1st class hard wood with cross band and face veneered ply wood face panels conforming to relevant I.S code including oxidised iron butt hinges (100mmx75mmx3.5mm) with necessary wood screws.</i>	<i>sqm</i>	<i>116.45</i>	
15	<i>Providing, fitting and fixing anodised aluminium windows and ventilators of standard sections without horizontal glazing bars joints mitred and welded(manufactured to relevant IS specifications) fitted with 6mm x 3.15mm lugs 100mm long embedded in CC blocks 150mm x 100mm x 100mm in 1:3:6 mix including providing and fixing handles, frictions stays, joining cleat, bolting device, locking arrangement, spring catch as required complete as specified and directed for all levels. (Glass panes included, Cement concrete to be measured and paid separately).</i>	<i>sqm</i>	<i>164.56</i>	
16	<i>Providing and fixing clear sheet glass bedded in putty and fixed with/without wooden beading including necessary cutting of glass to the required size(payment for wooden bead shall be made separately)</i>	<i>sqm</i>	<i>164.56</i>	
17	<i>15 mm thick Cement plaster in single coat on rough side of single or half brick wall for interior plastering up to 1st floor level including arises, internal rounded angles, not exceeding 80mm girth and finished even and smooth including curing complete as directed.</i>	<i>sqm</i>	<i>8748.94</i>	
18	<i>Applying one coat of cement primer of approved brand and manufacture on new wall surface after thoroughly brooming the surfaces free from mortar droppings and other foreign matter and including preparing the surface even and sand papered smooth.</i>	<i>sqm</i>	<i>6784.23</i>	
19	<i>Providing VITRIFIED floor tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality of specified size, shape and thickness not less than 18mm on floors, skirting, risers and tread of steps over 15 mm thick base of cement mortar in prop. 1:3 (1 cement : 3coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey/Sika/Pidilite/Rouf) / white cement slurry mixed with approved pigment to match shade of tiles, mixed with approved pigment to match the shade of the tiles, complete at all levels as specified and directed.</i>	<i>sqm</i>	<i>1663.00</i>	

	<i>(Cement plastering to be measured and paid separately).(Coloured pigment should be in conformity with colour of tiles and as approved and directed by the Department)</i>			
20	<i>Providing polished VITRIFIED wall tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8mm on walls and skirting over cement mortar bed 10 mm thick in prop. 1:3 (1 cement : 3 coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey / Sika / Pidilite / Rouf) or white cement slurry mixed with approved pigment to match shade of tiles complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).</i>	<i>sqm</i>	<i>183.53</i>	
21	<i>18 mm thick marble stone slab in flooring= including treads and risers of steps, skirting, laid over 20 mm thick base of cement plaster 1:6 (1 cement : 6 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with marble slabs of specified quality and shade at all levels.</i>	<i>sqm</i>	<i>109.57</i>	
22	<i>Supplying and applying interior/exterior walls/ floors/ roofs one coat of Epoxy Primer of Jenson &amp; Nicholson/ Nerolacbrand as priming coat after cleaning and clearing the surfaces as specified and directed and then applying two coats of Epoxy paints of Jenson &amp; Nicholson/ Nerolac brand of required shade on walls/ floors/ roof surfaces as specified and directed complete including scaffolding at all levels.</i>	<i>sqm</i>	<i>6784.23</i>	
23	<i>Applying priming coat over new wood and wood based surfaces over 100mm in girth/width after and including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter, sand papering and knotting.</i>	<i>sqm</i>	<i>302.76</i>	
24	<i>Painting two coats (excluding priming coat) on new steel and other metal surface with enamel paint of approved brand and manufacture(Asian paint/Berger paint/ ICI paint/ J &amp; N paint/Nerolac) to give an even shade including cleaning the surface of all dirt, dust and other foreign matter.</i>	<i>sqm</i>	<i>302.76</i>	
25	<i>Supplying, fitting, fixing M/F Suspended Ceiling with pre-coated G.I. angle size 24mm x 24mm x 80mm thick fixed to the brick wall/ partition at the perimeter of ceiling with nylon sleeves and screws, at 610mm c/c and suspending G.I. main 'T' section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 3600mm long from the</i>	<i>sqm</i>	<i>956.20</i>	

	soffit in one direction with the help of metal Rawl Plug, Soffit cleat and 4mm dia G.I. Rod with galvanised level clip @ 1220mm c/c; G.I. cross "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 1200mm long is inserted into the slots provided in main "T" section at 600mm c/c and G.I. cross "T" section (bottom precoated) size 24mm x 38mm x 0.70mm and 600mm long is inserted into the slots provided in 1200mm long cross "T" section at 600mm c/c to form 600mm x 600mm grid; fixing 12.5mm/ 9.5mm/ 8mm thick Gypboard ceiling panels of size 595mm x 595mm into the grid and painting where necessary (one coat primer and two coats of paint) complete at all levels as specified and directed. (For light fittings, grill diffusers etc. cut out to be made with the frame of perimeter channel supported suitably and measured and paid separately as and where necessary). (Glass wool to be measured and paid separately).			
26	Providing structural glazing	sq.ft	13002.64	
<b>FIRST FLOOR</b>				
1	Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C Work / R.B. Walling including straightening , cleaning , cutting and bending to proper shaped and length as per details.	qntl	1,206.31	
2	Providing form work of ordinary timber planking of thickness not less than 25mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0M as specified.	sqm	4982.66	
3	Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand & 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of form work and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid separately)	cum	684.83	
	Brick nogged wall with 1st class brick in cement mortar including racking out joints and curing complete as directed in super structure above plinth up to 1st floor level (protruding M.S			

4	rod/Tor steel of column to be embedded in cement mortar and will be measured and paid separately)	Sqm	1286.05	
5	Brick work in cement mortar with 1st class brick including racking out joints and curing complete in super-structure above plinth level upto 1st floor level including dewatering if necessary as directed. a) First floor	cum	153.92	
6	Providing, fitting and fixing M.S. grill of required pattern for windows/ clerestory windows/ opening/ railing with M.S. flats at required spacing in frame all round, square or round M.S. bars with round headed bolts and nuts or screws.	kg	1101.87	
7	Providing wood work in frame (chowkats) of doors, windows, clerestory windows and other similar works wrought, framed and fixed in position in contact with C.C or brick masonry wall including supplying, fitting and fixing with M.S. hold fast (40mmx3mmx250mm) as per design embedded in cement concrete block in proportion 1:2:4 and with two coats of kiricide oiling to the timber faces in contact with C.C and masonry as directed and specified.	cum	1.47	
8	Providing and fixing flush door shutters solid core construction with frame of 1st class hard wood with cross band and face veneered ply wood face panels conforming to relevant I.S code including oxidised iron butt hinges (100mmx75mmx3.5mm) with necessary wood screws.	sqm	75.18	
9	Providing, fitting and fixing anodised aluminium windows and ventilators of standard sections without horizontal glazing bars joints mitred and welded(manufactured to relevant IS specifications) fitted with 6mm x 3.15mm lugs 100mm long embedded in CC blocks 150mm x 100mm x 100mm in 1:3:6 mix including providing and fixing handles, frictions stays, joining cleat, bolting device, locking arrangement, spring catch as required complete as specified and directed for all levels. (Glass panes included, Cement concrete to be measured and paid separately).	sqm	184.82	
10	Providing and fixing clear sheet glass bedded in putty and fixed with/without wooden beading including necessary cutting of glass to the required size (payment for wooden bead shall be made separately)	sqm	184.82	

<b>11</b>	<i>15 mm thick Cement plaster in single coat on rough side of single or half brick wall for interior plastering up to 1st floor level including arises, internal rounded angles, not exceeding 80mm girth and finished even and smooth including curing complete as directed.</i>	<i>sqm</i>	<i>8129.94</i>	
<b>12</b>	<i>Applying one coat of cement primer of approved brand and manufacture on new wall surface after thoroughly brooming the surfaces free from mortar droppings and other foreign matter and including preparing the surface even and sand papered smooth.</i>	<i>sqm</i>	<i>6168.58</i>	
<b>13</b>	<i>Providing VITRIFIED floor tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality of specified size, shape and thickness not less than 18mm on floors, skirting, risers and tread of steps over 15 mm thick base of cement mortar in prop. 1:3 (1 cement : 3coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey/Sika/Pidilite/Rouf) / white cement slurry mixed with approved pigment to match shade of tiles, mixed with approved pigment to match the shade of the tiles, complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).(Coloured pigment should be in conformity with colour of tiles and as approved and directed by the Department)</i>	<i>sqm</i>	<i>1704.00</i>	
<b>14</b>	<i>Providing polished VITRIFIED wall tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8mm on walls and skirting over cement mortar bed 10 mm thick in prop. 1:3 (1 cement : 3 coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey / Sika / Pidilite / Roof) or white cement slurry mixed with approved pigment to match shade of tiles complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).</i>	<i>sqm</i>	<i>183.53</i>	
<b>15</b>	<i>18 mm thick marble stone slab in flooring= including treads and risers of steps, skirting, laid over 20 mm thick base of cement plaster 1:6 (1 cement : 6 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with marble slabs of specified quality and shade at all levels.</i>	<i>sqm</i>	<i>478.50</i>	
	<i>Supplying and applying interior/ exterior walls/ floors/ roofs one coat of Epoxy Primer of Jenson</i>			

<b>16</b>	<i>&amp; Nicholson/ Nerolac brand as priming coat after cleaning and clearing the surfaces as specified and directed and then applying two coats of Epoxy paints of Jenson &amp; Nicholson/ Nerolac brand of required shade on walls/ floors/ roof surfaces as specified and directed complete including scaffolding at all levels.</i>	<i>sqm</i>	<i>6168.58</i>	
<b>17</b>	<i>Applying priming coat over new wood and wood based surfaces over 100mm in girth/width after and including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter, sand papering and knotting.</i>	<i>sqm</i>	<i>195.47</i>	
<b>18</b>	<i>Painting two coats (excluding priming coat) on new steel and other metal surface with enamel paint of approved brand and manufacture(Asian paint/Berger paint/ ICI paint/ J &amp; N paint/Nerolac) to give an even shade including cleaning the surface of all dirt, dust and other foreign matter.</i>	<i>sqm</i>	<i>195.47</i>	
<b>19</b>	<i>Supplying, fitting, fixing M/F Suspended Ceiling with pre-coated G.I. angle size 24mm x 24mm x 80mm thick fixed to the brick wall/ partition at the perimeter of ceiling with nylon sleeves and screws, at 610mm c/c and suspending G.I. main "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 3600mm long from the soffit in one direction with the help of metal Rawl Plug, Soffit cleat and 4mm dia G.I. Rod with galvanised level clip @ 1220mm c/c; G.I. cross "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 1200mm long is inserted into the slots provided in main "T" section at 600mm c/c and G.I. cross "T" section (bottom precoated) size 24mm x 38mm x 0.70mm and 600mm long is inserted into the slots provided in 1200mm long cross "T" section at 600mm c/c to form 600mm x 600mm grid; fixing 12.5mm/ 9.5mm/ 8mm thick Gypboard ceiling panels of size 595mm x 595mm into the grid and painting where necessary (one coat primer and two coats of paint) complete at all levels as specified and directed. (For light fittings, grill diffusers etc. cut out to be made with the frame of perimeter channel supported suitably and measured and paid separately as and where necessary). (Glass wool to be measured and paid separately).</i>	<i>sqm</i>	<i>466.00</i>	

<b>SECOND FLOOR</b>				
<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Quantity</b>	<b>Compliance (Yes/No)</b>
1	<i>Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S . Code for R.C.C Work / R.B. Walling including straightening, cleaning , cutting and bending to proper shaped and lenght as per details.</i>	<i>qntl</i>	<i>1,184.36</i>	
2	<i>Providing form work of ordinary timber planking of thickness not less than 25mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0M as specified.</i>	<i>Sqm</i>	<i>4703.37</i>	
3	<i>Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand &amp; 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of form work and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid separately)</i>	<i>cum</i>	<i>765.236</i>	
4	<i>Brick nogged wall with 1st class brick in cement mortar including racking out joints and curing complete as directed in super structure above plinth up to 1st floor level (protruding M.S rod/Tor steel of column to be embedded in cement mortar and will be measured and paid separately)</i>	<i>sqm</i>	<i>1269.67</i>	
5	<i>Brick work in cement mortar with 1st class brick including racking out joints and curing complete in super-structure above plinth level upto 1st floor level including</i>			

	<i>dewatering if necessary as directed.</i>			
	<i>a) Second floor</i>	<i>cum</i>	<i>137.08</i>	
<i>6</i>	<i>Providing, fitting and fixing M.S. grill of required pattern for windows/ clerestory windows/ opening/ railing with M.S. flats at required spacing in frame all round, square or round M.S. bars with round headed bolts and nuts or screws.</i>	<i>kg</i>	<i>1101.87</i>	
<i>7</i>	<i>Providing wood work in frame (chowkats) of doors, windows, clerestory windows and other similar works wrought, framed and fixed in position in contact with C.C or brick masonry wall including supplying, fitting and fixing with M.S. hold fast (40mmx3mmx250mm) as per design embedded in cement concrete block in proportion 1:2:4 and with two coats of kiricide oiling to the timber faces in contact with C.C and masonry as directed and specified.</i>	<i>cum</i>	<i>1.51</i>	
<i>8</i>	<i>Providing and fixing flush door shutters solid core construction with frame of 1st class hard wood with cross band and face veneered ply wood face panels conforming to relevant I.S code including oxidised iron butt hinges (100mmx75mmx3.5mm) with necessary wood screws.</i>	<i>sqm</i>	<i>77.70</i>	
<i>9</i>	<i>Providing, fitting and fixing anodised aluminium windows and ventilators of standard sections without horizontal glazing bars joints mitred and welded (manufactured to relevant IS specifications) fitted with 6mm x 3.15mm lugs 100mm long embedded in CC blocks 150mm x 100mm x 100mm in 1:3:6 mix including providing and fixing handles, frictions stays, joining cleat, bolting device, locking arrangement, spring catch as required complete as specified and</i>	<i>sqm</i>	<i>229.13</i>	

	<i>directed for all levels. (Glass panes included, Cement concrete to be measured and paid separately).</i>			
10	<i>Providing and fixing clear sheet glass bedded in putty and fixed with/without wooden beading including necessary cutting of glass to the required size (payment for wooden bead shall be made separately)</i>	<i>sqm</i>	<i>229.13</i>	
11	<i>15 mm thick Cement plaster in single coat on rough side of single or half brick wall for interior plastering up to 1st floor level including arises, internal rounded angles, not exceeding 80mm girth and finished even and smooth including curing complete as directed.</i>	<i>sqm</i>	<i>8129.94</i>	
12	<i>Applying one coat of cement primer of approved brand and manufacture on new wall surface after thoroughly brooming the surfaces free from mortar droppings and other foreign matter and including preparing the surface even and sand papered smooth.</i>	<i>sqm</i>	<i>6168.58</i>	
13	<i>Providing VITRIFIED floor tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality of specified size, shape and thickness not less than 18mm on floors, skirting, risers and tread of steps over 15 mm thick base of cement mortar in prop. 1:3 (1 cement : 3 coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey/Sika /Pidilite/Rouf) / white cement slurry mixed with approved pigment to match shade of tiles, mixed with approved pigment to match the shade of the tiles, complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).(Coloured pigment should be in conformity with colour of tiles and as approved and</i>	<i>sqm</i>	<i>1785.00</i>	

	<i>directed by the Department)</i>			
14	<i>Providing polished VITRIFIED wall tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8mm on walls and skirting over cement mortar bed 10 mm thick in prop. 1:3 (1 cement : 3 coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey / Sika / Pidilite / Rouf) or white cement slurry mixed with approved pigment to match shade of tiles complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).</i>	<i>sqm</i>	<i>183.53</i>	
15	<i>18 mm thick marble stone slab in flooring= including treads and risers of steps, skirting, laid over 20 mm thick base of cement plaster 1:6 (1 cement : 6 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with marble slabs of specified quality and shade at all levels.</i>	<i>sqm</i>	<i>403.50</i>	
16	<i>Supplying and applying interior/exterior walls/ floors/ roofs one coat of Epoxy Primer of Jenson &amp; Nicholson/ Nerolac brand as priming coat after cleaning and clearing the surfaces as specified and directed and then applying two coats of Epoxy paints of Jenson &amp; Nicholson/ Nerolac brand of required shade on walls/ floors/ roof surfaces as specified and directed complete including scaffolding at all levels.</i>	<i>sqm</i>	<i>6168.58</i>	
17	<i>Applying priming coat over new wood and wood based surfaces over 100mm in girth/width after and including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter, sand papering and knotting.</i>	<i>sqm</i>	<i>595.73</i>	

18	<p><i>Painting two coats (excluding priming coat) on new steel and other metal surface with enamel paint of approved brand and manufacture(Asian paint/Berger paint/ ICI paint/ J &amp; N paint/Nerolac) to give an even shade including cleaning the surface of all dirt, dust and other foreign matter.</i></p>	sqm	595.73	
19	<p><i>Supplying, fitting, fixing M/F Suspended Ceiling with pre-coated G.I. angle size 24mm x 24mm x 80mm thick fixed to the brick wall/ partition at the perimeter of ceiling with nylon sleeves and screws, at 610mm c/c and suspending G.I. main "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 3600mm long from the soffit in one direction with the help of metal Rawl Plug, Soffit cleat and 4mm dia G.I. Rod with galvanised level clip @ 1220mm c/c; G.I. cross "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 1200mm long is inserted into the slots provided in main "T" section at 600mm c/c and G.I. cross "T" section (bottom precoated) size 24mm x 38mm x 0.70mm and 600mm long is inserted into the slots provided in 1200mm long cross "T" section at 600mm c/c to form 600mm x 600mm grid; fixing 12.5mm/ 9.5mm/ 8mm thick Gypboard ceiling panels of size 595mm x 595mm into the grid and painting where necessary (one coat primer and two coats of paint) complete at all levels as specified and directed. (For light fittings, grill diffusers etc. cut out to be made with the frame of perimeter channel supported suitably and measured and paid separately as and where necessary). (Glass wool to be measured and paid separately).</i></p>	Sqm	436.00	

<b>THIRD FLOOR</b>				
<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Quantity</b>	<b>Compliance (Yes/No)</b>
1	<i>Supplying, fitting and fixing in position reinforcement bars upto 1st floor level, conforming to relevant I.S. Code for R.C.C Work / R.B. Walling including straightening, cleaning, cutting and bending to proper shaped and length as per details.</i>	<i>Qntl</i>	<i>1,319.86</i>	
2	<i>Providing form work of ordinary timber planking of thickness not less than 25mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0M as specified.</i>	<i>Sqm</i>	<i>6719.72</i>	
3	<i>Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand &amp; 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of form work and reinforcement for reinforced cement concrete work (form work and reinforcement will be measured and paid separately)</i>	<i>Cum</i>	<i>858.47</i>	
4	<i>Brick nogged wall with 1st class brick in cement mortar including racking out joints and curing complete as directed in super structure above plinth up to 1st floor level (protruding M.S rod/Tor steel of column to be embedded in cement mortar and will be measured and paid separately)</i>	<i>Sqm</i>	<i>1124.41</i>	
5	<i>Brick work in cement mortar with 1st class brick including racking out joints and curing complete in super-structure above plinth level upto 1st floor level including dewatering if necessary as</i>			

	<i>directed.</i>			
	<i>b) First floor</i>	<i>Cum</i>	<i>165.21</i>	
<i>6</i>	<i>Providing, fitting and fixing M.S. grill of required pattern for windows/ clerestory windows/ opening/ railing with M.S. flats at required spacing in frame all round, square or round M.S. bars with round headed bolts and nuts or screws.</i>	<i>Kg</i>	<i>319.68</i>	
<i>7</i>	<i>Providing wood work in frame (chowkats) of doors, windows, clerestory windows and other similar works wrought, framed and fixed in position in contact with C.C or brick masonry wall including supplying, fitting and fixing with M.S. hold fast (40mmx3mmx250mm) as per design embedded in cement concrete block in proportion 1:2:4 and with two coats of kiricide oiling to the timber faces in contact with C.C and masonry as directed and specified.</i>	<i>Cum</i>	<i>1.31</i>	
<i>8</i>	<i>Providing and fixing flush door shutters solid core construction with frame of 1st class hard wood with cross band and face veneered ply wood face panels conforming to relevant I.S code including oxidised iron butt hinges (100mmx75mmx3.5mm) with necessary wood screws.</i>	<i>Sqm</i>	<i>65.52</i>	
<i>9</i>	<i>Providing, fitting and fixing anodised aluminium windows and ventilators of standard sections without horizontal glazing bars joints mitred and welded(manufactured to relevant IS specifications) fitted with 6mm x 3.15mm lugs 100mm long embedded in CC blocks 150mm x 100mm x 100mm in 1:3:6 mix including providing and fixing handles, frictions stays, joining cleat, bolting device, locking arrangement, spring catch as required complete as specified and directed for all levels. (Glass panes</i>	<i>Sqm</i>	<i>155.10</i>	

	<i>included, Cement concrete to be measured and paid separately).</i>			
10	<i>Providing and fixing clear sheet glass bedded in putty and fixed with/without wooden beading including necessary cutting of glass to the required size (payment for wooden bead shall be made separately)</i>	<i>Sqm</i>	<i>155.10</i>	
11	<i>Providing structural glazing</i>	<i>sq.ft</i>	<i>13002.64</i>	
12	<i>Applying one coat of cement primer of approved brand and manufacture on new wall surface after thoroughly brooming the surfaces free from mortar droppings and other foreign matter and including preparing the surface even and sand papered smooth.</i>	<i>Sqm</i>	<i>8643.74</i>	
13	<i>Providing VITRIFIED floor tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality of specified size, shape and thickness not less than 18mm on floors, skirting, risers and tread of steps over 15 mm thick base of cement mortar in prop. 1:3 (1 cement : 3coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey/Sika/Pidilite/Rouf) / white cement slurry mixed with approved pigment to match shade of tiles, mixed with approved pigment to match the shade of the tiles, complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).(Coloured pigment should be in conformity with colour of tiles and as approved and directed by the Department)</i>	<i>Sqm</i>	<i>7142.36</i>	

14	<p>Providing polished VITRIFIED wall tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8mm on walls and skirting over cement mortar bed 10 mm thick in prop. 1:3 (1 cement : 3 coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey / Sika / Pidilite / Rouf) or white cement slurry mixed with approved pigment to match shade of tiles complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).</p>	Sqm	1869.00	
15	<p>18 mm thick marble stone slab in flooring= including treads and risers of steps, skirting, laid over 20 mm thick base of cement plaster 1:6 (1 cement : 6 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with marble slabs of specified quality and shade at all levels.</p>	Sqm	183.53	
16	<p>Supplying and applying interior/ exterior walls/ floors/ roofs one coat of Epoxy Primer of Jenson &amp; Nicholson/ Nerolac brand as priming coat after cleaning and clearing the surfaces as specified and directed and then applying two coats of Epoxy paints of Jenson &amp; Nicholson/ Nerolac brand of required shade on walls/ floors/ roof surfaces as specified and directed complete including scaffolding at all levels.</p>	Sqm	236.00	
17	<p>Applying priming coat over new wood and wood based surfaces over 100mm in girth/width after and including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter, sand papering and knotting.</p>	Sqm	7142.36	

18	<p>Painting two coats (excluding priming coat) on new steel and other metal surface with enamel paint of approved brand and manufacture(Asian paint/Berger paint/ ICI paint/ J &amp; N paint/Nerolac) to give an even shade including cleaning the surface of all dirt, dust and other foreign matter.</p>	Sqm	403.27	
19	<p>Supplying, fitting, fixing M/F Suspended Ceiling with pre-coated G.I. angle size 24mm x 24mm x 80mm thick fixed to the brick wall/ partition at the perimeter of ceiling with nylon sleeves and screws, at 610mm c/c and suspending G.I. main "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 3600mm long from the soffit in one direction with the help of metal Rawl Plug, Soffit cleat and 4mm dia G.I. Rod with galvanised level clip @ 1220mm c/c; G.I. cross "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 1200mm long is inserted into the slots provided in main "T" section at 600mm c/c and G.I. cross "T" section (bottom precoated) size 24mm x 38mm x 0.70mm and 600mm long is inserted into the slots provided in 1200mm long cross "T" section at 600mm c/c to form 600mm x 600mm grid; fixing 12.5mm/ 9.5mm/ 8mm thick Gypboard ceiling panels of size 595mm x 595mm into the grid and painting where necessary (one coat primer and two coats of paint) complete at all levels as specified and directed. (For light fittings, grill diffusers etc. cut out to be made with the frame of perimeter channel supported suitably and measured and paid separately as and where necessary). (Glass wool to be measured and paid separately).</p>	Sqm	403.27	
20	<p>Providing stone cladding</p>	Sqft	6667.02	

21	<i>Plinth Protection by providing 50mm thick Cement Concrete base in prop 1:3:6 (1 cement:3 coarse sand : 6 coarse agg. of 20mm nominal size) with a layer of 10mm thick cement plaster in prop 1:3 and finishing with a floating coat of neat cement including necessary levelling and preparing the subgrade complete as directed.</i>	<i>Sqm</i>	<i>210.20</i>	
22	<i>Grading roof with plain cement concrete/ cement mortar laid in proper grades and slopes for water proofing treatment complete as directed.</i>	<i>Cum</i>	<i>512.64</i>	
23	<i>Supplying, fitting, fixing M/F Suspended Ceiling with pre-coated G.I. angle size 24mm x 24mm x 80mm thick fixed to the brick wall/ partition at the perimeter of ceiling with nylon sleeves and screws, at 610mm c/c and suspending G.I. main "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 3600mm long from the soffit in one direction with the help of metal Rawl Plug, Soffit cleat and 4mm dia G.I. Rod with galvanised level clip @ 1220mm c/c; G.I. cross "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 1200mm long is inserted into the slots provided in main "T" section at 600mm c/c and G.I. cross "T" section (bottom precoated) size 24mm x 38mm x 0.70mm and 600mm long is inserted into the slots provided in 1200mm long cross "T" section at 600mm c/c to form 600mm x 600mm grid; fixing 12.5mm/ 9.5mm/ 8mm thick Gypboard ceiling panels of size 595mm x 595mm into the grid and painting where necessary (one coat primer and two coats of paint) complete at all levels as specified and directed. (For light fittings, grill diffusers etc. cut out to be made with the frame of perimeter channel supported suitably and measured and paid</i>	<i>Sqm</i>	<i>436.00</i>	

	<i>separately as and where necessary). (Glass wool to be measured and paid separately).</i>			

**Note :** *Additional construction items of a pre-Engineered structure over the porch, one pre-Engineered roof structure over central staircase and two pre-Engineered roof structures over staircases at the sides will be required, details of which will be provided prior to execution of such items.*

***Signature of Contractor***

• **SCHEDULE ITEMS**

**II. . INTERNAL ELECTRIFICATION FOR MAIN BUILDING**

<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Qty</b>	<b>Compliance (Yes/No)</b>
1.	<p>Wiring in looping system with copper PVC cable 250/440 volt grade of size 1.5 sqmm of approved quality using PVC casing capping including 5 amperes switch Indian best quality ceiling rose etc. capable to a highest point.</p> <p><b>(a) Long point wiring upto 10mts</b> <b>(i) With copper conductor</b></p> <p><b>(b) Medium Point upto 6mts</b> <b>(i) With copper conductor</b></p> <p><b>(c) Short point wiring upto 3mts</b> <b>(i) With copper conductor</b></p>	Each	290	
		Each	234	
		Each	120	
2.	Wiring as in item No.1 complete to a light plug point when fixed on the same board.	Each	146	
3	<p>Wiring as in item No.1 above to a Ceiling / Exhaust Fan Point</p> <p><b>(a) Long point wiring upto 10mts</b> <b>(i) With copper conductor</b></p>	Each	33	
4.	<p>Wiring as in item No.1 above for Stair Case/Two way Switch wiring.</p> <p><b>(a)Long point wiring upto 10mts</b> <b>(i) With copper conductor</b></p>	Each	8	
5.	<p>Drawing of Main and Sub-main line with PVC 250/440 Volt grade in PVC casing capping complete with all accessories.</p> <p><b>(e) With 2x16mm<sup>2</sup> Copper Conductor</b> <b>(i) With copper conductor</b></p>	P/Mtr	1000	
6.	<p>Supplying fitting and fixing of Single opening Metal Enclosure MCB Distribution Box</p> <p><b>(c)12/16/24 Way</b></p>	Each	6	

7.	<p>Supplying fitting and fixing of SPN/ TPN MCB Metal Enclosure Distribution board</p> <p><b>(d) 12 Way (8+36) Modules</b></p>	Each	12	
8.	<p>Supplying Fitting fixing complete polish brass bracket, 16mm dia and 23cm long with cast backplate and brass lamp holder with CFL lamp.</p> <p>(a)With 25cm dia glass shade complete.</p>	Each	85	
9.	<p>Supplying and fixing of Load Kontakt miniature circuit breaker (MCBs)</p> <p>(b)6-32 Amp SP MCB capacity</p> <p><b>(c )40-80 Amp capacity TP with neutral MCB capacity</b></p>	Each	507.00	
		Each	12	
10.	<p>Supplying fitting, fixing and connection testing complete.</p> <p><b>(c ) T-8 fitting (14/25/28)W.</b></p>	Each	432	
11.	<p>Supplying, fitting and fixing of LED lightings complete.</p> <p>(a)LED Tube Light-Streaks Series</p> <p>(1)18 to 22 watt 1200mm</p> <p>(b) LED Panel light</p> <p>Surface Round 6-24 W</p> <p>(c) Surface</p> <p>(iii)Flat Panel</p> <p>(e)LED decorative garden light</p> <p>(ii)Garden light</p> <p>Supplying fitting and fixing home decorative light fitting complete with accessories (iv)Mirror light FWG 300 with all accessories.</p>	Each	180	
		Each	6	
		Each	6	
		Each	24	
12.	<p>Supplying fitting and fixing exhaust fan double bearing self lubricating type single phase 50 HZ 250 V A.C operated complete with supporting frame fan blades nuts and bolts fan regulator capacitor adjustable type louver and other petty accessories as required</p> <p>(a)Light duty exhaust fan 250/300mm 1 phase</p>	Each	33	

13.	<p>Supplying fitting and fixing earthing with copper earth plate 600x600x6mm thick including all accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc with charcoal salt etc complete as required.</p> <p>Supplying and laying 15 mm x5mm G.I/copper strip at 0.50 mtr below ground</p> <p>(a)With 25x5mm copper strip</p> <p>(b)With 20x5mm copper strip</p>	<p>Set</p> <p>Mtr</p> <p>Mtr</p>	<p>4</p> <p>10</p> <p>100</p>	
14.	<p>Supply insulation Testing and Commissioning of Floor mounted Cubical type dust and vermin proof electrical panel of the following specification made with 16mm thick M.S built on M.S angle iron frame work painted with 2 coats of powder grey paints etc</p> <p>Incoming/400Amp 4PMCCB-1No</p> <p>Bub bar 600Amp 4 strip copper change over 400Amp 4 pole-1</p> <p>Outgoing 32Amp 4 P MCB – 4 Nos.</p> <p>80AmP 4 pole MCCB – 12 Nos</p> <p>100Amp 4 pole MCCB – 1 Nos</p> <p>63 Amp 4 pole MCCB – 4 Nos</p> <p>0-500 volt voltmeter with selector switch</p> <p>0-400 Amp Ammeter with C.D and selector switch</p> <p>R-Y-B Indicator</p>	<p>Set</p>	<p>1</p>	
15.	<p>Proving laying connection testing and commissioning of following sizes of 1100 V aluminum conductor Armored underground cable and over all pvc sheathed cable as per IS code in trenches including the cost of digging of trenches sand cushioning with laying etc and refilling the same in layers or by supporting them in walls and other accessories as required.</p> <p>© 3 1/2 core 50 sqmm</p>	<p>Mtr</p>	<p>360</p>	
16.	<p>Supplying laying testing and commissioning of under ground cable of following sizes of 1100v grade 2 core pvc aluminum conductor cable along wall etc along ground including the cost of digging of trenches sand cushioning besides laying etc and refitting the same in layers or supporting them in wall © 6sq mm</p>	<p>Mtr</p>	<p>50</p>	
17.	<p>Supplying fitting and fixing earthing with G.I earth plate</p>			

	<i>600x600x6mm thick including all accessories and providing masonry enclosure with cover plate having locking arrangement etc charcoal salt complete as required</i>	<i>Each</i>	<i>6</i>	
<i>18.</i>	<i>Supplying and laying 15mm x5mm G.I /copper strip at 0.50 meter below ground  (d)With 25x6mm G.I. strip</i>	<i>Mtr</i>	<i>500</i>	
<i>19.</i>	<i>Providing fixing connecting and testing of lightning conductor (Air termination) made of 40mm diameter G.I. pipe 2meters long with 150x180mm galvanized bases plate complete with all necessary accessories</i>	<i>Each</i>	<i>6</i>	

***Signature of Contractor***

**SCHEDULE ITEMS**

**III. INTERNAL WATER SUPPLY & SANITARY FITTINGS FOR MAIN BUILDING**

<b>Sl. No</b>	<b>Items</b>			<b>Units</b>	<b>Qty</b>	<b>Compliance (Yes/No)</b>
1	SUPPLYING fitting and fixing CPVC pipes with all necessary fittings of supreme /PRINCE /SFMC/FUSHION BRAND OR equivalent					
	A	15mm dia		m	240	
	B	20mmdia		m	240	
	C	25mm dia		m	160	
	D	100mm dia		m	220	
2	supplying fitting and fixing brass stop cock(heavy) of approved brand of size as mentioned below and directed and specified.					
	A	15mm dia		Nos.	132	
	B	20mmdia		Nos.	60	
	C	25mm dia		Nos.	60	
3	supplying fitting and fixing check valve (non return valve) including tread to pipes complete as directed.					
	A	100 mm		Nos.	10	
4	supplying fitting and fixing CP bib cock 15mm dia of approved brand as directed					
				Nos.	80	
5	Towel Rail			Nos.	20	
6	Providing fitting and fixing decorative mirror			Nos.	32	

7	Providing fitting and fixing chrome plated toilet paper holder	Nos.	80	
8	wash basin with pedestal	Nos.	72	
9	Wall soap tray	Nos.	28	
10	Providing fitting and fixing vitreous china pedestal type water closet ( european type W/C pan 400 mm high) with seat and lead, CP brass hinge and rubber buffers CI/MS brackets 40 mm dia flush band with fittings including painting of fittings and brackets required	Nos.	40	
11	Providing fitting and fixing vitreous water closet squatting pan ( indian type W/C pan )with all fittings and fixtures complete including cutting and making good to the wall and floor wherever required gs and brackets required.	Nos	40	
12	PVC flushing cistren with bend, fittings etc	Nos.	80	
13	supplying fitting and fixing sensor faucet of jaquar brand completed	Nos.	48	
14	P.V.C plain cross 'T' as directed	Nos.	80	
15	45 degree PVC bend as directed	Nos.	160	
16	Construction of septic tank in RCC structure after excevation in any kind of soil/rock.			
	(a)	50 users	No	1
	(b)	100 users	No	1
17	supplying and placing plastic cylindrical vertical closed top(PCVC) tank of sintex/polycon/patton made over the staging with manhole cover with locking and cleaning arrangement including providing pads of size as required for inlet and outlet pipes.			

	(a)	2000lit capacity	Nos.	2	
	(b)	1000 lit capacity	Nos.	2	

***Signature of Contractor***

• **SCHEDULE ITEMS**

**IV. MAIN PARKING**

<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Qty</b>	<b>Compliance (Yes/No)</b>
1	<i>Earth work excavation by mechanical means over areas (exceeding 30cm in depth, 1.5m in width as well as 10Sqm on plan) including disposal of excavated earth lead upto 50 m and lift upto 1.5 m , disposed earth to the level and nearly dressed.</i>	<i>Sqm</i>	<i>982.8</i>	
2	<i>Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete.</i>	<i>Sqm</i>	<i>2107</i>	
3	<i>Providing polished SUNROCK-hi CTS/MULTIWYN tiles of approved quality size, shaped and thickness not less than 18 mm on floors and skirting over cement mortar bed 10mm thick in proportion 1:3 (1 cement : 3 coarse sand) including cutting where necessary finished with flush pointing Fix-A-Tile (Choksey /Sika/PIdilite/Rouf) or white cement slurry mixed with approved Pigment to match shade of tiles complete at all levels as specified and directed.</i>	<i>Sqm</i>	<i>2107</i>	

**Signature of Contractor**

• **SCHEDULE ITEMS**

**V. VIP PARKING**

<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Qty</b>	<b>Compliance (Yes/No)</b>
1	<i>Earth work excavation by mechanical means over areas (exceeding 30cm in depth, 1.5m in width as well as 10Sqm on plan) including disposal of excavated earth lead upto 50 m and lift upto 1.5 m , disposed earth to the level and nearly dressed</i>	<i>Sqm</i>	<i>140.76</i>	
2	<i>Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete.</i>	<i>Sqm</i>	<i>330.74</i>	
3	<i>Providing polished SUNROCK-hi CTS/MULTIWYN tiles of approved quality size, shaped and thickness not less than 18 mm on floors and skirting over cement mortar bed 10mm thick in proportion 1:3 (1 cemnt : 3 coarse sand) including cutting where necessary finished with flush pointing Fix-A-Tile (Choksey /Sika/PIdilite/Rouf) or white cement slurry mixed with approved Pigment to match shade of tiles complete at all levels as specified and directed</i>	<i>Sqm</i>	<i>330.74</i>	

**Signature of Contractor**

## **SCHEDULE ITEMS**

### **VI. GUEST HOUSE PARKING**

<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Qty</b>	<b>Compliance (Yes/No)</b>
1	<i>Earth work excavation by mechanical means over areas (exceeding 30cm in depth, 1.5m in width as well as 10Sqm on plan) including disposal of excavated earth lead upto 50 m and lift upto 1.5 m , disposed earth to the level and nearly dressed</i>	<i>Sqm</i>	<i>33.86</i>	
2	<i>Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete.</i>	<i>Sqm</i>	<i>84.64</i>	
3	<i>Providing polished SUNROCK-hi CTS/MULTIWYN tiles of approved quality size, shaped and thickness not less than 18 mm on floors and skirting over cement mortar bed 10mm thick in proportion 1:3 (1 cement : 3 coarse sand) including cutting where necessary finished with flush pointing Fix-A-Tile (Choksey /Sika/Pidilite/Rouf) or white cement slurry mixed with approved Pigment to match shade of tiles complete at all levels as specified and directed</i>	<i>Sqm</i>	<i>84.64</i>	

**Signature of Contractor**

- **SCHEDULE ITEMS**

**VII. SITE DEVELOPMENT WORKS (RETAINING WALL) FOR MAIN BUILDING**

<b>Sl.No</b>	<b>Items</b>	<b>Units</b>	<b>Quantity</b>	<b>Compliance (Yes/No)</b>
1	Stone masonry work in retaining wall, wing wall, abutment, foundation, steps, plinth etc., in cement mortar in prop 1:6 with levelling course of 1:6:12 with unsize stone/mawthup both faces hammer dressed including bonding, providing face stone, through stone and centering including ragging of all joints, curing and supplying and all carriage of stone as directed.	Cum	1380.4	

**Signature of Contractor**

**SCHEDULE ITEMS**

**VIII. ROADS- (Items as per Meghalaya PWD Schedule of Rates for Roads N.H. Circle 2013-14)**

<b>Sl.No</b>	<b>Particular of item</b>	<b>Qty</b>	<b>Unit</b>	<b>Compliance (Yes/No)</b>
1/2.3(i)A	Site Clearance	3300	Sq.m	
2/3.30	Excavation in Hills Roads ordinary soil	3960	cum	
3/3.33	Excavation in Hard Rock	5940	cum	
4/4.9(A)	Providing/Construction of WBM (Water Bound Macadam) By Manual Means			
	Grade-I	319.44	cum	
	Grade-II	240.24	cum	
	Grade-III	240.24	cum	
5/1(ii)	Providing prime Coat	2640	Sq.m	
6/2(iv)	Providing Track Coat Over Non-bituminous Surface	2640	Sq.m	
7/5.9	Open grades pre-mix Surfacing	2640	Sq.m	
8/5.11	Seal Coat	2640	Sq.m	
9/7.1	Providing PCC 1:3:6 in Hume Pipe Base	6.3	cum	
10/7.2	Providing PCC 1:2:4	6.3	cum	
11/7.10	Laying RCC Hume Pipe NP3(100mm Dia)	21	mtr	
12/7.9	Construction of random rubble masonry in hume pipe	272.4	cum	
13/-	Providing Traffic sign and Markings	Lump sum	1 tem	

*Signature of Contractor*

• **NON-SCHEDULE ITEMS**

**I. INSTALLATION OF LIFT FOR MAIN BUILDING:** (The items specifications mentioned in the table below are of minimum specifications, the Bidder may quote items of equal or higher specifications).

<b>Sl. No</b>	<b>Items</b>	<b>Compliance (Yes/No)</b>	<b>Make and Model Proposed</b>
1	<p><b>Passenger Lift :Car size 1300mmX1350mm,</b></p> <p>Hoistway dimension 1950mm X 1800mm, door width 800, G+3, Travel height 3.30m, Speed=1m/s to 1.75m/s,MRL automatic Lift, 10 passengers. Pit depth 1600mm, overhead 4000mm, rated capacity 680kg</p> <p>Car Walls: Stainless steel hairline finish panels with choice of various finishes. Half or full height mirror on back wall of elevator car can be provided.</p> <p>Doors: Stainless steel hairline finish center opening or telescopic automatic doors with choice of various finishes. Landing doors are provided with narrow jambs of 50mm width. Hall button station with direction and car position indicator: stainless steel hairline finish landing plates with illuminated touch sensitive buttons with scrolling floor and direction display. Car operating panel: Full height stainless hairline finish with integrated battery backed “Emergency Light” and “Push to talk”.</p> <p>LED Car ceilings: Stainless steel finishes with choice of designs. Starlight like ceiling which enhances the aesthetic appearance. Uniform lighting ensured. More reliable and long lasting as compared to conventional lighting systems. Power saving to the order of 80% as compared to conventional lighting. So operating lighting costs reduced by 80%.Hand rail: Stainless steel tubular hand rail (38mm dia.) on back wall.</p> <p>Flooring: Anti-skid PVC flooring with choice of color and design.</p>		
2	<p><b>Service Lift :Car size 1300mmX1700mm,</b></p> <p>Hoistway dimension 1950mm X 2150mm, door width 900, G+3, Travel height 3.30m, Speed=1m/s to 1.75m/s,MRL automatic Lift, 13 passengers. Pit depth 1800mm, overhead 4800mm. rated capacity 884kg</p> <p>Car Walls: Stainless steel hairline finish panels with choice of various finishes. Half or full height mirror on back wall of elevator car can be provided.</p> <p>Doors: Stainless steel hairline finish center opening or telescopic automatic doors with choice of various finishes. Landing doors are provided with narrow jambs of 50mm width. Hall button station with direction and car position</p>		

<p>indicator: stainless steel hairline finish landing plates with illuminated touch sensitive buttons with scrolling floor and direction display. Car operating panel: Full height stainless hairline finish with integrated battery backed "Emergency Light" and "Push to talk".</p> <p>LED Car ceilings: Stainless steel finishes with choice of designs. Starlight like ceiling which enhances the aesthetic appearance. Uniform lighting ensured. More reliable and long lasting as compared to conventional lighting systems. Power saving to the order of 80% as compared to conventional lighting. So operating lighting costs reduced by 80%.Hand rail: Stainless steel tubular hand rail (38mm dia.) on back wall.</p> <p>Flooring: Anti-skid PVC flooring with choice of color and design.</p>		
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*Signature of Contractor*

- **NON-SCHEDULE ITEMS**

**II. HVAC FOR MAIN BUILDING** (The items specifications mentioned in the table below are of minimum specifications, the Bidder may quote items of equal or higher specifications). *The detail specification of HVAC system is given in Annexure IX of this tender document.*

<b>SL. No</b>	<b>Items</b>	<b>Compliance (Yes/No)</b>	<b>Make and Model Proposed</b>
<b>1</b>	<b>MultiV Outdoor Unit</b>		
	Cooling Capacity 56Kw/20Hp		
<b>2</b>	<b>MultiV Indoor Unit</b>		
<i>a</i>	<i>Ceiling Concealed Ducted</i>		
	JRNU96 Cooling capacity 28Kw- Fresh Air		
<i>b</i>	<b>Ceiling Cassette 4 way</b>		
	JRNU12 Cooling capacity 3.6Kw		
	JRNU24 Cooling capacity 7.1Kw		
	JRNU36 Cooling capacity 9.0Kw		
	JRNU42 Cooling capacity 12Kw		
	JRNU48 Cooling capacity 14Kw		
<b>3</b>	<b>Remote Controller</b>		
	Wireless		
	PC Controller		
	BMS		
<b>4</b>	<b>Y Branches/ Ref Joints</b>		
	Outdoor unit		
	Indoor Unit		
<b>5</b>	<b>Installation of Equipment</b>		
	<b>Indoor unit</b>		
	Cassette		
	Ducted upto 28 Kw		
	<b>Outdoor Unit</b>		
	Upto 20Hp		
	<b>Ref joints/ Y branches</b>		

	<i>Outdoor Unit</i>		
	<i>indoor unit</i>		
	<b><i>Installation of controllers</i></b>		
	<i>wire/ wireless Remote</i>		
	<i>Central Controller</i>		
	<i>Allow for bazing with Oxy Acetylene, Nitrogen flushing, leak testing, vacuumizing, additional refrigerant charging, testing &amp; commissioning per refrigerant circuit</i>		
<b>6</b>	<b><i>Copper Refrigerant piping(Hard Drawn with nitrile Rubber installation-13mm(L)/ 19 mm (s)</i></b>		
	<i>φ44.5 mm</i>		
	<i>φ41.3 mm</i>		
	<i>φ38.1 mm</i>		
	<i>φ34.1 mm</i>		
	<i>φ31.8 mm</i>		
	<i>φ28.6 mm</i>		
	<i>φ25.4 mm</i>		
	<i>φ22.2 mm</i>		
	<i>φ19.1 mm</i>		
	<i>φ15.9 mm</i>		
	<i>φ12.7 mm</i>		
	<i>φ9.53 mm</i>		
	<i>φ6.35 mm</i>		
<b>7</b>	<b><i>Air Distribution</i></b>		
	<i>Local Site Fabrication Duct</i>		
	<i>24G GP Sheet</i>		
	<i>22G GP Sheet</i>		
	<i>Duct Insulation</i>		
	<i>Nitrile Rubber Insulation XLP 9mm</i>		
	<i>12mm Rigid Board Insulation 48Kg/m3</i>		
	<i>26 SWG Perforated Aluminium Sheet</i>		
	<i>Tissue Paper</i>		
	<i>Canvas Connection (Fire Retardant)</i>		
	<i>Grills &amp; Diffuser</i>		

	<i>Diffusers with VCD</i>		
	<i>Diffusers without VCD</i>		
<b>8</b>	<b><i>PVC drain Piping with Nitrile Rubber Insulation</i></b>		
	<i>φ20 mm</i>		
	<i>φ25 mm</i>		
	<i>φ32 mm</i>		
	<i>φ40 mm</i>		
	<i>φ50 mm</i>		
<b>9</b>	<b><i>Electrical</i></b>		
	<i>MCC For VRF System – (Client Scope)</i>		
	<i>2C x 1.5Sq.mm Shield Cable</i>		
	<i>3C x 2.5Sq.mm Flexible Cable Cu</i>		
	<i>4C x 25.0Sq.mm Armoured Cable Cu – Client’s Scope</i>		
<b>10</b>	<b><i>M.S.Structure</i></b>		
	<i>Allow for Duct</i>		
	<i>Outdoor Unit</i>		
	<i>Indoor Unit</i>		
	<i>Preliminaries for Projects (Mobilization, Inception, Site Office Preparation etc)</i>		
	<i>Transportation Charges</i>		
	<i>Cranage&amp; Haulage Charges</i>		
	<i>Preparation of Shop Drawing &amp; As Build Drawings</i>		
	<i>Site Supervision Charges</i>		
	<i>Provision for PPE</i>		

***Signature of Contractor***

- **NON-SCHEDULE ITEMS**

**III. FIRE FIGHTING FOR MAIN BUILDING** *(The items specifications mentioned in the table below are of minimum specifications, the Bidder may quote items of equal or higher specifications).*

<b>SL. No</b>	<b>Items</b>	<b>Compliance (Yes/No)</b>	<b>Make and Model proposed</b>
<b>A.</b>	<b>FIRE WATER PUMPING SYSTEM</b>		
1	Supply, erection, testing & commissioning of Electrical Motor driven main pump, centrifugal horizontal type, with gland packing capable of deliver 2280 LPM at 70 MWC. The pump shall be coupled with TEFC motor of suitable KW with speed of 2900 RPM with all accessories and complete set shall mounted on common base frame. The quoted rate shall include fixing of coupling, coupling guard and foundation bolts etc. Civil foundation will be client's scope.		
2	centrifugal horizontal type with gland packing and capable to deliver 2280 LPM at 70 MWC. The pump shall coupled to suitable HP of Diesel Engine radiator water cooled type with speed of 1800 RPM with all accessories including diesel engine control panel and complete set shall be mounted on common base frame. Batteries & battery leads with stand, fuel tank( for 4 hrs operation) with stand and gauge glass, fuel piping with valves. The quoted rate shall includes radiator water cooling piping(if required), coupling guard and other standard accessories, RCC foundation(as recommended by manufacturer) and foundation bolts, etc, complete ( civil foundation shall be client's scope).		
3	Supply, erection, testing & commissioning of electric motor driven Jockey Pump, horizontal, centrifugal type capable to deliver 180LPM at 70 MWC. The pump shall coupled to TEFC motor of suitable KW with speed of 2900 RPM with all accessories mounted on common base frame.		
4	compartmentalized common control panel for Electrical Motor driven pumps as per technical specification attached with this tender document. All components shall be housed in a common cubicles made of 16 swg. M.S. sheet with required stiffners (if required). The panel shall be powder quoted of approved colour both inside and out side. The pane shall have both bottom and top cable entry provisions and panel shall be mounted on pedestal of 300mm height. The panel should have sufficient(min. 6 nos per pump set) NO / NC contacts for extending the status of fire pumps to the fire alarm panel.		
5	Supply, laying, testing & commissioning of FRLS, PVC outer sheath, steel armoured, aluminium / copper conductor, 1100 Volt Grade power cables with gland etc for above pumps. The cable shall be laid in tray / hume pipe / in trenches / on walls / floors etc as required. Cables laid out doors shall include the		

	<i>price of earth excavation providing brick and sand protection, refilling and compacting the earth.</i>		
6	<i>GI earthing strips of 50mm x 6mm thick, strips shall run on floor / ceiling / walls, from pump to control panel with necessary accessories as required.</i>		
7	<i>25 Sq.mm singlecore multistrandcopper cable shall be run on floor / ceiling / walls, from the nearest earth bar to the pump control panel with necessary accessories as required.</i>		
8	<i>Supply and installation of pressure gauge, 1/2 inch bottom entry, of suitable range for pump set with ball valves and other accessories.</i>		
9	<i>Supply and installation of Pressure switches, SPDT type, of suitable range for pump sets with ball valves and other accessories.</i>		
10	<i>Supply, erection, fabrication, testing of MS black steel pipe Heavy grade conforming to IS : 1239 Part -1 /3589 including all fittings viz. Elbows, tees, flanges, etc. reduces clamps, MS support dash fasteners etc. including painting the pipe with two coats of approved red oxide primer and two coats of approved red enamel paint and welded joints complete with cutting and making good the complete with cutting and making good the walls, floors or any other surface (For pumping system )</i>		
a	<i>200 mm NB x 6 mm thk</i>		
b	<i>150 mm NB</i>		
c	<i>100 mm NB</i>		
d	<i>80 mm NB</i>		
e	<i>65 mm NB</i>		
f	<i>24 mm NB</i>		
11	<i>Supply, installation, testing &amp; commissioning of CI Gate Valve as pe IS:14846 (PN 16) with matching flanges complete with nuts &amp; bolts.</i>		
a	<i>Size 200 mm NB</i>		
b	<i>Size 150 mm NB</i>		
c	<i>Size 80 mm NB</i>		
d	<i>Size 65 mm NB</i>		
12	<i>Supply, instaallation, testing &amp;commissioing of swinging type CI Non return Valve as per IS:5312(PN16 rating) with disc and SS hinges complete including matching flanges, nuts &amp; bolts complete.</i>		
a	<i>Size 150 mm NB</i>		
b	<i>Size 65 mm NB</i>		

13	Supply, installation, testing & commissioning of GM Globe Valve as per IS:778 complete including matching flanges, nuts & bolts complete.		
a	Size 25 mm NB (GM construction)		
<b>B. HYDRANT SYSTEM</b>			
1	Supply, erection, fabrication, testing of MS black steel pipe Heavy grade conforming to IS : 1239 Part -1 /3589 including all fittings viz. Elbows, tees, flanges, etc. reduces clamps, MS support dash fasteners etc. including painting the pipe with two coats of approved red oxide primer and two coats of approved red enamel paint and welded joints complete with cutting and making good the complete with cutting and making good the walls, floors or any other surface (For hydrant system inside building & outside building to laid along with boundary wall)		
a	150 mm NB		
b	100 mm NB		
c	80 mm NB		
d	25 mm NB		
2	Supply and installtion of swinging type CI Non return Valve as per IS:5312 with flap and SS hinges complete including matching flanges, nuts & bolts confirming to IS 5312		
a	Size 150 mm NB		
3	Supply, installation, testing & commissioning of CI Gate Valve as pe IS:14846 (PN 16) with matching flanges complete with nuts & bolts.		
a	Size 150 mm NB		
4	Supply, installation of Globe Valves in Gun Metal Construction to IS: 778 with screwed ends 25 NB size		
5	Supply, installation of automatic 25 NB Air Release Valve		
6	Supply & installation of GM oblique type single headed Hydrant valve with 80 mm inlet and 63 mm outlet GM instantaneous male coupling with rubber cap and chain conforming to IS : 5290 including matching flanges, gasket, nuts and bolts complete.		
7	Supply & installation of GM oblique type single headed Landing valve with 80 mm inlet and 63 mm outlet GM instantaneous male coupling with rubber cap and chain conforming to IS : 5290 including matching flanges, gasket, nuts and bolts complete.(Two valves for each landing)		
8	Supply & installation of gunmetal branch pipe with 20 mm nozzle conforming to IS : 903 complete		

9	Supply & installation of 63 mm dia rubberized reinforced rubber line hose pipe in 15 m length conforming to IS : 636 Type II ISI marked with gunmetal male and female instantaneous coupling conforming to IS 903 wounded with 18 SWG copper wire complete		
10	Supply & installation of MS hose box of fabricated from 16 SWG CRCA sheet double door with lockable arrangements to accommodate 2 RRL hose of 15 m length and one branch pipe painted white inside and red outside with one key. (750x600x250 mm)		
11	Supply & installation of swinging type hose reel drum fabricated from 14 SWG CRCA sheets painted with red colour stove paint 2 coats over 1 coat of primer with 30 m long 20 mm dia rubber hose pipe with 10 kg/sq cm working pressure with GM self closing shut – off nozzle of 5 mm outlet fixed on wall with dash fasteners.		
12	Supply & installation of Gunmetal 3 way collecting head with 63 mm dia instantaneous type inlet 150 dia flanged outlet with built in check valve for fire brigade connection to Hydrant Network (IS : 904)		
13	Supply & installation of Gunmetal 4 way collecting head with 63 mm dia instantaneous type inlet 150 dia flanged outlet without built in check valve for fire brigade connection to fire water reservoir (IS : 904)		
14	Supply & installation of Gunmetal Fire Brigade Draw out connection with necessary foot valve for reservoir.		
<b>C. AUTOMATIC SPRINKLER SYSTEM</b>			
1	Supply, fabrication, erection & testing of MS black steel pipe Heavy grade conforming to IS : 1239/3589 including all fittings viz. Elbows, tees, flanges, etc. reduces clamps, MS support dash fasteners etc. including painting the pipe with two coats of approved red oxide primer and two coats of approved red enamel paint and welded joints complete with cutting and making good the complete with cutting and making good the walls, floors or any other surface.		
a	150 mm Nb		
b	100 mm NB		
c	80 mm NB		
d	65 mm NB		
e	50 mm NB		
f	40 mm NB		
g	30 mm NB		
h	24 mm NB		

2	Providing & fixing Butterfly valve as per BS :5155 (Wafer type) matching flanges complete with nuts & bolts.		
a	Size 150 mm NB		
3	Providing & fixing Non return valve (Wafer type) with matching flanges complete with nuts & bolts.		
a	Size 150 mm NB		
4	Supply & installation of Globe Valves in Gun Metal Construction to IS: 778 with screwed ends		
a	Size 40 mm NB		
5	Supply & fixing of Sprinkler Head Pendent type		
6	Supply & fixing of Sprinkler Head Upright type		
7	Supply & fixing of Sidewall Sprinkler		
8	Supply & fixing of Flow Switch		
a	Size 150 mm NB		
9	Supply & fixing of Installation Control Valve complete with trims & gong		
a	Size 150 mm NB		
<b>D. PORTABLE EXTINGUISHERS</b>			
1	Supply & fixing of 5 Kg ABC type dry power extinguisher consisting of welded MS cylindrical body with discharge valve, nozzle and hanging arrangement complete conforming to IS:15683		
2	Supply & fixing of 9 Litre Water type CO2 (ISI marked) extinguisher including all accessories with wall bracket & raw plug conforming to IS:15683		
3	Providing & fixing 9 Litre Foam type (ISI marked) extinguisher including all accessories with wall bracket & raw plug confirming to IS:15683 (For pump room)		
<b>E. FDA SYSTEM</b>			
1	Supply, Installation, Testing & Commissioning of wall mounted Intelligent Addressable, Web Server browser based, Modular, Networkable with each loop capable of taking 250 devices, Two Loop Fire Alarm Control Panel with seam less integratable of other FDA panels. The panel should have LCD Screen to visualise the system alarm, faults etc. in a larger format. The panel should have 3000 event memory history buffer for events. The panel should have capacity to support at least Eight repeater panel directly to the panel. The Panel should have inbuilt battery charger and power supply supports from 110 VAC / 240 VAC for using non UPS AC supply. The 24 V SMF batteries of proper Ah size should sufficient for 24 Hour		

	<i>standby and 2 Hours Alarm condition. The panel should UL Listed. (Make : Bosch / Notifier / Esser)</i>		
2	<i>Supply, Installation, Testing &amp; Commissioning of intelligent addressable multicriteria (optical cum thermal) detector with intrchangable detector base. The Detector should IP : 42 and UL Listed. (Make : Bosch / Notifier / Esser)</i>		
3	<i>Supply, Installation, Testing &amp; Commissioning of intelligent addressable Heat (Fixed Temperature &amp; Rate of Rise Temperature) detector with intrchangable detector base. The Detector should IP: 42 and UL Listed. (Make : Bosch / Notifier / Esser)</i>		
4	<i>Supply, Installation, Testing &amp; Commissioning of addressable / intelligent manual call point with reset key. The MCP should UL Listed. (Make : Bosch / Notifier / Esser)</i>		
5	<i>Supply, Installation, Testing &amp; Commissioning of NAC Powered type hooter (sound output of minimum 90 db) cum strobe (strength of light 10 cd) complete. The Hooter shall be UL Listed. (Make : Bosch / Notifier / Esser)</i>		
6	<i>Supply, erection, testing &amp; commissioning of analogue addressable Control Module. The Control Module should UL Listed. (Make : Bosch / Notifier / Esser)</i>		
7	<i>Supply, erection, testing &amp; commissioning of analogue addressable Control Module. The Control Module should UL Listed. (Make : Bosch / Notifier / Esser)</i>		
8	<i>Supply, Installation, Testing &amp; Commissioning of Fault Isolator Module. The Fault Isolator Module should UL Listed. (Make : Bosch / Notifier / Esser)</i>		
9	<i>Supply, Installation, Testing &amp; Commissioning of Response Indicator for above false ceiling areas. The RI should be CE approved. (Make : Bosch / Notifier / Esser)</i>		
10	<i>Supply, erection, testing &amp; commissioning of analogue addressable Monitor module (Make : Bosch / Notifier / Esser)</i>		
11	<i>Providing &amp; fixing FRLS ARMOURED CABLING complete with lugs, laying and termination of both ends.</i>		
a	<i>2C x 1.5 mm<sup>2</sup> Armoured ( loop cable)</i>		
12	<i>Providing &amp; fixing FRLS ARMOURED CABLING complete with lugs, laying and termination of both ends.</i>		
a	<i>2C x 1.5 mm<sup>2</sup> Armoured ( power cable)</i>		
<b>F.</b>	<b>PUBLIC ADDRESS SYSTEM</b>		
1	<i>Supply, erection, testing &amp; commissioning of 6 Watt Ceiling mounted Speakers ( BOSCH / TOA/BOSE)</i>		

2	Supply, erection, testing & commissioning of 6 Watt Wall mounted Speakers ( BOSCH / TOA/BOSE)		
3	Supply, erection, testing & commissioning of PA Console Having 6 Zone and Required capacity (minimum 720 Watt) of Amplifier. The controller should have Goose neck microphone with all call and six zone call key pad. The console should have volume control for all the zones. The controller should be expandable upto 60 Zones in case for further requirement. ( BOSCH / TOA/BOSE)		
4	Providing & fixing Cu PVC cable complete with lugs, laying and termination of both ends inside PVC conduit. (Poly Cab / Mescab/ Finolex)		
a	2cx1.5 sqmm CU PVC Frcable with ISI PVC conduit		
<b>G.</b>	<b>SIGNAGES</b>		
1	Supply and installation in position the "FIRE EXIT" Sign with luminescent colour having size 300 x 100 mm		
2	Supply and fixing in position the signages " FIRE ORDER" contain the following matter on 3 mm thick "Opaque" PVC foam board of computerised cut, PVC non-reflective self adhesive vinyl painted foam board of size 1200 x 1000 mm.		
3	Supply and fixing signage with printed " IN CASE OF FIRE, DO NOT USE LIFT. USE STAIRS ONLY" OF 1.5 cm height letters in red with white background. The size of the board shall be 300 x 100 mm and shall be fixed at the height of 2 mtrs. from finished floor near Manual Call Point.		

**Signature of Contractor**

**GROUP B: CONSTRUCTION OF GUEST HOUSE**

• **SCHEDULE ITEMS**

**I. CONSTRUCTION OF GUEST HOUSE**

<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Quantity</b>	<b>Compliance (Yes/No)</b>
1	<i>Earthwork in excavation in foundation trenches of footing ,column walls, retaining walls , septic tank etc including bailing out water where necessary and removal of surplus earth with all lead and lift as directed and specified.</i>	Cum	164.62	
2	<i>Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete.</i>	m <sup>2</sup>	77.93	
3	<i>Plain cement concrete works with coarse aggregate of sizes 13mm to 32mm in foundation bed for footing steps, walls, brick works etc. as directed and specified including dewatering if necessary, and curing complete (shuttering where necessary shall be measured and paid separately). 1:3:6</i>	Cum	7.79	
4	<i>Supplying, fitting and fixing in position reinforcement bars upto 1st floor level , conforming to relevant I.S . Code for R.C.C Work / R.B. Walling including straightening , cleaning , cutting and bending to proper shaped and lenght as per details.</i>	Qntl	203.81	
5	<i>Providing form work of ordinary timber planking of thickness not less than 25mm and removal of the same for concrete members so as to give a rough finish including centering, shuttering, strutting and propping etc., for height of propping and centering of supporting floor to the soffit of the concrete member not exceeding 4.0M as specified.</i>	m <sup>2</sup>	1309.54	
6	<i>Providing and laying Concrete in Reinforced Cement Concrete Works using Concrete Mixture Machine with coarse sand &amp; 20mm down graded stone aggregate including dewatering if necessary, and curing complete but excluding cost of form work and reinforcement for reinforced cement concrete work (form work and reinforcement will</i>	Cum	122.91	

	<i>be measured and paid separately)</i>			
7	<i>Providing stone masonry work in retaining wall, wing wall, abutment, foundation , steps, plinth etc. in cement mortar in prop 1:6 with levelling course of 1:6:12 with unsize stone / mawthup both faces hammer dressed including bonding, providing face stone, through stone and centering including racking of joints, curing and supplying and all carriage of stone as directed.</i>	Cum	18.35	
8	<i>Providing brick soling in foundation and under floor with stone/ best quality picked jhama brick, sand packed and laid to level and in panel after preparing the subgrade as directed including all labour and materials and if necessary dewatering, complete. Stone soling of thickness 100mm.</i>	m <sup>2</sup>	114.99	
9	<i>Plain cement concrete floor base in prop 1:3:6 laid in alternate bays as specified with coarse aggregate of size 13mm to 32mm including dewatering if necessary, and curing etc. complete.(a) 35 mm thick in prop 1:3:6</i>	m <sup>2</sup>	114.99	
10	<i>Brick nogged wall with 1st class brick in cement mortar including racking out joints and curing complete as directed in super structure above plinth up to 1st floor level (protruding M.S rod/Tor steel of column to be embedded in cement mortar and will be measured and paid separately)</i>	m <sup>2</sup>	938.985	
11	<i>Providing wood work in frame (chowkats) of doors, windows, clerestory windows and other similar works wrought, framed and fixed in position in contact with C.C or brick masonry wall including supplying, fitting and fixing with M.S. hold fast (40mmx3mmx250mm) as per design embedded in cement concrete blockin proportion 1:2:4 and with two coats of kiricide oiling to the timber faces in contact with C.C and masonry as directed and specified.</i>	Cum	2.148	
12	<i>Providing, fitting and fixing full panelled doors/ windows including oxidised M.S butt hinges (100mm x 75 mm x 3.55mm) with necessary screws (other fittings to be measured and paid separately)</i>	m <sup>2</sup>	81.093	
	<i>Providing wood work in frame (chowkats) of doors, windows, clerestory windows and other</i>	cum	16.475	

13	<i>similar works wrought, framed and fixed in position in contact with C.C or brick masonry wall including supplying, fitting and fixing with M.S. hold fast (40mmx3mmx250mm) as per design embedded in cement concrete block in proportion 1:2:4 and with two coats of kiricide oiling to the timber faces in contact with C.C and masonry as directed and specified.</i>			
14	<i>Providing, fitting and fixing fully glazed window with sash bars including oxidised M.S butt hinges (75mmx 60mmx3.15mm) 2nos. On each leaf and 3nos. On single leaf (glass panes to be measured and paid separately)</i>	<i>m<sup>2</sup></i>	<i>44.55</i>	
15	<i>Providing and fixing clear sheet glass bedded in putty and fixed with/without wooden beading including necessary cutting of glass to the required size (payment for wooden bead shall be made separately)</i>	<i>m<sup>2</sup></i>	<i>44.55</i>	
16	<i>15 mm thick Cement plaster in single coat on rough side of single or half brick wall for interior plastering up to 1st floor level including arises, internal rounded angles, not exceeding 80mm girth and finished even and smooth including curing complete as directed.</i>	<i>m<sup>2</sup></i>	<i>5299.69</i>	
17	<i>Applying one coat of cement primer of approved brand and manufacture on new wall surface after thoroughly brooming the surfaces free from mortar droppings and other foreign matter and including preparing the surface even and sand papered smooth.</i>	<i>m<sup>2</sup></i>	<i>4935.82</i>	
18	<i>Wall painting (two coats) with acrylic emulsion paint approved brand and manufacture (Asian paint/ Berger paint/ ICI paint/ J &amp; N paint/ Nerolac) on new surface to give an even shade after thoroughly brushing the surfaces free from mortar droppings and other foreign matter and sand papered smooth.</i>	<i>m<sup>2</sup></i>	<i>4935.82</i>	
19	<i>Applying priming coat over new wood and wood based surfaces over 100mm in girth/width after and including preparing the surface by thoroughly cleaning oil, grease, dirt and other foreign matter, sand papering and knotting.</i>			
	<i>Wood works</i>	<i>m<sup>2</sup></i>	<i>5.59</i>	
	<i>wood work (windows/ventilators)</i>	<i>m<sup>2</sup></i>	<i>21.91</i>	

20	<i>Painting two coats (excluding priming coat) on new steel and other metal surface with enamel paint of approved brand and manufacture(Asian paint/ Berger paint/ ICI paint/ J &amp; N paint/ Nerolac) to give an even shade including cleaning the surface of all dirt, dust and other foreign matter.</i>	<i>m<sup>2</sup></i>	<i>27.50</i>	
21	<i>Providing Ceramic Tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8 mm on floors, skirting, treads and risers of steps over cement mortar bed 15 mm thick in prop. 1:3 (1 cement : 3 coarse sand) including cutting where necessary finished with flush pointing with fix-A Tile Choksey/ Sika/ Pidilite/ Rouf/ White cement slurry mixed with approved pigment to match the shade of tiles, complete at all levels as specified and directed (cement plastering to be measured and paid separately).</i>	<i>m2</i>	<i>378.00</i>	
22	<i>Providing polished ceramic wall tiles of Somany/ Orient/ Nitco/ Qutone make or equivalent of approved quality, size, shape and thickness not less than 8mm on walls and skirting over cement mortar bed 10 mm thick in prop. 1:3 (1 cement : 3 coarse sand ) including cutting where necessary finished with flush pointing with Fix-A-Tile (Choksey / Sika / Pidilite / Rouf) or white cement slurry mixed with approved pigment to match shade of tiles complete at all levels as specified and directed. (Cement plastering to be measured and paid separately).</i>	<i>m2</i>	<i>80.28</i>	
23	<i>Supplying, fitting, fixing M/F Suspended Ceiling with pre-coated G.I. angle size 24mm x 24mm x 80mm thick fixed to the brick wall/ partition at the perimeter of ceiling with nylon sleeves and screws, at 610mm c/c and suspending G.I. main "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 3600mm long from the soffit in one direction with the help of metal Rawl Plug, Soffit cleat and 4mm dia G.I. Rod with galvanised level clip @ 1220mm c/c; G.I. cross "T" section (bottom pre-coated) size 24mm x 38mm x 0.70mm and 1200mm long is inserted into the slots provided in main "T" section at 600mm c/c and G.I. cross "T" section (bottom precoated) size 24mm x 38mm x 0.70mm and 600mm long is inserted into the slots provided in 1200mm long cross "T" section at 600mm c/c to form 600mm x 600mm grid; fixing 12.5mm/ 9.5mm/ 8mm thick Gypboard ceiling panels of size 595mm x 595mm into the grid and painting where necessary (one coat primer and two coats of paint) complete at all levels as</i>	<i>Sqm</i>	<i>119.34</i>	

	<i>specified and directed. (For light fittings, grill diffusers etc. cut out to be made with the frame of perimeter channel supported suitably and measured and paid separately as and where necessary). (Glass wool to be measured and paid separately).</i>			
24	<i>Grading roof with plain cement concrete/ cement mortar laid in proper grades and slopes for water proofing treatment complete as directed.</i>	<i>Cum</i>	<i>23.87</i>	

***Signature of Contractor***

• **SCHEDULE OF ITEMS**

**II. INTERNAL ELECTRIFICATION FOR GUEST HOUSE**

<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Qty</b>	<b>Compliance (Yes/No)</b>
1	<p><i>Concealed wiring in looping in system with 2x1.5 sqmm PVC insulated single core cable of 600v grade in heavy guage pre pipe ,including coupling and fitting of elbows bend tees junction boxes etc including required size of M.S concealed boxes and front plate matching the colour of the surrounding wall or as directed by Engineer incharge or Architech for housing of switches sockets fan regulator bell push etc complete to a light point</i></p> <p><i>(a) Long point wiring upto 10 meters (1) with copper conductor</i></p> <p><i>(b) Medium point wiring upto 6 mtr (1) with copper conductor</i></p> <p><i>(c) Short point wiring upto 3 mtrs (1) with copper conductor</i></p>	<p><i>Each</i></p> <p><i>Each</i></p> <p><i>each</i></p>	<p><i>7</i></p> <p><i>....</i></p> <p><i>17</i></p>	
2	<p><i>Wiring as in item no 38 above to light plug point</i></p> <p><i>(a) Long point wiring upto 10 mtrs (1) with copper conductor</i></p> <p><i>(b) Medium point wiring upto 6mtr (1) with copper conductor</i></p>	<p><i>Each</i></p> <p><i>Each</i></p>	<p><i>.....</i></p> <p><i>11</i></p>	
2(a)	<p><i>Wiring as in item no 1 complete to a light plug point when fixed on same board</i></p>	<p><i>each</i></p>	<p><i>25</i></p>	
3	<p><i>Wiring as in item no 38 above to power plug point with 2x4sq mm including supplying and fitting of 15Amp 5 in one s/s combined with continous earth wire to a power plug point complete</i></p> <p><i>(a) Long point wiring upto 10mtr (1) with copper conductor</i></p> <p><i>(b) Medium wiring upto 6mtrs with copper wiring</i></p> <p><i>(c) Short point upto 3</i></p>	<p><i>Each</i></p> <p><i>Each</i></p>	<p><i>32</i></p>	
4	<p><i>Wiring as in item no 38 above two ceiling fan/exhaust fan point</i></p> <p><i>(a) Long point wiring upto 10mtr (1) with copper conductor</i></p> <p><i>(b) Medium point wiring upto 6mtr (1) with copper conductor</i></p>	<p><i>Each</i></p> <p><i>each</i></p>	<p><i>10</i></p>	
5	<p><i>Wiring as in item no 38 above to wall point</i></p> <p><i>(a) Long point wiring upto 10mtr (1) with copper conductor</i></p> <p><i>(b) Medium point wiring upto 6mtrs (1) with copper conductor</i></p> <p><i>(c) ) Short point upto 3mtrs (1) with copper conductor.</i></p>	<p><i>Each</i></p> <p><i>Each</i></p> <p><i>Each</i></p>	<p><i>18</i></p> <p><i>36</i></p> <p><i>21</i></p>	
6	<p><i>Wiring as in item no 38 above to calling bell/bell indicator point</i></p> <p><i>(a) Long point wiring upto 10mtr with copper conductor</i></p>	<p><i>Each</i></p>	<p><i>9</i></p>	

7	<p>Wiring as in item no 38</p> <p>Above for staircase/2 way switch wiring</p> <p>(a) ) Long point wiring upto 10mtr with copper conductor</p>	Each	10	
8	<p>Drawing 3 ph line 4 wire with DGSD approved vir or pve cable 660r grade in heavy gauge 16 SWG rigid pipe including with all necessary accessories .</p> <p>(b)with 4X4 sq mm conductor</p> <p>(c) with 4X6 sq mm conductor</p>	Mtr Mtr	30	
9	<p><u>Distribution board</u></p> <p>Supplying fitting fixing of SPN/TPN MCB metal enclosure distribution board.</p> <p>(c) 8 ways (8+24) modules.</p>	Each	1	
10.	<p>Supplying fitting and fixing TP 8N distribution board for MCB / isolator (Best quality Cbl 6 way)</p>	each	2	
11.	<p>Supplying and fitting load contact miniature circuit breaker(MCBS)</p> <p>(b)6-32Amp</p> <p>(e)40-8Amp Tp with neutral MCB capacity</p>	each each	52 4	
12.	<p>Supplying and fitting fixing load contact MCB circuit breaker double pole isolator</p> <p>(e)80-125 Amp FP isolator/MCB</p>	each	3	
13.	<p>Supplying fitting and fixing moulded case circuit breaker MCCB'S of following Amp capacity</p> <p>(d)60-100 Amp capacity</p> <p>(e)125-250 Amp capacity</p>	each each	2 1	
14.	<p>Supplying fitting and fixing decorative wall fitting complete with all glass shade CFL lamp holders as per dept. direction and approve</p> <p>(a)Single lamp fitting</p>	each	68	
15.	<p>Supplying fitting and fixing weather proof bulk head light with CGL lamp and other accessories as required</p>	each	2	
16.	<p>Supplying fitting and fixing T-5/T8/T9 etc. Fluorescent tube light fitting complete with electronic chokes etc. All accessories for surface/pandent mounting as per dept. Direction and approved</p>	each	4	
17.	<p>Supplying fitting and fixing LED lighting complete</p> <p>(ii)6-22 W (with aluminium body)</p>	each	14	

18.	<p><i>LED panel light</i></p> <p><i>(iii) LED flat panel (2'X2') 36-48 W</i></p> <p><i>(v)Surface square 6-24 W</i></p>	<p><i>each</i></p> <p><i>each</i></p>	<p><i>4</i></p> <p><i>9</i></p>	
19.	<p><i>Supplying fixing connection testing and commissions of calling bell or bell indicator type suitable for 230 V as well as battery operated complete with all necessary accessories</i></p> <p><i>(a) Calling bell/buzzer/dingdong bell</i></p> <p><i>(e) 6 way indicator bell .</i></p>	<p><i>each</i></p> <p><i>each</i></p>	<p><i>1</i></p> <p><i>2</i></p>	
20	<p><i>Supplying fitting and fixing home decorative light fitting complete with accessories</i></p> <p><i>(iv) mirror light FWG 300 with 13Watt lamp</i></p>	<p><i>each</i></p>	<p><i>1</i></p>	
21	<p><i>Supplying fitting and fixing exhaust fan double bearing self lubricating type single phase 50 HZ 250 V A.C operated complete with supporting frame for blades,nuts, and bolts etc complete</i></p> <p><i>(a)light duty exhaust fan 250/300mm</i></p>	<p><i>each</i></p>	<p><i>10</i></p>	
22	<p><i>Supplying fitting and fixing earthing with G.I earth plate 600x600x6mm thick including all accessories and providing masonry enclosure with cover plate with locking arrangements complete with salt charcoal powder as required.</i></p>	<p><i>set</i></p>	<p><i>2</i></p>	
23	<p><i>Supplying and laying of 15mmx5mm G.I /copper strip at 0.5mtr.below ground</i></p> <p><i>(c)with 20x5mm G,I strip</i></p> <p><i>(d)with 25x6mm G.I strip</i></p>	<p><i>mtr</i></p>	<p><i>30</i></p>	
24.	<p><i>Supplying fitting and fixing polished brass bracket 16mm diameter 23cm long with cast brass plate and brass lamp holder with CFL lamp (a)with 25cm diameter while glass conical/ longham shade complete.</i></p> <p><i>Supplying fitting and fixing of different wattage surface/recess/pole mounting direct or indirect luminaries square/round shape also suitable for porch lighting etc. Fitted with mirror reflector complete with all necessary accessories</i></p> <p><i>(b)CFL fitting desirable lamp (square/round shape)</i></p>	<p><i>Each</i></p> <p><i>each</i></p>	<p><i>3</i></p>	
25.	<p><i>Supply installation testing and commissioning of floor mount/wall mounted cubical type dust and vermin proof electrical L.T panel of the following specifications with 16mm thick M.S steel built on M.S angle iron frame work painted two coats of powder gray paints etc.</i></p> <p><i>Incoming-125Amp TPn-MCCB-1 no.</i></p>			

<p><i>Bas bar-200 Amp 4 strip copper</i></p> <p><i>Outgoing-12Amp 4P MCB-1</i></p> <p><i>63Amp TPN MCCB-1 no</i></p> <p><i>32 Amp 4P MCB-1 no.</i></p> <p><i>Voltmeter-0-500 Volt with selector switch</i></p> <p><i>Ammeter-0-200 ammeter with selector switch with C.T</i></p> <p><i>3 nos. R-Y-B, indicator</i></p> <p><i>(+)10% above for modulus switch hotel key fab switch etc.</i></p>	<p><i>each</i></p>	<p><i>1</i></p>	

***Signature of Contractor***

- **SCHEDULE ITEMS**

### III. INTERNAL WATER SUPPLY & SANITARY FITTINGS FOR GUEST HOUSE

<b>Sl. No</b>	<b>Items</b>	<b>Units</b>	<b>Qty</b>	<b>Compliance (Yes/No)</b>
1	Supplying and placing plastic cylindrical vertical closed top (PCVC) tank of Sintex / Polycon / Patton make over the staging with manhole cover with locking and cleaning arrangement including providing pads of size as required for inlet and outlet pipes			
	2000 litre capacity	nos	2	
2	Supplying fitting and fixing CPVC Pipes with all necessary fittings of SUPREME/ PRINCE/ SFMC/ FUSION brand or equivalent, in exposed or in trenches including trenching and refilling the same etc. complete as directed			
	25mm diameter	m	48	
	15mm diameter	m	18	
	20mm diameter	m	48	
	25mm diameter	m	48	
	100mm diameter	m	49	
3	Supplying fitting and fixing brass stopcock (heavy) of approved brand of size as mentioned below and directed and specified			
	(a)15mm diameter	nos	36	
	(b)20mm diameter	nos	18	
	(c)25mm diameter	nos	18	
4	Supplying fitting and fixing check valve (non return valve) including thread to pipes complete as directed by the Department.			
	(i)100mm	nos	5	
5	Supplying fitting and fixing C.P. bib cock 15mm dia of approved brand directed and specified	nos	9	
6	Supplying fitting and fixing Health faucet with 1m long flexible tube with wall flange as directed and specified.	nos	9	
7	Chrome plated (CP) towel rail	nos	10	
8	Providing fitting and fixing Decorative Mirror complete as directed and specified.	nos	9	
9	Providing, fitting and fixing Chrome Plated TOILET PAPER holder complete as directed and specified.	nos	9	
10	wash BASIN (with pedestal)	nos	9	
11	Wall Soap tray	nos	16	
12	Overhead shower (Chrome Plated)	nos	8	

13	Supplying fitting and fixing bath tub including providing necessary fittings complete as directed and specified.(pipes will be measured and paid separately)	nos	2	
14	Providing fitting and fixing vitreous china pedestal type water closet (European type W.C pan 400mm high ) with seat and lead, CP brass hinges and rubber buffers, CI/MS brackets, 40 mm dia flush band with fittings including painting of fittings and brackets, required.	nos	9	
15	10 litre low level PVC flushing cistern with bend , fittings etc.	nos	9	
16	Bathing Cubicle	nos	2	
17	Supplying, fitting and fixing PVC pipes/ bends/ Junctions etc. of Supreme/Prince or other ISI approved make, including joining ,fitting and fixing with clamps etc. as necessary complete at all levels including below G.L	nos	18	
18	PVC plain cross 'T' as directed	nos	9	
19	87.5 degree PVC bend with door as directed and specified.	nos	9	
20	Construction of filter bed in soak pit including earth work in excavation of soil and then filling up of the trench with brick bats/Charcoal covered with earth over a layer of A.C. plain sheet above brick bat filling complete as directed.	nos	1	
21	Construction of inspection pit inside measurement 450mm x450mm x 450mm flush with 100mm diameter HCl/PVC pipes and cement concrete base in proportion 1:3:6 over flat brick soling, 12cm brick wall in cement mortar in proportion 1:4 finished with 13mm cement plaster in proportion 1:2 in side wall and floor. 450mm x450mm air tight C.I. inspection pit cover and frame complete including supplying of materials, necessary excavation of pit as directed.	nos	4	
22	construction of septic tank in RCC structure after excavation in any kind of soil/rock			
	(a) 20 Users	nos	1	

***Signature of Contractor***

- **NON-SCHEDULE ITEMS**

**I. INSTALLATION OF LIFT FOR GUEST HOUSE (The items specifications mentioned in the table below are of minimum specifications, the Bidder may quote items of equal or higher specifications).**

<b>Sl. No</b>	<b>Items</b>	<b>Compliance (Yes/No)</b>	<b>Make and Model Proposed</b>
1	<p><b>Passenger Lift :Car size 1100mmX1300mm,</b></p> <p><i>Hoist way dimension 1750mm X 1720mm, door width 800, G+2, Travel height 3.00m, Speed=1m/s to 1.75m/s,MRL automatic Lift, 8 passengers. Pit depth 1300mm, overhead 4000mm. Rated capacity 554kg</i></p> <p><i>Car Walls: Stainless steel hairline finish panels with choice of various finishes. Half or full height mirror on back wall of elevator car can be provided.</i></p> <p><i>Doors: Stainless steel hairline finish center opening or telescopic automatic doors with choice of various finishes. Landing doors are provided with narrow jambs of 50mm width. Hall button station with direction and car position indicator: stainless steel hairline finish landing plates with illuminated touch sensitive buttons with scrolling floor and direction display. Car operating panel: Full height stainless hairline finish with integrated battery backed "Emergency Light" and "Push to talk".</i></p> <p><i>LED Car ceilings: Stainless steel finishes with choice of designs. Starlight like ceiling which enhances the aesthetic appearance. Uniform lighting ensured. More reliable and long lasting as compared to conventional lighting systems. Power saving to the order of 80% as compared to conventional lighting. So operating lighting costs reduced by 80%.Hand rail: Stainless steel tubular hand rail (38mm dia.) on back wall.</i></p> <p><i>Flooring: Anti-skid PVC flooring with choice of color and design.</i></p>		

**Signature of Contractor**

- **NON-SCHEDULE ITEMS**

**II. SPLIT AC FOR GUEST HOUSE** *(The items specifications mentioned in the table below are of minimum specifications, the Bidder may quote items of equal or higher specifications).*

<b>PART A: SUPPLY OF EQUIPMENT</b>			
<b>Sl. No</b>	<b>Items</b>	<b>Compliance (Yes/No)</b>	<b>Make and Model Proposed</b>
1	Mitsubishi <b>DC Inverter Heat Pump Wall Mounted AC</b>		
i	MSZHJ50VA/MUZHJ50VA, Cooling Capacity 1.5TR		
ii	MSZHJ25VA/MUZHJ25VA, Cooling Capacity 0.8TR		
iii	MSZHJ35VA/MUZHJ35VA, Cooling Capacity 1.0TR		

**Signature of Contractor**

• **NON-SCHEDULE ITEMS (TECHNICAL BID)**

**III. SANITARY FITTING FOR GUEST HOUSE:** (The items specifications mentioned in the table below are of minimum specifications, the Bidder may quote items of equal or higher specifications).

<b>Sl. No</b>	<b>Items</b>	<b>Compliance (Yes/No)</b>	<b>Equivalent Model or Make</b>
1	Providing <b>KOHLER</b> one-piece toilet with quiet close toilet seat and cover in white 750 X 390 X 665mm, S- Trap 305mm, P-trap 150mm complete (K-19056T - S-O)		
2	Providing <b>KOHLER</b> Shower Columns features a 139mm shower head and a 4-way handshower for both showering and bathing applications. The rain shower head pairs nicely with numerous <b>KOHLER</b> bath and shower faucets (Bath and Shower Column in polished chrome, K – 12959IN-4-CP).		
3	Providing <b>KOHLER</b> pedestal lavatories feature a basin that is position at a comfortable standing and rest on a pedestal base (Pedestal lavatory with classic design in white, 612 x 504 x 878 mm, <b>K-2238 T- 8-0 Three faucet holes</b> )		
4	Providing <b>KOHLER</b> Rite-Temperature balancing valve trim with lever handle in polished chrome ( <b>K-T950-4-CP</b> )		
5	Providing Single-control lavatory faucet with lever handle in polished chrome (K-10860-4-CP with Drain)		
6	<p>Proving <b>KOHLER</b> special fittings in bath room:</p> <ul style="list-style-type: none"> <li>a. 610mm towel shelf in polished chrome (K-11577-CP).</li> <li>b. Toilet tissue holder in polished chrome (K-11583-CP).</li> <li>c. 610mm towel bar in polished chrome (K-10551-CP).</li> <li>d. Towel ring in polished chrome (K-10557-CP).</li> <li>e. Soap dish in polished chrome (K-10560-CP).</li> <li>f. Robe hook in polished chrome (K-10555-CP).</li> <li>g. Bath grip in polished chrome (K-10701D-CP).</li> <li>h. Soap dispenser and holder with frosted bottle in polished chrome (K-10712D-CP).</li> <li>i. Glass shelf in polished chrome (K-17520T-CP).</li> <li>j. 610mm tumbler holder in polished chrome (K-17525T-CP).</li> </ul>		

**Signature of Contractor**

<b>PART B: LO SIDE ANCILARY &amp; INSTALLATION</b>			
<b>Sl. No</b>	<b>Items</b>	<b>Compliance (Yes/No)</b>	<b>Make and Model Proposed</b>
<b>1</b>	<b>Installation of Equipment</b>		
<i>a</i>	<i>Wall Mounted</i>		
<i>b</i>	<i>Allow for Brazing with Oxy Acetylene, Nitrogen Flushing, Leak Testing, Vacuum zing, Additional Refrigerant, Charging, Testing &amp; Commissioning per Refrigerant Circuit.</i>		
<b>2</b>	<b>Copper Refrigerant Piping (Hard Drawn with Nitrile Rubber Insulation - 13mm (L)/19mm (S))</b>		
<i>i</i>	<i>Φ15.9 mm</i>		
<i>ii</i>	<i>Φ9.53 mm</i>		
<b>3</b>	<b>PVC Drain Piping with Nitrile Rubber Insulation</b>		
<i>i</i>	<i>Φ25 mm</i>		
<b>4</b>	<b>Electrical</b>		
<i>i</i>	<i>2C x 1.5 Sq.mm Shield Cable</i>		
<i>ii</i>	<i>3C x 2.5 Sq.mm Flexible Cable Cu</i>		
<b>5</b>	<b>M.S. Structure</b>		
<i>i</i>	<i>Outdoor Unit</i>		

**Note:** In case if there is any item of works which is not covered by schedule items or Non-schedule items the Engineer incharge will issue an instruction to the contractor along with details of explanation/specification of the items to be carried out prior to execution and the rate will be arrived at as per clause 11 of the Agreement.

**Signature of Contractor**

*Section - VII*

***SERVICE LEVEL AGREEMENT  
(SLA)/PENALTIES***

## ***Section VII: Service level Agreement (SLA) / Penalties***

In any case in which under any clause of this contract the Contractor shall have rendered himself liable to penalty amounting to fifty percent or more of his security deposit, the Secretary, MITS, shall adopt any of the following courses as he deems best suited to the interest of the MITS.

- (a) To rescind the contract as to which rescission notice in writing to the Contractor under the hand of the Secretary, MITS, shall be final and conclusive and in which case the security deposit of the Contractor shall stand forfeited absolutely at the disposal of the MITS and to value the incomplete items of work as he deems suitable.
- (b) To measure up the work of the Contractor and to take away such a part thereof as shall be unexecuted out of his hand and to give it to another Contractor to complete it, in which case any expense which may be incurred in excess of the sum which would have been paid to the original Contractor if the whole work had been executed by him (as to amount of which excess the certificate in writing of the Engineer in charge shall be final and conclusive) shall be borne and paid by the original Contractor and may be deducted from any money due to him by the Secretary, MITS under the contract or otherwise or from the security deposit or the proceeds of the sale thereof or a sufficient part thereof.

In the event of any of the above courses being adopted by the Secretary, MITS, the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into engagement or make any advance on account thereof, with a view to the execution of the work or performance of the contract. And in case the contract shall be rescinded under the provision aforesaid the contractor shall not be entitled to recover or be paid any sum for any work thereof actually performed under this contract unless and until the Engineer in charge shall have certified in writing the performance of such work and the value payable in respect thereof and that he shall be entitled to be paid the value thereof.

The progress of works shown in the Bar chart enclosed in the Technical Bid should be adhered failing which penalty clause will be applied for non-compliance.

**Note:** The Engineer in-charge shall ensure that the contractor attains the progress as proposed in the Bar Chart which was complied by the Tenderer/Contractor at the time of submission of Tender paper, and in case there is any lack of progress from the contractor's side, the Engineer in-charge will determine the amount of penalty to be imposed on the Contractor as per clause No. 3 (a) & (b) of the tender paper.

*Section - VIII*

***INSTRUCTIONS TO THE BIDDERS***

## ***Section VIII: Instructions to the Bidders***

### **8.1 Procedure for Submission of Bids**

#### **8.1.1 Tender Processing Fees and Download of Tender Document**

*The tender document can be downloaded from MITS website [www.ditmeghalaya.gov.in](http://www.ditmeghalaya.gov.in), <http://meghalaya.gov.in>. Tender fee of Rs. 10000/- (Ten thousand only) (non-refundable) to be remitted through a demand draft, from any commercial nationalized/ scheduled bank, drawn in favour of “Member Secretary, Meghalaya Information Technology Society” payable at Shillong, Meghalaya. The Bid will not be considered in the absence of the tender fee. The tender fee demand draft should be enclosed along with the Pre-Qualification bid.*

#### **8.1.2 Modes of Submission**

- a) It is proposed to have a Three Cover for this tender:

*Pre-Qualification Bid – (1 original & 1 copy) in one cover*

*Technical Bid - (1 original & 1 copy) in one cover*

*Commercial Bid - (1 original & 1 copy) in one cover*

- b) Pre-Qualification Bid, Technical Bid and Commercial Bid of the Tender should be covered in separate sealed covers super-scribing “Pre- Qualification Bid”, "Technical Bid", “Commercial Bid”. Each Bid should also be marked as "Original" and “Copy”. Please Note that Prices should not be indicated in the Pre-Qualification Bid and Technical Bid but should only be indicated in the Commercial Bid. And if price will be indicated in the Pre-Qualification Bid or Technical Bid, that Bid is liable to be rejected.
- c) The three envelopes containing Pre-qualification Bid, Technical Bid and Commercial Bid should be put in another single sealed envelope clearly marked “RFP/ TENDER for *CONSTRUCTION OF TECHNOLOGY PARK Phase – I.*” These envelopes are to be superscripted with Tender Number and the wordings “DO NOT OPEN BEFORE xx:xx hours on DD.MM.2018”
- d) The cover thus prepared should also indicate clearly the name, address, telephone number, E-mail ID and fax number of the Bidder to enable the Bid to be returned unopened in case it is declared "Late".
- e) Each copy of the tender should be a complete document and should be bound as a volume. The document should be page numbered and appropriately flagged and must contain the list of contents with page numbers. Different copies must be bound separately. Any deficiency in the documentation may result in the rejection of the Bid.
- f) As part of the Bid, Bidder should also provide the Pre-Qualification Bid and Technical Bid in Soft Copy (PDF Format), in the form of a non-rewriteable CD (Compact Disc) as follows:
- i. Two (2) copies of CD each containing the Pre-Qualification Bid and Technical Bid - The CDs containing Bids should be sealed along with the hard copies of the respective Bids.
  - ii. All CDs submitted by the Bidder must be in sealed covers. The sealed covers as well as the CD media must be duly signed by the Bidder using a “Permanent Pen/Marker”, should be super-scribed with “Technical Bid- Soft Copy (PDF Format) / Pre-Qualification Bid -Soft Copy (PDF Format)” (as the case may be) and should bear the name of the Bidder.
  - iii. Bidder must ensure that the information furnished by him in respective CDs is identical to that submitted by him in the original paper Bid document. In case of any discrepancy observed by MITS in the contents of the CDs and original paper Bid documents, the information furnished on original paper Bid document will prevail over the soft copy.
  - iv. Bidder must ensure that Pre-Qualification and Technical Bid CDs do not contain any Commercial items / prices.

- g) Tele-fax/email Bids will not be considered. All out-station Bids, if sent by post, should be sent under registered cover.
- h) If the outer envelope is not sealed and marked as indicated above, MITS will assume no responsibility for the Bid's misplacement or premature opening.

**8.1.3 Authentication of Bid**

*The response Bid shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. A letter of authorization shall be supported by a written Power-of-Authority accompanying the Bid. All pages of the Bid, except for un-amended printed literature, shall be initialed and stamped by the person or persons signing the Bid.*

**8.1.4 Validation of interlineations in Bid**

*The Bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.*

**8.1.5 Cost of Bidding**

*The Bidder shall bear all costs associated with the preparation and submission of its Bid including cost of presentation for the purposes of clarification of the Bid, if so desired by the MITS. MITS will in no case be responsible or liable for those costs, regardless of the outcome of the Tendering process.*

**8.1.6 Clarification on Tender Document before the pre-bid conference:**

*A prospective Bidder requiring any clarification on the RFP/ TENDER Document may submit his queries, in writing, at the mailing address and as per schedule indicated in "Invitation for Bids / Key Events and Dates" in this RFP/ TENDER. The queries must be submitted in the following format only to be considered for clarification:*

<i>S. No</i>	<i>Section No.</i>	<i>Clause No.</i>	<i>Reference/ Subject</i>	<i>Clarification Sought</i>
1.	..	..	..	..

*The queries not adhering to the above mentioned format and within the due date shall not be responded.*

8.1.7 MITS will respond to any request for clarification to queries on the Tender Document, received not later than the dates prescribed in Invitation for Bids / Key events and dates. The clarifications (including the query but without identifying the source of inquiry) will be uploaded on the portal ([www.ditmeghalaya.gov.in](http://www.ditmeghalaya.gov.in) , <http://meghalaya.gov.in> )

**8.1.8 Language of Bids**

*The Bids prepared by the Bidder and all correspondence and documents relating to the Bids exchanged by the Bidder, shall be written in English language. Any printed literature furnished by the Bidder may be written in another language so long the same is accompanied by a duly English translation in which case, for purposes of interpretation of the Bid, the English translation shall govern.*

**8.2 Documents Comprising the Bids**

*The Bid prepared by the Bidder shall comprise the following components. The Bids not conforming to the requirements shall be summarily rejected.*

**8.3 Pre-Qualification Bid**

*In support of eligibility, a Bidder must submit the following documents (besides the other requirements of the tender), original copies or copies, as the case may be, in the absence of which the Bid will be rejected.*

- 8.3.1 Format 1: Pre-qualification Bid Letter
- 8.3.2 Format 2: General information about the Bidder
- 8.3.3 Format 3: Pre-Qualification Criteria
- 8.3.4 Format 4: Declaration regarding Clean Track Record
- 8.3.5 Format 5: Declaration of acceptance of Terms & Conditions in the RFP/ TENDER
- 8.3.6 Checklist for Pre -Qualification

#### **8.4 Technical Bid**

*The Technical Bid, besides the other requirements of the Tender, shall comprise the following:*

- 8.4.1 Format 1: Technical Score supporting documents Schedules for Technical Evaluation Criteria
- 8.4.2 Format 2: Technical Bid letter
- 8.4.3 Compliance detail for all sections in the FRS

#### **8.5 Financial Bid**

*The Commercial Bid, besides the other requirements of the Tender, shall comprise the following:*

- 8.5.1 Format 1: Commercial Bid Letter
- 8.5.2 Format 2: Summary of Cost Components
- 8.5.3 Format 3: Schedule and non-Schedule items cost

#### **8.6 Bid Prices**

*8.6.1. The Bidder shall indicate price in the prescribed format, the unit rates and total Bid Prices of the equipment / services, it proposes to provide under the Contract. Prices should be shown separately for each item as detailed in the Tender Document. In absence of the above information as requested, **the Bid may be considered incomplete and hence rejected.** The price components furnished by the Bidder in accordance with format below will be solely for the purpose of facilitating the comparison of Bids by the State and will not in any way limit State's right to contract on any of the terms offered.*

*8.6.2 The Bidder shall prepare the Bid based on details provided in the Tender Document. It must be clearly understood that the scope of work is intended to give the Bidder an idea about the order and magnitude of the work and is not in any way exhaustive and guaranteed by the State. The Bidder shall carry out all the tasks in accordance with the requirement of the Tender Document & due diligence and it shall be the responsibility of the Bidder to fully meet all the requirements of the Tender Document. If during the course of execution of the project any revisions to the work requirements like Technical specifications, Equipment sizing etc. are to be made to meet the goals of the State, all such changes shall be carried out within the current price.*

#### **8.7 Firm Prices**

*Prices quoted in the Bid must be firm and final and shall not be subject to any upward modifications on any account whatsoever. However, MITS reserves the right to negotiate the prices quoted in the Bid to effect downward modification.*

- 8.7.1 The Commercial Bid should clearly indicate the price to be charged without any qualifications whatsoever and should include all taxes, duties, fees, levies, works contract tax and other charges as may be applicable in relation to the activities proposed to be carried out.
- 8.7.2 Prices, in any form or by any reason, should not be revealed before opening of the Commercial Bid, failing which the offer shall be liable to be rejected. If price change is envisaged due to any clarification, revised Bid in a separate sealed cover shall be submitted with prior written permission of State.

## **8.8 Bid Currencies**

*Prices shall be quoted in Indian Rupees (INR).*

## **8.9 Bid Security (Earnest Money Deposit)**

*The Bidder shall furnish, as part of its Bid, a Bid security in the form of Demand Draft / Bank Guarantee issued by any Nationalized / Scheduled Bank located in India, of Rupees Sixty Lakhs for non tribal and Rs Thirty Lakhs for tribal contractor /- ( i.e 2% (Two percent) of the value of the work, and 1% (One percent) For tribal Contractors pledged in favour of “**Member Secretary, Meghalaya Information Technology Society**”, payable at Shillong, Meghalaya.*

*The Bidder shall be disqualified in the Pre-Qualification process if the prescribed EMD is not submitted along with the Bid. The EMD (Bid security) of the unsuccessful Bidder/s will be discharged / returned as promptly as possible, but not later than 60 days after the issuance of Letter of Intent (LoI) to the successful Bidder. No interest will be payable by State on the amount of the Bid Security.*

*The Bid security may be forfeited because of the following reasons:*

1. If a Bidder withdraws the Bid or increases the quoted prices during the period of Bid validity, or its extended period, without the explicit consent of the department, if any; or
2. In the case of a successful Bidder, if he fails within the specified time limit to:
  - Sign the Agreement; or
  - Furnish the required Performance Bank Guarantee (PBG)

## **8.10 Bid Validity Period**

### ***Period of Validity of Bids***

*Bids shall remain valid for 120 days after the date of opening of Technical Bids prescribed by MITS. However, the prices finalized after opening the tenders shall not increase throughout the period of implementation and operation. The prices of components quoted in the Financial Bid by the Bidder shall remain valid for the project period.*

### ***Extension of Period of Validity***

*In exceptional circumstances, MITS may request the Bidder(s) for an extension of the period of validity. The request and the responses there to shall be made in writing (or by fax). The validity of EMD shall also be suitably extended.*

## **8.11 Withdrawal of Bids**

### ***Written Notice***

*The Bidder may withdraw its Bid after the Bid's submission, provided that MITS receives written notice of the withdrawal, prior to the last date prescribed for receipt of Bids.*

### ***Signing and Marking of Notice***

*The Bidder's withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions said earlier. A withdrawal notice may also be sent by fax but followed by a signed confirmation copy, post marked not later than the last date for receipt of Bids.*

## **8.12 Opening of Bids**

*Decision of MITS would be final and binding upon all the Bidders.*

## **8.13 Evaluation of Pre-Qualification and Technical Bid**

*The evaluation process of the Tender, proposed to be adopted by MITS is indicated in this Tender document .The purpose of these clauses is only to provide the Bidders an idea of the evaluation process that MITS may adopt. However, State reserves the right to modify the evaluation process at any time during the Tender process, without assigning any reason, whatsoever and without any requirement of intimating the Bidders of any such change.*

#### **8.14 Evaluation of Pre-Qualification Bid**

- *Bidders need to fulfill all the pre-qualification conditions mentioned in Pre-Qualification Criteria of the RFP/ TENDER. State will examine the Bids to determine whether they are complete, whether the Bid format confirms to the Tender requirements, whether any computational errors have been made, whether required EMD has been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.*
- *A Bid determined as not substantially responsive will be rejected by MITS and may not subsequently be made responsive by the Bidder by correction of the nonconformity.*
- *MITS may waive any informality or non-conformity or irregularity in a Bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.*
- *MITS may at any point of time as clarifications from the Bidders for getting more clarity of the proposal received. The clarification shall be given in writing immediately, but no change in the price shall be sought, offered or permitted.*

#### **8.15 Evaluation of Technical Bid**

- *After qualifying the Pre-qualification criteria, Technical Bid document will be evaluated as per the requirements specified in the RFP/ TENDER.*
- *MITS may request the Bidders to make a presentation on their proposal to an Evaluation Committee to be constituted for the purpose.*
- ***All the Bidders who score a Technical Score of (60%) or more will be declared as technically qualified.** The commercial Bids of only the technically qualified Bidders will be opened for further processing. It is, however, clarified that, subject to other provisions of this Document, every Bidder will have to comply the minimum technical specifications laid down in the RFP/ TENDER for being qualified technically.*
- *In order to assist in the examination, evaluation and comparison of Bids, MITS may at its discretion ask the Bidder for a clarification regarding its Bid. The clarification shall be given in writing immediately, but no change in the price shall be sought, offered or permitted. **However, while giving a clarification, a Bidder may offer a higher specification or model without any impact on Financial Bid to be opened subsequently.***
- *The MITS may waive any informality or non-conformity or irregularity in a Bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.*

#### **Bids Not Considered For Evaluation**

*Bids that are rejected during the Bid opening process due to incomplete documentation or late receipt shall not be considered for further evaluation.*

**8.15.1 Criteria for Evaluation and Comparison of Technical Bids**

The criterion as mentioned in section below shall be used to evaluate the technical Bids. All the Bids scoring 60 and above in the technical evaluation will be qualified for commercial Bid opening.

<b>Sl. No.</b>	<b>Criteria</b>	<b>Weightage</b>
i	<p><b>Bidder's experience in building construction work in India, quantified in terms of number of projects will be evaluated.</b></p> <p>1.a. Only completed Building Projects with value of Rs. 10 CR or more in the last 3 financial years will be considered (2014-15 to 2016-2017). Supporting document to be furnished.</p> <p style="text-align: center;">or</p> <p>1.b. Ongoing projects of Rs 15 CR or more will be considered Supporting document to be furnished</p> <p>For point 1.a and 1.b above bidder shall be awarded 4 marks per project capped to maximum of 5 projects.</p> <p style="text-align: center;">OR</p> <p>2. One single completed commissioned building of Rs 100 CR or more will be awarded 20 marks. Supporting document to be furnished</p>	20 marks
ii	<p><b>Bidder prior experience in construction of building works in Meghalaya.</b></p> <ul style="list-style-type: none"> <li>• Only completed Building Projects in Meghalaya with value of Rs. 10 CR or more.</li> </ul> <p style="text-align: center;">or</p> <ul style="list-style-type: none"> <li>• Ongoing projects of Rs 15 CR or more will be considered</li> </ul> <p>(3 marks per project, maximum number of projects capped to 5).</p>	15 marks
iii	<p><b>Bidders who has worked continuously in building projects in Meghalaya will be awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• More than 6 years: 10 marks</li> <li>• More than 4 years and up to 6 Years : 8 marks</li> <li>• More than 3 years and up to 4 Years : 5 Marks</li> </ul>	10 Marks

iv	<p><b>Project Management &amp; Detailed Work Plan (bar chart/work plan/risk mitigation)</b></p> <ul style="list-style-type: none"> <li>• The overall Project Management approach (including resource deployment plan (2 marks).</li> <li>• Work Plan/Schedule: evaluation will be base on the detailed Project Plan including day wise, week wise activities with Work Breakdown structures, project estimates, (detailed Bar chart) (2Marks).</li> <li>• Approach &amp; Methodology for construction (1 mark).</li> <li>• Highlight the associated risks/problems &amp; plans for mitigation &amp; explain the approach to address them (2 marks).</li> <li>• Timely completion of previous projects (3 marks)</li> </ul> <p>1 marks per building project capped to maximum of 3 projects. Supporting documents to be furnished.</p>	10 marks
v	<p><b>Man Power (already employed by bidder)</b></p> <ul style="list-style-type: none"> <li>• <i>The Bidder must have on its roll at least <b>1 Graduate Civil Engineers with 5 years of relevant experience (2 marks),</b></i></li> <li>• <i><b>2 Diploma civil engineers with two years of experience (2 mark) for construction /planning etc., as on Bid submission date.</b></i></li> <li>• <i><b>Electrical Engineer with supervisor License from Inspectorate of Electricity or equivalent (1marks).</b></i></li> </ul>	5marks
vi	<p><b>Financial Turnover of the Firm for Last 3 years from Building Construction (2014-15, to 2016-2017) will be awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• <i>71 Crore and above : 10 Marks</i></li> <li>• <i>51 to 70 Crore : 7 Marks</i></li> <li>• <i>30 Crore to 50 Crore : 5 Marks</i></li> </ul>	10 marks

vii	<p><b>Machinery List in possession of the Bidder to be provided with the proof such as Affidavit . (for construction)</b></p> <ol style="list-style-type: none"> <li>1. Excavator cum Loader</li> <li>2. Concrete Vibrator</li> <li>3. Concrete Mixer</li> <li>4. Water Pumps</li> <li>5. Small generator</li> <li>6. Reinforcement cutting machine</li> <li>7. Welding machine</li> <li>8. Materials lifting equipment/Transit Mixer</li> <li>9. Water Tankers</li> <li>10. Trucks/Tippers</li> </ol> <p><b>Note : ( 1 mark each item)</b></p>	10marks
viii	<p><b>Presentation by bidders based on their technical proposal:</b></p> <ul style="list-style-type: none"> <li>• <b>Project management (5 marks)</b></li> <li>• <b>Man power deployment plan (5 marks)</b></li> <li>• <b>Work plan, risk assessment &amp; mitigation (5 marks)</b></li> <li>• <b>Approach and Machinery deployment plan (5 marks)</b></li> </ul>	20marks
<b>Total=</b>		100 marks

### 8.16 Criteria for Evaluation of Bids

- A three-stage procedure will be adopted for evaluation of proposals, with the pre-qualification being completed before the technical evaluation and thereafter financial proposals being opened and compared. Pursuant to the pre-qualification criterion Bidders will be short-listed for technical Bid. Technical Bids will be opened only for the Bidders who succeed the pre-qualification criterion. The Technical Bids for the disqualified Bidders will be returned unopened at the address mentioned on the envelopes containing the technical Bid.
- MITS will review the Technical Bids of the short-listed Bidders to determine whether the Technical Bids are substantially responsive. Bids that are not substantially responsive are liable to be disqualified.
- The commercial Bids for the technically qualified Bidders will then be opened and reviewed to determine whether the commercial Bids are substantially responsive.
- Conditional Bids are liable to be rejected.

### 8.17 Evaluation of Financial Bids

The commercial Bids would be evaluated based on the overall price quoted; the evaluation would be based on following:

- I. The Financial Bids of technically qualified bidders (i.e. minimum technical qualification marks is 60) will be opened on the prescribed date in the presence of bidder representatives.
- II. Only fixed price financial bids indicating total price for all the deliverables and services specified in this bid document will be considered.
- III. The bid price will include all taxes and levies and shall be in Indian Rupees and mentioned separately.
- IV. Any conditional bid would be rejected. There should be only one Commercial bid submitted. Bids having more than one commercial bid would be rejected.

- V. Errors & Rectification: Arithmetical errors will be rectified on the following basis: “If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail”.
- VI. If there is no price quoted for certain material or service, the bid shall be declared as disqualified.
- VII. In the event that there are 2 or more bidders having the same value in the financial bid, the bidder securing the highest technical score will be adjudicated as the “Best responsive bid” for award of the Project.
- VIII. The lowest financial offer will be awarded 100 points. The Price scores of other Bidders will be calculated as:  

$$Fn = (Fm / Fb) \times 100$$
 Where  

$$Fn = \text{Normalized financial score of the bidder under consideration}$$

$$Fb = \text{Price quoted by the bidder under consideration}$$

$$Fm = \text{Lowest price quoted}$$

***Appointment of Contractor***

***Award Criteria***

*The highest scorer, with combined scores of Technical and Commercial evaluation, will be considered the Successful Bidder.*

*Final Evaluation of Bid will be done as per the following:*

*The overall score will be calculated as follows:*

$$Bn = 0.70 * Tn + 0.30 * Fn$$

*Where:*

*Bn = overall score of bidder under consideration*

*Tn = Technical score for the bidder under consideration*

*Fn = Normalized financial score of the bidder under consideration*

*In the event that there are 2 or more bidders having the same value in the combined score, the bidder securing the highest technical score will be adjudicated as the “Best responsive bid” for award of the Project.*

***Rectification of Errors***

*Arithmetical errors in the Financial Bid will be rectified on the following basis.*

- *If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and will be considered for future calculations.*
- *If there is a discrepancy between words and figures, the amount in words shall prevail.*

*Note: In any other case of discrepancy, MITS reserves the right to pick the value which it considers as beneficial to the government.*

**8.18 Contacting the State Implementation Agency**

***Contact by Writing***

*No Bidder shall contact MITS on any matter relating to its Bid, from the time of Bid opening to the time the Contract is awarded. If the Bidder wishes to bring additional information to the notice of State, it should be done in writing.*

***Rejection of Bid***

*Any effort by a Bidder to influence MITS in its decisions on Bid evaluation, Bid comparison or contract award may result in rejection of the Bidder’s Bid.*

## **8.19 Notification of Award**

### ***Notification to Bidder***

*Before the expiry of the period of validity of the proposal, MITS shall notify the successful Bidder in writing by registered letter or by fax, that its Bid has been accepted. The Bidder shall acknowledge in writing receipt of the notification of selection and shall send his acceptance to enter into agreement within seven (7) days of receiving the notification.*

### ***Signing of Contract***

*The notification of the Selection shall constitute signing of the agreement. The signing of agreement will amount to award of contract and Bidder will initiate the execution of the work as specified in the agreement. At the same time as < > notifies the successful Bidder that its Bid has been accepted, MITS will send the Bidders the Proforma for Contract provided in the Tender Document, incorporating all agreements between the parties. Within 7 days of receipt of the Contract, the successful Bidder shall sign and date the Contract and return it to < >.*

### ***Discharge of Bid Security***

*Upon the successful signing of the agreement, MITS shall promptly request the Bidder to provide performance Bank guarantee. On receipt of the performance guarantee, the Bid security of the selected Bidders will be released.*

## **8.20 Failure to Abide by the Agreement**

*The conditions stipulated in the agreement shall be strictly adhered to and violation of any of the conditions will entail termination of the contract without prejudice to the rights of MITS with such penalties as specified in the Bidding document and the Agreement.*

## **8.21 Bank Guarantee for Contract Performance**

- *Within 14 days of the receipt of notification of award from MITS, the successful Bidder shall furnish the performance security of 10% of the tender value in the form of Bank Guarantee as per format given in this RFP/ Tender document.*
- *Failure of the successful Bidder to comply with the requirement shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD. In case of exigency, if MITS gets the work done from elsewhere, the difference in the cost of getting the work done will be borne by the successful Bidder.*

## **8.22 Rejection Criteria**

*Besides other conditions and terms highlighted in the tender document, Bids may be rejected under following circumstances:*

### ***Pre-Qualification Rejection Criteria***

- *Bids submitted without or with improper EMD.*
- *Bids which do not conform to unconditional validity of the Bid as prescribed in the Tender.*
- *Pre-Qualification Bid containing commercial details.*
- *If the information provided by the Bidder is found to be incorrect / misleading at any stage / time during the Tendering Process.*
- *Any effort on the part of a Bidder to influence the Bid evaluation, Bid comparison or contract award decisions.*
- *Bids received by MITS after the last date prescribed for receipt of Bids.*
- *Bids without signature of person (s) duly authorized on required pages of the Bid*
- *Bids without power of authorization and any other document consisting of adequate proof of the ability of the signatory to bind the Bidder.*
- *Failure to furnish proofs for information provided*

### **Technical Rejection Criteria**

- *Technical Bid containing commercial details.*
- *Revelation of Prices in any form or by any reason before opening the Commercial Bid.*
- *Failure to furnish all information required by the RFP/ TENDER Document or submission of a Bid not substantially responsive to the Tender Document in every respect.*
- *Failure to furnish proofs for information provided*
- *Bidders not quoting for the complete scope of Work as indicated in the Tender documents, addendum (if any) and any subsequent information given to the Bidder.*
- *Bidders not complying with the Technical and General Terms and conditions as stated in the RFP/ TENDER Documents.*
- *The Bidder not conforming to unconditional acceptance of full responsibility of providing services in accordance with the Scope of work and Service Level Agreements of this tender.*
- *If the Bid does not confirm to the timelines indicated in the Bid.*

### **Commercial Rejection Criteria**

- *Incomplete Price Bid*
- *Price Bids that do not conform to the Tender's price Bid format.*
- *Total price quoted by the Bidder does not include all statutory taxes and levies applicable.*
- *Only lowest three quoted prices for each component shall be considered, other quote may be liable to be rejected.*

#### **8.23 Concessions permissible under statutes**

*Bidder, while quoting against this tender, must take cognizance of all concessions permissible under the statutes including the benefit under Central Sale Tax Act, 1956, failing which it will have to bear extra cost where Bidder does not avail concessional rates of levies like customs duty, excise duty, sales tax, etc. MITS will not take any responsibility towards this. However, MITS may provide necessary assistance, wherever possible, in this regard.*

#### **8.24 Income Tax Liability**

*The Bidder will have to bear all Income Tax liability both corporate and personal tax.*

*Section - IX*

***GENERAL CONDITION OF CONTRACT***

## **Section IX – General Condition of Contract**

### **9.1 Definitions**

*In this Contract, the following terms shall be interpreted as indicated:*

- i. **“Bidder”** shall mean an Individual or firm or Company registered under the Companies Act 1956 or as defined in this document that participates in the Bidding process
- ii. **“State”** shall mean State Government, and shall include its legal representatives, successors and permitted assignees
- iii. **MITS** shall mean “ Meghalaya Information Technology Society”.
- iv. **“Engineer in-Charge”** shall mean the person appointed by MITS to act on its behalf at the site for overall coordination, supervision and project management at site
- v. **“Business Day”** means any day that is not a Sunday or a public holiday (as per the official holidays observed by the State
- vi. The **“Successful Bidder / Contractor / Firm”** means the entity with whom the order has been placed for providing Services as specified in this tender/contract and shall be deemed to include the entity’s successors, representatives (approved by the State), heirs, executors, administrators and permitted assigns, as the case may be, unless excluded by the terms of the contract
- vii. **“Contractor / Firm’s Representative”** means the person or the persons appointed by the CONTRACTOR from time to time to act on its behalf for overall co-ordination, supervision and project management. This definition shall also include any and/or all of the employees of Bidder, their authorized agents and representatives and other personnel employed or engaged either directly or indirectly by the CONTRACTOR for the purposes of the Contract
- viii. **“Contract”** means the Agreement entered into between the State and the “Implementation Agency/CONTRACTOR” as recorded in the Contract form signed by the State and the “Implementation Agency/CONTRACTOR” including all attachments and Annexes thereto, the Tender and all Annexes thereto and the agreed terms as set out in the Bid, all documents incorporated by reference therein and amendments and modifications to the above from time to time
- ix. **“Confidential Information”** means any information disclosed to or by any Party to this Contract and includes any information in relation to the Parties, a third party or any information with regard to any taxpayer, or any other person who is covered within the ambit of any commercial taxes legislation including any such information that may come to the knowledge of the Parties hereto / Bidder’s Team by virtue of this Contract that:
  - a) By its nature or by the circumstances in which it is disclosed is confidential; or
  - b) Is designated by the disclosing Party as confidential or identified in terms connoting its confidentiality; but does not include information which is or becomes public knowledge other than by a breach of this Contract
- x. **“Document”** means any embodiment of any text or image however recorded and includes any data, text, images, sound, voice, codes or and databases or microfilm or computer generated micro fiche
- xi. **“Effective Date”** means the date on which the Contract is signed and executed by the parties hereto. If the Contract is executed in parts, then the date on which the last of such Contracts is executed shall be construed to be the Effective Date
- xii. **“Intellectual Property Rights”** means any patent, copyright, trademark, trade name, design, trade secret, permit, service marks, brands, propriety information, knowledge, technology, licenses, databases, computer programs, software, know how or other form of intellectual property right, title, benefits or interest whether arising before or after the execution of this Contract and the right to ownership and registration of these rights

- xiii. **“Kick Off Meeting”** means a meeting convened by the State to discuss and finalize the work execution plan and procedures with Implementation Agency
- xiv. **“Parties”** means the State and the CONTRACTOR and **“Party”** means either of the Parties
- xv. **“Service”** means facilities/services to be provided as per the requirements specified in this tender document and any other incidental services, such as installation, implementation, support and provision of technical assistance and other such obligations of the CONTRACTOR covered under the Contract
- xvi. **“The Contract Price/Value”** means the price payable to the CONTRACTOR under the Contract for the full and proper performance of its contractual obligations

## **9.2 Interpretation**

*In this Contract, unless a contrary intention is evident:*

*The ‘clause’ headings are meant for convenient reference only and do not form part of this Contract;*

- 9.2.1 *Unless otherwise specified a reference to a clause number is a reference to all of its sub-clauses;*
- 9.2.2 *Unless otherwise specified a reference to a clause, sub-clause or section is a reference to a clause, sub-clause or section of this Contract including any amendments or modifications to the same from time to time;*
- 9.2.3 *A word in the singular includes the plural and a word in the plural includes the singular;*
- 9.2.4 *A word importing a gender includes any other gender;*
- 9.2.5 *A reference to a person includes a partnership and a body corporate;*
- 9.2.6 *A reference to legislation includes legislation repealing, replacing or amending that legislation;*
- 9.2.7 *Where a word or phrase is given a particular meaning it includes the appropriate grammatical forms of that word or phrase which have corresponding meanings.*
- 9.2.8 *In the event of an inconsistency between the terms of this Contract and the Tender and the Bid, the terms hereof shall prevail.*

## **9.3 Completion of Contract**

*Unless terminated earlier, the Contract shall terminate on the completion of term as specified in the Contract*

## **9.4 Right of Monitoring, Inspection and Periodic Audit**

- (i) *The MITS reserves the right to inspect by itself or through a Third Party agency and monitor/assess the progress / performance/ maintenance of the Construction of Tech Park Phase I at any time during the course of the Contract, after providing due notice to the Contractor. The MITS may demand any document, data, material or any other information which it may require to enable it to assess the progress of the project.*
- (ii) *The MITS shall also have the right to conduct, either itself or through another Third Party as it may deem fit, an audit to monitor the performance by the Third Party of its obligations/functions in accordance with the standards committed to or required by the MITS. The Contractor undertakes to cooperate with and provide to the MITS / any other Contractor appointed by the MITS, all documents and other details as may be required by them for this purpose. Any deviations or contravention identified as a result of such audit/assessment would need to be rectified by the Contractor failing which the MITS may without prejudice to any other rights that it may have issue a notice of default,*

## **9.5 Risk Management**

- a. *Contractor shall at his own expense adopt suitable Risk Management methodology to mitigate all risks assumed by the Contractor under this Contract. Contractor shall underwrite all the risk*

*related to its personnel deputed under this Contract as well as equipment and components of the Project or their personnel during the entire period of their engagement in connection with this Contract and take all essential steps to reduce and mitigate the risk. State Government will have no liability on this account*

## **9.6 Indemnity**

The Contractor shall execute and furnish to MITS a Deed of Indemnity in favour of the MITS in a form and manner acceptable to the State, indemnifying the MITS from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period out of:

- a. Any negligence or wrongful act or omission by the Contractor or any third party in connection with or incidental to this Contract; or
- b. A breach of any of the terms of the Contractor Bid as agreed, the Tender and this Contract by the Contractor, the Contractor's Team or any third party

*The indemnity shall be to the extent of 100% in favour of MITS*

## **9.7 Confidentiality**

- a. *The CONTRACTOR shall not use any Information, name or the logo of the MITS except for the purposes of providing the Service as specified under this contract;*
- b. *The CONTRACTOR may only disclose Information with the prior written consent of the State to a member of the CONTRACTOR's Team ("Authorized Person") if the Authorized Person is obliged to use it only for the performance of obligations under this contract*
- c. *The CONTRACTOR shall do everything reasonably possible to preserve the confidentiality of the Information including execution of a confidentiality agreement to the satisfaction of the State*
- d. *The CONTRACTOR shall sign a Non-Disclosure Agreement (NDA) with the MITS. The Implementation Agency, its antecedents shall be bound by the NDA. The CONTRACTOR will be held responsible for any breach of the NDA by its antecedents or delegates*
- e. *The CONTRACTOR shall notify MITS promptly if it is aware of any disclosure of the Information otherwise than as permitted by this Contract or with the authority of the State*
- f. *The CONTRACTOR shall be liable to fully recompense the MITS for any loss of revenue arising from breach of confidentiality. MITS reserves the right to adopt legal proceedings, civil or criminal, against the CONTRACTOR in relation to a dispute arising out of breach of obligation by the CONTRACTOR under this clause*
- g. *The CONTRACTOR shall not take away or remove in whatever manner any information on any media like but not limited to Floppy, Digital Drives, CDs, DVDs, email etc without the specific written permission of State. CONTRACTOR, if required, shall take specific permission for each such event*
- h. *The CONTRACTOR shall not use any information which might have come to its knowledge in whatever manner during the discharge of its obligation under the contract for any purpose except strictly for discharging his obligation under the contract and no more.*
- i. *The Design Drawings Architectural and Structural BOQ, Tender documents are the property of MITS Government Of Meghalaya the contractor shall not duplicate or replicate the aforementioned items and are subjected to Intellectual Property Rights (IPR).*

## **9.8 Force Majeure**

- 9.8.1 *Force Majeure shall not include any events caused due to acts/omissions of such Party or result from a breach/contravention of any of the terms of the Contract, Bid and/or the Tender. It shall also not include any default on the part of a Party due to its negligence or failure to implement the stipulated/proposed precautions, as were required to be taken under the Contract.*

- 9.8.2 *The failure or occurrence of a delay in performance of any of the obligations of either party shall constitute a Force Majeure event only where such failure or delay could not have reasonably been foreseen or where despite the presence of adequate and stipulated safeguards the failure to perform obligations has occurred. In such an event, the affected party shall inform the other party in writing within five days of the occurrence of such event. The MITS will make the payments due for Services rendered till the occurrence of Force Majeure. However, any failure or lapse on the part of the contractor in performing any obligation as is necessary and proper to negate the damage due to projected force majeure events or to mitigate the damage that may be caused due to the abovementioned events or the failure to provide adequate disaster management/recovery or any failure in setting up a contingency mechanism would not constitute force majeure, as set out above.*
- 9.8.3 *In case of a Force Majeure, all Parties will endeavor to agree on an alternate mode of performance in order to ensure the continuity of service and implementation of the obligations of a party under the Contract and to minimize any adverse consequences of Force Majeure*

### **9.9 (a) Dispute Resolution**

- (i) *The MITS and the Contractor shall make every effort to resolve amicably by direct informal negotiations any disagreement or disputes arising between them under or in connection with the Contract*
- (ii) *If, after Thirty (30) days from the commencement of such direct informal negotiations, the MITS and the Contractor have been unable to resolve amicably a Contract dispute, either party can initiate legal litigation process which shall be subject to the jurisdiction of the Civil Court in Shillong only.*
- (iii) *The venue of arbitration shall be Shillong, Meghalaya India*

### **9.9 (b) Term and Extension of the Contract**

*The term of this Contract shall be for a period as indicated in the contract and contract shall come to an end on expiry of such period except when its term is extended by MITS.*

*MITS shall reserve the sole right to grant any extension to the term mentioned above on mutual agreement including fresh negotiations on terms and conditions*

## **10. Prices**

*Prices quoted must be firm and shall not be subject to any upward revision on any account whatsoever throughout the period of contract for the scope of the Contract subject to Change Order provisions*

## **11. General terms & conditions**

- I. *Working Drawings can be seen at the Office of MITS during working days from 11.00 Am to 4.00 pm however presentation drawings for IT & ITeS and Guest House are enclosed in the Tender as an Annexure for reference also enclosed in the Annexure is the Schedule and quantity of items for Schedule Items.*
- II. *It will be obligatory for the tenderers to keep the offer of their tender valid for a period of 180 days from the due date for receipt of tender. If any tenderer withdraws the tender before the said period or makes any modification in the terms and conditions not acceptable to MITS, then MITS shall without any prejudice to any other right or remedy is at liberty to forfeit the earnest money deposit absolutely.*
- III. *The Member Secretary. MITS, shall have the right to omit or suspend certain items of works to revise or to amend the tender documents prior to the date of receipt and opening of the tender. Such revisions or amendment or extensions, if any, shall be given vide publicity through new papers and communicated to other concerned in the form of corrigendum by post.*

- IV. *All works shall have to be carried out as per specification conforming to the latest relevant I.S Codes/BIS and Specifications of Building work of MPWD.*
- V. *.The tenderer is to sign on all the pages of this Request for Proposal / Tender documents as a token of acceptance of the various conditions of these manner documents, without which the tender is liable to be rejected.*
- VI. *The Member Secretary, MITS, Meghalaya, reserves the right to reject or accept any or all the tenders received without assigning any reasons thereof.*
- VII. *The tender is liable to cancellation, if either the contractor himself or any of his employee is found to be a person who previously belong to gazetted rank in any Governmental department but retired and has not obtained necessary permission from the government for such contractor's employment. Technically qualified and experienced person (s) should also be approved by the Engineer in-charge and shall have to be stationed at the site by the contractor to supervise the work.*
- VIII. *Canvassing in connection with the acceptance of the tender is strictly prohibited and is liable to disqualify the tender without assigning any reason thereof.*

## **12 .EARNEST MONEY DEPOSIT**

*EARNEST MONEY: 2% (Two percent) of the value of the work, and 1% (One percent) For Tribal Contractors.*

## **13. CONDITIONS RELATING TO AWARD OF WORK**

*13.1 The successful tenderer will be notified by a letter that its tender has been accepted. The successful tenderer will have to furnish the necessary Security Deposit as per items and conditions mentioned in this RFP / tender document and sign the formal tender agreement to be drawn up by MITS. No Work shall be started before signing of the formal tender agreement.*

## **14. SECURITY DEPOSIT**

*14.1 The successful tenderer will be required to furnish security deposit for due fulfillment of its contract. The total security deposit will be 10% (ten percent) of the Tender value in the form of Bank Guarantee in the format mentioned in this tender document,*

*14.2 In case the contractor does not complete the work or leaves the work or part of it unfinished the security deposit of the contractor will be forfeited by MITS and appropriate proceedings may be initiated.*

## **15. MATERIALS, PERSONNEL AND EQUIPMENT**

*15.1. All constructions materials shall have to be procured by the contractor /firm. The constructions materials conforming to I.S specifications shall be procured by the contractor/firm from any of the registered/authorized dealers/manufacturers. Documentary proof of purchase like cash memo, sales tax certificate, test report should be submitted to the Engineer in-charge concerned for his necessary verification and subsequent acceptance/rejection which is final.*

*(a) HYSD Steel :*

*(Grade Designation 415) conforming to IS: 1786.)*

*Yield stress  $F_y = 415$ :*

*(b) Cement Ordinary Portland cement conforming to IS: 269 and IS: 456.*

*( c) Bricks – First Class Brick Conforming to I.S Code.*

*15.2 The Contractor shall employ the key personnel and use the equipment identified in its Bid to carry out the functions stated in the Schedule or other personnel and equipment approved by the Engineer In-Charge. The Engineer In-Charge shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than*

those proposed in the Bid. List of Key Equipment and Field Testing Laboratory Equipment as per .....to be enclosed.

## 16. STORAGE

16.1 Materials required for the work shall be procured by the contractor and shall be stored by the contractor only at approximately and safe places, storage and safe custody of the materials shall be the responsibility of the contractor. If during construction, it becomes necessary to preserve or shift the stored materials, shed, workshops etc to facilitate construction of the building or the approach roads, the contractor shall have to do so at his own cost as directed by the Engineering in-charge.

16.2 The contractor shall exercise utmost care while using an inflammable material so as not to endanger life and property and he/she shall be solely responsible for any and all damages resulting from the use of such materials. Further he/she shall identify the department and its officers and employment against any claim or liability arising out of accident or violation of any law, rules, orders etc enforces regarding use of such materials.

## 17. SAMPLING AND TESTING

17.1 The contractor, using the Field Testing Laboratory Equipment shall conduct the following tests on construction materials:-

### 1. TESTING OF COARSE AND FINE AGGREGATE:

- a) Sieve analysis as per IS : 2386 (Part-I)- 1963.
- b) Deleterious materials as per IS: 2386 (Part-II) – 1963.
- c) Specific gravity, density, voids and absorption as per IS: 2386 (Part-III) – 1963.
- d) Soundness as per IS: 2386 (Part-V) – 1963.

### 2. TESTING OF COARSE AGGREGATE:

- a) Aggregate crushing value as per IS: 2386 (Part-IV) – 1963.
- b) Elongation and flakiness index as per IS: 2386 (Part-I) – 1963.

### 3. TESTING OF FINE AGGREGATE:

- a) Silt content as per IS: 2386 (Part-I) – 1963.
- b) Material finer than 75 micron as per IS: 2386 (Part-I) – 1963.
- c) Organic impurities as per IS: 2386 (Part-II) – 1963.
- d) Bulking as per IS: 2386 (Part-III) – 1963.

### 4. TESTING OF CEMENT AS PER IS: 4031:

- a) Fineness of cement by dry sieving.
- b) Determination of soundness by le-chatelier method.
- c) Determination of consistency and setting time.
- d) Determination of compressive strength.

### 5. CONCRETE MIX DESIGN

### 6. TESTING OF FRESH CONCRETE:

- a) Test for workability as per IS : 1199-1959.
- b) Determination of density, yield, cement factor and air content as per IS : 1199-1959.
- c) Casting of cubes as per IS : 516-1959.

- d) Test for water/cement ratio and concrete 28 days compressive strength in 15 minutes of any grade of cement, so that any concrete batch discharged from the mixer found sub-standard should not be allowed for placing.

7. TESTING OF HARDENED CONCRETE:

- a) Compressive strength as per IS : 516-1959.
- b) Density.

8. TESTING OF CONCRETE ADMIXTURES AS PER IS: 2645 AND IS: 9103.

- a) Workability test.
- b) Permeability test by capillary absorption method
- c) Setting time
- d) Compressive strength
- e) Bleeding.

9. TESTING OF BRICKS:

- a) Compressive strength as per IS: 3495 (Part-I) – 1976.
- b) Water absorption as per IS: 3495 (Part-II) – 1976.
- c) Efflorescence as per IS: 3495 (Part-III) – 1976.

10. TESTING OF TARFELT AS PER IS: 1322 – 1982.

- a) Pliability test
- b) Storage sticking test
- c) Heat resistance test
- d) Water absorption test.

11. TESTING OF GLAZED TILES AS PER IS: 777- 1970.

- a) Impact strength test
- b) Water absorption test

12. TESTING OF MARBLE AS PER IS: 1124-1974

- a) Water absorption test
- b) Specific gravity test

13. TESTING OF WOOD AS PER IS: 287-1973

- a) Compressive strength
- b) Moisture content
- c) Density

**Cost of all the field tests is deemed to be borne by the contractor and nothing extra is payable.** Routine tests shall be carried as per the requirement for quality control and as directed by the Engineer In-Charge. Any test which cannot be carried at the field lab and directed by Engineer In-Charge shall be got done from the approved laboratory.

17.2 The contractor shall at his own expense and without delay, supply to the Engineer in-charge samples/cubes of materials proposed to be used in this work. The Engineer in-charge within 21(twenty one) days of supply of samples/cubes or within such further period as may be required intimate to the contractor in writing whether samples are approved by him or not.

17.3 If samples are not approved, the contractor shall forthwith arrange to supply to the Engineer in-charge for his approval of fresh samples complying with the specification laid down with the contract.

17.4 The Engineer in-charge shall be entitled to have test carried out as specified in the contract for any materials supplied by the contractor other than that for which satisfactory proof has already been furnished, at the cost of the contractor and the contractor shall provide at his expenses all facilities which the Engineer in-charge may be required for the purpose.

17.5 If any tests other than those specified in the contract are required by the Engineer in-charge, the contractor shall provide all facilities required for the purpose and the charge for such tests shall be borne by the Department.

17.6 The cost of materials consumed in tests shall be borne by the contractor in all cases.

#### 18. DEFECTIVE MATERIALS:

18.1 All materials used in construction work without prior inspection (and where necessity testing) and without approval of the Engineer In - Charge is liable to be considered unauthorized and defective.

18.2 The Engineer In-Charge shall have full powers to remove any or all of the materials brought to the Site by the contractor but are not in accordance with the contract specification or do not conform in character or quality to the samples approved by him or do not conform to the relevant I.S.I/B.I.S specifications. In case of default on the part of the contractor in removing the rejected materials, the Engineer In-Charge shall be at liberty to have them remove by other means at the cost of the contractor.

18.3 The Engineer In-Charge shall have full power to utilize proper materials at the Site and he may ask the contractor to replace the rejected materials to maintain proper specification without compromising to the inferior quality of work.

#### 19. PROGRAMME OF WORK/CONSTRUCTION:

19.1 Time is the essence of the contract and it shall be clearly understood that the contractor is bound to complete the work in all respects within the time period as specified vide clauses of the contract agreement.

19.2 The work shall be carried/executed as per the detailed Programme of Work drawn up by the contractor/tenderer and submitted along with the tender/bid. The Programme of work shall give the forecast of the schedule dates of commencement and progress of the various construction stages of the work till completion as per the time allowed. It shall also indicate the time schedule for all preliminary arrangement, the contractor intend to make before starting the work. The progress schedule after modifications, if any during the progress of seeking clarifications while examining the tender shall be form a part of the contract agreement. In absence of such programme of work, a detailed Programme shall be drawn up by the Engineer In-Charge which shall be binding on the contractor and shal form a part of the contract agreement.

19.3The progress schedule of work may be amended, as and when necessary by agreement between the Engineer In- Charge and the contractor within the limitations of the contract agreement prior to the approval of the competent authority.

19.4 Any major changes in the Programme of Work shall be intimated by the contractor to the Engineer In-Charge in writing and subsequently to be approved by the competent authority. Minor changes will only be recorded in the work register which shall be maintained at the contractor's Site office throughout the period of execution of work, open for inspection by the Engineer In-Charge or his representative.

19.5 The work may be carried out only during the day irrespective of Sundays and Holidays as considered by the contractor. For work on Sundays, Holidays and nights, the contractor shall have to give prior notice in writing to the Engineer In-Charge or his representative, so that supervisory staffs can be deputed in time. The contractor shall not be allowed to executed

any permanent nature of work in absence of the supervisory staff of Engineer In-Charge, no work shall be kept suspended for more than 48 hrs (forty eight hours) on reason of inspection or delay in taking measurements.

## 20. PROGRESS OF WORK:

20.1 If at any time during the progress of the work, the Engineer In-Charge shall be of the opinion that the contractor is not executing the work with diligence, it shall be lawful on the part of the Engineer In-Charge in writing to call upon the contractor to complete the specified portion(s) of the work by a date to be appointed in the notice, and in case the contractor does not comply even after 1(one) month notice in writing form the Engineer In-Charge, the contractor will render himself to action as per provisions in this tender document.

## 21. EXTENSION OF TIME:

21.1 If the work(s) be delayed by:-

- i) Force majeure, or
- ii) Abnormally bad weather, or
- iii) Serious loss or damage by fire, or
- iv) Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- v) Any other cause which, in the absolute discretion of the authority is beyond the Contractor's control, then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer In-Charge but shall nevertheless pursue constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer In-Charge to proceed with the works.

21.2 Request for the necessity of extension of time, to be eligible for consideration, shall be intimated by the Contractor in writing within 14(fourteen) days of the happening of the event causing delay on the prescribed form. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

21.3 In any case, the accepting competent authority may give a reasonable extension of time for completion of the work which shall be intimated to the contractor by the Engineer In-Charge in writing within 30(thirty)days from the date of receipt of such request.

Formal request for extension of time for a specified period shall be submitted to the Engineer In-Charge at least 6(six) months before the expiry of the contract period in proper form. The request for extension of time shall be accompanied with justifiable reasons for the request.

## 22. SUB - LETTING OF CONTRACT:

22.1 The contract or any part thereof shall not be assigned, transferred or sublet by the Contractor to any other party.

## 23. SETTING OUT OF WORK:

23.1 The contractor shall be responsible for the true and proper setting out of work and for proper maintenance of all references/existing structures etc and other evidences existing in the field required in connection with the setting out of the work at the contractor's own cost till physical completion of all the items of the work or prior to that if agree to by the Engineer In-Charge.

23.2 All such references etc established by the contractor shall be subjected to check and approval of the Engineer In-Charge or his authorized representative at all times. Any variation

notice in the work as a result of improper establishment or maintenance of these shall be at the risk and expense of the contractor.

#### 24. INSPECTION OF WORK:

The contractor shall either himself supervise the execution of the work or the competent Site Engineer/Technical expertise/Supervisory staff as per the supporting document submitted by the contractor along with the Technical/Pre-qualification bid and as approved by the competent Authority. If the Contractor fails to comply, then the Engineer In-Charge shall have full power to suspend the execution of the work until such date a Technical expert is appointed subjected to the approval of the Engineer In-Charge and the contractor shall be held responsible for the delay so caused to the work.

24.1 The Engineer In-Charge or the officer In-Charge is to have at all times access to the works which are to be entirely under his control. The Engineer In-Charge shall intimate or confirm his instruction to the contractor in respect of the execution of work in a "Work Site Order Book" and the contractor or his authorized representative shall confirm receipt of such instruction by signing relevant entries in his book. The contractor shall allow inspection of the registers and other documents by the inspection officer and the Engineer In-Charge or his authorized representative at any time.

24.2 One copy of the approved drawings furnished to the contractor, shall be kept by the contractor at the Site and the same shall be at all reasonable time available for inspections and for references by the Engineer In-Charge.

24.3 All works shall be subjected to examining and approval by the Engineer In-Charge, no work shall be covered up or put out of view prior to such approval and the contractor shall give due notice to the Engineer In-Charge or his authorized representative without unreasonable delay, attend for the purpose of inspection of the works.

24.4 Any other extra work(s) which is/are not included in the contract of work and agreement, such work(s) shall not be executed without prior information and approval of the competent authority in writing.

#### 25. MEASUREMENTS AND RECORDS:

25.1 The Engineer In-Charge shall ascertain and determined by measurement the quantum of work in accordance with the contract of agreement and as per specifications.

25.2 For measurement of any part of the work, the Engineer In-Charge shall intimate the contractor who shall forthwith attend or send his authorized representative to assist the Engineer In-Charge/authorized representative in taking measurement and shall furnish all particulars and details as required.

25.3 Should the contractor not attend, neglect or decline to send his authorized representative, then the measurement taken by the Engineer In-Charge or approved by him shall be considered as correct and accurate measurement of the work. Measurement taken jointly shall be with dated signature by both parties for each day of measurement. The quantum of work under additional items, if ordered and approved by the competent authority for execution shall be ascertained by measurement.

26. The Contractor shall be entitled to be paid running account bills according to the progress of the works executed and measured. The amount of running payments should be calculated on the basis of Meghalaya PWD Schedule of Rates for Building for the year 2015-16 and price bid of the contractor. No running bills shall be paid for works less than Rs. **2 (Two) Crores**. The final bill shall be prepared on completion of the works as per specifications, drawings and to the entire satisfaction of the competent authority at the tendered

rates/amount and the sum total of the running bills deducted there from and the resultant amount paid to the Contractor after recovery of all dues under clauses of this contract or otherwise from the Contractor.

## **27. FINAL CERTIFICATE**

27.1 Within 10(ten) days after the work is completed, the contractor shall intimate of such completion to the Engineer In-Charge and subsequently within 30(thirty) days of receipt of such notice, the Engineer In-Charge shall inspect the work and if there is no defect in the executed work ,shall furnish the contractor a Completion Certificate indicating the date of completion. If However, there are defects in the work which in the opinion of the Engineer In-Charge do not need re-construction and can be rectified, then a Certificate may be issued indicating –

(a). the date of completion

(b). defects to be rectified by the contractor as may required for rectification of defects.

27.2 No Certificate of completion shall be issued nor shall the work be considered as completed till the Site is finally cleared as provided for in this document, except for such materials and equipments which may be required for rectification of defects.

## **28. FINAL CLEARANCE OF SITE:**

On completion of the work, the contractor shall clear and remove from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/ their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution thereof. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer In-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

## **29. DEFECT LIABILITY:**

29.1 The contractor shall be responsible to make good and remedied, at his own expenses with in such a period as may be stipulated by the Engineer In-Charge any defect which may develop or may be noticed before the expiry of a period of 12(twelve) months herein after referred to as the Defect Liability Period from the certificate of completion and intimation in writing of which shall be sent to the contractor in person or by registered post.

29.2 In the event whereby the contractor fail to rectify the defect or damage within the stipulated period as notified by the Engineer In-Charge in his aforesaid notice, then the Engineer In-Charge may rectify or remove or re-execute the work and replace with other materials/articles complained of, as the case may be by other means at the risk and expenses of the contractor.

30. CANCELLATION OF CONTRACT IN FULL OR IN PART:

30.1 If the contractor:

a) fails to complete the works or items of work with individual dates of completion, on or before the date(s) of completion, and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer In-Charge/competent authority; or

a) commits default to complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is served to him in that behalf by the Engineer In-Charge/competent authority; or:

b) If contractor at any time makes default in proceeding with the works or any part of the work with the due diligence and continues to do so after a notice in writing of 7 days from the Engineer In-Charge/competent authority.

In such cases, the Competent/Accepting Authority, without prejudice to any other right or remedy which may have occurred or shall occur thereafter by written notice cancel the contract in whole or in part.

30.2 The competent/Accepting Authority shall on such cancellation have powers to:

a. take possession of the site and any materials , constructional plants, implements, stores, etc, thereon and

b. Carry out the incomplete work by and means at the risk and expenses of the contractor.

30.3 On cancellation of the contract in full or in part, the Engineer In-Charge shall determine what amount, if any, is recoverable from the contractor for the completion of the entire work and for the losses or damages suffered by MITS. In determining the amount, credit shall be given to the contractor for the quantum/value of the work executed by him up to the time of cancellation, the value of contractor's materials taken over and in-corporate in the work and use of machinery belonging to the contractor.

31. LABOUR REGULATION:

31.1 The contractor shall employ skilled and experienced labourers in sufficient numbers to maintain the required rate of progress and quality to ensure workmanship or the degree specified in the contract and to the satisfaction of the Engineer In-Charge. The contractor shall not employ in connection with the work any person(s) who is below 14(fourteen) years of age. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986. Failure to fulfill this requirement shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

31.2 The contractor shall furnish to the Engineer In-Charge fortnightly the distribution return of the number and description by the trades of work in which people are employed on the work.

31.3 The contractor shall not employ labour or staff of doubtful integrity of the State. If anti-State or anti-social elements are employed by the contractor, the contract agreement will be cancelled and no claim whatsoever will be entertained for any losses or damages.

31.4 For the purpose of all labour laws, the contractor shall be deemed as "Employer" in respect of the labourers employed by him for the contracted work. The department shall not take any liabilities whatsoever in this respect.

31.5 The contractor shall pay to the labourers employed by them adequate wages and shall be as per the rules and regulations framed by the Department/Government from time to time.

The register of workmen and as register of wage-cum-muster roll shall be maintained and kept at the work Site.

31.6 The contractor shall see that sufficient numbers of technically qualified staffs are always at the site of the work during working hours, personally checking all the items of the work and paying extra attention to the specification and quality of work. For this purpose the tenderer(s)/contractor should mention their own technical qualification/qualified technical supervisory staff with experienced during submitting the tender as credentials.

31.7 The Contractor shall have to provide Personal Protective Equipments to their workers as per site/work requirements.

31.8 As per the Notification No.LC/BCWWC-25/2011/Pt-I/785-98 Dated 10<sup>th</sup> March 2016 from Labour Commissioner & Secretary, Meghalaya Building & Other Construction Workers Welfare Board ,Shillong, the Contractor should furnish either a copy of applicable License/registration or proof of applying for obtaining labour license, registration with EPFO,ESIC & BOCW registration and to Register the labourers with the Meghalaya Building & other Construction Workers Welfare Board.

## 32. MATERIAL SOURCES:

32.1 Quarry for stones, sand, earth etc has to be ascertained from the site and approved by the Engineer In-Charge.

32.2 The tenderer /contractor shall make their own independent investigations as to the availability as well as suitability of the various materials required for the construction subjected to the approval of the Engineer In-Charge.

32.3 No claim whatsoever will be admissible for any extra leads etc of materials conforming to the specifications shall be brought from all leads.

32.4 Payment of Forest Royalty on the forest products such as stone, sand, earth etc, shall paid by the contractor to the concern Authority.

## 33. SPECIFICATIONS OF THE BUILDING:

33.1 The contractor shall execute the whole and every part of the work in the most substantial and workman like manner both as regards to materials and otherwise in every respect strictly in-accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions (in writing) in respect of the work signed by the Secretary, MITS ,Meghalaya, Shillong and 1(one) copy of the detail drawing together with specifications, and instructions shall be furnished free of charge to the contractor .

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

## 34. GST and LABOUR CESS.

34.1 The contractor shall pay GST, Labour Cess and any other applicable taxes to the concern Authority.

**Signature of Contractor/firm**

witness: \_\_\_\_\_

Name in block letter \_\_\_\_\_

Registration No. \_\_\_\_\_

Signature \_\_\_\_\_

Labour License No. \_\_\_\_\_ valid up to \_\_\_\_\_

Electrical License No. \_\_\_\_\_ valid up to \_\_\_\_\_

Address \_\_\_\_\_

Complete Postal Address \_\_\_\_\_

\_\_\_\_\_  
Mobile No. +91 \_\_\_\_\_

\_\_\_\_\_

*Section X*

***SAMPLE AGREEMENT***

## ***SAMPLE AGREEMENT CLAUSES***

**Clause 1:** The terms and conditions of the work order and the terms conditions and specifications accompanying the notice calling for tenders shall be binding on both parties. The Member Secretary, MITS, hereafter called the first party and .....(hereafter called the Contractor and the second party). The notice with the terms and conditions and specifications accompanying it should form part of the contract document in addition to the terms and conditions and specifications mentioned hereunder. In case they are at variance with what is provided in the conditions mentioned hereunder, the latter will take precedence.

**Clause 2:** The time allowed for carrying out the work as entered in the tender should be strictly observed by the Contractor and shall be reckoned from the date on which the order to commence work is given to the Contractor. The Contractor shall pay as compensation an amount equal the 1% (one percent) or such smaller amount as decided by the Member Secretary, MITS, (whose decision in writing shall be final) of tendered amount of the whole work for every week or part thereof that the work remains un-commenced or unfinished after the fixed dates. Further he should ensure that the progress is proportional to or in advance of time allowed. In the event of the Contractor failing to comply with the conditions he shall be liable to pay as compensation an amount equal to one percent of the tendered cost of the whole work for every week that the due quantity of work remains incomplete; provided always that the entire amount of the compensation be paid under this provision shall not exceed ten percent of the cost of work as shown in the tender.

**Clause 3:** In any case in which under any clause of this contract the Contractor shall have rendered himself liable to penalty amounting to fifty percent or more of his security deposit (whether paid in the lump sum or deducted by one installment) the Member Secretary, MITS, shall adopt any of the following courses as he deems best suited to the interest of the MITS.

a). To rescind the contract as to which rescission notice in writing to the Contractor under the hand of the Secretary, MITS, shall be final and conclusive and in which case the security deposit of the Contractor shall stand forfeited absolutely at the disposal of the MITS and to value the incomplete items of work as he deems suitable and pay Contractor finally after recovery of the penalty amount equal to the security deposit and other dues.

b). To measure up the work of the Contractor and to take away such a part thereof as shall be unexecuted out of his hand and to give it to another Contractor to complete it, in which case any expense which may be incurred in excess of the sum which would have been paid to the original Contractor if the whole work had been executed by him (as to amount of which excess the certificate in writing of the Engineer in charge shall be final and conclusive) shall be borne and paid by the original Contractor and may be deducted from any money due to him by the Secretary, MITS under the contract or otherwise or from the security deposit or the proceeds of the sale thereof or a sufficient part thereof.

In the event of any of the above courses being adopted by the Member Secretary, MITS, the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into engagement or make any advance on account thereof, with a view to the execution of the work or performance of the contract. And in case the contract shall be rescinded under the provision aforesaid the contractor shall not be entitled to recover or be paid any sum for any work thereof actually performed under this contract unless and until the Engineer in charge shall have certified in writing the performance of such work and the value payable in respect thereof and that he shall be entitled to be paid the value thereof.

**Clause 4:** If the Contractor shall desire extension of time for the completion of the work on the ground of his having been unavoidable hindered in its execution or any other ground he shall apply in writing to the Member Secretary, MITS, within 15 (fifteen) days of the date of hindrance or due date of occurrence or commencement of the aforesaid grounds on account of which he desires such extension and the Secretary, MITS, shall, if in his opinion (which shall be final and conclusive) he considers the grounds are reasonable authorize such extension of time.

**Clause 5:** The Contractor shall give the notice in writing when the work is completed and on receipt of such notice the Building shall arrange to get the works measured and the bills thereof prepared. The work shall not be deemed as complete unless the Contractor removes all the surplus materials and scaffolding and clears the site of all the debris to the entire satisfaction of the Engineer incharge/ Member Secretary, MITS. The Engineer incharge will issue the Completion Certificate For Phase-I of Technology Park to enable the contractor to handover the project to MITS.

**Clause 6:** The Contractor shall be entitled to be paid running account bills according to the progress of the works executed and measured. The amount of running payments should be calculated on the basis of Meghalaya PWD Schedule of Rates for Building for the year 2015-16 and price bid of the contractor. No running bills shall be paid for works less than Rs. **2 (Two) Crores**.

**Clause 7:** The final bill shall be prepared on completion of the works as per specifications, drawings and to the entire satisfaction of the competent authority at the tendered rates/amount and the sum total of the running bills deducted there from and the resultant amount paid to the Contractor after recovery of all dues under clauses of this contract or otherwise from the Contractor.

**Clause 8:** The Contractor shall execute the whole and every part of the work faithfully in the most substantial and workman like manner as regards material and otherwise in every respect and in strict accordance with the true intent and meaning of the designs, the drawings the written instructions signed by the Secretary, MITS related to the work.

**Clause 9:** The Contractor shall allow free access to his works to the Supervising staff and the members of the staff as appointed for the purpose by the Member Secretary, MITS to inspect test and examine to the works and materials. If demanded he shall uncover the buried foundation, covered ceiling, roof, etc., for the genuine purpose of inspection and testing.

**Clause 10:** The Contractor shall if demanded in writing by the Member Secretary, MITS, prepares concrete test cubes and arrange for testing the compressive and tensile strength of concrete as shall be specified and also shall bear the expense thereof, if any.

**Clause 11:** The Member Secretary, MITS, shall have power to make any alterations or additions to the original specifications, drawings, designs and instruction that appear to him to be necessary and advisable during the process of the work and the Contractor shall be bound to carry the work in accordance with any instruction which may be given in writing and such alterations shall not invalidate the contract and any additional works which the Contractor may be directed to do in the manner above specified as a part of the work shall be carried out by the Contractor on the same conditions in all respects on which he agrees to do the main work. The time of completion shall be extended proportionately. And if the additional work includes any class of work for which no rate is provided in the contract, then such class of works shall be carried out at the rate mutually agreed upon by both parties on the basis of actual analysis by the officer of the MITS plus Contractor, profit not more than 10% (ten percent).

**Clause 12:** The Member Secretary, MITS, shall have the power to reduce the quality/amount of work if he thinks it necessary. In such case the Contractor shall have no claim for compensation whatsoever on account of any profit or advantage than he would otherwise receive had the works been not reduced.

**Clause 13:** If it appears to the Member Secretary, MITS that any work has been executed with unsound, imperfect or unskillful workmanship and with materials or inferior description/quality the Contractor shall, on demand in writing fore with rectify or remove or reconstruct the work as required and demanded by the latter at the Contractor's cost and risks. In the event of the Contractor failing to do so, the Member Secretary, MITS shall have the power to get the rectification work done otherwise and recover the cost thereof from the Contractor (from the Contractor's bill for this work under this contract or from any amount/account laying at this credit.

**Clause 14:** The Contractor shall give at least 10 days notice to the Member Secretary, MITS in writing before covering up or before placing beyond the reach of measure inspection any work in order that the same may be inspected and measured.

**Clause 15:** The Contractor shall supply all necessary material, tools and plants, instruments, etc., required for setting out and laying out the building work and also shall supply men to help the Engineer in charge to lay out the building work and do the measurements required in the work.

**Clause 16:** In case of any damage or injury to his workmen as a result of accident in execution of the work the Contractor shall settle up such damages compensation as required under Labour Act for the purpose.

**Clause 17:** No labour below 14 years of age should be engaged by the Contractor.

**Clause 18:** No Cement Concrete works shall be done on Sundays, except with prior permission from Engineer in-charge.

**Clause 19:** The Contractor shall carry out the works in accordance with the Meghalaya P.W.D General Specification current in the year and also in accordance with Indian Standard Code of Practice.

**Clause 20:** If the Contractor or his work-people or servants shall break, deface, injure or destroy any part or a structure, in which they may be working, or any building road, fence, enclosure, or grass land, or cultivated ground contiguous to the premises on which the work or any part of it is being executed or if any damage shall happen to the work, while in progress from any cost whatever or any imperfection become apparent in it within three months after a Certificates, final or other, of its completion shall have been given by the Engineer incharge as aforesaid, the contractor shall make the same good at his own expense or in default, the Enguineer incharge may cost the same to be made good by other workmen and deduct the cost (of which the Certificates of the Engineer-in-charge shall be final and conclusive) plus twenty four percent supervision charges from any sums that may be then, or at any item thereafter may become, due to the contractor or from his security deposits or the proceeds of sale thereof, or a sufficient portion thereof.

**Clause 21:** (i) The term 'competent authority' wherever it is mentioned means the Member Secretary, Meghalaya Information Technology Society.

(ii) The term 'Engineer in charge' means the Officer(s) nominated by The Member Secretary, Meghalaya Information Technology Society as such.

(iii) The term 'MITS' means the, Meghalaya Information Technology Society.

(iv) Whenever the word document appears in this Tender papers it implies the same meaning as Tender papers.

**Clause 22:** The Contractor shall as far as possible employ persons belonging to the state of Meghalaya, for working the projects covered by the Agreement. Failure to comply with such conditions would be tantamount to defying Government orders and such defaulting Contractors may be liable to such action as the Government may deem fits.

**Clause 23:** All Taxes including Forest Royalty should be paid by the Contractor to the concern department of the Government.

**Sample Tender rates/cost:**

<b>Description of work</b>	<b>Rate</b>	<b>Remarks</b>
<i>Construction Of Phase-I of the building for Technology Park, which will consist of Ground+3 floors.</i>		
<b>I. SCHEDULE ITEMS:</b>  <b>a. Building Works:</b> AT PAR / ABOVE the Meghalaya Schedule of Rates for Building Works for 2015-2016 as applicable in East Khasi Hills District Meghalaya.		
<b>b. Internal Electrical Works:</b> AT PAR / ABOVE the Meghalaya Schedule of Rates for electrical Works for 2016-2017 as applicable in East Khasi Hills District Meghalaya.		
<b>c. Approach Road:</b> AT PAR / ABOVE the Meghalaya Schedule of Rates for roads N.H. Circle for the year 2013-2014.		
<b>II. NON-SCHEDULE ITEMS:</b>		
<b>a. Lifts for IT &amp; ITeS</b>		
<b>b. Lift for Guest House</b>		
<b>c. Fire Fighting facilities for IT &amp; ITeS</b>		
<b>d. HVAC for IT &amp; ITeS</b>		
<b>e. Split AC for Guest House</b>		

***Section - XI***

***Formats for Response to the Tender:  
Pre - Qualification Bid***

## **Section XI: Format for Response to the tender: Pre-Qualification Bid**

*This section provides the outline, content and the formats that the Bidders are required to follow in the preparation of the Pre-Qualification Bid*

### **Format 1 – Pre-Qualification Bid Letter**

#### **PRE-QUALIFICATION BID (A)**

1. Tenders are hereby invited in 3 (three) cover Bid system i.e. Pre-qualification Bid (A), Technical Bid (B) and Price Bid (C) separately by the undersigned on behalf of the Meghalaya Information Technology Society (MITS), Meghalaya, from the Registered Class-I Contractors of P.W.D. (Building), Meghalaya / Central PWD/MES/Experienced Contractors in Building Works, having a valid Electrical Licence /Labour Licence and having requisite qualifications with experience of executing similar building works for the under mentioned work and will be received in the office of the undersigned. The Pre- qualification Bid & the Technical Bid will be opened on the same date and hour in the presence of the intending tenderers or their authorized representatives. However, if the last date is declared as a holiday, then the next working day will be the schedule date for receiving and opening of the bid. The Price Bid of the pre-qualified tenderer(s) will be opened on a specified date in the presence of the tenderer(s) or their authorized representatives and the date for opening of Price Bid will be duly notified.

Tender papers may be obtained from this office or downloaded from [www.ditmeghalaya.gov.in](http://www.ditmeghalaya.gov.in). The bidder submit a non-refundable fee of Rs 10,000.00 (Rupees Ten thousand) through a Demand Draft (DD) should be submitted along-with the tender documents.

2. **NAME OF WORK:** - Construction Of Phase-I of the building for Technology Park, at Siejlieh, Mawkasiang, East Khasi Hills.

3. **NATURE OF WORK:** -Construction of IT & ITeS Building and Guest House, Approach Roads and Path Ways Including Internal Water Supply, Sanitary Installation, Internal Electrification, Fittings, HVAC, Lift, and Fire Fighting.

4. **APPROXIMATE TENDER VALUE:** -Rs 30,00,00,000.00 (Rupees Thirty Crores) Only

**NB:** Tender Value provided is for Guidance only, Total cost of works and other items will be based on actual measurements

5. **EARNEST MONEY :** Earnest money for an amount of equal @ 1% of Tender value (for Tribal contractors) & @ 2% of Tender value (for others ) in the form of Bank Guarantee.

6. **QUOTATION OF RATES:** -

#### **I. Schedule Items**

a. **Building Works:** Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for Building Works for 2015-2016 as applicable in East Khasi Hills District of Meghalaya.

b. **Internal Electrical Works:** Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for electrical Works for 2016-2017 as applicable in East Khasi Hills District of Meghalaya.

**c. Approach Road:** Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for roads N.H. Circle for the year 2013-2014.

**II. Non Schedule Items: As follows to be quoted on item rate basis:**

- a. Lifts for IT & ITeS**
- b. Lift for Guest House**
- c. Fire Fighting facilities**
- d. HVAC for IT & ITeS**
- e. Split AC for Guest House**

**7. TIME OF COMPLETION: -21 (Twenty One) Months** from the date of issue of Final Work Order.

**8. 1% Labour cess** under Meghalaya Building & other Constructions Workers (Regulations of Employment & Condition of Service) Rules 2008 shall be deducted from the Contractor's Bill.

**9. The Secretary, Meghalaya Information Technology Society (MITS) reserves the right to accept or reject any or all tender without assigning any reason thereof**

To,

Member Secretary

Meghalaya Information Technology Society

Secretariat Hill Road, Shillong

Meghalaya 793001

Sir,

**Subject: Construction of Technology Park Phase 1**

**Reference:** Tender No: <**Tender Reference Number**> Dated <dd/mm/yyyy>

We, the undersigned Bidders, having read and examined in detail all the Tender documents do hereby propose to provide the services as specified in the Tender document number <**Tender Reference Number**> Dated <dd/mm/yyyy> along with the following:

a. Earnest Money Deposit (EMD)

We have paid an EMD of Rs...../- (Rupees ..... only) in the form of Bank Guarantee / Demand Draft (DD). This EMD is liable to be forfeited in accordance with the provisions of the **General Conditions of the Contract**.

b. Contract Performance Guarantee Bond

We hereby declare that in case the contract is awarded to us, we shall submit the Contract Performance Guarantee Bond in the form prescribed in this tender - Proforma and as per **General Conditions of Contract in this RFP/ TENDER**.

We hereby declare that our Bid is made in good faith, without collusion or fraud and the information contained in the Bid is true and correct to the best of our knowledge and belief.

We understand that our Bid is binding on us and that you are not bound to accept a Bid you receive.

Thanking you,

Yours faithfully,

(Signature of the Bidder)

Printed Name

Designation

Seal

Date:

Business Address:

### General Information about the Bidder

<b>Details of the Prime Bidder (Company)</b>				
1.	Name of the Bidder			
2.	Address of the Bidder			
3.	Status of the Company (Public Ltd/ Pvt. Ltd)			
4.	Details of Incorporation of the Company		Date:	
			Ref. #	
5.	Details of Commencement of Business		Date:	
			Ref. #	
6.	Valid tax registration no.			
7.	Permanent Account Number (PAN)			
8.	Name & Designation of the contact person to whom all references shall be made regarding this tender			
9.	Telephone No. (with STD Code)			
10.	E-Mail of the contact person:			
11.	Fax No. (with STD Code)			
12.	Website			
13.	Financial Details (as per audited Balance Sheets) (in crore)			
14.	Year	2013-2014	2015-2016	2016-2017
15.	Net Worth			
16.	Turn Over			
17.	PAT			

**Format 3 – Pre-Qualification Criteria**

<i>Sl. No</i>	<i>Qualification Criteria</i>	<i>Documents/Information to be provided in the submitted proposal</i>	<i>Compliance</i>	<i>Reference for supporting documents &amp; Page No.</i>
1	<i>Bidding criteria requirement</i>	<p>1. Bidder should have satisfactorily one completed building construction project during the last five (5) years of Rs10 Crores and at least two ongoing projects of Rs 15 crores each or more in any Government Organization/ Government Sector Co-operation/ Public Sector Organization/ Private Sector Organization. Work Orders and Completion/ Commissioning Certificates of the completed work should be submitted as proof.</p> <p>2. Copy of consortium agreement ( If applicable)</p> <p>3. The networth of the Bidder should be positive for the preceding three (3) financial years. Certificate to this effect issued by registered statutory Chartered Accountant should be submitted along with the RFP/ TENDER proposal.</p> <p>4. Documentary Proof should be furnished that the bidder has been in building construction business for at least 5 years and must demonstrate that the firm has successfully and continuously been engaged as a General Contractor in providing building construction projects in Meghalaya for at least 3 years.</p> <p>5. Bidder must submit copy of valid Class I Contractor Licence registered with either PWD (B) Meghalaya, CPWD (B) or MES.</p> <p>6. Declaration in the form of an affidavit that the company has not been involved in any litigation in the past 5 years which resulted in damages being awarded to the litigant, based on either failure to execute or poor performance of the works taken up by the firm/ Individual.</p> <p>7. Bidders must provide an undertaking for completion of scope of work (excluding operations &amp; maintenance) as mentioned in RFP/ TENDER within 21 months from the date of agreement. Bidders should note that penalty will be imposed in case the bidder defaults or neglects to carry out the Work in accordance with the Contract Documents or fails to perform any provision of the Contract, MITS shall deduct the penalty thereof from the payment due to</p>		

		the Bidder. 8. The contract or any part thereof shall not be assigned, transferred or sublet by the Contractor to any other party.		
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**Format 4 - Declaration Regarding Clean Track Record**

To,

Member Secretary

Meghalaya Information Technology Society

Secretariat Hill Road, Shillong

Meghalaya 793001

Sir,

*I have carefully gone through the Terms & Conditions contained in the RFP/ TENDER Document [No. \_\_\_\_\_] regarding Construction of Technology Park phase1 of the State for the period of the project. I hereby declare that my company has not been debarred/black listed by any Government / Semi-Government organizations in India. I further certify that I am competent officer in my company to make this declaration.*

*Yours faithfully,*

*(Signature of the Bidder)*

*Printed Name*

*Designation*

*Seal*

*Date:*

*Business Address:*

**Format 5 – Declaration of Acceptance of Terms & Conditions in the RFP/ TENDER**

To,

Member Secretary

Meghalaya Information Technology Society

Secretariat Hill Road, Shillong

Meghalaya 793001

Sir,

I have carefully gone through the Terms & Conditions contained in the RFP/ TENDER document [No. ....] for Construction of Technology Park phase1.

I declare that all the provisions of this RFP/ TENDER/Tender Document are acceptable to my company. I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Printed Name

Designation

Seal

Date:

Business Address:

**CHECKLIST FOR PRE-QUALIFICATION BID (COVER-A)**

<b>Sl. No</b>	<b>Items</b>	<b>Compliance (Yes/No)</b>	<b>Reference page No.</b>
1	Signed copy of RFP/ Tender document		
2	Earnest money for an amount of equal @ 1% of Tender value (for Tribal contractors) & @ 2% of Tender value (for others ) in the form of Bank Guarantee.		
3	Schedule tribe certificates for tribal contractors. (refer Earnest Money).		
4	Tender Fees for an amount of Rs 10,000.00 (Rupees Ten Thousand) Only in the form of Bank Draft payable to MITS-Shillong.		
5	<p><b>Turnover Details</b></p> <p>Bidder should have minimum annual turnover in Civil and Interior Works/Construction of Rupees Thirty Crores (Rupees 30 Crores) for each of the last three financial years (from 2014-15 to 2016-17) that is to be furnished through a registered statutory Chartered Accountant</p>		
6	<p><b>Financial Criteria</b></p> <p>a. Audited Balance Sheet for the last 3 (Three) financial years.</p> <p>b. Own resources (Rs.in lakhs) as on 31.03.2017 (Audited Balance Sheet) or Latest Bank Statement.</p> <p>c. Bank credits (Rs.in lakhs) as on any date between 31.1.2018 &amp; 31.3.2018.Certificate from the Bank should be attached.</p>		

**Secretary**

**Meghalaya Information Technology Society (MITS)**

*Section - XII*

***FORMAT FOR RESPONSE TO THE TENDER:  
TECHNICAL BID***

**Section XII: Format for Response to the tender: Technical Bid**

<b>Sl. No.</b>	<b>Criteria</b>	<b>Weightage</b>	<b>Supporting document &amp; reference page No.</b>
i	<p><b>Bidder's experience in building construction work in India, quantified in terms of number of projects will be evaluated.</b></p> <p>1.a. Only completed Building Projects with value of Rs. 10 CR or more in the last 3 financial years will be considered (2014-15 to 2016-2017). Supporting document to be furnished.</p> <p style="text-align: center;">or</p> <p>1.b. Ongoing projects of Rs 15 CR or more will be considered Supporting document to be furnished</p> <p>For point 1.a and 1.b above bidder shall be awarded 4 marks per project capped to maximum of 5 projects.</p> <p style="text-align: center;">OR</p> <p>2. One single completed commissioned building of Rs 100 CR or more will be awarded 20 marks. Supporting document to be furnished</p>	20 marks	
ii	<p><b>Bidder prior experience in construction of building works in Meghalaya.</b></p> <ul style="list-style-type: none"> <li>• Only completed Building Projects in Meghalaya with value of Rs. 10 CR or more.</li> </ul> <p style="text-align: center;">or</p> <ul style="list-style-type: none"> <li>• Ongoing projects of Rs 15 CR or more will be considered</li> </ul> <p>(3 marks per project, maximum number of projects capped to 5).</p>	15 marks	
iii	<p><b>Bidders who has worked continuously in building projects in Meghalaya will be awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• More than 6 years: 10 marks</li> <li>• More than 4 years and up to 6 Years : 8 marks</li> <li>• More than 3 years and up to 4 Years : 5 Marks</li> </ul>	10 Marks	

iv	<p><b>Project Management &amp; Detailed Work Plan (bar chart/work plan/risk mitigation)</b></p> <ul style="list-style-type: none"> <li>• The overall Project Management approach (including resource deployment plan (2 marks).</li> <li>• Work Plan/Schedule: evaluation will be base on the detailed Project Plan including day wise, week wise activities with Work Breakdown structures, project estimates, (detailed Bar chart) (2Marks).</li> <li>• Approach &amp; Methodology for construction (1 mark).</li> <li>• Highlight the associated risks/problems &amp; plans for mitigation &amp; explain the approach to address them (2 marks).</li> <li>• Timely completion of previous projects (3 marks)</li> </ul> <p>1 marks per building project capped to maximum of 3 projects. Supporting documents to be furnished.</p>	10 marks	
v	<p><b>Man Power (already employed by bidder)</b></p> <ul style="list-style-type: none"> <li>• <i>The Bidder must have on its roll at least <b>1 Graduate Civil Engineers with 5 years of relevant experience (2 marks),</b></i></li> <li>• <i><b>2 Diploma civil engineers with two years of experience (2 mark) for construction /planning etc., as on Bid submission date.</b></i></li> <li>• <i><b>Electrical Engineer with supervisor License from Inspectorate of Electricity or equivalent (1marks).</b></i></li> </ul>	5marks	
vi	<p><b>Financial Turnover of the Firm for Last 3 years from Building Construction (2014-15, to 2016-2017) will be awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• <i>71 Crore and above : 10 Marks</i></li> <li>• <i>51 to 70 Crore : 7 Marks</i></li> <li>• <i>30 Crore to 50 Crore : 5 Marks</i></li> </ul>	10 marks	

vii	<p><b>Machinery List in possession of the Bidder to be provided with the proof such as Affidavit . (for construction)</b></p> <ol style="list-style-type: none"> <li>1. <i>Excavator cum Loader</i></li> <li>2. <i>Concrete Vibrator</i></li> <li>3. <i>Concrete Mixer</i></li> <li>4. <i>Water Pumps</i></li> <li>5. <i>Small generator</i></li> <li>6. <i>Reinforcement cutting machine</i></li> <li>7. <i>Welding machine</i></li> <li>8. <i>Materials lifting equipment/Transit Mixer</i></li> <li>9. <i>Water Tankers</i></li> <li>10. <i>Trucks/Tippers</i></li> </ol> <p><b>Note : ( 1 mark each item)</b></p>	10marks	
viii	<p><b>Presentation by bidders based on their technical proposal:</b></p> <ul style="list-style-type: none"> <li>• <b>Project management (5 marks)</b></li> <li>• <b>Man power deployment plan (5 marks)</b></li> <li>• <b>Work plan, risk assessment &amp; mitigation (5 marks)</b></li> <li>• <b>Approach and Machinery deployment plan (5 marks)</b></li> </ul>	20marks	<p><i>Not Applicable. Bidder need to make a PowerPoint presentation to the committee</i></p>
	<b>Total=</b>	100 marks	

**TECHNICAL BID**

Dated ..... 2018

To

The Secretary  
Meghalaya Information Technology Society  
Meghalaya, Shillong.

Tender for the Work: - Construction of Phase-I of the building for Technology Park,  
which will consist of Ground+3 floors.

Sir,

I/We have the honour to submit herewith the tender for the above mentioned work for which  
tender documents having been purchased vide receipt No. \_\_\_\_\_

\_\_\_\_\_ dated \_\_\_\_\_.

I/We submit here under the following documents for favour of your  
consideration.

1. Latest Income Tax Clearance Certificate.
1. Latest GST/Tax Clearance Certificate for the year ending March 2018.
2. Latest Professional Tax Clearance Certificate for the year.
3. The power of Attorney in original or in Court Certified copies (for Firms and Company).
4. The constitution of the Firm.
5. Copy of Registration/Renewal letter for 2017-2018.
6. Latest copy of Electrical License & Labour License.
7. Original copy of Banker's Certificate pertaining to solvency.
8. List of Machineries such as Concrete Mixtures, Vibrators, Pumps, Trucks etc with supporting documents.
9. Undertaking from a qualified engineer of the contractor along with verification of qualification and permission from the Government. In case of retired Government Engineer to be employed in this work failing which the tender is liable for cancellation.
10. Copy of Experience Certificates with Completion Report.
11. And all other documents required as per the terms and conditions of the Tender papers.

I/We have gone through the terms and conditions of the Tender papers and agreed to abide  
by the proposed terms and conditions. I/We therefore sign and return the tender papers in original  
in sealed Cover-II.

Yours Faithfully,

**Signature of Contractor/firm**

Dated. \_\_\_\_\_.

Name in block letter \_\_\_\_\_

Registration No. \_\_\_\_\_

Labour License No. \_\_\_\_\_ valid up to \_\_\_\_\_

Electrical License No. \_\_\_\_\_ valid up to \_\_\_\_\_

Complete Postal Address \_\_\_\_\_

**Format 3:** Compliance detail for all sections in the FRS

***Bidder has to submit compliance statement for all the items (scheduled and non scheduled) under the sections of FRS.***

***REJECTION OF TENDERS:***

- 1. All tenderers are here by cautioned that conditional deviation from the set conditions of contract or other requirements stipulated in the tender papers shall be summarily rejected as non – responsive and shall not be considered further in tender papers evaluation and contract award.*
- 2. A tender not accompanied by any of the documents mentioned in the checklist for Technical Bid will render itself liable for rejection.*
- 3. A tender containing any erasure or otherwise defective shall be rejected.*
- 4. Canvassing directly or indirectly in connection with the tender in any form renders the tender liable to be rejected.*
- 5. Undesirable practices, reckless and speculative bids and offer which is below the Schedule of Rates shall be summarily rejected.*

*Secretary*

*Meghalaya Information Technology Society.*

*Section - XIII*

***FORMAT FOR RESPONSE TO THE TENDER:  
PRICE BID/COMMERCIAL BID***

- **SCHEDULE ITEMS:**

**I. MAIN BUILDING (IT & ITeS):**

Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for Building Works for 2015-2016 as applicable in East Khasi Hills District Meghalaya.

SL. No	Work Description	Approximate Value calculated based on existing Meghalaya PWD Schedule Of Rates	Rates to be quoted (in percentage)		Amount (in Rupees)	
			In Figures	In Words	In Figures	In Words
1	Building works including sanitary and water supply	21,98,62,000.00			M <sub>1</sub>	
2	Internal Electrical works	1,53,39,000.00			M <sub>2</sub>	
<b>TOTAL M = (M<sub>1</sub>+M<sub>2</sub>)</b>						

**Signature of Contractor**

• **SCHEDULE ITEMS:**

**II. GUEST HOUSE**

Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for Building Works for 2015-2016 as applicable in East Khasi Hills District Meghalaya.

SL. No	Work Description	Approximate Tender Value calculated based on existing Meghalaya PWD Schedule Of Rates	Rates to be quoted (in percentage)		Amount (in Rupees)	
			In Figures	In Words	In Figures	In Words
1	Building works including sanitary and water supply	1,06,50,794.81			G <sub>1</sub>	
2	Internal Electrical works	5,07,180.71			G <sub>2</sub>	
<b>TOTAL G = (G<sub>1</sub>+ G<sub>2</sub>)</b>						

**Signature of Contractor**

- **SCHEDULE ITEMS:**

- Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for Building Works for 2015-2016 as applicable in East Khasi Hills District Meghalaya.

### III. APPROACH ROAD

SL. No	Work Description	Approximate Tender Value calculated based on existing Meghalaya PWD Schedule Of Rates	Rates to be quoted(in percentage)		Amount (in Rupees)	
			In Figures	In Words	In Figures	In Words
1	Site Clearance	10,230.00			A <sub>1</sub>	
2	Excavation in Hills Roads ordinary soil	7,56,360.00			A <sub>2</sub>	
3	Excavation in Hard Rock Hard rock	25,18,560.00			A <sub>3</sub>	
4	Providing/Construction of WBM By Manual Means					
i	Grade-I	7,68,253.00			A <sub>4</sub>	
ii	Grade-II	6,47,207.00			A <sub>5</sub>	
iii	Grade-III	7,29,128.00			A <sub>6</sub>	
5	Providing					

	<i>prime Coat</i>	<i>2,03,280.00</i>			<i>A<sub>7</sub></i>	
<i>6</i>	<i>Providing Track Coat Over Non-bituminous Surface</i>	<i>68,640.00</i>			<i>A<sub>8</sub></i>	
<i>7</i>	<i>Open grades pre-mix Surfacing</i>	<i>6,20,400.00</i>			<i>A<sub>9</sub></i>	
<i>8</i>	<i>Seal Coat</i>	<i>2,56,080.00</i>			<i>A<sub>10</sub></i>	
<i>9</i>	<i>Providing PCC 1:3:6 in Hume Pipe Base</i>	<i>33,623.00</i>			<i>A<sub>11</sub></i>	
<i>10</i>	<i>Providing PCC 1:2:4</i>	<i>34,146.00</i>			<i>A<sub>12</sub></i>	
<i>11</i>	<i>Laying RCC Hume Pipe NP3(100mm Dia)</i>	<i>1,69,512.00</i>			<i>A<sub>13</sub></i>	
<i>12</i>	<i>Construction of random rubble masonry in hume pipe</i>	<i>9,90,446.00</i>			<i>A<sub>14</sub></i>	
<i>13</i>	<i>Providing Traffic sign and Markings</i>	<i>20,000.00</i>			<i>A<sub>15</sub></i>	
<b>Total</b>						
<b>A = (A<sub>1</sub>+A<sub>2</sub>+.....A<sub>15</sub>)</b>						

**Signature of Contractor**

• **SCHEDULE ITEMS:**

- Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for Building Works for 2015-2016 as applicable in East Khasi Hills District Meghalaya.

**IV. PARKING**

SL. No	Work Description	Approximate Tender Value calculated based on existing Meghalaya PWD Schedule Of Rates	Rates to be quoted (in percentage)		Amount (in Rupees)	
			In Figures	In Words	In Figures	In Words
1	Main Parking	44,27,000.00			$P_1$	
2	VIP Parking	6,93,000.00			$P_2$	
3	Guest House Parking	1,77,000.00			$P_3$	
<b>TOTAL <math>P = (P_1 + P_2 + P_3)</math></b>						

**Signature of Contractor**

- **NON - SCHEDULE ITEMS (BOQ)**

**I. LIFT PROVISION FOR MAIN BUILDING**

SL. No	Items	Units	Quantity	Unit Rates to be quoted		Amount (units x unit rate)	
				In Figures	In Words	In Figures	In Words
1	Passenger lift of shaft size 1300 mm x 1350 mm, G+3, MRL Automatic Lift, 13 Passenger	2	Nos			L1	
2	Service Lift of Shaft size 1300 mm x 1700 mm, G+3, MRL Automatic Lift, 13 Passenger	2	Nos			L2	
<p><b>TOTAL</b>    <math>L_3 = (L_1+L_2)</math></p>							

**Signature of Contractor**

• **NON-SCHEDULE ITEMS**

**II. FIRE FIGHTING FOR MAIN BUILDING**

SL. No	Items	Units	Quantity	Unit Rates to be quoted		Amount (units x unit rate)	
				In Figures	In Words	In Figures	In Words
A.	<b>FIRE WATER PUMPING SYSTEM</b>						
1	Supply, erection, testing & commissioning of Electrical Motor driven main pump, centrifugal horizontal type, with gland packing capable of deliver 2280 LPM at 70 MWC. The pump shall be coupled with TEFC motor of suitable KW with speed of 2900 RPM with all accessories and complete set shall mounted on common base frame. The quoted rate shall include fixing of coupling, coupling guard and foudation bolts etc. Civil foundation will be client's scope.	Nos	2.0				
2	centrifugal horizontal type with gland packing and capable to deliver 2280 LPM at 70 MWC. The pump shall coupled to suitable HP of Diesel Engine radiator water cooled type with speed of 1800 RPM with all accessories including diesel	Nos	1.0				

	<p><i>engine control panel and complete set shall be mounted on common base frame. Batteries &amp; battery leadswith stand, fuel tank( for 4 hrs operation) with stand and gauge glass, fuel piping with valves. The quoted rate shall includes radiator water cooling piping(if required), coupling guard and other standard accessories, RCC foundation(as recommended by manufacturer) and foundation bolts, etc, complete ( civil foundation shall be client's scope).</i></p>						
3	<p><i>Supply, erection, testing &amp; commissioning of electric motor driven Jockey Pump, horizontal, centrifugal type capable to deliver 180LPM at 70 MWC. The pump shall coupled to TEFC motor of suitable KW with speed of 2900 RPM with all accessories mounted on common base fframe.</i></p>	Nos	1.0				
4	<p><i>compartmentalised common control panel for Electrical Motor driven pumps as per technical specification attached with this tender document. All components shall be housed in a common cubicals made of 16 swg. M.S. sheet with required stiffners(if</i></p>	Nos	1.0				

	<p>required). The panel shall be powder coated of approved colour both inside and out side. The pane shall have both bottom and top cable entry provisions and panel shall be mounted on pedestal of 300mm height. The panel should have sufficient(min. 6 nos per pump set) NO / NC contacts for extending the status of fire pumps to the fire alarm panel.</p>						
5	<p>Supply, laying, testing &amp; commissioning of FRLS, PVC outer sheath, steel armoured, aluminium / copper conductor, 1100 Volt Grade power cables with gland etc for above pumps. The cable shall be laid in tray / hume pipe / in trenches / on walls / floors etc as required. Cables laid out doors shall include the price of earth excavation providing brick and sand protection, refilling and compacting the earth.</p>	Lot	1.0				
6	<p>GI earthing strips of 50mm x 6mm thick, strips shall run on floor / ceiling / walls, from pump to control panel with necessary accessories as required.</p>	Mtr	30.0				
	<p>25 Sq.mm singlecore multistrandcopper</p>						

7	<i>cable shall be run on floor / ceiling / walls, from the nearest earth bar to the pump control panel with necessary accessories as required.</i>	<i>Mtr</i>	<i>50.0</i>				
8	<i>Supply and installation of pressure gauge, 1/2 inch bottom entry, of suitable range for pump set with ball valves and other accessories.</i>	<i>Nos</i>	<i>5.0</i>				
9	<i>Supply and installation of Pressure switches, SPDT type, of suitable range for pump sets with ball valves and other accessories.</i>	<i>Nos</i>	<i>5.0</i>				
10	<i>Supply, erection, fabrication, testing of MS black steel pipe Heavy grade conforming to IS : 1239 Part -1 /3589 including all fittings viz. Elbows, tees, flanges, etc. reduces clamps, MS support dash fasteners etc. including painting the pipe with two coats of approved red oxide primer and two coats of approved red enamel paint and welded joints complete with cutting and making good the complete walls, floors or any other surface (For pumping system )</i>						
a	<i>200 mm NB x 6 mm</i>	<i>Mtr</i>	<i>12.0</i>				

	<i>thk</i>						
<i>b</i>	<i>150 mm NB</i>	<i>Mtr</i>	<i>24.0</i>				
<i>c</i>	<i>100 mm NB</i>	<i>Mtr</i>	<i>12.0</i>				
<i>d</i>	<i>80 mm NB</i>	<i>Mtr</i>	<i>6.0</i>				
<i>e</i>	<i>65 mm NB</i>	<i>Mtr</i>	<i>6.0</i>				
<i>f</i>	<i>25 mm NB</i>	<i>Mtr</i>	<i>18.0</i>				
<i>11</i>	<i>Supply, installation, testing &amp; commissioning of CI Gate Valve as per IS:14846 (PN 16) with matching flanges complete with nuts &amp; bolts.</i>						
<i>a</i>	<i>Size 200 mm NB</i>	<i>Nos</i>	<i>1.0</i>				
<i>b</i>	<i>Size 150 mm NB</i>	<i>Nos</i>	<i>6.0</i>				
<i>c</i>	<i>Size 80 mm NB</i>	<i>Nos</i>	<i>1.0</i>				
<i>d</i>	<i>Size 65 mm NB</i>	<i>Nos</i>	<i>1.0</i>				
<i>12</i>	<i>Supply, installation, testing &amp; commissioning of swinging type CI Non return Valve as per IS:5312(PN16 rating) with disc and SS hinges complete including matching flanges, nuts &amp; bolts complete.</i>						

a	Size 150 mm NB	Nos	3.0				
b	Size 65 mm NB	Nos	1.0				
13	Supply, installation, testing & commissioning of GM Globe Valve as per IS:778 complete including matching flanges, nuts & bolts complete.						
a	Size 25 mm NB (GM construction)	Nos	3.0				
<b>B.</b>	<b>HYDRANT SYSTEM</b>						
1	Supply, erection, fabrication, testing of MS black steel pipe Heavy grade conforming to IS : 1239 Part -1 /3589 including all fittings viz. Elbows, tees, flanges, etc. reduces clamps, MS support dash fasteners etc. including painting the pipe with two coats of approved red oxide primer and two coats of approved red enamel paint and welded joints complete with cutting and making good the complete with cutting and making good the walls, floors or any other surface (For hydrant system inside building & outside building to laid along with boundary wall)						

<i>a</i>	<i>150 mm NB</i>	<i>Mtr</i>	<i>222.0</i>				
<i>b</i>	<i>100 mm NB</i>	<i>Mtr</i>	<i>12.0</i>				
<i>c</i>	<i>80 mm NB</i>	<i>Mtr</i>	<i>18.0</i>				
<i>d</i>	<i>25 mm NB</i>	<i>Mtr</i>	<i>12.0</i>				
<i>2</i>	<i>Supply and installtion of swinging type CI Non return Valve as per IS:5312 with flap and SS hinges complete including matching flanges, nuts &amp; bolts confirming to IS 5312</i>						
<i>a</i>	<i>Size 150 mm NB</i>	<i>Nos</i>	<i>6.0</i>				
<i>3</i>	<i>Supply, installation, testing &amp; commissioning of CI Gate Valve as pe IS:14846 (PN 16) with matching flanges complete with nuts &amp; bolts.</i>						
<i>a</i>	<i>Size 150 mm NB</i>	<i>Nos</i>	<i>6.0</i>				
<i>4</i>	<i>Supply, installation of Globe Valves in Gun Metal Construction to IS: 778 with screwed ends 25 NB size</i>	<i>Nos</i>	<i>8.0</i>				
<i>5</i>	<i>Supply, installation of automatic 25 NB Air Release Valve</i>	<i>Nos</i>	<i>2.0</i>				
<i>6</i>	<i>Supply &amp; installation of GM oblique type single headed Hydrant valve with 80 mm inlet and 63 mm outlet GM instantaneous male</i>	<i>Nos</i>	<i>8.0</i>				

	<i>coupling with rubber cap and chain conforming to IS : 5290 including matching flanges, gasket, nuts and bolts complete.</i>						
7	<i>Supply &amp; installation of GM oblique type single headed Landing valve with 80 mm inlet and 63 mm outlet GM instantaneous male coupling with rubber cap and chain conforming to IS : 5290 including matching flanges, gasket, nuts and bolts complete.(Two valves for each landing)</i>	<i>Nos</i>	<i>8.0</i>				
8	<i>Supply &amp; installation of gunmetal branch pipe with 20 mm nozzle conforming to IS : 903 complete</i>	<i>Nos</i>	<i>16.0</i>				
9	<i>Supply &amp; installation of 63 mm dia rubberized reinforced rubber line hose pipe in 15 m length conforming to IS : 636 Type II ISI marked with gunmetal male and female instantaneous coupling conforming to IS 903 wounded with 18 SWG copper wire complete</i>	<i>Nos</i>	<i>32.0</i>				
10	<i>Supply &amp; installation of MS hose box of fabricated from 16 SWG CRCA sheet double door with lockable</i>	<i>Nos</i>	<i>16.0</i>				

	<i>arrangements to accommodate 2 RRL hose of 15 m length and one branch pipe painted white inside and red outside with one key. (750x600x250 mm)</i>						
11	<i>Supply &amp; installation of swinging type hose reel drum fabricated from 14 SWG CRCA sheets painted with red colour stove paint 2 coats over 1 coat of primer with 30 m long 20 mm dia rubber hose pipe with 10 kg/sq cm working pressure with GM self closing shut – off nozzle of 5 mm outlet fixed on wall with dash fasteners.</i>	<i>Nos</i>	<i>8.0</i>				
12	<i>Supply &amp; installation of Gunmetal 3 way collecting head with 63 mm dia instantaneous type inlet 150 dia flanged outlet with built in check valve for fire brigade connection to Hydrant Network (IS : 904)</i>	<i>Nos</i>	<i>1.0</i>				
13	<i>Supply &amp; installation of Gunmetal 4 way collecting head with 63 mm dia instantaneous type inlet 150 dia flanged outlet without built in check valve for fire brigade connection to fire water reservoir (IS : 904)</i>	<i>Nos</i>	<i>1.0</i>				
	<i>Supply &amp; installation of</i>						

14	Gunmetal Fire Brigade Draw out connection with necessary foot valve for reservoir.	Nos	1.0				
<b>C.</b>	<b>AUTOMATIC SPRINKLER SYSTEM</b>						
1	Supply, fabrication, erection & testing of MS black steel pipe Heavy grade conforming to IS : 1239/3589 including all fittings viz. Elbows, tees, flanges, etc. reduces clamps, MS support dash fasteners etc. including painting the pipe with two coats of approved red oxide primer and two coats of approved red enamel paint and welded joints complete with cutting and making good the complete with cutting and making good the walls, floors or any other surface.						
a	150 mm Nb	Mtr	150.				
b	100 mm NB	Mtr	72.0				
c	80 mm NB	Mtr	60.0				
d	65 mm NB	Mtr	36.0				
e	50 mm NB	Mtr	240.0				
f	40 mm NB	Mtr	240.0				

<i>g</i>	31 mm NB	<i>Mtr</i>	<i>600.0</i>				
<i>h</i>	26 mm NB	<i>Mtr</i>	<i>1,500.0</i>				
<i>2</i>	<i>Providing &amp; fixing Butterfly valve as per BS :5155 (Wafer type) matching flanges complete with nuts &amp; bolts.</i>						
<i>A</i>	<i>Size 150 mm NB</i>	<i>Nos</i>	<i>4.0</i>				
<i>3</i>	<i>Providing &amp; fixing Non return valve (Wafer type) with matching flanges complete with nuts &amp; bolts.</i>						
<i>A</i>	<i>Size 150 mm NB</i>	<i>Nos</i>	<i>4.0</i>				
<i>4</i>	<i>Supply &amp; installation of Globe Valves in Gun Metal Construction to IS: 778 with screwed ends</i>						
<i>a</i>	<i>Size 40 mm NB</i>	<i>Nos</i>	<i>8.0</i>				
<i>5</i>	<i>Supply &amp; fixing of Sprinkler Head Pendent type</i>	<i>Nos</i>	<i>780.0</i>				
<i>6</i>	<i>Supply &amp; fixing of Sprinkler Head Upright type</i>	<i>Nos</i>	<i>650.0</i>				
<i>7</i>	<i>Supply &amp; fixing of Sidewall Sprinkler</i>	<i>Nos</i>	<i>10.0</i>				
<i>8</i>	<i>Supply &amp; fixing of Flow Switch</i>						
<i>a</i>	<i>Size 150 mm NB</i>	<i>Nos</i>	<i>4.0</i>				
<i>9</i>	<i>Supply &amp; fixing of Installation Control Valve complete with trims &amp; gong</i>						
<i>a</i>	<i>Size 150 mm NB</i>	<i>Nos</i>	<i>1.0</i>				

<b>D.</b>	<b>PORTABLE EXTINGUISHERS</b>						
1	Supply & fixing of 5 Kg ABC type dry power extinguisher consisting of welded MS cylindrical body with discharge valve, nozzle and hanging arrangement complete conforming to IS:15683	Nos	14.0				
2	Supply & fixing of 9 Litre Water type CO2 (ISI marked) extinguisher including all accessories with wall bracket & raw plug conforming to IS:15683	Nos	14.0				
3	Providing & fixing 9 Litre Foam type (ISI marked) extinguisher including all accessories with wall bracket & raw plug confirming to IS:15683 (For pump room)	Nos	4.0				
<b>E.</b>	<b>FDA SYSTEM</b>						
1	Supply, Installation, Testing & Commissioning of wall mounted Intelligent Addressable, Web Server browser based, Modular, Networkable with each loop capable of taking 250 devices, Two Loop Fire Alarm Control Panel	Nos	1.0				

	<p>with seam less integratable of other FDA panels. The panel should have LCD Screen to visualise the system alarm, faults etc. in a larger format. The panel should have 3000 event memory history buffer for events. The panel should have capacity to support at least Eight repeater panel directly to the panel. The Panel should have inbuilt battery charger and power supply supports from 110 VAC / 240 VAC for using non UPS AC supply. The 24 V SMF batteries of proper Ah size should sufficient for 24 Hour standby and 2 Hours Alarm condition. The panel should UL Listed. (Make : Bosch / Notifier / Esser)</p>						
2	<p>Supply, Installation, Testing &amp; Commissioning of intelligent addressable multicriteria (optical cum thermal) detector with intrchangable detector base. The Detector should IP : 42 and UL Listed. (Make : Bosch / Notifier / Esser)</p>	Nos	280.0				
3	<p>Supply, Installation, Testing &amp; Commissioning of intelligent addressable Heat (Fixed</p>	Nos	6.0				

	<i>Temperature &amp; Rate of Rise Temperature) detector with intrchangable detector base. The Detector should IP: 42 and UL Listed. (Make : Bosch / Notifier / Esser)</i>						
4	<i>Supply, Installation, Testing &amp; Commissioning of addressable / intelligent manual call point with reset key. The MCP should UL Listed. (Make : Bosch / Notifier / Esser)</i>	<i>Nos</i>	<i>16.0</i>				
5	<i>Supply, Installation, Testing &amp; Commissioning of NAC Powered type hooter (sound output of minimum 90 db) cum strobe (strength of light 10 cd) complete. The Hooter shall be UL Listed. (Make : Bosch / Notifier / Esser)</i>	<i>Nos</i>	<i>16.0</i>				
6	<i>Supply, ersion, testing &amp; commissioning of analogue addressable Control Module. The Control Module should UL Listed. (Make : Bosch / Notifier / Esser)</i>	<i>Nos</i>	<i>4.0</i>				
7	<i>Supply, ersion, testing &amp; commissioning of analogue addressable Control Module. The Control Module should UL Listed. (Make : Bosch / Notifier / Esser)</i>	<i>Nos</i>	<i>4.0</i>				

8	Supply, Installation, Testing & Commissioning of Fault Isolator Module. The Fault Isolator Module should UL Listed. (Make : Bosch / Notifier / Esser)	Nos	15.0				
9	Supply, Installation, Testing & Commissioning of Response Indicator for above false ceiling areas. The RI should bne CE approved. (Make : Bosch / Notifier / Esser)	Nos	100.0				
10	Supply, erection, testing & commissioning of analogue addressable Monitor module (Make : Bosch / Notifier / Esser)	Nos	8.0				
11	Providing & fixing FRLS ARMOURED CABLING complete with lugs, laying and termination of both ends.						
a	2C x 1.5 mm <sup>2</sup> Armoured ( loop cable)	Mtr	3,200.0				
12	Providing & fixing FRLS ARMOURED CABLING complete with lugs, laying and termination of both ends.						
a	2C x 1.5 mm <sup>2</sup> Armoured ( power cable)	Mtr	900.0				
<b>F.</b>	<b>PUBLIC ADDRESS SYSTEM</b>						
	Supply, erection,						

1	testing & commissioning of 6 Watt Ceiling mounted Speakers ( BOSCH / TOA/BOSE)	Nos	60.0				
2	Supply, erection, testing & commissioning of 6 Watt Wall mounted Speakers ( BOSCH / TOA/BOSE)	Nos	18.0				
3	Supply, erection, testing & commissioning of PA Console Having 6 Zone and Required capacity (minimum 720 Watt) of Amplifier. The controller should have Goose neck microphone with all call and six zone call key pad. The console should have volume control for all the zones. The controller should be expandable upto 60 Zones in case for further requirement. ( BOSCH / TOA/BOSE)	Nos	1.0				
4	Providing & fixing Cu PVC cable complete with lugs, laying and termination of both ends inside PVC conduit. (Poly Cab / Mescab/ Finolex)						
A	2cx1.5 sqmm CU PVC Frcable with ISI PVC conduit	Mtr	1,100.0				
<b>G.</b>	<b>SIGNAGES</b>						
	Supply and installation in position the "FIRE EXIT" Sign with						

1	<i>luminicentcolour having size 300 x 100 mm</i>	<i>Nos</i>	<i>20.0</i>				
2	<i>Supply and fixing in position the signages " FIRE ORDER" contain the following matter on 3 mm thick "Opaque" PVC foam board of computerised cut, PVC non-reflective self adhesivevinyle painted foam board of size 1200 x 1000 mm.</i>	<i>Nos</i>	<i>1.0</i>				
3	<i>Supply and fixing signage with printed " IN CASE OF FIRE, DO NOT USE LIFT. USE STAIRS ONLY" OF 1.5 cm height letters in red with white background. The size of the board shall be 300 x 100 mm and shaall be fixed at the height of 2 mtrs.from finished floor near Manual Call Point.</i>	<i>Nos</i>	<i>16.0</i>				
	<b>TOTAL F =</b>						

**Signature of Contractor**

• **NON-SCHEDULE ITEMS**

**III. HVAC FOR MAIN BUILDING**

SL. No	Items	Units	Quantity	Unit Rates to be quoted		Amount (units x unit rate)	
				In Figures	In Words	In Figures	In Words
<b>1</b>	<b>LG MultiV Outdoor Unit</b>						
i	JRNU200, Cooling Capacity 56Kw/20Hp	7	Nos				
<b>2</b>	<b>LG MultiV Indoor Unit</b>						
<b>A</b>	<b>Ceiling Concealed Ducted</b>						
i	JRNU96 Cooling capacity 28Kw-Fresh Air	2	Nos				
<b>B</b>	<b>Ceiling Cassette 4 way</b>						
i	JRNU12 Cooling capacity 3.6Kw	2	Nos				
ii	JRNU24Cooling capacity 7.1Kw	1	Nos				
iii	JRNU36 Cooling capacity 9.0Kw	7	Nos				
iv	JRNU42 Cooling capacity 12Kw	16	Nos				
v	JRNU48 Cooling capacity 14Kw	8	Nos				
<b>3</b>	<b>Remote Controller</b>	34					
i	Wireless	2	Nos				
ii	PC Controller	1	Nos				
iii	BMS	1	Nos				

<b>4</b>	<b>Y Branches/ Ref Joints</b>						
i	Outdoor unit	4	Nos				
ii	Indoor Unit	33	Nos				
<b>5</b>	<b>Installation of Equipment</b>						
<b>A</b>	<b>Indoor unit</b>						
i	cassette	34	Nos				
ii	Ducted upto 28 Kw	2	Nos				
<b>B</b>	<b>Outdoor Unit</b>						
i	Upto 20Hp	7	Nos				
<b>C</b>	<b>Refjoints/ Y branches</b>						
i	Outdoor Unit	4	Nos				
ii	indoor unit	33	Nos				
<b>D</b>	<b>Installation of controllers</b>						
i	wire/ wireless Remote	36	Nos				
ii	Central Controller	2	Nos				
iii	Allow for bazing with Oxy Acetylene, Nitrogen flushing, leak testing, vacuumizing, additional refrigerant charging, testing & commissioning per	7	Nos				

	<i>refrigerant circuit</i>						
<b>6</b>	<i>Copper Refrigerant piping(Hard Drawn with nitrile Rubber installation-13mm(L)/ 19 mm (s)</i>						
<i>i</i>	<i>φ44.5 mm</i>	<i>4</i>	<i>Mtr</i>				
<i>ii</i>	<i>φ41.3 mm</i>	<i>219</i>	<i>Mtr</i>				
<i>iii</i>	<i>φ38.1 mm</i>	<i>4</i>	<i>Mtr</i>				
<i>iv</i>	<i>φ34.1 mm</i>	<i>23</i>	<i>Mtr</i>				
<i>v</i>	<i>φ31.8 mm</i>	<i>1</i>	<i>Mtr</i>				
<i>vi</i>	<i>φ28.6 mm</i>	<i>33</i>	<i>Mtr</i>				
<i>vii</i>	<i>φ25.4 mm</i>	<i>4</i>	<i>Mtr</i>				
<i>viii</i>	<i>φ22.2 mm</i>	<i>209</i>	<i>Mtr</i>				
<i>ix</i>	<i>φ19.1 mm</i>	<i>70</i>					
<i>x</i>	<i>φ15.9 mm</i>	<i>188</i>	<i>Mtr</i>				
<i>xi</i>	<i>φ12.7 mm</i>	<i>60</i>	<i>Mtr</i>				
<i>xii</i>	<i>φ9.53 mm</i>	<i>192</i>	<i>Mtr</i>				
<i>xiii</i>	<i>φ6.35 mm</i>	<i>18</i>	<i>Mtr</i>				
<b>7</b>	<b><i>Air Distribution</i></b>						
<b>A</b>	<i>Local Site</i>						

	<i>Fabrication Duct</i>						
<i>i</i>	<i>24G GP Sheet</i>	<i>160</i>	<i>Sqm</i>				
<i>ii</i>	<i>22G GP Sheet</i>	<i>10</i>	<i>Sqm</i>				
<b>B</b>	<i>Duct Insulation</i>						
<i>i</i>	<i>Nitrile Rubber Insulation XLP 9mm</i>	<i>170</i>	<i>Sqm</i>				
<i>ii</i>	<i>12mm Rigid Board Insulation 48Kg/m3</i>	<i>34</i>	<i>Sqm</i>				
<i>iii</i>	<i>26 SWG Perforated Aluminium Sheet</i>	<i>37</i>	<i>Sqm</i>				
<i>iv</i>	<i>Tissue Paper</i>	<i>37</i>	<i>Sqm</i>				
<i>v</i>	<i>Canvas Connection (Fire Retardant)</i>	<i>2</i>	<i>Sqm</i>				
<b>C</b>	<i>Grills &amp; Diffuser</i>						
<i>i</i>	<i>Diffusers with VCD</i>	<i>0.8</i>	<i>Sqm</i>				
<i>ii</i>	<i>Diffusers without VCD</i>	<i>0.8</i>	<i>Sqm</i>				
<b>8</b>	<b><i>PVC drain Piping with Nitrile Rubber Insulation</i></b>						
<i>i</i>	<i>φ20 mm</i>	<i>32</i>	<i>Mtr</i>				
<i>ii</i>	<i>φ25 mm</i>	<i>28</i>	<i>Mtr</i>				
<i>iii</i>	<i>φ32 mm</i>	<i>20</i>	<i>Mtr</i>				
<i>iv</i>	<i>φ40 mm</i>	<i>64</i>	<i>Mtr</i>				
<i>v</i>	<i>φ50 mm</i>	<i>20</i>	<i>Mtr</i>				
<b>9</b>	<b><i>Electrical</i></b>						

i	MCC For VRF System - (Client Scope)		RO				
ii	2C x 1.5Sq.mm Shield Cable		Mtr				
iii	3C x 2.5Sq.mm Flexible Cable Cu	650	Mtr				
iv	4C x 25.0Sq.mm Armoured Cable Cu - Client's Scope	650	Mtr				
<b>10</b>	<b>M.S.Structure</b>						
i	Allow for Duct	1	LOT				
ii	Outdoor Unit	7	Nos				
iii	Indoor Unit	36	Nos				
iv	Preliminaries for Projects (Mobilization, Inspection, Site Office Preparation etc)	1	LOT				
v	Transportation Charges	1	LOT				
vi	Cranage & Haulage Charges	1	LOT				
vii	Preparation of Shop Drawing & As Build Drawings	1	LOT				
viii	Site Supervision Charges	1	LOT				
ix	Provision for PPE	1	LOT				
	<b>Total (H) =</b>						

**Signature of Contractor**

• **NON - SCHEDULE ITEMS (BOQ)**

**I. LIFT PROVISION FOR GUEST HOUSE**

<b>SL. No</b>	<b>Items</b>	<b>Units</b>	<b>Quantity</b>	<b>Unit Rates to be quoted</b>		<b>Amount (units x unit rate)</b>	
				<b>In Figures</b>	<b>In Words</b>	<b>In Figures</b>	<b>In Words</b>
1	Passenger lift of shaft size 1100mm x 1300 mm, G+3, MRL Automatic Lift, 6 Passenger	1	Nos			L	
<b>TOTAL (L) =</b>							

**Signature of Contractor**

- **NON-SCHEDULE ITEMS**

## II. SPLIT AC FOR GUEST HOUSE

<b>PART A: SUPPLY OF EQUIPMENT</b>					
<b>Sl. No</b>	<b>Items</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Total Supply</b>
<b>1</b>	<b>DC Inverter Heat Pump Wall Mounted AC</b>				
<i>I</i>	<i>Cooling Capacity 1.5TR</i>	<i>No</i>	<b>3</b>		
<i>ii</i>	<i>Cooling Capacity 0.8TR</i>	<i>No</i>	<b>4</b>		
<i>iii</i>	<i>Cooling Capacity 1.0TR</i>	<i>No</i>	<b>6</b>		
	<i>Sub Total</i>				
	<i>GST</i>				
<b>Total Supply (A) =</b>					

<b>PART B: LO SIDE ANCILARY &amp; INSTALLATION</b>							
<b>Sl. No</b>	<b>Item Description</b>	<b>Unit</b>	<b>Qty</b>	<b>Supply Rate</b>	<b>Supply Amount</b>	<b>Labour Rate</b>	<b>Labour Total</b>
<b>1</b>	<b>Installation of Equipment</b>						
<i>a</i>	<i>Wall Mounted</i>	<i>Nos</i>	<b>13</b>				
<i>b</i>	<i>Allow for Brazing with Oxy Acetylene, Nitrogen Flushing, Leak Testing, Vacuumizing, Additional Refrigerant, Charging, Testing &amp; Commissioning per Refrigerant Circuit.</i>	<i>Nos</i>	<b>13</b>				
<b>2</b>	<b>Copper Refrigerant Piping (Hard Drawn with Nitrile</b>						

	<b>Rubber Insulation - 13mm (L)/19mm (S)</b>						
<i>I</i>	$\Phi 15.9 \text{ mm}$	<i>m</i>	<i>130</i>				
<i>li</i>	$\Phi 9.53 \text{ mm}$	<i>m</i>	<i>130</i>				
<b>3</b>	<b>PVC Drain Piping with Nitrile Rubber Insulation</b>						
<i>I</i>	$\Phi 25 \text{ mm}$	<i>m</i>	<i>104</i>				
<b>4</b>	<b>Electrical</b>						
<i>I</i>	<i>2C x 1.5 Sq.mm Sheild Cable</i>	<i>m</i>	<i>143</i>				
<i>li</i>	<i>3C x 2.5 Sq.mm Flexible Cable Cu</i>	<i>m</i>	<i>143</i>				
<b>5</b>	<b>M.S. Structure</b>						
<i>I</i>	<i>Outdoor Unit</i>	<i>Nos</i>	<i>13</i>				
	<i>Sub Total</i>						
	<i>GST</i>						
	<b>Total Installation (B) =</b>						
<b>Total Cost C = (A+B)</b>							

**Signature of Contractor**

• **NON-SCHEDULE ITEMS**

**III. SANITARY FITTING FOR GUEST HOUSE**

Sl. No	Items	Unit	Qty	Unit Rate to be quoted		Amount (Unit rate x Qty)	
				In Figures	In Words	In Figures	In Words
1	Providing <b>KOHLER</b> one-piece toilet with quiet close toilet seat and cover in white 750 X 390 X 665mm, S-Trap 305mm, P-trap 150mm complete (K-19056T-S-O)	Each	9				
2	Providing <b>KOHLER</b> Shower Columns features a 139mm shower head and a 4-way handshower for both showering and bathing applications. The rain shower head pairs nicely with numerous <b>KOHLER</b> bath and shower faucets (Bath and Shower Column in polished chrome, K – 12959IN-4-CP).	Each	9				
3	Providing <b>KOHLER</b> pedestal lavatories feature a basin that is position at a comfortable standing and rest on a pedestal base (Pedestal lavatory with classic design in white, 612 x 504 x 878 mm, <b>K-2238 T- 8-0 Three faucet holes</b> )	Each	9				
4	Providing <b>KOHLER</b> Rite-Temperature balancing valve trim with lever handle in polished chrome ( <b>K-T950-4-CP</b> )	Each	9				
	Providing Single-control lavatory faucet with						

5	lever handle in polished chrome (K-10860-4-CP with Drain)	Each	9				
6	<p>Proving KOHLER special fittings in bath room:</p> <p>a. 610mm towel shelf in polished chrome (K-11577-CP).</p> <p>b. Toilet tissue holder in polished chrome (K-11583-CP).</p> <p>c. 610mm towel bar in polished chrome (K-10551-CP).</p> <p>d. Towel ring in polished chrome (K-10557-CP).</p> <p>e. Soap dish in polished chrome (K-10560-CP).</p> <p>f. Robe hook in polished chrome (K-10555-CP).</p> <p>g. Bath grip in polished chrome (K-10701D-CP).</p> <p>h. Soap dispenser and holder with frosted bottle in polished chrome (K-</p>	<p>Each</p> <p>Each</p> <p>Each</p> <p>Each</p> <p>Each</p> <p>Each</p> <p>Each</p> <p>Each</p>	<p>9</p> <p>9</p> <p>9</p> <p>9</p> <p>9</p> <p>9</p> <p>9</p> <p>9</p>				

	10712D-CP).						
	i. Glass shelf in polished chrome (K-17520T-CP).	<i>Each</i>	9				
	j. 610mm tumbler holder in polished chrome (K-17525T-CP).	<i>Each</i>	9				
	<i>Sub total</i>						
	<i>GST</i>						
	<i>Total Cost (S)</i>						

***Signature of Contractor***

• **SUMMARY OF THE AMOUNT QUOTED BY THE TENDERERS**

<b>PARTICULARS</b>	<b>MAIN BUILDING (IT &amp; ITeS)</b>			
	<b>SCHEDULE ITEMS</b>	<b>AMOUNT (Rs)</b>	<b>NON-SCHEDULE ITEMS</b>	<b>AMOUNT (Rs)</b>
<b>IT &amp; ITeS BUILDING</b>	YES	M	NO	
<b>APPROACH ROAD</b>	YES	A	NO	
<b>PARKING</b>	YES	P	NO	
<b>LIFT</b>	NO		YES	L <sub>3</sub>
<b>FIRE FIGHTING</b>	NO		YES	F
<b>HVAC</b>	NO		YES	H
<b>TOTAL</b>		= A <sub>1</sub>		= A <sub>2</sub>
<b>TOTAL A = (A<sub>1</sub>+ A<sub>2</sub>)</b>				
<b>GUEST HOUSE</b>				
<b>PARTICULARS</b>	<b>SCHEDULE ITEMS</b>	<b>AMOUNT (Rs)</b>	<b>NON-SCHEDULE ITEMS</b>	<b>AMOUNT (Rs)</b>
<b>GUEST HOUSE BUILDING</b>	YES	G	NO	
<b>LIFT</b>	NO		YES	L
<b>SPLIT AC</b>	NO		YES	C
<b>SANITARY FITTING</b>	No		Yes	S
<b>TOTAL</b>		= B <sub>1</sub>		= B <sub>2</sub>
<b>TOTAL B = (B<sub>1</sub>+ B<sub>2</sub>)</b>				

• **SUMMARY TABLE FOR PRICE BID**

<b><i>PARTICULARS</i></b>	<b><i>AMOUNT (Rs)</i></b>
<b><i>MAIN BUILDING (A)</i></b>	
<b><i>GUEST HOUSE (B)</i></b>	
<b><i>TOTAL T = { (A + B) }</i></b>	

***Signature of Contractor***

## Section: Annexures

### ANNEXURE-I

1. **NAME OF WORK:** - Construction Of Phase-I of the building for Technology Park, at Siejlieh, Mawkasiang, East Khasi Hills.
2. **NATURE OF WORK:** - Construction of IT & ITeS Building and Guest House, Approach Roads and Path Ways Including Internal Water Supply, Sanitary Installation, Internal Electrification Fittings, HVAC, Lift, and Fire Fighting.
3. **APPROXIMATE TENDER VALUE:** -Rs 30,00,00,000.00 (Rupees Thirty Crores) Only

**NB: Tender Value provided is for Guidance only, Total cost of works and other items will be based on actual measurements**

4. **EARNEST MONEY:** Earnest money for an amount of equal @ 1% of Tender value (for Tribal contractors) & @ 2% of Tender value (for others ) in the form of Bank Guarantee or Demand Draft in favor of "MEMBER SECRETARY, MITS" payable at Shillong.

#### 5. **QUOTATION OF RATES:** -

##### **I. Schedule Items**

**a. Building Works:** Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for Building Works for 2015-2016 as applicable in East Khasi Hills District Meghalaya.

**b. Internal Electrical Works:** Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for electrical Works for 2016-2017 as applicable in East Khasi Hills District Meghalaya.

**c. Approach Road:** Rates are to be quoted on flat percentage basis i.e. AT PAR / ABOVE the Meghalaya Schedule of Rates for roads N.H. Circle for the year 2013-2014.

##### **II. Non Schedule Items: As follows to be quoted on item rate basis:**

- f. Lifts for IT & ITeS**
- g. Lift for Guest House**
- h. Fire Fighting facilities**
- i. HVAC for IT & ITeS**
- j. Split AC for Guest House**

6. **TIME OF COMPLETION:** -21 (Twenty One) Months from the date of issue of Final Work Order.
7. 1% Labour cess under Meghalaya Building & other Constructions Workers (Regulations of Employment & Condition of Service) Rules 2008 shall be deducted from the Contractor's Bill.
8. The Member Secretary, Meghalaya Information Technology Society (MITS) reserves the right to accept or reject any or all tender without assigning any reason thereof.



**CERTIFICATE**

*This is to certify that I have read the Terms and conditions of the Detailed RFP/ Tender document and that I have quoted my rates taking into consideration the recovery rate of royalty on Forest product, including all relevant Taxes and duties applicable in the State of Meghalaya*

***Signature of Contractor/firm***

*Name in block letter*\_\_\_\_\_

*Registration No.*\_\_\_\_\_

*Labour License No.*\_\_\_\_\_ *valid up to*\_\_\_\_\_

*Electrical License No.*\_\_\_\_\_ *valid up to*\_\_\_\_\_

INFORMATION REGARDING CURRENT LITIGATION, DEBARRING/EXPELLING OF TENDERER  
OR ABANDONMENT OF WORK BY THE TENDERER.

34.1.1 a) Does the Applicant or its constituent partners have a consistent history of litigation awarded against him? Yes/No

b) If Yes, give details:

2. a) Has the applicant been debarred/expelled by any agency in India during the last 5(five) years, expecting on account of reasons other than non-performance? Yes/No

b) If Yes, give details:

3. a) Has the applicant during the last 5(five) years abandon any contract work in India? Yes/No

b) If Yes, give details:

4. a) Has the applicant been declared bankrupt during the last 5(five) years? Yes/No

b) If Yes, give details, including present status:

Note:-If any information in this schedule is found to be in – correct or concealed, pre-qualification bid will be summarily rejected.

**Signature of Contractor/firm**

Name in block letter\_\_\_\_\_

Complete Postal Address\_\_\_\_\_

\_\_\_\_\_

**GENERAL INFORMATION:**

*All individual firms and contractor applying for pre – qualification are requested to complete the information in this form. The nationality information should be provided for all owners of applicants who are partnership or individually owned firms.*

Photograph(only  
for individual  
Contractor)

1. Name of contractor/Firm \_\_\_\_\_
2. Head office address: - \_\_\_\_\_  
\_\_\_\_\_
3. Telephone: \_\_\_\_\_
4. Fax:- \_\_\_\_\_
5. Place of Registration : - \_\_\_\_\_
6. Year of Registration : - \_\_\_\_\_
7. Registration Number : - \_\_\_\_\_
8. Organization under whom the applicant is registered : -  
\_\_\_\_\_
9. Electrical License Number :- \_\_\_\_\_ valid up to \_\_\_\_\_
10. Labour License Number ; - \_\_\_\_\_ valid up to \_\_\_\_\_

- Note:-** (i) Enclose copy of Registration certificate.  
(ii) Enclose copy of photograph of the applicant.  
(iii) Enclose copy of Electrical License and Labour License.

**Signature of Contractor/firm**

Name in block letter \_\_\_\_\_

Complete Postal Address \_\_\_\_\_  
\_\_\_\_\_

**STRUCTURE AND ORGANIZATION**

1. The applicant is :-
  - (a) An individual
  - (b) A proprietary firm
  - (c) A firm in partnership
  - (d) A limited Company or Corporation
  - (e) A group of firms/joint venture

(Give complete information in respect of each partner)
2. Attach the Organization chart indicating the structure of organization, including the name of the Director and position of other members.
3. Number of years of experience
  - (a) as a Prime contractor(contractor shouldering major responsibility)
    - (i) in own State \_\_\_\_\_
    - (ii) in other States \_\_\_\_\_

(Specify State)
4. For how many years has your organization been in business of similar work? \_\_\_\_\_
5. Has any work been withdrawn? Yes/No  
(If yes, give details and reasons thereof) \_\_\_\_\_
6. has any work been abandon and left incomplete? Yes/No  
(If so, give name of the project and reasons for not completing the work) \_\_\_\_\_
7. Have you ever sublet any work at any time? Yes/No  
(If yes, specify name of work and extent of subletting) \_\_\_\_\_

Note: - Enclose a certified copy of your constitution/Articles of Association.

**Signature of Contractor/firm**

Name in block letter \_\_\_\_\_

Complete Postal Address \_\_\_\_\_

ANNEXURE-VI

**GENERAL EXPERIENCE**

*All applicants, individual/firms and all partners of a joint venture are requested to furnish experience certificates from concerned authorities showing the name of work completed and value of works in the last three years .*

**Signature of Contractor/firm**

Name in block letter \_\_\_\_\_

Complete Postal Address \_\_\_\_\_

\_\_\_\_\_

BANK CERTIFICATE

This is to certify that Shri/Smt/MS \_\_\_\_\_

\_\_\_\_\_ is a reputed contractor/firm with adequate financial Standing.

If the contract for the work, namely "Construction OfPhase-I of the building for Technology Park, which will consist of Ground+3 floors."is awarded to the above contractor/firm, we shall be able to provide overdraft/credit facilities to the extent of Rs \_\_\_\_\_  
(Rupees \_\_\_\_\_) only

to meet his/her/their working capital requirement for the execution of the above mentioned work.

\_\_\_\_\_  
**Signature of Bank Authority**

**Name of the Bank**

Designation \_\_\_\_\_

**LIST OF KEY EQUIPMENT AND FIELD TESTING EQUIPMENT TO BE DEPLOYED  
ON CONTRACT WORK.**

**Key equipment**

<b>No.</b>	<b>Equipment Type and Characteristics</b>	<b>Min. Number Required</b>
1	<i>Excavator cum Loader</i>	1
2	<i>Concrete Vibrator</i>	2(Two) No.
3	<i>Concrete Mixer</i>	1(one) No
4	<i>Water Tankers</i>	2(Two) Nos
5	<i>Trucks/Tippers</i>	1(one) No
6	<i>Tubular scaffolding with 40mm diameter pipes of 6m length with necessary bracings wherever required and Steel centering</i>	50 sq.m

**Field testing Laboratory equipment**

<b>No.</b>	<b>Equipment Type and Characteristics</b>	<b>Min. Number Required</b>
1	<i>Hydraulic Compresión Testing Mechine, hand operated 100 tonnes capacity. Conform to there quirements of IS: 516-1959, IS :14858-2000 caliberated to anaccuracy of <math>\pm</math> 1% indicated load within range.</i>	1
2	<i>Cube moulds 150x150x150 mm size conforming to IS : 516-1959, IS : 10086-1982.</i>	12
3	<i>Slump apparatus conforming to IS: 7320.</i>	1
4	<i>Test sieve set IS : 460-1972, 30 cm diaframe of size 40mm, 20mm, 12.5mm and 10 mm and 20 cm diaframe of size 4.75mm, 3.35 mm, 2.36mm, 1.18mm, 600 micron, 300 micron, 150 micron, 90 micron and 75 micron.</i>	1 set

5	15 cm dia aggregate crushing value apparatus as per IS : 2386 (Part-IV)-1963.	1
6	Graduated cylinder of glass 100, 250 and 1000 ml capacity.	1 each
7	Balances 1 kg, 5kg and 15 kg capacity.	1
8	Electric oven, thermostatically controlled upto 2000C, chamber space about 40x40x40 cm.	1
9	Le-chatelier apparatus as per IS : 4031.	1
10	Bulk density measure 3 and 15 litres capacity as per IS : 2386 (Part-III)-1963.	1

**Signature of Contractor/firm**

Name in block letter \_\_\_\_\_

Registration No. \_\_\_\_\_

Complete Postal Address \_\_\_\_\_

Annexure IX:

**HVAC SPECIFICATION**

**SECTION - 1**

**VRV SYSTEM**

**1. GENERAL**

- 1.1 Unit shall be air cooled, split type multi-system air conditioner with Variable Refrigerant Flow technology consisting of one outdoor unit and multiple indoor units, each suitable to cool and heat independently for the requirements of the rooms.
- 1.2 The refrigerant piping shall be extendable up to 200m with 50m level difference without any oil traps.

**2. OUTDOOR UNIT**

- 2.1 The outdoor unit shall be a factory assembled unit housed in a sturdy weather proof casing constructed from rust-proofed mild steel panels coated with a baked enamel finish.
  - 2.1.1 The outdoor unit shall have multiple scroll compressors and be able to operate even in case of breakdown of one of compressors.
  - 2.1.2 The connectable range of indoor units shall be from 0.65 HP to 10HP with all outdoor units.
  - 2.1.3 The noise level shall not be more than 55 dB(A) at normal operation measured horizontally 1m away and 1.5m above ground.
  - 2.1.4 Supply Installation Testing & commissioning of 4th Generation Full Inverter VRF System with Modular type outdoor units (Top Discharge), all scroll DC Inverter compressors for Cooling /Heating applications along with different types of indoors compatible with VRF ODUs. All inverter capacity controlling compressors shall be suitable for 3 Phase, 50 Hz.. The outdoor should be with 'Ocean Black Fin' heat exchanger with a black coating to shield it from Salt, Sand & other elements brought in by the air. The manufacturer must have their own compressor and having manufacturing and testing facility in India.

**3. COMPRESSOR**

3.1 The compressor shall be of highly efficient hermetic scroll type and equipped with capacity control technology capable of changing the speed in accordance to the cooling load requirement.

**4. HEAT EXCHANGER**

4.1 The heat exchanger shall be constructed with copper tubes mechanically bonded to aluminium fins to form a cross fin coil. The aluminium fins shall be covered by anti-corrosion resin film.

**5. REFRIGERANT CIRCUIT**

5.1 The refrigerant circuit shall include an accumulator, liquid and gas shut off valves and a solenoid valves.

5.2 All necessary safety devices shall be provided to ensure the safety operation of the system.

**6. EV KIT & AHU CONTROL (FOR DX TYPE SYSTEM)**

The EV kit shall be used to combine refrigerant pipes coming from outdoor unit and then the main header shall be connected to the refrigerant pipe of AHU. The functioning of system shall be controlled by AHU control.

**7. SAFETY DEVICES**

7.1 The following safety devices shall be part of the outdoor unit:  
High Pressure Switch, Low Pressure Switch, Fan Motor Safety Thermostat, Inverter Overload Protector, Over Current Relay, Fusible Plugs, Fuses.

**8. OIL RECOVERY SYSTEM**

8.1 Each unit shall be equipped, with an oil recovery system to ensure stable operation with long refrigerant piping.

**9. INDOOR UNIT**

9.1 Each Indoor unit shall be ceiling mounted duct type/cassette type/Hi-Wall split type, as specified in scope of work. It shall have electronic control valve to control refrigerant flow rate in response to load variations of the room. The fan shall be of the dual suction multi blade type and statically and dynamically balanced to ensure low noise and vibration free operation.

9.2 Outdoor Air Processing units shall be ceiling mounted duct type to achieve treated fresh air. The unit shall be connected to same refrigerant pipes as other indoor units are connected.

- 9.3 The address of the indoor unit shall be set automatically in case of individual and group control. In case of centralized control, it shall be set by liquid crystal remote controller.
- 9.4 Supply, Installation, testing and commissioning of (histatic duct able Type/Cassette Type) Indoor units equipped with pre-filter, fan section with suitable static fan, multispeed motor, coil section with DX coil, outer cabinet, drain pan, insulation, pipe connections etc. of various capacities as per specifications and drawings. The minimum TR/CFM has to be adhere while selecting the equipment. Diversity between **ODU and IDU should not exceed 112. Vendor has to select IDU or ODU of nearby higher capacity to maintain the diversity as specified.**

## **10. CONTROL UNIT**

- 10.1 Computerized PID control shall be used to maintain room temperature.
- 10.2 Unit shall be equipped with a self-diagnosis for easy and quick maintenance and service.
- 10.3 The LCD (Liquid Crystal Display) remote controller shall memorize the latest malfunction code for easy maintenance.
- 10.4 It shall be able to control up to 16 indoor units and change fan speed and angle of swing flap individually in the group.

## **11. CENTRALIZED INTELLIGENT TOUCH REMOTE CONTROLLER**

- 11.1 A multifunctional compact centralized controller shall be provided with the system.
- 11.2 The Graphic Controller shall act as an advanced air conditioning management system to give complete control of VRV air conditioning equipment. It shall have ease of use for the user through its touch screen, icon display and color LCD display.
- 11.3 It shall be able to control up to 64 groups of indoor units with the following functions:
- 11.4 Starting/stopping of Air conditioners as a zone or group or individual unit.
- 11.5 Temperature setting for each indoor unit or zone.
- 11.6 Switching between temperature controls modes, switching of fan speed and direction of airflow, enabling/disabling of individual remote controller operation.

- 11.7 Monitoring of operation status such as operation mode & temperature setting of individual indoor units, maintenance information, and troubleshooting information.
- 11.7.1 Display of air conditioner operation history.
- 11.7.2 Daily management automation through yearly schedule function with possibility of various schedules.
- 11.8 The controller shall have wide screen user friendly colour LCD display and can be wired by a non-Polar 2 wire transmission cable to a distance of 1 km. away from indoor unit.

## 12. REFRIGERANT PIPING

- 12.1 All refrigerant piping for the air conditioning system shall be constructed from hard drawn seamless copper refrigerant pipes with copper fittings Y- joints, headers etc. and silver-soldered joints. The refrigerant piping arrangements shall be in accordance with good practice within the air conditioning industry, and are to include expansion valves, charging connections, suction line insulation and all other items normally forming part of proper refrigerant circuits.
- 12.2 The suction line pipe size and the liquid line pipe size shall be selected according to the manufacturer's specified outside diameter. All refrigerant pipes shall be properly supported and anchored to the building structure using steel hangers, slotted angle tray, anchors, brackets and supports which shall be fixed to the building structure by means of inserts or expansion shields of adequate size and number to support the load imposed thereon.  
The OD wall thickness & wall thickness size of copper refrigerant piping shall be as follows:

<b><u>Outside Dia (mm)</u></b>	<b><u>Wall Thickness (mm)</u></b>
41.3, 38.1, 34.9	1.3
31.8, 28.6, 25.4, 22.2	1.2
19.1, 15.9	1.0
12.7, 9.5, 6.4	0.8

## 13. DRAIN PIPING

13.1 The indoor units shall be connected to drain pipe made of High density PVC pipe of 40 mm, 32 mm, and 25 mm dia.

13.1.1 The pipes shall be laid in proper slope for efficient drainage of condensate water.

13.2 Drain Pipe Insulation

13.3 Drain pipes carrying condensate water shall be insulated with 6 mm Nitrile rubber having density 55 Kg/m<sup>3</sup> and K factor 0.37 w/mk at a mean temp. of 20°C.

13.4 The joints shall be properly sealed with synthetic glue to ensure proper bonding of the ends.

#### **14. PIPE INSULATION**

14.1 Refrigerant Pipe Insulation.

14.1.1 The whole of the liquid and suction refrigerant lines including all fittings, valves and strainer bodies, etc. shall be insulated with 19mm /13 mm thick Nitrile close cell rubber having density 55 Kg/m<sup>3</sup> and K factor 0.37 w/mk at a mean temp. of 20°C.

14.1.2 The joints shall be properly sealed with synthetic glue to ensure proper bonding of the ends.

## **SECTION - 3**

### **VENTILATION FAN INLINE & PROPELLER FANS**

#### **1. SCOPE**

The scope of this section comprises the supply, installation, testing and commissioning of inline and propeller fans conforming to these specifications and in accordance with the requirement of drawings and 'Schedule of Quantities'.

#### **2. TYPE**

Inline fans and Propeller Fans shall be of type as indicated in drawings and 'Schedule of Quantities'

#### **3. INLINE FANS**

Inline fan shall incorporate SISW direct driven centrifugal fan with TEFC (IP-44) motor. The fan assembly shall be enclosed in a sheet metal housing of 22 gauge GSS and with necessary inspection cover with proper gasket assembly. The fan material shall be galvanized sheet steel. Flanges shall be provided on both sides of inline fan to facilitate easy connection. Flexible anti-vibration joints shall be provided to arrest vibration being transferred to other equipment connected to inline fan. Motor shall be single phase/three phase as per duty conditions.

All single-phase fans shall be provided with speed regulators while all three phase fans shall be provided with opposed blade dampers in GSS construction at fan outlet for air balancing.

#### **4. PROPELLER FANS**

Propeller fans shall be direct driven, three or four blade type mounted on a steel mounting plate with orifice ring.

Mounting plate shall be of steel construction, square with streamlined venture inlet coated with baked enamel paint. Mounting plate shall be of standard size, constructed of 12 to 16 gauge steel sheet depending upon the fan size. Orifice ring shall be correctly formed by spinning or stamping to provide easy passage of air without turbulence and to direct the air stream.

Fan blades shall be constructed of aluminium or glass reinforced polypropylene. Fan hub shall be of heavy welded steel construction with blades bolted to the hub fan blades and assembly shall be statically and dynamically balanced.

Shaft shall be of steel accurately ground and shall not pass through first critical speed through entire range of specified fan speed.

Motor shall be standard permanent split capacitor of shaded pole for small sizes, totally enclosed with pre-lubricated sleeve or ball bearings, designed for a quiet operation with a maximum speed of 1000 RPM for fans 60 cm dia or larger and 1440 RPM for fans 45 cm dia and smaller. Motors for larger fans shall be suitable for  $415 \pm 6\%$  volts, 50 cycle 3-phase power supply and for smaller fans shall be suitable for  $220 \pm 6\%$  volts, 50 cycles single-phase power supply. Motors shall be suitable for horizontal or vertical service as indicated in drawings and Schedule of Quantities.

Propeller fans shall be provided with following accessories: -

Wire guard and bird-screen

Gravity louvers at outlet

Regulator for controlling fan speed for single-phase fan motor.

Single-phase preventers for 3 phase fans.

Wiring between regulator and fan motor including termination at both ends.

## **5. PERFORMANCE DATA**

All fans shall be selected for the lowest operating noise level. Capacity rating, power consumption with operating points clearly indicated shall be submitted and verified at the time of testing and commissioning of installation.

## **6. TESTING**

Capacity of all fans shall be measured by an anemometer. Measured airflow capacities shall conform to the specified capacities and quoted ratings, power consumption shall be computed from measurements of incoming voltage and incoming current.

## **SECTION - 4**

### **AXIAL FLOW FANS - SPECIFICATIONS**

#### **1. SCOPE**

This section covers the technical requirements for manufacture, testing at works, delivery at site, testing after installation, commissioning of axial flow fan equipments for ventilation and exhaust system. Their location shall be as given in 'Schedule of Quantities' and drawings.

The fans shall be complete with all the accessories required for proper installation and performance consisting mainly of the following: -

(a) Suction and discharge side flanges and counter flanges suitably drilled, complete with bolts & nuts, direct driving electric motor, suspension hangers (for ceiling hung fans only) for vibration isolation (rubber in shear type). Any structural steel and hardware required for assembly, installation, supporting of fan or accessories. 2 mm thick flexible connectors, fire resistant type at suction and discharge end, Foundation bolts and vibration isolators (in case of floor mounting only).

#### **2. APPLICABLE SPECIFICATIONS STANDARDS AND CODES.**

Documents listed below should be read along with the technical data given in the 'Schedule of Quantities' and shall be applicable to the material, manufacture, testing and installation of axial flow fans and accessories.

- (a) I.S.S.: 3588 - 1986; specifications for electric axial flow fans.
- (b) ANSI/ASHRAE: standard 51
- (c) ANSI/AMCA: standard 210 for preparing performance curves, charts and testing of fans
- (d) IS-2312 - Propeller type A.C ventilation fans
- (e) BS - 848 - Methods of performance test for fans

### **3. DESIGN & MANUFACTURING**

#### **Fan and Components**

- 3.1 The fan shall be designed to handle the quantity of air against the static pressure and at conditions indicated in the technical data. The fan shall have optimum efficiency at operating conditions and shall have performance characteristics to match the approved performance curves.
- 3.2 The unit shall be factory built to the highest standards to ensure rigidity, maximum mechanical and electrical reliability, quiet, stable and vibration free operation at the prescribed conditions of flow, static and speed.
- 3.3 The casing shall be fabricated from heavy gauge sheet steel with suction and discharge ends flanged and complete with counter flanges, G.I. nuts and bolts. The flanges and counter flanges shall be matched and drilled suitably to receive flexible PVC connections. An inspection door with handle and neoprene gaskets shall be provided. Support brackets for ceiling suspension shall be welded to the casing for connection to hanger bolts.

#### **Impeller & Blades:**

The impeller shall be cast aluminum; aero foil type with well-balanced blades made from cast aluminum alloy or cast steel construction.

#### **3.4 Drive**

The fan hub and blades shall be directly mounted on the shaft of a totally enclosed motor, rotor of fan motor shall be well balanced. The motor shall be TEFC, squirrel cage, IP 55 0- class F and suitable for  $415 \pm 10\%$  V, 50 HZ 3 phase AC power supply. The motor shall be dual speed wherever called for in 'Schedule of Quantities'. The maximum motor speed shall be limited to 1450 RPM. Motor conduit box shall be mounted on exterior of fan casing and lead wires from motor to conduit box shall be protected from air stream by enclosing in a flexible metal conduit.

### **4. TECHNICAL SPECIFICATIONS**

- 4.1 The firm shall submit the technical data and performance characteristics with operating points duly marked for approval prior to fabrication. The supplier shall supply the test certificates of all the fans.

### **5. GENERAL REQUIREMENTS**

- 5.1 Static, dynamic balancing and vibration: the individual fan impeller, blades, motor shall be statically and dynamically balanced independently. After assembly the entire fan

motor unit shall not give rise to any vibrations. The balancing shall be as per ISO: 1940 GR 6.3.

5.2 **NOISE LEVEL:** The tendered shall indicate the noise level generated by the fan/motor unit in terms of decibel units to be measured at 3M from the unit. This shall fall in line with best engineering standard.

## 6. PAINTING

All fans and their accessories shall be painted with two coats of suitable enamel paint after one coat of Red Oxide primer.

## 7. PACKING

The fans shall be dispatched in packed condition to avoid damage during transportation to site. Transit insurance for the fans shall be included in this offer.

## 8. INSPECTION & TESTING

All fans shall be subjected to inspection and testing requirements as given below. The contractor shall be responsible for providing all inspection facilities and for conducting all Tests at works and at site after erection. Test certificates for all fans shall be submitted, some fans at the discretion of Client may be tested at the factory in his presence.

The performance of the fan motor unit shall be tested by operating at design conditions. The following parameters will be tested vis-à-vis the approved performance curves.

Airflow capacity

Static head developed

BHP requirement

Vibration and noise level

## **SECTION - 5**

### **SHEET METAL WORKS - (FACTORY FABRICATED)**

#### **1. GENERAL**

- 1.1 The work under this part shall consist of furnishing labour materials, equipment and appliances as specified necessary and required to install all sheet metal and other allied work to make the air conditioning supply, ventilating, and exhaust system ready for operation as per drawings.
- 1.2 Except as otherwise specified all duct work and related items shall be in accordance with these specifications.
- 1.3 Ductwork shall mean all ducts, casings, dampers, access doors, joints, stiffeners and hangers.

#### **2. DUCT MATERIALS**

- 2.1 The ducts shall be fabricated from galvanized steel sheets class VIII conforming to ISS: 277-1962 (revised) or aluminum sheets conforming to ISS: 737-1955 (wherever aluminum ducts are specified).
- 2.2 All duct work, sheet metal thickness and fabrication unless otherwise directed, shall strictly meet requirements, as described in IS:655-1963 with amendment-I (1971 edition)

#### **Governing Standards**

- 2.3 Unless otherwise specified here, the construction, erection, testing and performance of the ducting system shall conform to the SMACNA-1995 standards ("HVAC Duct Construction Standards-Metal and Flexible-Second Edition-1995" SMACNA)

#### **3. RAW MATERIAL**

- 3.1 Ducting
  - 3.1.1 All ducting shall be fabricated of LFQ (Lock Forming Quality) grade prime G.I. row material furnished with accompanying Mill test Certificates.
  - 3.1.2 Galvanizing shall be of 120gms/sq.m. (Total coating on both sides).

3.1.3 In addition, if deemed necessary, samples of raw material, selected at random by owner's site representative shall be subject to approval and tested for thickness and zinc coating at contractor's expense.

3.1.4 The G.I. raw material should be used in coil-form (instead of sheets) so as to limit the longitudinal joints at the edges only irrespective of cross-section dimensions.

### 3.2 Duct Connectors and Accessories

All transverse duct connectors (flanges/cleats) and accessories/related hardware are such as support system shall be zinc-coated (galvanized)/

## 4. FABRICATION STANDARDS

4.1 All ductwork including straight sections, tapers, elbows, branches, show pieces, collars, terminal boxes and other transformation pieces must be Rolastar factory-fabricated or Techno Fabriduct. Equivalency will require fabrication by utilizing the following machines and processes to provide the requisite quality of ducts and speed of supply.

4.2 Coil lines to ensure location of longitudinal seams at comes/folded edges only to obtain the required duct rigidity and low leakage characteristics. No longitudinal seams permitted along any face side of the duct.

4.3 All ducts, transformation pieces and fittings to be made on CNC profile cutlers for required accuracy of dimensions, location and dimensions of notches at the folding lines.

4.4 All edges to be machine treated using lock formers, flanges and roller for fuming up edges.

4.5 Sealant dispensing equipment for applying built-in sealant in Pittsburgh lock where sealing of longitudinal joints are specified.

## 5. SELECTION OF G.I. GAUGE AND TRANSVERSE CONNECTORS

Duct Construction shall be in compliance with 1" (250 Pa)w.g. static norms as per SMACNA.

All transverse connectors shall be the Rolamate 4-bolt slip-on flange system or Techno Fabriduct imported makes of similar 4-bolt systems with built-in sealant if any to avoid any leakage additional sealant to be used.

The specific class of transverse connector and duct gauge for a given duct dimensions will be 1"(250 Pa) pressure class.

Non-toxic, AC-applications grade P.E. or PVC Casketing is required between all mating flanged joints. Gasket sizes should conform to flange manufacturer's specification.

**6. DUCT CONSTRUCTION**

The fabricated duct dimensions should be as per approved drawings and all connecting sections are dimensionally matched to avoid any gaps.

**7 DIMENSIONAL TOLERANCES:** All fabricated dimensions will be within  $\pm 1.0$  mm of specified dimension. To obtain required perpendicularity, permissible diagonal tolerances shall be  $\pm 1.0$  mm per meter.

7.1 Each and every duct pieces should be identified by color coded sticker which shows specific part numbers, job name, drawing number, duct sizes and gauge.

7.2 Ducts shall be straight and smooth on the inside Longitudinal seams shall be airtight and at comers only, which shall be either Pittsburgh or Snap Button Punch as per SMACNA practice, to ensure air tightness.

7.3 Changes in dimensions and shape of ducts shall be gradual (between 1:4 and 1:7). Turning vanes or air splitters shall be installed in all bends and duct collars designed to permit the air to make the tum without appreciable turbulence.

7.4 Plenums shall be shop/factory fabricated panel type and assembled at site.

7.5 Factory Fabricated ducts shall have the thickness of the sheet shall be as follows

SL. No.	Size of Duce	Sheet Thickness	Fastner Size	Type of Joints		Bracing with GI tie rods of following sizes	Support Angle
				For Rolastar duct & Rolamate flanges	For Techno Fabriduc t and flanges		
7.5.1	Upto 750 mm	0.63 mm	3/8"	Fabricated out of G.I. sheet of 24 gauge at every 1.2 m internal.	The flanges shall be made out of the same duct	Cross tie rods to be fitted of suitable dia GI rod for each	25x25x3 mm

7.5.2	751 mm to 1000 mm	0.80 mm	3/8"	E-24 type flange, shall be fabricated out of 24 G sheet at every 1.2 m internal.	sheet and all the four corner shall be fitted for fitting the bolt	piece of duct	25x25x3 mm
7.5.3	1001 mm to 1500 mm	0.80 mm	5/8"	E-22 type flange, shall be fabricated out of 22 G sheet at every 1.2 m internal.	The flanges shall be made out of the same duct sheet and all the four corner shall be fitted for fitting the bolt	Cross tie rods to be fitted of suitable dia GI rod for each piece of duct	40x40x5 mm
7.5.4	1501 mm to 2250 mm	1.00 mm	5/8"	J-16 type flange, shall be fabricated out of 16G sheet at every 1.2 m internal.			40x40x6 mm angle
7.5.5	2251 mm and above	1.25 mm	5/8"	J-16 type flange, shall be fabricated out of 16G sheet at every 1.2 m internal.			50x50x6 mm with MS rods of 12 mm dia.

7.6 The gauges, joints and bracings for sheet metal duct work shall further conform to the provisions as shown on the drawings.

- 7.7 Ducts larger than 600 MM shall be cross broken, duct sections upto 1200 MM length may be used with bracing angles omitted.
- 7.8 Changes in section of ductwork shall be affected by tapering the ducts with as long a taper as possible. All branches shall be taken off at not more than 45 DEG. Angle from the axis of the main duct unless otherwise approved by the Engineer-In-Charge.
- 7.9 All ducts shall be supported from the ceiling/slab by means of M.S. Rods of 10 MM (3/8") DIA with M.S. Angle at the bottom. The rods shall be anchored to R.C. Slab using metallic expansion fasteners.

## **8. INSTALLATIONS**

- 8.1 During the construction, the contractor shall temporarily close duct openings with sheet metal covers to prevent debris entering ducts and to maintain opening straight and square, as per direction of Engineer-In-Charge.
- 8.2 Great care shall be taken to ensure that the duct work does not extend outside and beyond height limits as noted on the drawings.
- 8.3 All duct work shall be of high quality approved galvanized sheet steel guaranteed not to crack or peel on bending or fabrication of ducts. All joints shall be air tight and shall be made in the direction of air flow.
- 8.4 The ducts shall be re-inforced with structured members where necessary, and must be secured in place so as to avoid vibration of the duct on its support.
- 8.5 All air turns of 45 degrees or more shall include curved metal blades or vanes arranged so as to permit the air to make the abrupt turns without an appreciable turbulence. Turning vanes shall be securely fastened to prevent noise or vibration.

The duct work shall be varied in shape and position to fit actual conditions at building site. All changes shall be subjected to the approval of the Engineer-In-Charge. The contractor shall verify all measurements at site and shall notify the Engineer-In-Charge of any difficulty in carrying out his work before fabrication.

- 8.6 Sponge rubber or approved equal gaskets of 6 MM maximum thickness shall be installed between duct flanges as well as between all connections of sheet metal ducts to walls, floor columns, heater casings and filter casings. Sheet metal connections shall be made to walls and floors by means of wooden member anchored to the building structure with anchor bolts and with the sheet screwed to them.

- 8.7 Flanges bracings and supports are to be Rolamate or Techno Fabriduct. Accessories such as damper blades and access panels are to be of materials of appropriate thickness and the finish similar to the adjacent ducting, as specified.
- 8.8 Joints, seams, sleeves, splitters, branches, takeoffs and supports are to be as per duct details as specified, or as decided by Engineer-In-Charge.
- 8.9 Joints requiring bolting or riveting may be fixed by Hexagon nuts and bolts, stove bolts or buck bolts, rivets or closed centre top rivets or spot welding. Self-tapping screws must not be used. All jointing material must have a finish such as cadmium plating or Galvanized as appropriate.
- 8.10 Fire retarding flexible joints are to be fitted to the suction and delivery of all fans. The material is to be normally double heavy canvass or as directed by Engineer-In-Charge. On all circular spigots the flexible materials are to be screwed or clip band with adjustable screws or toggle fitting. For rectangular ducts the material is to be flanged and bolted with a backing flat or bolted to mating flange with backing flat.
- 8.11 The flexible joints are to be not less than 75 MM and not more than 250 MM between faces.
- 8.12 The duct work should be carried out in a manner and at such time as not to hinder or delay the work of the other agencies especially the boxing or false ceiling contractors.
- 8.13 Duct passing through brick or masonry, wooden frame work shall be provided within the opening. Crossing duct shall have heavy flanges, collars on each side of wooden frame to make the duct leak proof.

## **9. DOCUMENTATION TO MEASUREMENTS**

For each drawing, all supply of ductwork must be accompanied by computer-generated detailed bill of material indicating all relevant duct sizes, dimensions and quantities. In addition, summary sheets are also to be provided showing duct areas by gauge and duct size range as applicable.

Measurement sheet covering each fabricated duct piece showing dimensions and external surface area along with summary of external surface area of duct gauge-wise.

All duct pieces to have a part number, which should correspond to the serial number, assigned to it in the measurement sheet. The above system will ensure speedy and proper site measurement, verification and approvals.

**10. TESTING**

After duct installation, a part of duct section (approximately 5% of total ductwork) may be selected at random and tested for leakage. The procedure for leak testing should be followed as per SMACNA- "HVAC Air Duct Leakage Test Manual: (First Edition).

**QUALITY CHECKS ON DUCTING**

<b>SL. No.</b>	<b>DESCRIPTION</b>	<b>YES - OK NO - X</b>	<b>REMARKS</b>
1.	Whether material adheres to Fabrication Standards as specified (Lock form Quality Sheets)		
2.	Valid for construction Drawings. at site.		
3.	Cross breaking, bracings / reinforcements are as per standard.		
4.	Air tightness of transverse / Longitudinal Joints ensured.		
5.	Grease and heat resistant sealant for kitchen exhaust duct.		
6.	Neoprene gaskets for pharmaceutical and clean room projects used		
7.	Check following aspects of duct supporting system		
7.1	Hanger spacing		
7.2	Anchor bolts size and quality		
7.3	Primer painting of supports		
7.4	Check allowable load on trapeze angle for bigger ducts		
8.	Check whether contractor has provided		
8.1	Vanes in elbows		
8.2	Clinched collar at take Offs		

8.3	Splitters		
9.	Check transitions & offsets slopes & fabrication.		
10.	Whether the installed ducting is as per layout approved, check locations, headroom etc.		
11.	Whether grilles / diffusers are as per approved shade.		
12.	Check the method of installation for Grilles / Diffusers		
13.	Repair / paint damaged surfaces.		
14.	Check the coordination of following activities as per the given sequence:-		
14.1	Main Ducts Cut for taking collars		
14.2	Match / Fabricate collar taking false ceiling framework for diffuser into account		
14.3	Fix grilles / diffuser framework in false ceiling		
14.4	Install the collar		
14.5	Install diffuser		
<b>SL. No.</b>	<b>DESCRIPTION</b>	<b>YES - OK NO - X</b>	<b>REMARKS</b>
15.	All elbows / turning points and branches to be properly supported		
16.	Access door is provided at serviceable position for fan and fire damper		
17.	Air balancing for room is studied		
18.	Air replacement is considered for air exhausted from room.		
19.	PVC or stainless steel material is used for corrosive fume exhaust system.		
20.	Ant vermin netting installed for louvers removable and serviceable.		
21.	Water or gas vent outlet is not installed near air intake louver.		
22.	Kitchen exhaust is not short circuited to outdoor air intake louver.		

23.	Kitchen room pressure is slightly below the surrounding area.		
24.	Sound level of fan is studied.		
25.	Face velocity for louvers / grills / diffusers is studied.		
26.	Air distribution of the room is studied.		
27.	Cross break all flat surfaces to prevent vibrations or buckling due to air flow.		
28.	Sides of ducts having collar for grills should not be cross broken to facilitate alignment of grills.		
29.	All bends and collars should have vanes.		
30.	If duct passes through fire chamber increase sheet thickness.		
31.	Kitchen exhaust ducts to be tapered at bottom for oil / grease collection.		
32.	Avoid flanged joints in kitchen exhaust duct above false ceiling.		
33.	When aluminium ducts are used with steel angles, steel to be painted with Zinc chromate paint		
34.	Provide check nuts with duct hangers		
35.	Ducts below 250 mm should not be more than 1 m long to facilitate proper joining.		
36.	Plenums should have flanged and bolted ends for rigidity and easy maintenance.		
37.	Avoid 'U' bends in ducts		
38.	Provide long radius bends and offsets.		
39.	No collars to be taken from top.		
40.	Install duct spool pieces near equipment for easy removal.		

## **SECTION - 6**

### **INSULATION - SPECIFICATIONS**

#### **1 SCOPE**

The scope of this section comprises supply and fixing of acoustic lining conforming to these specifications.

#### **2. DUCT ACCOUSTIC LINING**

The ducts so identified and marked on drawings and in 'Schedule of Quantities' shall be provided with acoustic lining of thermal insulation material as follows: -

##### **2.1 Material For Duct Lining**

The material to be used for duct lining shall be 25 mm thick resin bonded glass wool having a density of 32 kg/cu.mt and covered with 26 gauge thick perforated aluminum sheet with at least 20% perforation. The value at 32°C shall not be less than 0.034 KCAL / HR / MTR / Deg C

##### **2.2 Application**

- a) Clean inside surface of the duct
- b) Apply a coat of CPRX compound
- c) Fix the board inside the duct provided with GI channel 25 x 25 mm screwed on duct surface with self-tapping screws to make grid of 600 x 600 mm.
- d) The inner surface should now be covered with fiberglass RP tissue.
- e) Cover the insulation boards with 26 G perforated aluminum sheet with at least 20% perforation.
- f) Secure the insulation board and aluminum sheet with cadmium plated bolt and washers.
- g) Seal the ends completely so that no insulation material is exposed.

### 3. UNDER DECK INSULATION

Supply of extruded polystyrene closed cell rigid insulation material for under – deck application. Light and easy to handle the boards have a density of 30-32 Kg/m<sup>3</sup> and available in standard size of 1250 x 600 mm in various thicknesses.

Normally for roof, thickness of under deck insulation required is 50mm i.e. ‘ R’ value of 1.78 or ‘ U ’ value of 0.56 in metric units.

Insulation is laid with it’s shiplapped joints tightly butted in single or multiple layers depending upon the specific ‘ U ’ value requirements .

‘ U ’ factor is the transfer of energy through the building assembly per unit time, per unit area and temperature difference .

It offers a compressive strength of 250kPa, water absorption of < 1% ( V/V) and a thermal conductivity of 0.028 W/m<sup>o</sup>K at a mean temperature of 25°C.

#### 2.1 Duct Work Insulation

Insulation material shall be closed cell nitrile rubber. The thermal conductivity of the insulation material shall not exceed 0.031 W/MK at an average temperature of 23°C and density shall be not less than 30+3 KG/Cubic Meter (Shall be as per ECBC code-2007). Material shall have self-extinguishing and non-dripping property. Thickness of the insulation on ducting shall be as detailed below: -

	Conditioned Space	Unconditioned Space
1 Supply Air Duct	19 mm insulation.	25 mm insulation
2 Return Air	Nil	25 mm insulation
(a) Conditioned Exhaust Air	To be completely insulated with 12 mm thick insulation	
(b) Plenums	To be insulated from outside with 12 mm -20 mm thick insulation or lined internally with 12-50 mm thick insulation.	
(c) Fresh air duct	To be completely insulated with 12 mm thick insulation	

## 2.2 **Application of Insulation**

The application of insulation shall be carried out as under: -

### DUCT INSULATION

- a) Duct surface to be cleaned thoroughly. Apply the adhesive by brush or spray on the both surfaces of duct and insulation sheet.
- b) All joints lateral and circumferential shall be sealed with same material. The tape shall be minimum 2.5mm thick and 50mm wide.
- c) The insulation material to be finally secured with same material straps of 2.5 mm width at every 400 mm center to center.
- d) The material should not be wrapped but should be applied in segments so that the insulation does not get compressed at the edges.

## **SECTION - 7**

### **MODES OF MEASUREMENTS**

#### **1. UNIT PRICES IN THE SCHEDULE OF QUANTITIES**

- 1.1 The item description in the 'Schedule of Quantities' is in the form of a condensed resume. The unit price shall be held to include everything necessary to complete the work covered by this item in accordance with the specifications and drawings. The sum total of all the individual item prices shall represent the total price of the installation ready to be handed over.
- 1.2 The Unit price of the various items shall include the following:
  - 1.2.1 All equipment's, machinery, apparatus and materials required as well as the cost of any tests which the Consultant may request in addition to the tests generally required to prove quality and performance of the equipment's.
  - 1.2.2 All the labour required supplying and installing the complete installation in accordance with the specifications.
  - 1.2.3 Use of any tools, equipments, machinery, lifting tackle, scaffolding, ladders etc. Required by the Contractor to carry out his work.
  - 1.2.4 All the necessary measures to prevent the transmission of vibration.
  - 1.2.5 The necessary material to isolate equipments foundations from the building structure, wherever necessary.
  - 1.2.6 Storage and insurance of all equipments apparatus and materials.
  - 1.2.7 The Contractor's unit price shall include all equipments, apparatus, material and labour indicated in the drawings and/or specifications in conjunction with the item in question, as well as all additional equipments, apparatus, material and labour usual and necessary to make in question on its own (and within the system as a whole) complete even though not specifically shown, described or otherwise referred to.

## **2 MEASUREMENTS OF SHEET METAL DUCTS, GRILLES/DIFFUSERS ETC.**

### **2.1 Sheet Metal Ducts**

- 2.1.1 Duct Work shall be measured on the basis of external surface area of ducts. Duct measurements shall be taken before application of the insulation. The external surface areas shall be calculated by measuring the perimeter comprising overall width and depth, including the corner joints, in the center of each duct section, multiplying with the overall length from flange face to flange face of each duct section and adding up areas of all duct sections. Plenums shall also be measured in similar manner.
- 2.1.2 For tapered rectangular ducts, the average width and depth shall be considered for perimeter, whereas for tapered circular ducts, the diameter of the section midway large and small diameter shall be adopted, the length of tapered duct section shall be the center line distance between the flanges of the duct section. or special pieces like bends, tees, reducers, branches and collars, mode of measurement shall be identical to that described above using the length along the centerline.
- 2.1.3 The quoted unit rate for external surface of ducts shall include all wastage allowances, flanges and gaskets for joints, nuts and bolts, hangers and angles with double nuts for supports, rubber strip 3 mm thick between duct and support, vibration isolator suspension where specified or required, inspection chamber / access panel. Splitter damper with quadrant and lever for position indication, turning vanes, straightening vanes, and all other accessories required to complete the duct installation as per the Specifications. These accessories shall NOT be separately measured nor paid for.

### **2.2 Grilles/Diffusers**

Grilles and registers - width multiplied by height, excluding flanges. Volume control dampers shall form part of the unit rate for registers and shall not be separately accounted.

Diffusers - cross section area for airflow at discharge areas, excluding flanges. Volume control dampers shall form part of unit rate for supply air diffusers and shall not be separately accounted.

Linear diffusers - shall be measured by cross - sectional areas and shall exclude flanges for mounting of linear diffusers. The supply air plenum for linear diffusers shall be measured with ducting as described earlier.

Fire dampers - shall be measured by their cross sectional areas perpendicular to the direction of airflow. Quoted rates shall include the necessary collars and flanges for mounting, inspection pieces with access door, electrical actuators and panel No special allowance shall be payable for extension of cross section outside the air stream.

Flexible connection - shall be measured by their cross sectional areas perpendicular to the direction of airflow. Quoted rates shall include the necessary mounting arrangement, flanges, nuts and bolts and treated-for-fire requisite length of canvas cloth.

Exhaust Hoods - shall be measured by their cross sectional area at the capture point of fumes, parallel to the surface of kitchen equipment. Quoted rates shall include the grease filters, provision for hood light, suspension arrangement for the hood, profile to direct the air to ventilation ducts and provision for removable drip tray.

### 2.3 Dampers

Measurement of dampers shall be as per internal cross sectional area of the damper

### **PREFERRED MAKES OF MATERIALS**

Acceptable makes of materials to be used in the work are enclosed. In case of non-availability of these makes, the Engineer-in-charge may allow use of alternative makes only BIS marked materials shall be used in the work. Non BIS marked materials may be permitted by the Engineer-in-charge only when BIS marked materials are not manufactured

### **HVAC APPROVED MAKES OF EQUIPMENT & MATERIALS**

<b>Sl. No</b>	<b>Equipment / Material</b>	<b>Approved Makes</b>
	<b>HVAC WORKS</b>	
1	Air Cooled VRF System	LG / MITSUBISHI ELECTRIC / GENERAL / DAIKIN
2	Axial Flow Fans	Lau/ Kruger / Nicotra
3.	Centrifugal Fans	Lau/ Kruger / Nicotra
4.	Inline Fans	Lau/ Kruger / Nicotra
5.	Piping Refrigerant	Rajco / Mandev
6.	Air Distribution/Ducting GI Sheets	Sail / Tata / Jindal
7.	Factory Fabricated Duct & Flanges	Rolastar / Zeco / Ductofab / Technofab
8.	Pre-insulated Ducts	Up Twiga/ Owens Corning / Kimcco
9.	Extruded Aluminium Grills/Diffusers	Air Track Control/ Caryaire / Trox
10.	Fire / Smoke Dampers	Air Track Control/ Caryaire / Trox
11.	Insulation : a) Fibre Glass – Aluminum faced	UP Twiga / Owens Corning/ Styrene Packaging
12.	Insulation : b) Polyurethane Fome(PUF)	UP Twiga / Owens Corning/ Styrene Packaging
13.	Insulation : c) Nitrile Rubber	A-flex/ Armacell/ K-flex

<i>14.</i>	<i>Insulation : d) XLPE</i>	<i>Supreme/ Vidoflex/ Trocellene</i>
<i>15.</i>	<i>Electric Motors</i>	<i>Siemens / ABB / Crompton</i>
<i>16.</i>	<i>RP Tissue</i>	<i>UP Twiga / Styrene Packing</i>
<i>17.</i>	<i>Red Oxide, Zinc Chromate Primer</i>	<i>ICI / Berger</i>