

30003/DTK/19TF/ENQ- 45 /E3ES

24 Jan 2024

**FOR ATTENTION OF ALL BIDDERS**

There is an important instruction regarding place of submission of Bid due to lockdown and restricted movement of goods and services across the border, in view of Covid-19 on page No 8 of this RFP, amending the clause 2 of this RFP to that Extent.

**Appendices**

A : List of Stores	E : Performance Bank Guarantee Format
B : Technical Bid ('T' Bid)	F : Format of Certificate of Acceptance
C : Price Bid ('Q' Bid)	G : Tech Specifications of shelters
D : EMD Bank Guarantee Format	H : Drawing of shelters

**INVITATION OF QUOTATION FOR SUPPLY AND INSTALLATION  
OF CONSTRUCTIONAL STORES (12 X PREFEBRICATED SHELTERS)**

Dear Sir/Madam,

**INVITATION OF QUOTATION.**

1. This Project requires stores as per Appendix 'A' accordingly invites **OTE** for the purpose. **The RFP can be downloaded from CPP Website : <https://eprocure.gov.in/eprocure/app>. The consignor can submit their offer by downloading the enquiries and sending it by Speed Post/Courier/Hand.**

2. Quotations are invited in physical form containing 'T'-Bid (Technical bid) as per Appx 'B' and 'Q'-Bid (Price Bid) as per Appx 'C' for the above items. Please note that quotation will be received by the **Headquarters Chief Engineer (P) Dantak**, C/o 99 APO upto 1700 Hrs (BST) on 15 Jan 2024. 'T'-Bid will be opened on 19 Feb 2024 at 1200 Hrs (BST). After opening of 'T'-Bid and its evaluation 'Q'-Bid will be opened for the successful bidders.

3. Firms or their duly authorized representative who have submitted their quotation and who wish to be present at the time of opening of quotation may visit the office of **Headquarters Chief Engineer (P) Dantak, C/o 99 APO** at the above mentioned time and date for viewing the quotation opening process.

4. Bidding procedure shall be single stage-two bid system and bid documents are to be prepared in two parts as under:-

Part-I (Technical Bid : 'T' Bid) at Appendix 'B'.  
Part-II (Price Bid : 'Q' Bid) at Appendix 'C'.

5. **Part-I Technical Bid ('T' Bid).**

5.1. The technical bid comprising of the following details shall be forwarded in a separate envelope by the Manufacture/Authorized Dealer/ consignor duly mentioning the Name of the firm, Enquiry reference and date of opening etc on top of the envelope.

(a) Details such as Name of firm, Address Contact number GSTIN number, Email, PAN No and other Registration details with HQ DGBR / Project Dantak / Any other BRO Project / Ministry of Defence Govt of India / Govt of Bhutan as per format enclosed at Appendix 'B' to the enquiry be provided. Original Manufacturers, PSUs and consignor enlisted with Central Purchase Organization and National Small Industries Corporation also to provide details of their registration in Appendix 'B'.

(b) In case if the firm is not enlisted / Registered with HQ DGBR or Project Dantak as a registered contractor/ consignor or with Ministry of Defence Govt of India or Govt of Bhutan or CPO or NSIC, details of EMD alongwith original copy of EMD be provided as per Ser No 9 of Appx 'B'. PSUs, Original Manufacturers, Original Manufacturers of Bhutan registered with Dantak/ HQ DGBR/ RGoB are exempted from submission of EMD on producing of necessary document/ certificates, in this regard.

(c) **Manufacturers and Consigner should have completed minimum one Supply Order of Containerised Shelter/Non Insulated Containerised Shelter/Prefabricated Shelter/Living Accn/ Porta Cabin to any GoI agency/BRO Projects/Defence Units/ establishments/ RGoB. Copies of Supply Order be enclosed with 'T' Bid failing which the firm will not be considered for opening of 'Q' Bid.**

(d) **Manufacturers and consignor should provide latest 'Test Certificates' issued by Chief Quality Assurance Establishment (CQAE)/ Senior Quality Assurance Establishment (SQAE), Ministry of Defence or any Government authorized Testing Laboratory on Quality of Prefabricated Shelter manufactured by their firm. Manufacturer should provide undertaking/ certificate with the 'T' Bid that the Test Certificates will be provided during the bulk supply of these Prefabricated Shelter.**

(e) **All materials will conform to IS/ BIS specifications as applicable. Manufacturer and Consignor should provide certificates stating that their Prefabricated Shelter such as PUF Panels, Light Weight Steel Sections, other steel and Aluminum Sections, glass, paints and all other fittings/ fixtures conform to their relevant IS/BIS specifications. Certificate to be enclosed with 'T' Bid**

## 5.2 Eligibility Criteria for Technical Evaluation

5.2.1 The manufacturers/ consignor who have submitted the following documents in their 'T' Bid will only be eligible technically and for opening of their 'Q' Bid:-

(a) Fulfillment of criteria & submission of documents as laid down at Para 5.1.

(b) Complete details as per Appendix 'B' of enquiry.

(c) **Registration details:**

(i) Registration/Enlistment No

(ii) With whom registered/enlisted

(iii) Letter reference under which registered/enlisted. (Enclose copy)

Enlistment / Registration details with HQ DGBR / Project Dantak / Ministry of Defence, GoI/ Govt of Bhutan/CPO/NSIC be clearly mentioned or EMD be submitted by non enlisted/non registered firms. EMD shall be deposited in case if the consignor is registered with any other Project of BRO.

(d) Original manufacturers of Bhutan will have to submit EMD in case if they are not enlisted/ registered with HQ DGBR/Project Dantak or Government of Bhutan.

5.3. The bidder should meet all the technical evaluation criteria in order that the bid is considered to be technically responsive and the bidder qualifying to have its commercial bid opened.

## 6. **Part-II Price Bid ('Q' Bid).**

6.1 The price bid ('Q' Bid) shall be forwarded in a separate envelope by the Manufacturer/ Authorized Dealer/ Consignor duly mentioning the name of the firm, Enquiry reference and date of opening on top of the envelope.

6.2. **Part-II Price Bids ('Q' Bid).** Price Bid shall be quoted by bidder as per the format attached as Appendix 'C'.

6.3. **'Q'-Bid Evaluation.** Price Bid of non qualified bidders, based on evaluation of 'T' Bid, will not be opened.

6.4 Price Bids shall only be furnished in attached format forming part of the bid documents.

7. **'T' Bid and 'Q' Bid be submitted in two separate envelopes duly superscribed and both these sealed covers are to be put in a bigger cover which should be sealed and duly superscribed. Consignor/ bidders who offer the Enquiry documents of 'T' Bid and 'Q' Bid in a single envelope will be rejected. On top of both 'T' Bid and 'Q' Bid, details such as Name of Manufacturer/ Consignor of the items, Enquiry Reference and date of opening etc will be mentioned clearly.**

8. No conditional offer other than conditions mentioned above will be entertained.

9. All necessary licenses, consents and permissions for import/ export from Govt/Semi Govt/ Civic agencies in India & Bhutan for the performance of obligations under this supply orders shall be arranged by the seller/ consignor.

10. The supplier/ consignor shall provide and pay for usage of labour, utilities, transportation and other miscellaneous services necessary for proper execution and completion of supply order at the designated FOR.

11. The complete expenses on preparation and submission of quotation shall be borne by the firms and it shall have no claim on this account.

**Earnest money and security deposit.**

12. Manufacturer/Firms who are NOT enlisted as per Para 5.1 (b) of this RFP will have to submit Earnest Money of Amount in Rs **1,23,500/-** (Rupees One Lakh Twenty Three Thousand Five Hundred Only) in the form of fixed Deposit receipt, or Bank guarantee from any of the commercial banks drawn in favour of Chief Engineer, Project Dantak payable at SBI Hasimara having validity/ maturity period of Six Months and will be enclosed with Technical Bid. Earnest Money of un-successful firms/ Consignor shall be returned to them immediately on placing of Supply Order. **Format of EMD as per Appendix 'D' enclosed.**

13. **Performance Bank Guarantee. Performance Bank Guarantee in the form of Bank Guarantee or Demand Draft should be submitted by your firm @ 5% of the value of Supply Order amount within 30 days of receipt of the Supply Order, to HQ 19 BRTF, Phuentsholing. The Fixed Deposit Receipt or Bank Guarantee Bond be prepared having validity/maturity period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligation (Ref Rule-171 of GFR 2017). The PBG should be drawn in favour of HQ 19 BRTF Payable at SBI, Hasimara. On receipt of Performance Bank Guarantee, the EMD will be returned to the firm. The Performance Bank Guarantee will be released after one month of release of completed payment against the supply order. If required, the extension of validity of Performance Bank Guarantee will be sought accordingly. Format of Performance Bank Guarantee as per Appendix 'E' enclosed.**

(a) **Clause for Evaluation of L1.** To determine the L1, the quoted rates of consignor who have been found technically "Substantially Responsive". 'Q' Bid shall be evaluated as under:-

(i) **Evaluation method for arriving to L1 bidders will be total value wise evaluation. Ranking of the commercial bid will be based on the lowest cost of sum total of all items which will comprise of Basic Cost of items, Freight insurance, except levies, Taxes and Duties levied by Central/State Local Govts such as Novroi/Entry Tax, etc as quoted by the Bidder in his 'Q' Bid. All these elements shall mandatorily be indicated separately.**

(ii) Any Taxes and Duties not mentioned clearly in 'Q'-Bid will not be counted and the Bidder shall not have any claim on account of such omissions on his part.

(iii) **GST/Sales Tax are not applicable for Project Dantak.** Sales tax exemption certificate will be issued to consignor. For any query regarding **exemption of GST** on import of goods and services **from India to Bhutan**, kindly refer to the following websites for detail information.

(aa) [www.cbec.gov.in//htdocs-cbec/gst/index](http://www.cbec.gov.in//htdocs-cbec/gst/index).

(ab) [www.cbec.gov.in/resources//htdocs-cbec/gst/notfctn-42-igst-rate-english.pdf](http://www.cbec.gov.in/resources//htdocs-cbec/gst/notfctn-42-igst-rate-english.pdf).

(ac) [www.cbec.gov.in/resources//htdocs-cbec/gst/notfctn-300CGST-rate-english.pdf](http://www.cbec.gov.in/resources//htdocs-cbec/gst/notfctn-300CGST-rate-english.pdf).

(iv) **For Indian Consignor Only.** As supply to Project Dantak located outside India, no GST is applicable. Indian consignor / Bidder shall attach undertaking certificate as per the following format mandatorily :-

**UNDERTAKING CERTIFICATE**

"It is certified that the goods / materials given in the Enquiry No 30003 /DTK/19TF/Enq- 45 /E3ES dt 24/10/2024 of HQ CE (P) Dantak will be supplied by me / our firm as export and for use in Bhutan. It is declared that no GST cost has been included by me in the rates quoted in above mentioned enquiry".

Signature with date :  
Name of the bidder :  
Name of firm with address :

(v) Certificate on account of GST as per Rule No 16 (1) of IGST Act 2017 will be issued on receipt of stores as format of certificate is as given under:-

**GST : ZERO RATED SUPPLY CERTIFICATE**

(aa) It is certified that the goods supplied by your firm against SO No 30003/DTK/19TF/SO.... /E3ES dated \_\_\_\_2024 for the cost of Rs\_\_\_\_/- (Rupees \_\_\_\_\_only) is a zerorated supply as per **GST Rule No 16 (1) of IGST Act 2017** as the goods were supplied as an export and to be used in Bhutan by this Project.

(ab) It is further certified that no amount was paid to your firm by this Project on account of GST

Consignee Unit

(vi) **Exemption of BST.** Tax Exemption Certificate for the purchases from Bhutanese Suppliers are applied through RAMIS, hence the Project shall apply for STEC online through RAMIS as and when the purchase is made. The required documents for applying exemption are as follows:-

- (aa) Duly filled ST form I.  
(ab) Letter of undertaking affixed with legal stamp and signed.  
(ac) Duly filled specimen signature from if applying for the first time.  
(ad) Copy of proforma invoice of the materials.

(b) **Force Majeure Clause.** Should any force majeure circumstance arise, each of the contracting, party shall be excused for the non fulfillment or for the delayed fulfillment of any of its contractual obligations, if the affected party within **14 days** of its occurrence informs in a written form the other party. Force majeure shall mean fires, floods, natural disasters or other acts such as war, turmoil, strikes, sabotage explosions, and quarantine restriction beyond the control of either party. **In the event of either party being rendered unable by Force Majeure to perform any obligations required to be performed by them under the purchase order the relative obligations of the party affected by such force majeure shall upon notification to the other party be suspended for the period during which force majeure event lasts. The cost and loss sustained by the either party shall be borne by the respective parties. If the force majeure conditions persist for a period exceeding 90 days the Purchaser reserves the right to cancel the purchase order in full or in part.**

**Consignee, Delivery & Delivery Period.**

14. Supply of all **12 Nos Prefabricated Shelters** will have to be completed within **90 days of approval of pilot sample** from the date of effect of supply order. The stores are required to be delivered as per Appendix 'A' attached to this enquiry to the **consignee unit 504 SS&TC (GREF), Phuentsholing, Bhutan**. The responsibility for loading and unloading of stores including transit loss shall rest with the consignor. The firm who are unable to supply the desired items within original delivery period due to any reason and are contemplating/seeking extension of original delivery period must send their request by email giving detailed reason for seeking original delivery period extension and the request should reach seven clear working days before expiring of original delivery period failing which the supply order will be considered to be terminated and firm will be responsible for the same.

**Part delivery of Pre-Fabricated Shelters (as specified in Appx 'A') will be accepted by the consignee. Following shall be submitted with each lot as specified herein:-**

- (a) **Ink signed copy of invoice in original**
- (b) **CRVs in duplicate**
- (c) **Guarantee/ warranty certificate**
- (d) **Purchase Vouchers**
- (e) **Test Certificates from Approval Govt lab (if applicable)**
- (f) **Copy of Performance Bank Guarantee**
- (g) **Prescribed pre-stamped bills in triplicate.**
- (h) **Manufactures test certificate.**

**Price Adjustment.**

15. No adjustment in the rates after the date of opening of the quotation on account of any increase/decrease in the cost of input or on account of any statutory increase in any taxes or duty is admissible.

16. **Prices.** All the rates/prices mentioned in the purchase order shall remain firm throughout the delivery/ shipment of the goods/ performance of the services. Price escalation on any score whatsoever will NOT be entertained.

**Manufacturer/Authorized Consignor /Distributor.**

17. In case your firm is an original manufacturer of the product or an authorized consignor/ distributor, a certificate to this effect shall be enclosed alongwith product catalogue and company price list, Discount, if any offered thereon shall be specified clearly. If the product is proprietary in nature, certificate to this effect that the firm is sole manufacturer/ consignor /distributor of the product shall be enclosed with the offer.

**Freight/ Warranty**

18. **Freight.** Packaging and freight will be complete responsibility of the consignor. Damages/ losses in transit shall be the responsibility of the consignor upto the delivery location specified by the respective consignees. No defence vehicles will be provided to transport the stores. Stores will be securely packed without any additional cost to the Govt to avoid losses or damages during transit so as to reach this consignee, in perfect serviceable and fit for use condition. The consignor shall remain responsible for adequacy of packages during transit. The packages shall be marked with the Supply order and other necessary details for easy identification at the consignee's end. The consignor will be responsible for unloading at FOR and to ensure that the stores are delivered in sound condition without any damage.

19. **Warranty/Guarantee.** The stores supplied against the supply order shall bear a warranty against defective materials for a period of **Two years** or as specified by the company/ consignor/firm (whichever is higher) from the date of completion of the supply order. In case of manufacturing failure or defect in any component within the warranty period, the consignee shall inform the consignor for joint inspection. Within a period of one week of the receipt of such information, the rejected material shall be removed and replaced by the consignor at the site at his own expense and no extra payment shall be made on this account. All stores to be supplied should be free from all defects and faults in material workmanship and manufacture. They should be of the highest grade and consistent with the established and generally accepted standards for material of the type used and in full conformity with the specifications, drawings or samples and shall, if operable, operate properly. The Consignor shall be bound to furnish a clear written warranty regarding the same. In the event of the ultimate consignee in Bhutan not finding the stores in accordance with the order, the Consignor will be required to replace them free of cost inclusive of all freight and handling charges. Such replacement will be done within ninety days to the claim report raised by the Consignee. These standard conditions will also apply in respect of replaced stores.

**TERMINATION OF PURCHASE ORDER**

20. **Termination for Non-performance.** The Purchaser without prejudice to any other remedy for breach of purchase order, by giving a written notice for non-performance to the Seller/consignor, may terminate the purchase order in whole or in part for following reasons:-

- (a) When the supplier fails to honour any part of the supply order including failure to deliver the supply order stores/ render services in time.

Contd---6/-

- (b) When the contractor is found to have made any false or fraudulent declaration or statement to get the supply order or he is found to be indulging in unethical or unfair trade practices.
- (c) When both parties mutually agree to terminate the supply order.
- (d) When the item offered by the supplier repeatedly fails in the inspection and/or the supplier is not in a position to either rectify the defects or offer items conforming to the stores quality standards.
- (e) Any special circumstances, which must be recorded to justify the cancellation or termination of a supply order.
- (f) If the Seller/ consignor, in the either of the above condition, does not cure his failure within a stipulated period of 30 days (or such a longer period may authorize by the Purchaser in writing) after receipt of notice of non-performance form the Purchaser.

**Contact Address.**

21. For any further information/clarification on the subject the following Officer may be contacted during the office hours (i.e. 0830 Hrs to 1700 Hrs BST except Sunday/Holidays):-

Staff Officer-I (Resources)  
 Headquarters  
 Chief Engineer  
 Project Dantak  
 Tele No .009752351082/86/88  
**e-mail : bro-dtk@nic.in**

22. The accepting officer does not bind himself to accept the lowest quotation or any other quotation and reserves the right to accept or reject any of the quotation either in part or in full without assigning any reasons what so ever thereto.

23. No purchase against this enquiry is guaranteed.

24. The quantities of stores given is/are guidelines and may be Decreased minus (-) 10% according to our requirement at the time of placing of supply order.

25. Quotation received after the expiry of time and date specified in **Para 02** above will not be entertained.

26. **Delivery & Payment Clause.** Delivery schedule of 12 Nos shelters will be completed in three lots within the time period as mentioned below. In case of delivery not being made in under mentioned given schedule, LD clause as per Para 31 will be applicable on the firm. Part payment as per details given below (excluding compulsory deductibles) will be paid to the consigner after successes full delivery of each lot (refer Para 14). Reference is made to Rule 172 (2) of the General Financial Rules (GFR) 2017. A total of 76% of the Supply Order amount will be released on successful delivery of stores as per details given below. Balance 24% of accepted supply order amount will be paid in stages i.e 2% after erection of each shelters. The payment shall be made as per the following:-

Ser No	Details	Lot No	Part payment on completion of supply & acceptance of same by CFA/ BOO	Supply to be completed by
(a)	Completed a supply of Four numbers of Prefabricated Shelters	1 (One)	25 %	Within 45 days of approval of pilot sample
(b)	Completed a supply of Four numbers of Prefabricated Shelters	2 (Two)	25 %	Within 65 days of approval of pilot sample
(c)	Completed a supply of Four numbers of Prefabricated Shelters	3 (Three)	26 %	Within 90 days of approval of pilot sample
(d)	Erection of shelters	-	24% (2% on erection of each shelter)	-

27. **Repeat Order Clause.** The Consignee may order upto 50% qty of SO within six months from the date of successful completion of the supply against this contract and at the same cost, terms and conditions of the contract. The Consignor is bound to supply the material.

28. **Pilot Sample.** The manufacturer will erect a Pilot Sample of Prefabricated Shelters of size 9.76x6.10x2.74m as mentioned in Ser No 2 of Appx 'A' of enquiry at their premises or at F.O.R. location for the inspection of the Consignee and intimate the consignee within 20 days of placing the Supply Order. During the time of Inspection, the manufacturer will submit test certificate obtained from any of the agencies mentioned at Para 5.1 (d) above. Only on approval of Pilot Sample by the representative of the consignee on a formal letter, bulk supply of Prefabricated Shelters will commence. The consignee is empowered to cancel the supply order if the "Pilot Sample" is not fit to be approved.

29. **Inspection** The stores supplied may be inspected by the BOO detailed by the CFA or his authorized rep at time of delivery and should be strictly according to the specifications provided in the supply order. In case the items are found not according to specifications/satisfaction of the Inspecting Officer, the stores are liable to be rejected and will have to be replaced **within 30 days** without any additional cost by the consignor /firms.

30. **LD** The consignor shall be liable to pay liquidated damages and not as a penalty, a sum equivalent to ½% (Half Percent) of the contract/supply order price per week of delay or part thereof. The consignor liability of liquidated damages shall not exceed maximum of 10% (Ten percent) of the contract price. If the delivery is delayed beyond 10 weeks, the consignee may at his own option, terminate the contract / supply order.

31. **Validity** The rates should be valid for 120 days wef the date of submission of the offer.

32. Items should be of same Make/Brand as mentioned in the appendix attached.

33. Mentioning of GSTIN Nos and quoting rates in words is compulsory, without which enquiry will not be considered for placing supply order. Clear description/specification of items is also mandatory.

34. Rates be quoted for items as per specification in enquiry only.

35. **EMD.** In case no supply of stores against this supply order, then EMD/ Performance security/ Bank Guarantee will be ceased by department.

36. Acceptance certificate forward to HQ CE (P) Dantak against this enquiry Supply Order No 30003/DTK/19TF/SO- /E3ES dated\_\_\_\_/ /2024. Format **as per Appendix 'F'**.

**Special Conditions.**

37. **The overall dimensions of the Prefabricated Shelters and the size of sections, all members, doors, windows, ventilators, structural steel members, other steel sections shall conform to the drawings as per Annexure-I to VI attached.**

38. **In case of any ambiguity/ variation between Drawings and Technical Specifications, the details given in drawings will be final.**

39. **For completeness of work, if any fitting or items which may not be specially mentioned in the specification but which are necessary for commissioning of Prefabricated Shelters are to be provided by the consignor without any extra charge.**

40. **Four sets of Erection Tools will be provided by the Manufacturer and consignor to the consignee in separate MS boxes with proper packing.**

41. **Scope of Work.** The scope of work shall be "Supply & Installation of Pre-Fabricated Shelter of Size as per Annexure-I to VI for BRO Personnel and Casual Paid Labours at various locations in AOR of 19 BRTF under Project Dantak in the Bhutan. The contractor shall supply the item mentioned in Appendix 'A' at the F.O.R. place mentioned in accordance to Work Order placed by HQ CE (P) Dantak, as per particulars specifications, including conveyance etc complete in all respects. Intimation for erection of shelters will be given by consignee to the successful bidder for construction of the plinth of a particular shelter.

42. **Colour Code for Prefabricated Shelters.**

The Wall Panel outside PPGI colour will be RAL 1001 and Inside colour will be RAL 9002 / 9003. All Shelter outer flashing shall be provided using 0.60 mm PPGI of RAL 1001 and RAL 9002 / 9003 as per the colour scheme.

43. In addition to the existing facility/provision of receiving bids at HQ CE (P) Dantak and as mentioned in clause 2 of this RFP, a facility has been created on Indian side border town of Jaigaon to facilitate submission of bids by Indian Bidders. The bidders can exercise following option and address:-

(a) **Existing facility at HQ CE (P) Dantak Thimphu:-**

(i) **If sending bids by post:-**

HQ CE (P) Dantak  
PIN - 931 708  
C/o 99 APO

(ii) **Manual Submission** - Dropping of bids in tender box kept in HQ CE (P) Dantak premises.

(a) **Additional facility at Jaigaon:-**

(i) **If sending bids by post:-**

OIC Liaison Cell  
Supervisor Mess, HQ 19 BRTF (GREF)  
Jaigaon (W.B.)  
PIN - 736 182  
Contact details/ Phone No - 9970889254

(ii) **Manual submission**- Dropping of bids in tender Box kept in Supervisor Mess, HQ 19 BRTF (GREF) Jaigaon (W.B.)

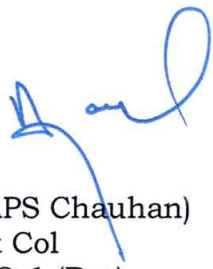
Address:-

OIC Liaison Cell  
Supervisor Mess, HQ 19 BRTF (GREF)  
Jaigaon (W.B.)  
PIN - 736 182  
Contact details/ Phone No - 9970889254

**Please take acknowledgement from OIC Liaison Cell in case of manual submission at Jaigaon**

**Note:-** Last date and time for submission of bids will be same for both the location and bids from both the places will be collected and opened on fixed date by the nominated BOO at HQ CE (P) Dantak.

Your's faithfully,

  
(APS Chauhan)  
Lt Col  
SO-1 (Res)  
for Chief Engineer



## LIST OF STORES

HQ CE (P) Dantak Enq No 30003/DTK/19TF/ENQ- 45 /E3ES dt 24 Jan 2024

Ser No	Nomenclature	A/U	Qty
<b>504 SS&amp;TC (GREF), Phuentsholing, Bhutan</b>			
1	Prefabricated Shelter with partition of size 14.64 x 4.88 x 2.74 m clear height without verandah as per attached specifications marked as <b>Appendix 'G' (Annexure-I)</b> and layout plan marked as <b>Appendix 'H' (Annexure-I)</b> . <b>Remarks :</b> Doors Size-0.915m x 2.08m-02 Nos Windows Size-1.22m x 1.22m-08 Nos	Nos	01
2	Prefabricated Shelter with partition of size 9.76 x 6.10 x 2.74 m clear height with verandah 1.525 m wide in front as per attached specifications marked as <b>Appendix 'G' (Annexure-II)</b> and layout plan marked as <b>Appendix 'H' (Annexure-II)</b> . <b>Remarks :</b> Doors D1 Size -0.915m x 2.08m-03 Nos Doors D2 Size -0.75m x 2.08m-03 Nos Windows Size -0.90m x 1.22m-06 Nos Ventilators Size -0.61m x 0.45 m-03 Nos	Nos	04
3	Prefabricated Shelter of size with partition 9.76 x 6.10 x 2.74 m clear height with verandah 1.525 m wide in front as per attached specifications marked as <b>Appendix 'G' (Annexure-III)</b> and layout plan marked as <b>Appendix 'H' (Annexure-III)</b> . <b>Remarks :</b> Doors D1 -0.915m x 2.08m-04 Nos Doors D2 -0.75m x 2.08m-04 Nos Windows Size -1.22m x 1.22m-08 Nos (Attached toilet will be made with ecolite block)	Nos	03
4	Prefabricated Shelter of size 12.20 x 6.10 x 2.74 m clear height without verandah with false ceiling as per attached specifications marked as <b>Appendix 'G' (Annexure-IV)</b> and layout plan marked as <b>Appendix 'H' (Annexure-IV)</b> . <b>Remarks :</b> Doors D1 Size-0.915m x 2.08m-04 Nos Doors D2 Size-0.75m x 2.08m-01 Nos Windows Size -1.22m x 1.22m-05 Nos Ventilators Size -0.61m x 0.45 m-01 Nos	Nos	01
5	Prefabricated Shelter of size 12.20 x 6.10 x 2.74 m clear height without verandah with false ceiling as per attached specifications marked as <b>Appendix 'G' (Annexure-V)</b> and layout plan marked as <b>Appendix 'H' (Annexure-V)</b> . <b>Remarks :</b> Doors D1 Size -0.915m x 2.08m-03 Nos Windows Size -1.22m x 1.22m-08 Nos	Nos	01
6	Prefabricated Shelters with partition of size 19.52 m x 6.10 m x 2.74 m clear height with verandah 1.525 m wide in front as per attached specifications marked as <b>Appendix 'G' (Annexure-VI)</b> and layout plan marked as <b>Appendix 'H' (Annexure-VI)</b> . <b>Remarks:</b> Doors Size -0.915m x 2.08m-02 Nos Windows W-Size-1.22m x 1.22m-8 Nos Truss-6.1 mtr x 7 Nos Purlin-88 Nos Vertical column-9 Nos of each shelters	Nos	02

Registration No. of Firm  
TIN No. of Firm  
Firm Seal  
Fax & Tele No.

(APS Chauhan)  
Lt Col  
SO -1 (Res)  
for Chief Engineer

**TECHNICAL BID ('T' BID)**

**HQ CE (P) Dantak ENQ No 30003/DTK/19TF/ENQ- 45 /E3ES dt 24 Jan 2024**  
**(As per Clause Para 5)**


PARTICULAR OF FIRM		
SER NO	ITEMS	DETAILS
1.	Name of firms	
2.	Legal Status of the firm	Individual company (Incorporated un-incorporated)/ Partnership firm / public limited
3.	Address	
4.	Contact Telephone, Mobile & Fax No	
5.	E-mail address	
6.	GSTIN No	
7.	PAN No	
8.	Registration details :-	
	(a) Registration/Enlistment No.	
	(b) With whom registered /Enlisted	
	(c) Letter ref under which registered/enlisted.(Enclose copy)	
9.	EMD (For unregistered consignor / firm only) EMD in the form of cheque is not acceptable. EMD be submitted in the form of Fixed Deposit Receipt or Bank Guarantee only	Amount <b>Rs 1,23,500/-</b> Fixed Deposit Receipt or Bank Guarantee Number _____ Dated : _____
Date		(Signature of authorized rep of firm with seal)

Note:

1. Firm enlisted with HQ CE (Project) Dantak need not enclose photocopy of GSTIN No, PAN No and copy of letters reference under which registered. Rest all firms should enclose relevant photocopies.

2. Firms should enclose all relevant documents as mentioned under Para 5 of this Enquiry in addition to the above details, failing which the firm will be rejected during 'T' Bid evaluation.

(Signature of consignor)

  
 (APS Chauhan)  
 Lt Col  
 SO-1 (Res)  
 for Chief Engineer

## PRICE BID ('Q' BID)

HQ CE (P) Dantak ENQ No 30003/DTK/19TF/ENQ- 45 /E3ES dt 24 Jan 2024

Ser No	Nomenclature	A/U	Qty	Basic Price (Unit price)	Freight Charges	Total Amount
<b>504 SS&amp;TC (GREF), Phuentsholing, Bhutan</b>						
1	Prefabricated Shelter with partition of size 14.64 x 4.88 x 2.74 m clear height without verandah as per attached specifications marked as <b>Appendix 'G' (Annexure-I)</b> and layout plan marked as <b>Appendix 'H' (Annexure-I)</b> . <b>Remarks :</b> Doors Size-0.915m x 2.08m-02 Nos Windows Size-1.22m x 1.22m-08 Nos	Nos	01			
2	Prefabricated Shelter with partition of size 9.76 x 6.10 x 2.74 m clear height with verandah 1.525 m wide in front as per attached specifications marked as <b>Appendix 'G' (Annexure-II)</b> and layout plan marked as <b>Appendix 'H' (Annexure-II)</b> . <b>Remarks :</b> Doors D1 Size -0.915m x 2.08m-03 Nos Doors D2 Size -0.75m x 2.08m-03 Nos Windows Size -0.90m x 1.22m-06 Nos Ventilators Size -0.61m x 0.45 m-03 Nos	Nos	04			
3	Prefabricated Shelter of size with partition 9.76 x 6.10 x 2.74 m clear height with verandah 1.525 m wide in front as per attached specifications marked as <b>Appendix 'G' (Annexure-III)</b> and layout plan marked as <b>Appendix 'H' (Annexure-III)</b> . <b>Remarks :</b> Doors D1 -0.915m x 2.08m-04 Nos Doors D2 -0.75m x 2.08m-04 Nos Windows Size -1.22m x 1.22m-08 Nos (Attached toilet will be made with ecolite block)	Nos	03			
4	Prefabricated Shelter of size 12.20 x 6.10 x 2.74 m clear height without verandah with false ceiling as per attached specifications marked as <b>Appendix 'G' (Annexure-IV)</b> and layout plan marked as <b>Appendix 'H' (Annexure-IV)</b> . <b>Remarks :</b> Doors D1 Size-0.915m x 2.08m-04 Nos Doors D2 Size-0.75m x 2.08m-01 Nos Windows Size -1.22m x 1.22m-05 Nos Ventilators Size -0.61m x 0.45 m-01 Nos	Nos	01			
5	Prefabricated Shelter of size 12.20 x 6.10 x 2.74 m clear height without verandah with false ceiling as per attached specifications marked as <b>Appendix 'G' (Annexure-V)</b> and layout plan marked as <b>Appendix 'H' (Annexure-V)</b> . <b>Remarks :</b> Doors D1 Size -0.915m x 2.08m-03 Nos Windows Size -1.22m x 1.22m-08 Nos	Nos	01			
6	Prefabricated Shelters with partition of size 19.52 m x 6.10 m x 2.74 m clear height with verandah 1.525 m wide in front as per attached specifications marked as <b>Appendix 'G' (Annexure-VI)</b> and layout plan marked as <b>Appendix 'H' (Annexure-VI)</b> . <b>Remarks:</b> Doors Size -0.915m x 2.08m-02 Nos Windows W-Size-1.22m x 1.22m-8 Nos Truss-6.1 mtr x 7 Nos Purlin-88 Nos Vertical column-9 Nos of each shelters	Nos	02			
<b>Total cost</b>						
(In words _____)						

Registration No. of Firm

TIN No. of Firm

Firm Seal

Fax &amp; Tele No.

(APS Chauhan)

Lt Col

SO -1 (Res)

for Chief Engineer

Contd---12/-

**EMD BANK GUARANTEE FORMAT**

**HQ CE (P) Dantak ENQ No 30003/DTK/19TF/ENQ- 45 /E3ES dt 24 Jan 2024**

Whereas .....(hereinafter called the "Bidder") has submitted their offer against enquiry No 30003/DTK/19TF/ENQ- 45 /E3ES dated 24/01/2024 for the supply of stores (hereinafter called the "Bid") against the Buyer's Request for proposal No 30003/DTK/19TF/SO- /E3ES dated \_\_\_/ /2024 KNOW ALL MEN by these presents that we .....of.....having our registered office at.....are bound unto.....(hereinafter called the "Buyer) in the sum of .....for which payment will and truly to be made to the said Buyer, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this ..... day of \_\_\_ ie 2024.

The conditions of obligations are:-

1. If the Bidder withdraws or amends, impairs or derogates from the Bid in any respect within the period of validity of this tender.
2. If the Bidder having been notified of the acceptance of his tender by the Buyer during the period of its validity.
3. If the Bidder fails to furnish the Performance Security for the due performance of the supply order.
4. Fails or refuses to accept/execute the supply order.

WE undertake to pay the Buyer up to the above amount upon receipt of its first written demand, without the Buyer having to substantiate its demand, provided that in its demand the Buyer will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions. This guarantee will remain in force upto and including 90 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

.....  
.....  
.....  
.....

(Signature of the authorized officer of the Bank)  
Name and designation of the officer  
Seal, name & address of the Bank and address of the Branch

**PERFORMANCE BANK GUARANTEE FORMAT****HQ CE (P) Dantak ENQ No 30003/DTK/19TF/ENQ- 45 /E3ES dt 24 Jan 2024****From:****Bank** \_\_\_\_\_

To,

.....  
.....  
.....  
.....

Dear Sir,

1. Whereas you have entered into a supply order No 30003/DTK/19TF/SO- /E3ES dated \_\_\_\_/\_\_\_\_/2024 (hereinafter referred to as the said supply order) with \_\_\_\_\_, hereinafter referred to as the "seller/consignor" for supply of goods as per Part-II of the said supply order to the said seller/consignor and whereas the Seller/consignor has undertaken to produce a bank guarantee for (5%) of total supply order value amounting to \_\_\_\_\_ to secure its obligations to the HQ CE (P) Dantak. We the \_\_\_\_\_ bank hereby expressly, irrevocably and unreservedly undertake and guarantee as principal obligors on behalf of the seller/consignor that, in the event that the HQ CE (P) Dantak declares to us that the goods have not been supplied according to the performance obligations under the aforementioned supply order, we will pay you, on demand and without demur, all and any sum up to a maximum of \_\_\_\_\_ (Rupees \_\_\_\_\_ only). Your written demand shall be conclusive evidence to us that such repayment is due under the terms of the said supply order. We undertake to effect payment upon receipt of such written demand.

2. We shall not be discharged or released from this undertaking and guarantee by any arrangements, variations made between you and the Seller/consignor, indulgence to the Seller/consignor by you, or by any alterations in the obligations of the Seller/consignor or by any forbearance whether as to payment, time performance or otherwise.

3. In no case shall the amount of this guarantee be increased.

4. This guarantee shall remain valid for ..... months from the date of acceptance of consignment in India/Bhutan or until all the store, spares and documentation have been supplied according to the performance obligations under the said supply order at the destination FOR.

5. Unless a demand or claim under this guarantee is made on us in writing or on before the aforesaid expiry date as provided in the above referred supply order or unless this guarantee is extended by us, all your rights under this guarantee shall be forfeited and we shall be discharged from the liabilities hereunder.

6. This guarantee shall be a continuing guarantee and shall not be discharged by and change in the constitution of the Bank or in the constitution of M/s \_\_\_\_\_.

Appendix 'F'**FORMAT OF CERTIFICATE OF ACCEPTANCE****HQ CE (P) Dantak ENQ No 30003/DTK/19TF/ENQ- 45 /E3ES dt 24 Jan 2024****CERTIFICATE OF ACCEPTANCE**

1. Certified that the M/s \_\_\_\_\_, hereby accepts the supply order No 30003/DTK/19TF/SO- \_\_\_\_\_/E3ES dated \_\_\_\_/\_\_\_\_/2024 of the against enquiry No 30003/DTK/19TF/ENQ- 45 /E3ES dated 24/01/2024 as per the supply order assigned to them and handed over the same to HQ CE (P) Dantak at \_\_\_\_\_ hours, on this \_\_\_\_ day of the month \_\_\_\_ in the year two thousand and Twenty Two.
2. The the list of liabilities as on date is placed at annexure to this certificate.
3. Signed on \_\_\_\_ Day of \_\_\_\_ Two Thousand and Twenty Two.

\_\_\_\_\_  
 REP  
 FOR AND ON BEHALF OF  
 THE CHIEF ENGINEER PROJECT DANTAK

\_\_\_\_\_  
 REP OF  
 M/s \_\_\_\_\_

Note. This certificate of acceptance will remain in force till the validity of supply order.

APPX G  
Annex I

①

**DETAILED TECH SPECIFICATION FOR PRE FABRICATED SHED SIZE  
14.64 M X 4.88 M X 2.74 M WITHOUT VERANDAH WITH FALSE CEILING  
(LAYOUT PLAN - ANNEXURE I)**

**GENERIC**

Type of PREFAB Hut/House	With partition wall
Pre-fabricated huts having	With partition wall <sup>w/o</sup> <del>with</del> verandah, (i) Doors D1 – 0.915 m x 2.08 m - 02 Nos (ii) Windows W – 1.22 m x 1.22 m - 08 Nos (iii) fabricated steel trusses, purlins and vertical column – As per DGS&D drawing No. 113 (Version 2003) and false ceiling of each sheet.
Roof Type of Prefab Hut/ House	Roof of corrugated preprinted galvanized steel sheet.
Pre-fabricated Huts to be manufactured by using	Double skin insulated flat cement sheet/board (asbestos fiber) panels for wall and GCI sheet roof.
Scope of supply (Offer price to include all cost components)	Supply, Installation, Testing and commissioning of Huts/House.
Transportations/Freight Charges	Offr Prices are on Free delivery at consignee site basis.
approval of Advance sample before Bulk Supply	After award of contract seller shall gave to get Advance sample approved from Buyer before manufacturing/starting Bulk supplies. Buyer shall approved/provide list of modification required within 10 days of offer of advance sample. If there is delay in approval of advance sample from buyer side, the delivery period shall be regularized for the period of delay in sample approval.
Foundation for Prefab Hut	Building of foundation at site shall be the responsibility of the consignee and the seller shall install/Erect and Commission the structure on the foundation constructed upto plinth level by the Consignee.
Time period for completion of erection work at site by seller	Within 45 days of the date of receipt of consignee/s confirmation regarding completion of ground and foundation work.
Suitability/Structural Stability/Completeness of Structures, the structure is intended for use in	In wind conditions of 55 m/s, in seismic zone V and ambient temperature of -5 degree c to 50 degree C considering snow load of 6 inches. Huts should be structurally stable and suitable to meet severity of these climatic condition.
Type of glass fitted on windows/Ventilators	Pin head type, Plain
<b><u>DESIGN/MATERIAL OF WALL PANELS</u></b>	
Design of wall panel	As per GeM DRG. No. 121 & 123 (Version-2015)
Wall made in sandwich panel system using 2 Numbers 10 mm thick cement flat sheets/ boards (Asbestos free ) as skin conforming to	IS 14276 Latest as amended uptodate, category 3 Type B of IS 14862: 2000 latest as amended up to date.

R

Sandwich material-27 mm gap in between wall skins to be filled with

27 mm thick expanded polystyrene core having bulk density of 15 kg/cum conforming to IS 4671 : 1984 type I (Latest)

Panel strengthened on all four sides

By 'W' shaped pre-profiled steel section made from 0.63 GI steel sheet/Coil.

Cement sheet and expanded polystyrene core to be bonded together using bonding material

PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.

'U' shaped ground/track size (panels to be inserted on by one)

52 mm X 35 mm X 1.25 mm made from GI steel sheet/coil.

Bottom track to be fixed

To the concrete platform at plinth level by suitable fasteners screwed into PVC Expandable screw cap

Interlocking of wall panel (lengthwise)

Using cold formed rectangular hollow steel section of size 50mm X 25 mm X 1.25 mm

Wall corners to be concealed

With corner angle of 125mm X 125 mm X 125mm made from GI steel sheet/coil

Top of walls to be concealed

With 'U' shaped top track of size 52.5 mm X35 mm X 1.25 mm made from GI steel sheet/coil

Sellers are free to adopt higher sizes/reinforcement

For better fitment of mating of components or for improved stability

**FALSE CEILING**

Design of false ceiling

As per GeM DRG No 127 (Version-2015)

False ceiling of size 610 mm X 1220 mm made of one number cement flat board (6mm thick-asbestos free) bonded with expanded polystyrene core (32 mm thick having bulk density of 15 kg/ cum conforming to IS 4671/Latest cement flat board conforming to

IS 12476/Latest, category 3 type B of IS 14862/Latest

Roof Cement sheet and expanded polystyrene core to be bonded together using bonding material

PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.

False ceiling panels to be placed on suspended grid frame of sides

610 mm X 1220 mm made from GI "L" & "T" sections of 0.63 mm conforming to IS 277/Latest having min. GSM of 120 gms.

False ceiling grid to be Suspended from the roof Frame work with the help of galvanized wire of id (Minimum)

3 mm

Finished clear Height of false ceiling

2740 mm

Water proofness of false ceiling panels

To be properly packed with polythene sheets



**ROOF & ROOF FRAME WORK**

Design for roof	As per GeM DRG. No. 119 (Version-2015)
Wall height at eaves and central gable	2750mm at eaves and 3360 mm at central gable
Roof to be done with	Galvanised corrugated sheets of 0.63 mm thickness conforming to IS 277/ Latest having min.275 gsm galvanizing ,corrugated prepainted galvanized steel sheets and prepainted galvanized steel sheet ridge cover with thickness of BMT 0.63 mm conforming to IS 1426/Latest. Top coat of sheet shall be PVDE/Sillicon modified Polyester having thickness of 20 micro (Min) and Back coat shall be of Alkaloid epoxy or polyester having thickness of 7 micron (Min). A protection sheet (Polyethylene) shall also be provided on top coat of the sheet for transport. The durability of paint coating shall correspond to class 1 as per table-1 of IS : 14246:2013. (Colour shade of exterior finish shall be olive Green of colour code RAL6028. The seller shall furnish manufacture's test certificate indicating material of coating and suitability of exterior application.
Roof to be laid over	Frame work of trusses-columns and purlins fixed using Self tapping screws with rubber washer.
Size of Ridge cover to be fixed on top junction of roof of same material as Roof.	225 X225 X 0.63 mm
Roof slope	1:4 (appeox)
Purlin to be provided on the roof	Of size 66 X 33X 2.9 mm at the eaves and at gable roof extension (out side the structure)
Roof projection in case on no verandah (In front)	Min. 400 mm from the eaves wall and 300 mm from gable walls.
Roof projection	As per GeM DRG No.109 & 119 (Version-2015)
Purlin provided on the trusses	At a max pitch of 1000 mm or less and are fixed and flushed with the top level of trusses with the hilp off 5 mm thick MS end plates and 10 mm nuts/bolts.
Column to be welded	With 5mm thick MS end plate and to be fixed to the foundation bolts through this plate.
Trusses/purlins to be Fixed	Using 5mm thick MS end plates and 10 mm nuts and bolts
Trusses (Supported on truss column) provided at a distance of	2440 mm
Trusses and Purlin to be made of	Rectangular hollow sections of size 66 X 33 X 2.9 mm conforming to IS 4923/Latest duly ISI marked.
Truss columns to be made of	Rectangular hollow steel sections of size 96 X 48 X 3.2 mm conforming to IS 4923/Latest duly ISI marked.
Roof structural frame work	As pe GeM DRG. No.119-120a-120b &121 (Version -2015)

R

**VERANDAH & DOORS**

Width of verandah	1525 mm
Clear height of verandah	2280 mm
Verandah roof to be made of	GI (Continues provided along the roof of the structure)
Purlin provided to verandah Structure	To be made of rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10 mm nut/bolts.
Verandah columns to be made of	Rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10mm nut/bolts.
Door frame to be made from	Pressed steel four sided from using CR stell of size 75 X 45 X 1.5 mm thickness confmg. To ISI 513/latest.
Door Hinges	4nos 100mm MS hinges welded on to the frame
Door shutter made of	30 mm thick flush door confmg to IS 2202 (Part-1)/latest.
Door shutter to be fixed with	Door frame with 4nos MS oxidized hinges of 100mm length
Door aldrops	To be provided 2 nos. MS oxidized of 300mm length
Door tower bolts	MS oxidized of size 200mm at top and 100 mm at bottom on each shutter
Door handles	2 nos. 150 mm long handles

**WINDOWS & VENTILATORS**

Windows	As per GeM DRG No.125 (VERSION-2015)
Ventilators	As per GeM DRG No. 126 (VERSION-2015)
Frame material of windows/ventilators	Made from pressed steel using CR steel of size 75 X 45 X 1.5mm (thickness) conforming to IS 513/Latest
Hinges for windows	6 Nos. 75mm MS butt hinges welded on the frame
Hinges for ventilators	2 Nos 75 mm MS butt hinges welded on to the frame
Grills/windows/Ventilators	Made from MS square bar of 8 mm having equal spacing of 125 mm.
Shutter material for windows/Ventilators	Made out of steel rectangular hollow box profile of 1.25mm thick as per drawing ,fabricated type.
Each window shutter consist of	MS oxidized handle of 150 mm-2 Nos.MS oxidized tower bulls of 100mm and 1 No window stay.
Each ventilator shutter (Internal) consist of	1 No stay hook

8

Glass sheet for windows/ventilators

Of 4mm thickness to be fixed using glass putty

Annex G, Annex I

**COLOUR & FINISH**

MS Steel members

To be supplied with one coat of red oxide primer coating.

**WARRANTY**

Warranty period in number of years

1

**CERTIFICATION**

Test reports to be furnished to consignee

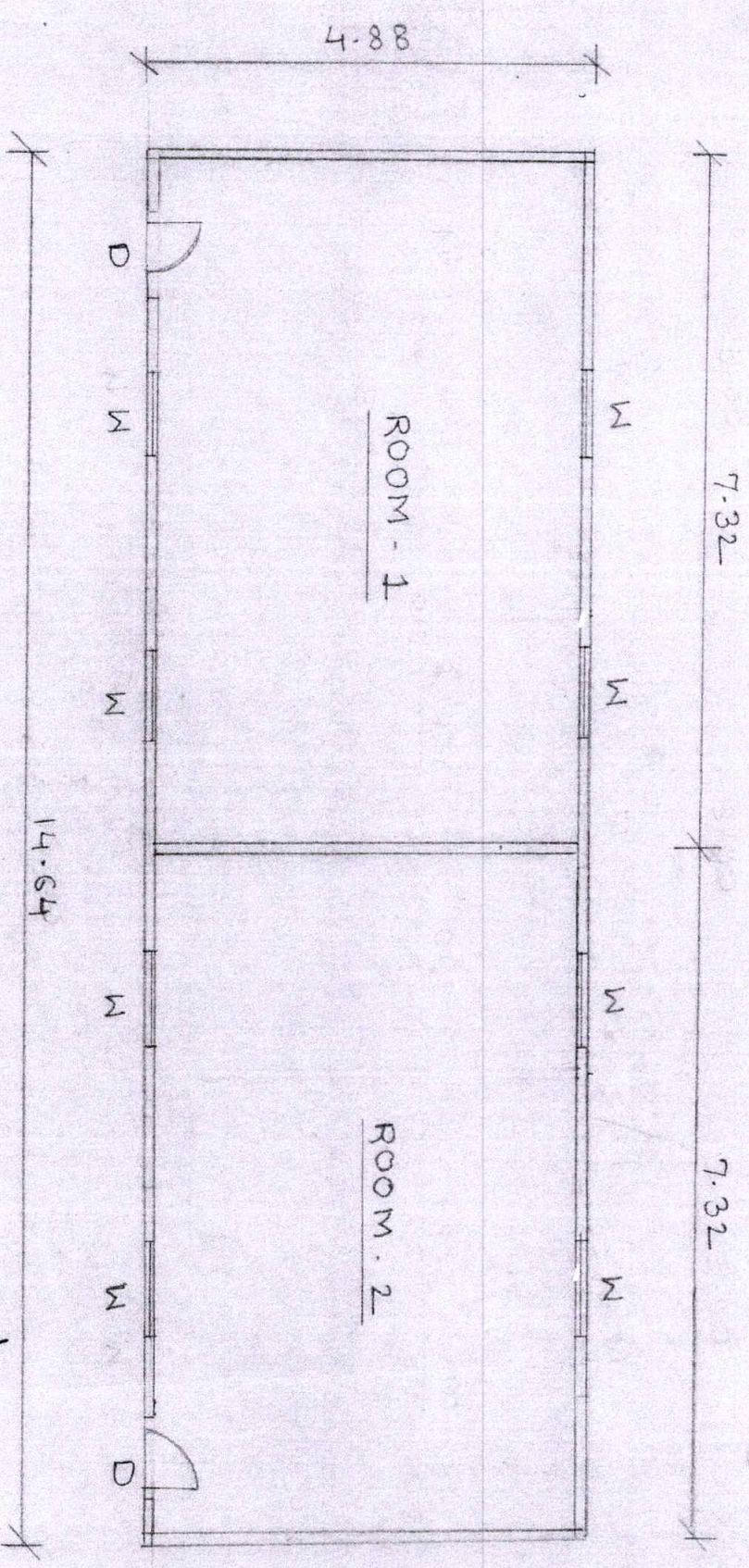
Yes

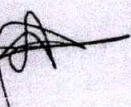
(Swatanter)  
Major  
Officer Commanding  
102 RCC (GREF)

14.64 x 4.88 + 2.74 m without verandah

Appx. 'H'

Annex - II



  
(ASHISH RANA)  
Major  
Officer Commanding  
102 RCC(GREF)

APPX G, Annex II

**DETAILED TECH SPECIFICATION FOR PRE FABRICATED SHED SIZE  
9.76 M X 6.10 M X 2.74 M WITH FALSE CEILING AND 1.525 M VERANDAH  
(LAYOUT PLAN - ANNEXURE II)**

**GENERIC**

Type of PREFAB Hut/House	With partition wall
Pre-fabricated huts having	With partition wall with verandah, (i) Doors D1 – 0.915 m x 2.08 m - 03 Nos (ii) Doors D2 – 0.75 m x 2.08 m - 03 Nos (iii) Windows W – 0.90 m x 1.22 m - 06 Nos (iv) Ventilators V- 0.61 m x 0.45 m – 03 Nos (v) fabricated steel trusses, purlins and vertical column – As per DGS&D drawing No. 118 (Version 2015) and false ceiling of each sheet.
Roof Type of Prefab Hut/ House	Roof of corrugated preprinted galvanized steel sheet.
Pre-fabricated Huts to be manufactured by using	Double skin insulated flat cement sheet/board (asbestos fiber) panels for wall and GCI sheet roof.
Scope of supply (Offer price to include all cost components)	Supply, Installation, Testing and commissioning of Huts/House.
Transportations/Freight Charges	Offer Prices are on Free delivery at consignee site basis.
approval of Advance sample before Bulk Supply	After award of contract seller shall give to get Advance sample approved from Buyer before manufacturing/starting Bulk supplies. Buyer shall approved/provide list of modification required within 10 days of offer of advance sample. If there is delay in approval of advance sample from buyer side, the delivery period shall be regularized for the period of delay in sample approval.
Foundation for Prefab Hut	Building of foundation at site shall be the responsibility of the consignee and the seller shall install/Erect and Commission the structure on the foundation constructed upto plinth level by the Consignee.
Time period for completion of erection work at site by seller	Within 45 days of the date of receipt of consignee/s confirmation regarding completion of ground and foundation work.
Suitability/Structural Stability/Completeness of Structures, the structure is intended for use in	In wind conditions of 55 m/s, in seismic zone V and ambient temperature of -5 degree c to 50 degree C considering snow load of 6 inches. Huts should be structurally stable and suitable to meet severity of these climatic condition.
Type of glass fitted on windows/Ventilators	Pin head type, Plain

**DESIGN/MATERIAL OF WALL PANELS**

Design of wall panel	As per GeM DRG. No. 121 & 123 (Version-2015)
Wall made in sandwich panel system using 2 Numbers 10 mm thick cement flat sheets/ boards (Asbestos free ) as skin conforming to	IS 14276 Latest as amended upto date, category 3 Type B of IS 14862: 2000 latest as amended up to date.

✓

Sandwich material-27 mm gap in between wall skins to be filled with  
Panel strengthened on all four sides

Cement sheet and expanded polystyrene core to be bonded together using bonding material

'U' shaped ground/track size (panels to be inserted on by one)

Bottom track to be fixed

Interlocking of wall panel (lengthwise)

Wall corners to be concealed

Top of walls to be concealed

Sellers are free to adopt higher sizes/reinforcement

### **FALSE CEILING**

Design of false ceiling

False ceiling of size 610 mm X 1220 mm made of one number cement flat board (6mm thick-asbestos free) bonded with expanded polystyrene core (32 mm thick having bulk density of 15 kg/ cum conforming to IS 4671/Latest cement flat board conforming to

Roof Cement sheet and expanded polystyrene core to be bonded together using bonding material

False ceiling panels to be placed on suspended grid frame of sides

False ceiling grid to be Suspended from the roof Frame work with the help of galvanized wire of id (Minimum)  
Finished clear Height of false ceiling  
Water proofness of false ceiling panels

27 mm thick expanded polystyrene core having bulk density of 15 kg/cum conforming to IS 4671 : 1984 type I (Latest) <sup>Appx G, Annex II</sup>

By 'W' shaped pre-profiled steel section made from 0.63 GI steel sheet/Coil.

PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.

52 mm X 35 mm X 1.25 mm made from GI steel sheet/coil.

To the concrete platform at plinth level by suitable fasteners screwed into PVC Expandable screw cap

Using cold formed rectangular hollow steel section of size 50mm X 25 mm X 1.25 mm

With corner angle of 125mm X 125 mm X 125mm made from GI steel sheet/coil.

With 'U' shaped top track of size 52.5 mm X35 mm X 1.25 mm made from GI steel sheet/coil

For better fitment of mating of components or for improved stability

As per GeM DRG No 127 (Version-2015)

IS 12476/Latest, category 3 type B of IS 14862/Latest

PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.

610 mm X 1220 mm made from GI "L" & "T" sections of 0.63 mm conforming to IS 277/Latest having min. GSM of 120 gms.

3 mm

2740 mm

To be properly packed with polythene sheets

**ROOF & ROOF FRAME WORK**

Design fo roof

As per GeM DRG. No. 119 (Version-2015)

Wall height at eaves and central gable

2750mm at eaves and 3360 mm at central gable

Roof to be done with

Galvanised corrugated sheets of 0.63 mm thickness conforming to IS 277/ Latest having min.275 gsm galvanizing ,corrugated prepainted galvanized steel sheets and prepainted galvanized steel sheet ridge cover with thickness of BMT 0.63 mm conforming to IS 1426/Latest. Top coat of sheet shall be PVDE/Silicon modified Polyester having thickness of 20 micro (Min) and Back coat shall be of Alkaloid epoxy or polyester having thickness of 7 micron (Min). A protection sheet (Polyethylene) shall also be provided on top coat of the sheet for transport. The durability of paint coating shall correspond to class 1 as per table-1 of IS : 14246:2013. (Colour shade of exterior finish shall be olive Green of colour code RAL6028. The seller shall furnish manufacture's test certificate indicating material of coating and suitability of exterior application.

Roof to be laid over

Frame work of trusses-columns and purlins fixed using Self tapping screws with rubber washer.

Size of Ridge cover to be fixed on top junction of roof of same material as Roof.

225 X225 X 0.63 mm

Roof slope

1:4 (appeox)

Purlin to be provided on the roof

Of size 66 X 33X 2.9 mm at the eaves and at gable roof extension (out side the structure)

Roof projection in case on no verandah (In front)

Min. 400 mm from the eaves wall and 300 mm from gable walls.

Roof projection

As per GeM DRG No.109 & 119 (Version-2015)

Purlin provided on the trusses

At a max pitch of 1000 mm or less and are fixed and flushed with the top level of trusses with the hilp off 5 mm thick MS end plates and 10 mm nuts/bolts.

Column to be welded

With 5mm thick MS end plate and to be fixed to the foundation bolts through this plate.

Trusses/purlins to be Fixed

Using 5mm thick MS end plates and 10 mm nuts and bolts

Trusses (Supported on truss column) provided at a distance of  
Trusses and Purlin to be made of

2440 mm

Rectangular hollow sections of size 66 X 33 X 2.9 mm conforming to IS 4923/Latest duly ISI marked.

Truss columns to be made of

Rectangular hollow steel sections of size 96 X 48 X 3.2 mm conforming to IS 4923/Latest duly ISI marked.

Roof structural frame work

As pe GeM DRG. No.119-120a-120b &121 (Version -2015)

**VERANDAH & DOORS**

Width of verandah	1525 mm
Clear height of verandah	2280 mm
Verandah roof to be made of	GI (Continues provided along the roof of the structure)
Purlin provided to verandah Structure	To be made of rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10 mm nut/bolts.
Verandah columns to be made of	Rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10mm nut/bolts.
Door frame to be made from	Pressed steel four sided from using CR steel of size 75 X 45 X 1.5 mm thickness confmg. To ISI 513/latest.
Door Hinges	4nos 100mm MS hinges welded on to the frame
Door shutter made of	30 mm thick flush door confmg to IS 2202 (Part-1)/latest.
Door shutter to be fixed with	Door frame with 4nos MS oxidized hinges of 100mm length
Door aldrops	To be provided 2 nos. MS oxidized of 300mm length
Door tower bolts	MS oxidized of size 200mm at top and 100 mm at bottom on each shutter
Door handles	2 nos. 150 mm long handles

**WINDOWS & VENTILATORS**

Windows	As per GeM DRG No.125 (VERSION-2015)
Ventilators	As per GeM DRG No. 126 (VERSION-2015)
Frame material of windows/ventilators	Made from pressed steel using CR steel of size 75 X 45 X 1.5mm (thickness) conforming to IS 513/Latest
Hinges for windows	6 Nos. 75mm MS butt hinges welded on the frame
Hinges for ventilators	2 Nos 75 mm MS butt hinges welded on to the frame
Grills/windows/Ventilators	Made from MS square bar of 8 mm having equal spacing of 125 mm.
Shutter material for windows/Ventilators	Made out of steel rectangular hollow box profile of 1.25mm thick as per drawing ,fabricated type.
Each window shutter consist of	MS oxidized handle of 150 mm-2 Nos.MS oxidized tower bulls of 100mm and 1 No window stay.
Each ventilator shutter (Internal) consist of	1 No stay hook





Glass sheet for windows/ventilators

Of 4mm thickness to be fixed using glass putty

Appx 'G' Annex II

**COLOUR & FINISH**

MS Steel members

To be supplied with one coat of red oxide primer coating.

**WARRANTY**


Warranty period in number of years

1

**CERTIFICATION**

Test reports to be furnished to consignee

Yes

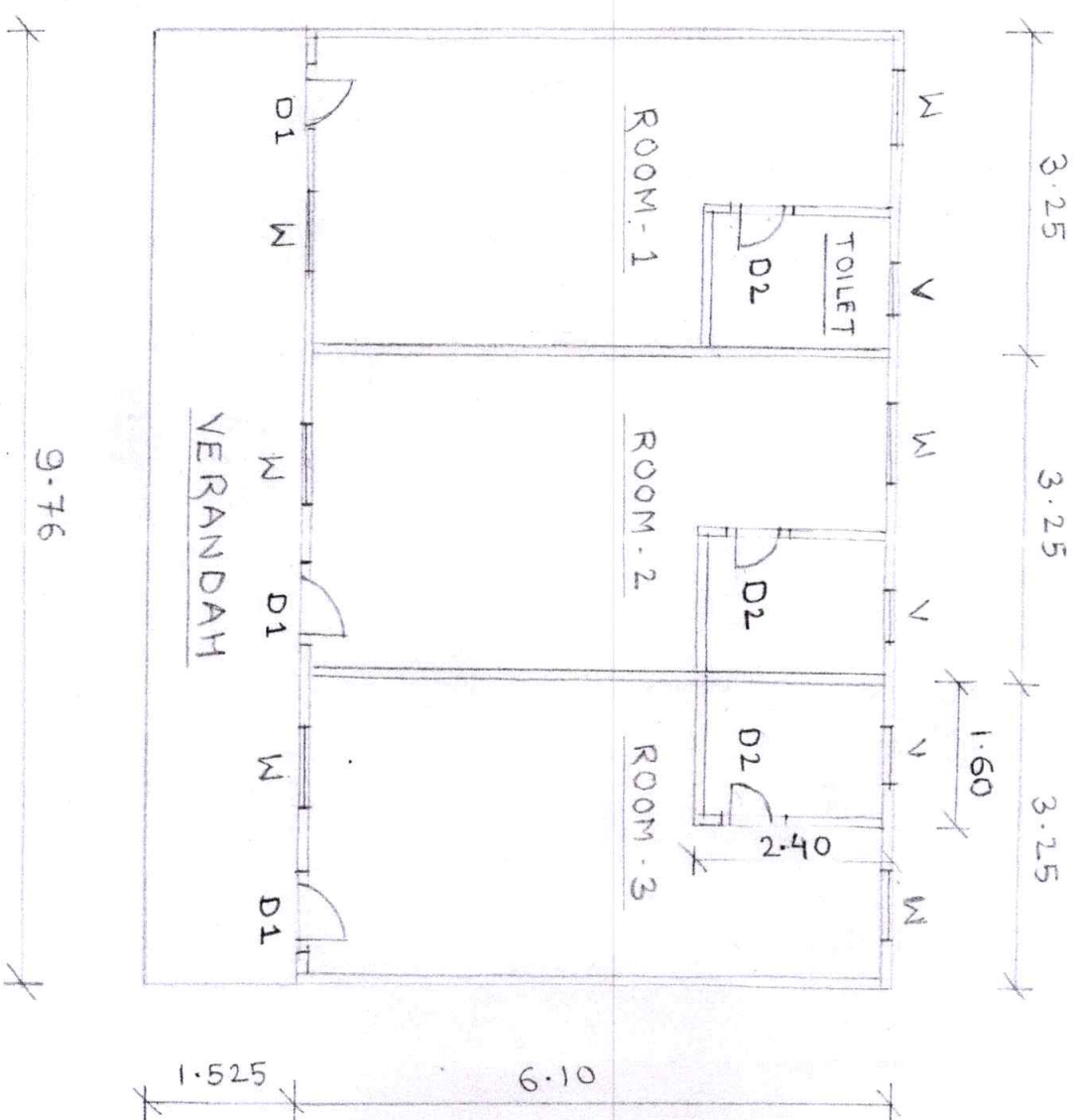


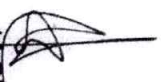
(Swatanter)  
Major  
Officer Commanding  
102 RCC (GREF)

9.186 x 6.10 x 2.34 m with verandah

Appx H'

Annex-II



  
(ASHISH RANA)  
Major  
Officer Commanding  
102 RCC(GREF)



APPX G, Annex III

3

**DETAILED TECH SPECIFICATION FOR PRE FABRICATED SHED SIZE  
9.76 M X 6.10 M X 2.74M WITH FALSE CEILING AND 1.525 M VERANDAH  
(LAYOUT PLAN - ANNEXURE - III)**

**GENERIC**

Type of PREFAB Hut/House	With partition wall
Pre-fabricated huts having	With partition wall with verandah, (i) Doors D1 = 0.915 m x 2.08 m - 04 Nos (ii) Doors D2 - 0.75 m x 2.08 m - 04 Nos (iii) Windows W - 1.22 m x 1.22 m - 08 Nos (iv) fabricated steel trusses, purlins and vertical column - As per DGS&D drawing No. 118 (Version - 2015) and false ceiling of each sheet.
Roof Type of Prefab Hut/ House	Roof of corrugated preprinted galvanized steel sheet.
Pre-fabricated Huts to be manufactured by using	Double skin insulated flat cement sheet/board (asbestos fiber) panels for wall and GCI sheet roof.
Scope of supply (Offer price to include all cost components)	Supply, Installation, Testing and commissioning of Huts/House.
Transportations/Freight Charges	Offer Prices are on Free delivery at consignee site basis.
approval of Advance sample before Bulk Supply	After award of contract seller shall give to get Advance sample approved from Buyer before manufacturing/starting Bulk supplies. Buyer shall approved/provide list of modification required within 10 days of offer of advance sample. If there is delay in approval of advance sample from buyer side, the delivery period shall be regularized for the period of delay in sample approval.
Foundation for Prefab Hut	Building of foundation at site shall be the responsibility of the consignee and the seller shall install/Erect and Commission the structure on the foundation constructed upto plinth level by the Consignee.
Time period for completion of erection work at site by seller	Within 45 days of the date of receipt of consignee/s confirmation regarding completion of ground and foundation work.
Suitability/Structural Stability/Completeness of Structures, the structure is intended for use in	In wind conditions of 55 m/s, in seismic zone V and ambient temperature of -5 degree c to 50 degree C considering snow load of 6 inches. Huts should be structurally stable and suitable to meet severity of these climatic condition.
Type of glass fitted on windows/Ventilators	Pin head type, Plain

**DESIGN/MATERIAL OF WALL PANELS**

Design of wall panel	As per GeM DRG. No. 121 & 123 (Version-2015)
Wall made in sandwich panel system using 2 Numbers 10 mm thick cement flat sheets/ boards (Asbestos free ) as skin conforming to	IS 14276 Latest as amended upto date, category 3 Type B of IS 14862: 2000 latest as amended up to date.

D

Sandwich material-27 mm gap in between wall skins to be filled with

27 mm thick expanded polystyrene core having bulk density of 15 kg/cum conforming to IS 4671 : 1984 type I (Latest)  
By 'W' shaped pre-profiled steel section made from 0.63 GI steel sheet/Coil.

Panel strengthened on all four sides

Cement sheet and expanded polystyrene core to be bonded together using bonding material

PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.

'U' shaped ground/track size (panels to be inserted on by one)

52 mm X 35 mm X 1.25 mm made from GI steel sheet/coil.

Bottom track to be fixed

To the concrete platform at plinth level by suitable fasteners screwed into PVC Expandable screw cap

Interlocking of wall panel (lengthwise)

Using cold formed rectangular hollow steel section of size 50mm X 25 mm X 1.25 mm

Wall comers to be concealed

With corner angle of 125mm X 125 mm X 125mm made from GI steel sheet/coil

Top of walls to be concealed

With 'U' shaped top track of size 52.5 mm X35 mm X 1.25 mm made from GI steel sheet/coil

Sellers are free to adopt higher sizes/reinforcement

For better fitment of mating of components or for improved stability

### FALSE CEILING

Design of false ceiling

As per GeM DRG No 127 (Version-2015)

False ceiling of size 610 mm X 1220 mm made of one number cement flat board (6mm thick-asbestos free) bonded with expanded polystyrene core (32 mm thick having bulk density of 15 kg/ cum conforming to IS 4671/Latest cement flat board conforming to

IS 12476/Latest, category 3 type B of IS 14862/Latest

Roof Cement sheet and expanded polystyrene core to be bonded together using bonding material

PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.

False ceiling panels to be placed on suspended grid frame of sides

610 mm X 1220 mm made from GI "L" & "T" sections of 0.63 mm conforming to IS 277/Latest having min. GSM of 120 gms.

False ceiling grid to be Suspended from the roof Framework with the help of galvanized wire of id (Minimum)

3 mm

Finished clear Height of false ceiling

2740 mm

Water proofness of false ceiling panels

To be properly packed with polythene sheets

R

## ROOF & ROOF FRAME WORK

Design for roof

ADG, Annex III

Wind height at eaves and central gable

As per GeM DRG. No. 119 (Version-2015)

2750mm at eaves and 3360 mm at central gable

Roof to be done with

Galvanised corrugated sheets of 0.63 mm thickness conforming to IS 277/ Latest having min.275 gsm galvanizing ,corrugated prepainted galvanized steel sheets and prepainted galvanized steel sheet ridge cover with thickness of BMT 0.63 mm conforming to IS 1426/Latest. Top coat of sheet shall be PVDE/Silicon modified Polyester having thickness of 20 micro (Min) and Back coat shall be of Alkaloid epoxy or polyester having thickness of 7 micron (Min). A protection sheet (Polyethylene) shall also be provided on top coat of the sheet for transport. The durability of paint coating shall correspond to class 1 as per table-1 of IS : 14246:2013. (Colour shade of exterior finish shall be olive Green of colour code RAL6028. The seller shall furnish manufacture's test certificate indicating material of coating and suitability of exterior application.

Roof to be laid over

Frame work of trusses-columns and purlins fixed using Self tapping screws with rubber washer.

Size of Ridge cover to be fixed on top junction of roof of same material as Roof.

225 X225 X 0.63 mm

Roof slope

1:4 (approx)

Purlin to be provided on the roof

Of size 66 X 33X 2.9 mm at the eaves and at gable roof extension (out side the structure)

Roof projection in case on no verandah (In front)  
Roof projection

Min. 400 mm from the eaves wall and 300 mm from gable walls.

As per GeM DRG No.109 & 119 (Version-2015)

Purlin provided on the trusses

At a max pitch of 1000 mm or less and are fixed and flushed with the top level of trusses with the help of 5 mm thick MS end plates and 10 mm nuts/bolts.

Column to be welded

With 5mm thick MS end plate and to be fixed to the foundation bolts through this plate.

Trusses/purlins to be Fixed

Using 5mm thick MS end plates and 10 mm nuts and bolts

Trusses (Supported on truss column) provided at a distance of  
Trusses and Purlin to be made of

2440 mm

Rectangular hollow sections of size 66 X 33 X 2.9 mm conforming to IS 4923/Latest duly ISI marked.

Truss columns to be made of

Rectangular hollow steel sections of size 96 X 48 X 3.2 mm conforming to IS 4923/Latest duly ISI marked.

Roof structural frame work

As per GeM DRG. No.119-120a-120b &121 (Version -2015)

Q

**VERANDAH & DOORS**

Width of verandah	1525 mm
Clear height of verandah	2280 mm
Verandah roof to be made of	GI (Continues provided along the roof of the structure)
Purlin provided to verandah Structure	To be made of rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10 mm nut/bolts.
Verandah columns to be made of	Rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10mm nut/bolts.
Door frame to be made from	Pressed steel four sided from using CR steel of size 75 X 45 X 1.5 mm thickness conforming to ISI 513/latest.
Door Hinges	4nos 100mm MS hinges welded on to the frame
Door shutter made of	30 mm thick flush door conforming to IS 2202 (Part-1)/latest.
Door shutter to be fixed with	Door frame with 4nos MS oxidized hinges of 100mm length
Door aldrops	To be provided 2 nos. MS oxidized of 300mm length
Door tower bolts	MS oxidized of size 200mm at top and 100 mm at bottom on each shutter
Door handles	2 nos. 150 mm long handles

**WINDOWS & VENTILATORS**

Windows	As per GeM DRG No.125 (VERSION-2015)
Ventilators	As per GeM DRG No. 126 (VERSION-2015)
Frame material of windows/ventilators	Made from pressed steel using CR steel of size 75 X 45 X 1.5mm (thickness) conforming to IS 513/Latest
Hinges for windows	6 Nos. 75mm MS butt hinges welded on the frame
Hinges for ventilators	2 Nos 75 mm MS butt hinges welded on to the frame
Grills/windows/Ventilators	Made from MS square bar of 8 mm having equal spacing of 125 mm.
Shutter material for windows/Ventilators	Made out of steel rectangular hollow box profile of 1.25mm thick as per drawing ,fabricated type.
Each window shutter consist of	MS oxidized handle of 150 mm-2 Nos.MS oxidized tower bulls of 100mm and 1 No window stay.
Each ventilator shutter (Internal) consist of	1 No stay hook

*(Handwritten signature)*

Glass sheet for windows/ventilators

Of 4mm thickness to be fixed using glass putty

Appx 9, Annex III

**COLOUR & FINISH**

MS Steel members

To be supplied with one coat of red oxide primer coating.

**WARRANTY**

Warranty period in number of years


1

**CERTIFICATION**

Test reports to be furnished to consignee

Yes

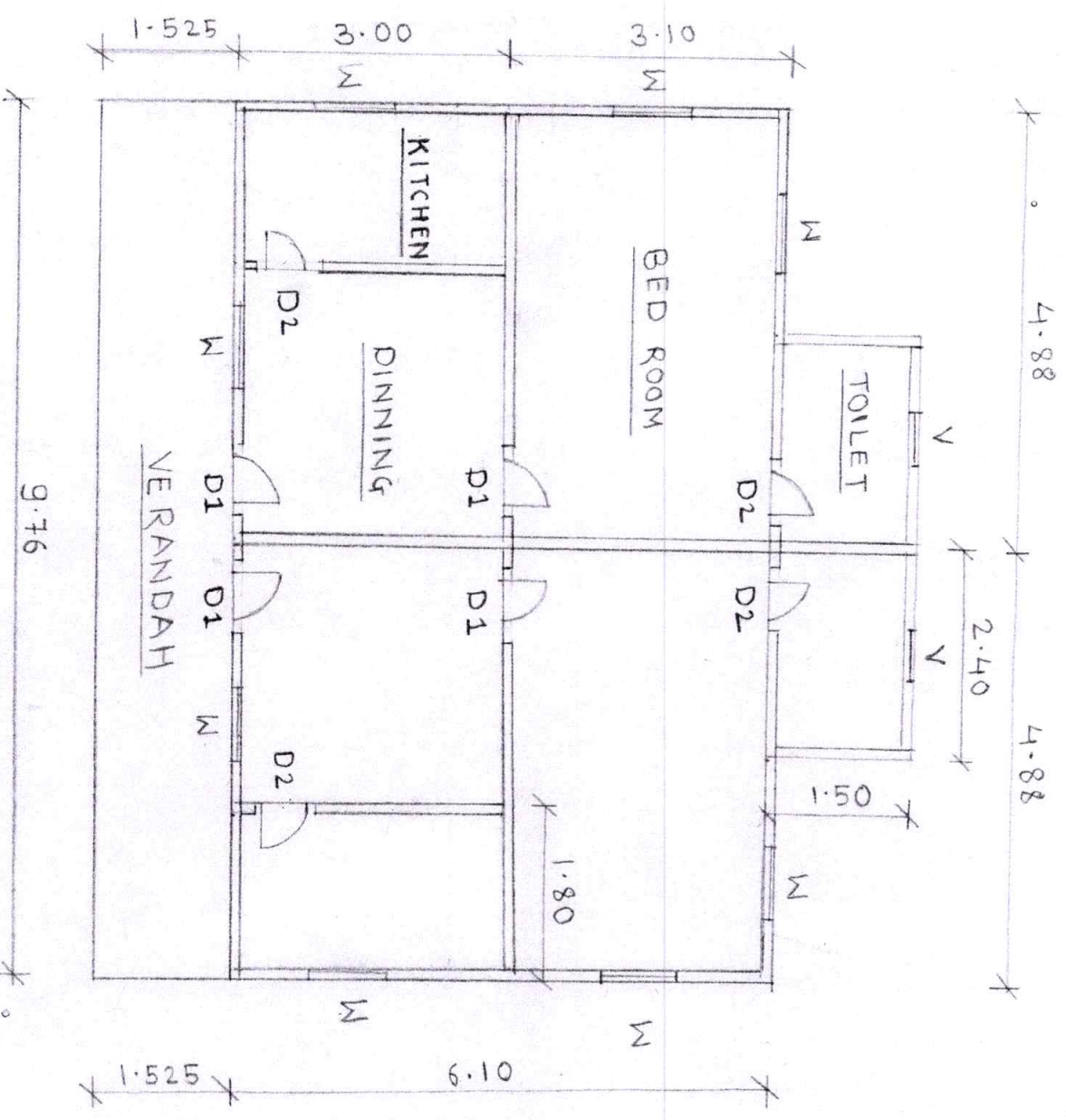
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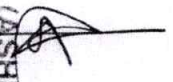
  
(Swatanter)  
Major  
Officer Commanding  
102 RCC (GREF)

9.36x 6.10x 2.34 m with verandah

Appx 'H'

Annex-III



  
(ASHISH RANA)  
Major  
Officer Commanding  
102 RCC(GREF)





Appx 'G' Annex IV  
4

**DETAILED TECH SPECIFICATION FOR PRE FABRICATED SHED SIZE**  
**12.20 M X 6.10 M X 2.74 M WITHOUT VERANDAH WITH FALSE CEILING**  
**(LAYOUT PLAN - ANNEXURE- IV)**

**GÉNERIC**

Type of PREFAB Hut/House	With partition wall
Pre-fabricated huts having	With partition wall <sup>w/o</sup> <del>with</del> verandah, (i) Doors D1 – 0.915 m x 2.08 m - 04 Nos (ii) Doors D2 - 0.75 m x 2.08 m – 01 Nos (iii) Windows W – 1.22 m x 1.22 m - 05 Nos (iv) Ventilators V – 0.61 m X 0.45 m – 01 Nos (v) fabricated steel trusses, purlins and vertical column – As per DGS&D drawing No. 112 (Version – 2015) and false ceiling of each sheet.
Roof Type of Prefab Hut/ House	Roof of corrugated preprinted galvanized steel sheet.
Pre-fabricated Huts to be manufactured by using	Double skin insulated flat cement sheet/board (asbestos fiber) panels for wall and GCI sheet roof.
Scope of supply (Offer price to include all cost components)	Supply, Installation, Testing and commissioning of Huts/House.
Transportations/Freight Charges	Offr Prices are on Free delivery at consignee site basis.
approval of Advance sample before Bulk Supply	After award of contract seller shall gave to get Advance sample approved from Buyer before manufacturing/starting Bulk supplies. Buyer shall approved/provide list of modification required within 10 days of offer of advance sample. If there is delay in approval of advance sample from buyer side, the delivery period shall be regularized for the period of delay in sample approval.
Foundation for Prefab Hut	Building of foundation at site shall be the responsibility of the consignee and the seller shall install/Erect and Commission the structure on the foundation constructed upto plinth level by the Consignee.
Time period for completion of erection work at site by seller	Within 45 days of the date of receipt of consignee/s confirmation regarding completion of ground and foundation work.
Suitability/Structural Stability/Completeness of Structures, the structure is intended for use in	In wind conditions of 55 m/s, in seismic zone V and ambient temperature of -5 degree c to 50 degree C considering snow load of 6 inches. Huts should be structurally stable and suitable to meet severity of these climatic condition.
Type of glass fitted on windows/Ventilators	Pin head type, Plain

**DESIGN/MATERIAL OF WALL PANELS**

Design of wall panel	As per GeM DRG. No. 121 & 123 (Version-2015)
Wall made in sandwich panel system using 2 Numbers 10 mm thick cement flat sheets/ boards (Asbestos free ) as skin conforming to	IS 14276 Latest as amended uptodate, category 3 Type B of IS 14862: 2000 latest as amended up to date.

Ⓟ

Sandwich material-27 mm gap in between wall skins to be filled with	27 mm thick expanded polystyrene core having bulk density of 15 kg/cum conforming to IS 4671 : 1984 type I (Latest)
Panel strengthened on all four sides	By 'W' shaped pre-profiled steel section made from 0.63 GI steel sheet/Coil.
Cement sheet and expanded polystyrene core to be bonded together using bonding material	PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.
'U' shaped ground/track size (panels to be inserted on by one)	52 mm X 35 mm X 1.25 mm made from GI steel sheet/coil.
Bottom track to be fixed	To the concrete platform at plinth level by suitable fasteners screwed into PVC Expandable screw cap
Interlocking of wall panel (lengthwise)	Using cold formed rectangular hollow steel section of size 50mm X 25 mm X 1.25 mm
Wall corners to be concealed	With corner angle of 125mm X 125 mm X 125mm made from GI steel sheet/coil
Top of walls to be concealed	With 'U' shaped top track of size 52.5 mm X35 mm X 1.25 mm made from GI steel sheet/coil
Sellers are free to adopt higher sizes/reinforcement	For better fitment of mating of components or for improved stability
<b><u>FALSE CEILING</u></b>	
Design of false ceiling	As per GeM DRG No 127 (Version-2015)
False ceiling of size 610 mm X 1220 mm made of one number cement flat board (6mm thick-asbestos free) bonded with expanded polystyrene core (32 mm thick having bulk density of 15 kg/ cum conforming to IS 4671/Latest cement flat board conforming to	IS 12476/Latest, category 3 type B of IS 14862/Latest
Roof Cement sheet and expanded polystyrene core to be bonded together using bonding material	PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.
False ceiling panels to be placed on suspended grid frame of sides	610 mm X 1220 mm made from GI "L" & "T" sections of 0.63 mm conforming to IS 277/Latest having min. GSM of 120 gms.
False ceiling grid to be Suspended from the roof Frame work with the help of galvanized wire of id (Minimum)	3 mm
Finished clear Height of false ceiling	2740 mm
Water proofness of false ceiling panels	To be properly packed with polythene sheets



## ROOF & ROOF FRAME WORK

Design fo roof

APPX 5 Annex IV

Wall height at eaves and central gable

As per GeM DRG. No. 119 (Version-2015)

2750mm at eaves and 3360 mm at central gable

Roof to be done with

Galvanised corrugated sheets of 0.63 mm thickness conforming to IS 277/ Latest having min.275 gsm galvanizing ,corrugated prepainted galvanized steel sheets and prepainted galvanized steel sheet ridge cover with thickness of BMT 0.63 mm conforming to IS 1426/Latest. Top coat of sheet shall be PVDE/Sillicon modified Polyester having thickness of 20 micro (Min) and Back coat shall be of Alkaloid epoxy or polyester having thickness of 7 micron (Min). A protection sheet (Polyethylene) shall also be provided on top coat of the sheet for transport. The durability of paint coating shall correspond to class 1 as per table-1 of IS : 14246:2013. (Colour shade of exterior finish shall be olive Green of colour code RAL6028. The seller shall furnish manufacture's test certificate indicating material of coating and suitability of exterior application.

Roof to be laid over

Frame work of trusses-columns and purlins fixed using Self tapping screws with rubber washer.

Size of Ridge cover to be fixed on top junction of roof of same material as Roof.

225 X225 X 0.63 mm

Roof slope

1:4 (appeox)

Purlin to be provided on the roof

Of size 66 X 33X 2.9 mm at the eaves and at gable roof extension (out side the structure)

Roof projection in case on no verandah (In front)

Min. 400 mm from the eaves wall and 300 mm from gable walls.

Roof projection

As per GeM DRG No.109 & 119 (Version-2015)

Purlin provided on the trusses

At a max pitch of 1000 mm or less and are fixed and flushed with the top level of trusses with the hilp off 5 mm thick MS end plates and 10 mm nuts/bolts.

Column to be welded

With 5mm thick MS end plate and to be fixed to the foundation bolts through this plate.

Trusses/purlins to be Fixed

Using 5mm thick MS end plates and 10 mm nuts and bolts

Trusses (Supported on truss column) provided at a distance of

2440 mm

Trusses and Purlin to be made of

Rectangular hollow sections of size 66 X 33 X 2.9 mm conforming to IS 4923/Latest duly ISI marked.

Truss columns to be made of

Rectangular hollow steel sections of size 96 X 48 X 3.2 mm conforming to IS 4923/Latest duly ISI marked.

Roof structural frame work

As pe GeM DRG. No.119-120a-120b &121 (Version -2015)

Ⓟ

## VERANDAH & DOORS

APPX G, Annex IV

Width of verandah	1525 mm
Clear height of verandah	2280 mm
Verandah roof to be made of	GI (Continues provided along the roof of the structure)
Purlin provided to verandah Structure	To be made of rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10 mm nut/bolts.
Verandah columns to be made of	Rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10mm nut/bolts.
Door frame to be made from	Pressed steel four sided from using CR stell of size 75 X 45 X 1.5 mm thickness confmg. To ISI 513/latest.
Door Hinges	4nos 100mm MS hinges welded on to the frame
Door shutter made of	30 mm thick flush door confmg to IS 2202 (Part-1)/latest.
Door shutter to be fixed with	Door frame with 4nos MS oxidized hinges of 100mm length
Door aldrops	To be provided 2 nos. MS oxidized of 300mm length
Door tower bolts	MS oxidized of size 200mm at top and 100 mm at bottom on each shutter
Door handles	2 nos. 150 mm long handles

## WINDOWS & VENTILATORS

Windows	As per GeM DRG No.125 (VERSION-2015)
Ventilators	As per GeM DRG No. 126 (VERSION-2015)
Frame material of windows/ventilators	Made from pressed steel using CR steel of size 75 X 45 X 1.5mm (thickness) conforming to IS 513/Latest
Hinges for windows	6 Nos. 75mm MS butt hinges welded on the frame
Hinges for ventilators	2 Nos 75 mm MS butt hinges welded on to the frame
Grills/windows/Ventilators	Made from MS square bar of 8 mm having equal spacing of 125 mm.
Shutter material for windows/Ventilators	Made out of steel rectangular hollow box profile of 1.25mm thick as per drawing ,fabricated type.
Each window shutter consist of	MS oxidized handle of 150 mm-2 Nos.MS oxidized tower bulls of 100mm and 1 No window stay.
Each ventilator shutter (Internal) consist of	1 No stay hook
Glass sheet for windows/ventilators	Of 4mm thickness to be fixed using glass putty

2

**COLOUR & FINISH**

MS Steel members

To be supplied with one coat of red oxide primer coating.

**WARRANTY**

Warranty period in number of years


1

**CERTIFICATION**

Test reports to be furnished to consignee

Yes

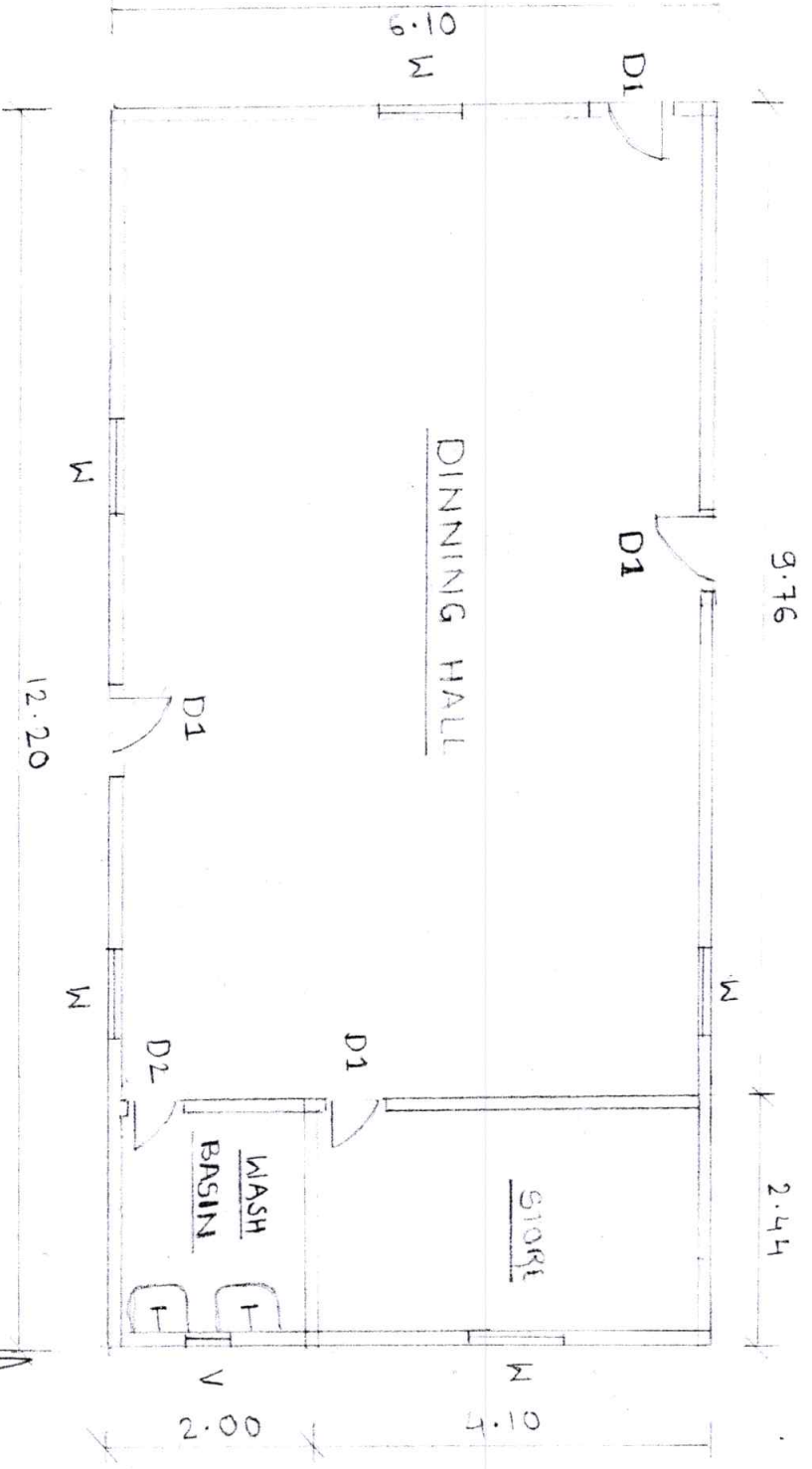
2

  
(Swatanter)  
Major  
Officer Commanding  
102 RCC (GREF)

12.20 X 6.10 X 2.74 m without verandah

Annex IV, Annex II

Annex - IV



(ASHISH RANA)  
Major  
Officer Commanding  
102 RCC(GREF)

**DETAILED TECH SPECIFICATION FOR PRE FABRICATED SHED SIZE  
12.20 M X 6.10 M X 2.74 M WITHOUT VERANDAH WITH FALSE CEILING  
(LAYOUT PLAN - ANNEXURE - V)**

**GENERIC**

Type of PREFAB Hut/House	With partition wall
Pre-fabricated huts having	With partition wall with verandah, (i) Doors D1 – 0.915 m x 2.08 m - 03 Nos (ii) Windows W – 1.22 m x 1.22 m - 08 Nos (iii) fabricated steel trusses, purlins and vertical column – As per DGS&D drawing No. 112 (Version 2015) and false ceiling of each sheet.
Roof Type of Prefab Hut/ House	Roof of corrugated preprinted galvanized steel sheet.
Pre-fabricated Huts to be manufactured by using	Double skin insulated flat cement sheet/board (asbestos fiber) panels for wall and GCI sheet roof.
Scope of supply (Offer price to include all cost components)	Supply, Installation, Testing and commissioning of Huts/House.
Transportations/Freight Charges	Offer Prices are on Free delivery at consignee site basis.
approval of Advance sample before Bulk Supply	After award of contract seller shall give to get Advance sample approved from Buyer before manufacturing/starting Bulk supplies. Buyer shall approved/provide list of modification required within 10 days of offer of advance sample. If there is delay in approval of advance sample from buyer side, the delivery period shall be regularized for the period of delay in sample approval.
Foundation for Prefab Hut	Building of foundation at site shall be the responsibility of the consignee and the seller shall install/Erect and Commission the structure on the foundation constructed upto plinth level by the Consignee.
Time period for completion of erection work at site by seller	Within 45 days of the date of receipt of consignee/s confirmation regarding completion of ground and foundation work.
Suitability/Structural Stability/Completeness of Structures, the structure is intended for use in	In wind conditions of 55 m/s, in seismic zone V and ambient temperature of -5 degree c to 50 degree C considering snow load of 6 inches. Huts should be structurally stable and suitable to meet severity of these climatic condition.
Type of glass fitted on windows/Ventilators	Pin head type, Plain

**DESIGN/MATERIAL OF WALL PANELS**

Design of wall panel	As per GeM DRG. No. 121 & 123 (Version-2015)
Wall made in sandwich panel system using 2 Numbers 10 mm thick cement flat sheets/ boards (Asbestos free ) as skin conforming to	IS 14276 Latest as amended upto date, category 3 Type B of IS 14862: 2000 latest as amended up to date.

Handwritten mark

Sandwich material-27 mm gap in between all skins to be filled with	27 mm thick expanded polystyrene core having bulk density of 15 kg/cum conforming to IS 4671 : 1984 type I (Latest)
Panel strengthened on all four sides	By 'W' shaped pre-profiled steel section made from 0.63 GI steel sheet/Coil.
Cement sheet and expanded polystyrene core to be bonded together using bonding material	PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.
'U' shaped ground/track size (panels to be inserted on by one)	52 mm X 35 mm X 1.25 mm made from GI steel sheet/coil.
Bottom track to be fixed	To the concrete platform at plinth level by suitable fasteners screwed into PVC Expandable screw cap
Interlocking of wall panel (lengthwise)	Using cold formed rectangular hollow steel section of size 50mm X 25 mm X 1.25 mm
Wall corners to be concealed	With corner angle of 125mm X 125 mm X 125mm made from GI steel sheet/coil
Top of walls to be concealed	With 'U' shaped top track of size 52.5 mm X35 mm X 1.25 mm made from GI steel sheet/coil
Sellers are free to adopt higher sizes/reinforcement	For better fitment of mating of components or for improved stability
<b><u>FALSE CEILING</u></b>	
Design of false ceiling	As per GeM DRG No 127 (Version-2015)
False ceiling of size 610 mm X 1220 mm made of one number cement flat board (6mm thick-asbestos free) bonded with expanded polystyrene core (32 mm thick having bulk density of 15 kg/ cum conforming to IS 4671/Latest cement flat board conforming to	IS 12476/Latest, category 3 type B of IS 14862/Latest
Roof Cement sheet and expanded polystyrene core to be bonded together using bonding material	PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.
False ceiling panels to be placed on suspended grid frame of sides	610 mm X 1220 mm made from GI "L" & "T" sections of 0.63 mm conforming to IS 277/Latest having min. GSM of 120 gms.
False ceiling grid to be Suspended from the roof Frame work with the help of galvanized wire of id (Minimum)	3 mm
Finished clear Height of false ceiling	2740 mm
Water proofness of false ceiling panels	To be properly packed with polythene sheets

D



**ROOF & ROOF FRAME WORK**

Design of roof

As per GeM DRG. No. 119 (Version-2015)

Wall height at eaves and central gable

2750mm at eaves and 3360 mm at central gable

Roof to be done with

Galvanised corrugated sheets of 0.63 mm thickness conforming to IS 277/ Latest having min.275 gsm galvanizing ,corrugated prepainted galvanized steel sheets and prepainted galvanized steel sheet ridge cover with thickness of BMT 0.63 mm conforming to IS 1426/Latest. Top coat of sheet shall be PVDE/Silicon modified Polyester having thickness of 20 micro (Min) and Back coat shall be of Alkaloid epoxy or polyester having thickness of 7 micron (Min). A protection sheet (Polyethylene) shall also be provided on top coat of the sheet for transport. The durability of paint coating shall correspond to class 1 as per table-1 of IS : 14246:2013. (Colour shade of exterior finish shall be olive Green of colour code RAL6028. The seller shall furnish manufacture's test certificate indicating material of coating and suitability of exterior application.

Roof to be laid over

Frame work of trusses-columns and purlins fixed using Self tapping screws with rubber washer.

Size of Ridge cover to be fixed on top junction of roof of same material as Roof.

225 X225 X 0.63 mm

Roof slope

1:4 (apeex)

Purlin to be provided on the roof

Of size 66 X 33X 2.9 mm at the eaves and at gable roof extension (out side the structure)

Roof projection in case on no verandah (In front)

Min. 400 mm from the eaves wall and 300 mm from gable walls.

Roof projection

As per GeM DRG No.109 &amp; 119 (Version-2015)

Purlin provided on the trusses

At a max pitch of 1000 mm or less and are fixed and flushed with the top level of trusses with the hilp off 5 mm thick MS end plates and 10 mm nuts/bolts.

Column to be welded

With 5mm thick MS end plate and to be fixed to the foundation bolts through this plate.

Trusses/purlins to be Fixed

Using 5mm thick MS end plates and 10 mm nuts and bolts

Trusses (Supported on truss column) provided at a distance of

2440 mm

Trusses and Purlin to be made of

Rectangular hollow sections of size 66 X 33 X 2.9 mm conforming to IS 4923/Latest duly ISI marked.

Truss columns to be made of

Rectangular hollow steel sections of size 96 X 48 X 3.2 mm conforming to IS 4923/Latest duly ISI marked.

Roof structural frame work

As pe GeM DRG. No.119-120a-120b &amp;121 (Version -2015)

D

**VERANDAH & DOORS**

Width of verandah	1525 mm
Clear height of verandah	2280 mm
Verandah roof to be made of	GI (Continues provided along the roof of the structure)
Purlin provided to verandah Structure	To be made of rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10 mm nut/bolts.
Verandah columns to be made of	Rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10mm nut/bolts.
Door frame to be made from	Pressed steel four sided from using CR stell of size 75 X 45 X 1.5 mm thickness confmg. To ISI 513/latest.
Door Hinges	4nos 100mm MS hinges welded on to the frame
Door shutter made of	30 mm thick flush door confmg to IS 2202 (Part-1)/latest.
Door shutter to be fixed with	Door frame with 4nos MS oxidized hinges of 100mm length
Door aldrops	To be provided 2 nos. MS oxidized of 300mm length
Door tower bolts	MS oxidized of size 200mm at top and 100 mm at bottom on each shutter
Door handles	2 nos. 150 mm long handles

**WINDOWS & VENTILATORS**

Windows	As per GeM DRG No.125 (VERSION-2015)
Ventilators	As per GeM DRG No. 126 (VERSION-2015)
Frame material of windows/ventilators	Made from pressed steel using CR steel of size 75 X 45 X 1.5mm (thickness) conforming to IS 513/Latest
Hinges for windows	6 Nos. 75mm MS butt hinges welded on the frame
Hinges for ventilators	2 Nos 75 mm MS butt hinges welded on to the frame
Grills/windows/Ventilators	Made from MS square bar of 8 mm having equal spacing of 125 mm.
Shutter material for windows/Ventilators	Made out of steel rectangular hollow box profile of 1.25mm thick as per drawing ,fabricated type.
Each window shutter consist of	MS oxidized handle of 150 mm-2 Nos.MS oxidized tower bulls of 100mm and 1 No window stay.
Each ventilator shutter (Internal) consist of	1 No stay hook

D

Glass sheet for windows/ventilators

Of 4mm thickness to be fixed using glass putty <sup>APX G - Annex V</sup>

**COLOUR & FINISH**

MS Steel members

To be supplied with one coat of red oxide primer coating.

**WARRANTY**

Warranty period in number of years

1

**CERTIFICATION**

Test reports to be furnished to consignee

Yes

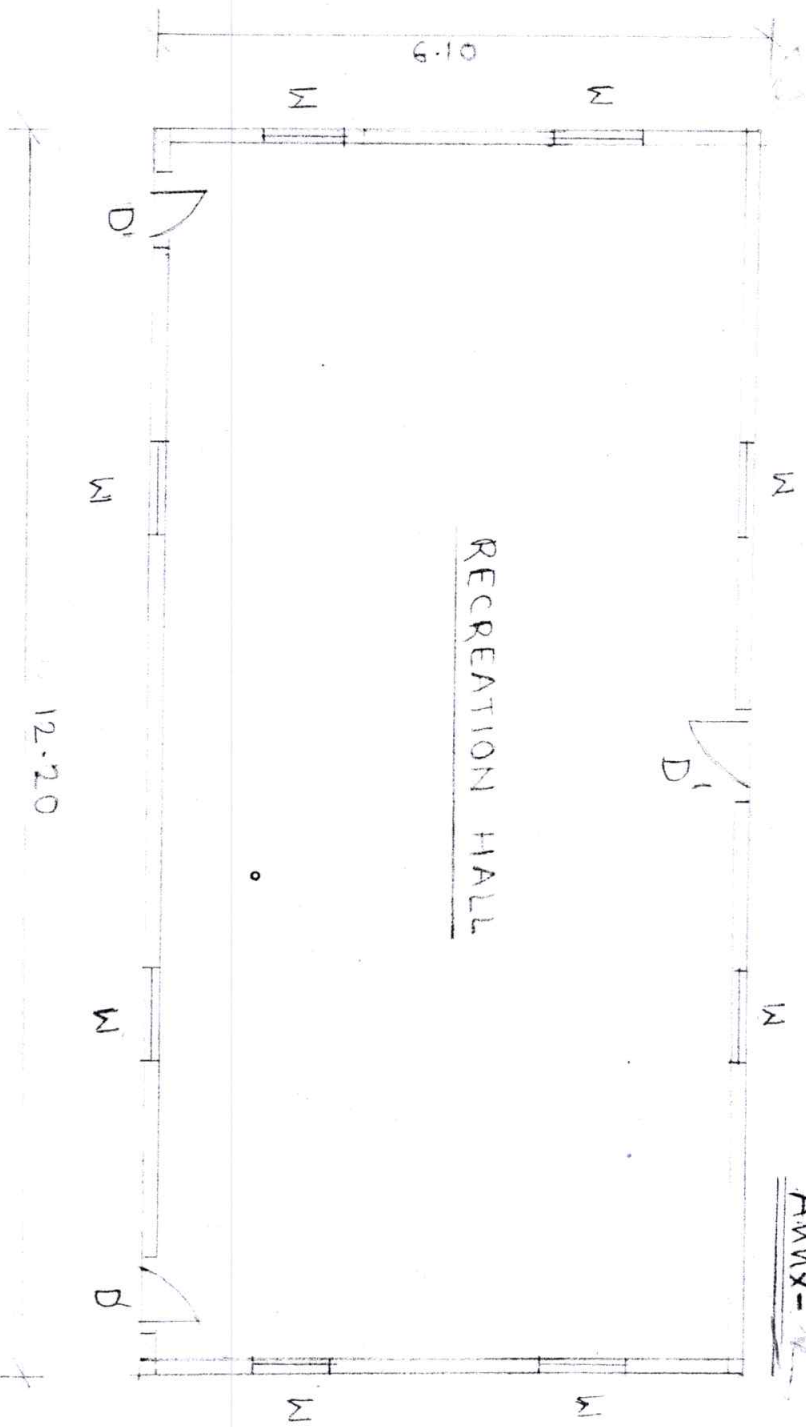
2

  
(Swatante,  
Major  
Officer Commanding,  
102 RCC (GREF)

12.20x 6.10x 2.74m with verandah

APPX 'H', Annex 'V'

APPX 'H'  
Annex 'V'



  
 (ASHISH RANA)  
 Major  
 Officer Commanding  
 102 RCC(GREF)

AD

**DETAILED TCH SPECIFICATION FOR PRE FABRICATED SHED SIZE  
19.52M X 6.1 M WITH FALSE CEILING AND 1.525M VERANDAH**

Appx 'G'  
Annx VI

**GENERIC**

Type of PREFAB Hut/House	With partition wall as per Annx - <u>VI</u>
Pre-fabricated huts having	With partition wall with verandah 02 Doors, 08 windows 07 fabricated steel trusses, 88 purlins vertical column 09 and false ceiling of each sheet.
Roof Type of Prefab Hut/ House	Roof of corrugated preprinted galvanized steel sheet.
Pre-fabricated Huts to be manufactured by using	Double skin insulated flat cement sheet/board (asbestos fiber) panels for wall and GCI sheet roof.
Scope of supply (Offer price to include all cost components)	Supply, Installation, Testing and commissioning of Huts/House.
Transportations/Freight Charges	Offer Prices are on Free delivery at consignee site basis.
approval of Advance sample before Bulk Supply	After award of contract seller shall give to get Advance sample approved from Buyer before manufacturing/starting Bulk supplies. Buyer shall approved/provide list of modification required within 10 days of offer of advance sample. If there is delay in approval of advance sample from buyer side, the delivery period shall be regularized for the period of delay in sample approval.
Foundation for Prefab Hut	Building of foundation at site shall be the responsibility of the consignee and the seller shall install/Erect and Commission the structure on the foundation constructed upto plinth level by the Consignee.
Time period for completion of erection work at site by seller	Within 45 days of the date of receipt of consignee/s confirmation regarding completion of ground and foundation work.
Suitability/Structural Stability/Completeness of Structures, the structure is intended for use in	In wind conditions of 55 m/s, in seismic zone V and ambient temperature of -5 degree c to 50 degree C considering snow load of 6 inches. Huts should be structurally stable and suitable to meet severity of these climatic condition.
Type of glass fitted on windows/Ventilators	Pin head type, Plain

**DESIGN/MATERIAL OF WALL PANELS**

Design of wall panel	As per GeM DRG. No. <u>118</u> (Version-2003)
Wall made in sandwich panel system using 2 Numbers 10 mm thick cement flat sheets/ boards (Asbestos free ) as skin conforming to	IS 14276 Latest as amended upto date, category 3 Type B of IS 14862: 2000 latest as amended up to date.
Sandwich material-27 mm gap in between wall skins to be filled with Panel strengthened on all four sides	27 mm thick expanded polystyrene core having bulk density of 15 kg/cum conforming to IS 4671: 1984 type I (Latest)  By 'W' shaped pre-profiled steel section made from 0.63 GI steel sheet/Coil.

*JK*

Cement sheet and expanded polystyrene core to be bonded together using bonding material

PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.

'U' shaped ground/track size (panels to be inserted on by one)

52 mm X 35 mm X 1.25 mm made from GI steel sheet/coil.

Bottom track to be fixed

To the concrete platform at plinth level by suitable fasteners screwed into PVC Expandable screw cap

Interlocking of wall panel (lengthwise)

Using cold formed rectangular hollow steel section of size 50mm X 25 mm X 1.25 mm

Wall corners to be concealed

With corner angle of 125mm X 125 mm X 125mm made from GI steel sheet/coil

Top of walls to be concealed

With 'U' shaped top track of size 52.5 mm X 35 mm X 1.25 mm made from GI steel sheet/coil

Sellers are free to adopt higher sizes/reinforcement

For better fitment of mating of components or for improved stability

**FALSE CEILING**

Design of false ceiling

As per GeM DRG No. 118 (Version-2003)

False ceiling of size 610 mm X 1220 mm made of one number cement flat board (6mm thick-asbestos free) bonded with expanded polystyrene core (32 mm thick having bulk density of 15 kg/ cum conforming to IS 4671/Latest cement flat board conforming to

IS 12476/Latest, category 3 type B of IS 14862/Latest

Roof Cement sheet and expanded polystyrene core to be bonded together using bonding material

PVA (Polyvinyl acetate) based conforming to IS 4835/Latest, uniformly & fully applied on both sides of the expanded polystyrene cores to ensure proper bonding of the panels. No patching of adhesive will be accepted.

False ceiling panels to be placed on suspended grid frame of sides

610 mm X 1220 mm made from GI "L" & "T" sections of 0.63 mm conforming to IS 277/Latest having min. GSM of 120 gms.

False ceiling grid to be Suspended from the roof Frame work with the help of galvanized wire of id (Minimum) Finished clear Height of false ceiling Water proofness of false ceiling panels

3 mm

2740 mm

To be properly packed with polythene sheets

**ROOF & ROOF FRAME WORK**

Design fo roof

As per GeM DRG. No. 118 (Version-2003)

Wall height at eaves and central gable

2750mm at eaves and 3360 mm at central gable

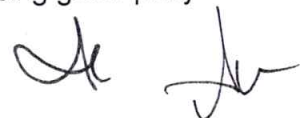
Roof to be done with	Galvanised corrugated sheets of 0.63 mm thickness conforming to IS 2777/Latest having min.275 gsm galvanizing ,corrugated prepainted galvanized steel sheets and prepainted galvanized steel sheet ridge cover with thickness of BMT 0.63 mm conforming to IS 1426/Latest. Top coat of sheet shall be PVDE/Sillicon modified Polyester having thickness of 20 micro (Min) and Back coat shall be of Alkaloid epoxy or polyester having thickness of 7 micron (Min). A protection sheet (Polyethylene) shall also be provided on top coat of the sheet for transport. The durability of paint coating shall correspond to class 1 as per table-1 of IS : 14246:2013. (Colour shade of exterior finish shall be olive Green of colour code RAL6028. The seller shall furnish manufacture's test certificate indicating material of coating and suitability of exterior application.
Roof to be laid over	Frame work of trusses-columns and purlins fixed using Self tapping screws with rubber washer.
Size of Ridge cover to be fixed on top junction of roof of same material as Roof.	225 X225 X 0.63 mm
Roof slope	1:4 (apeox)
Purlin to be provided on the roof	Of size 66 X 33X 2.9 mm at the eaves and at gable roof extension (out side the structure)
Roof projection in case on no verandah (In front)	Min. 400 mm from the eaves wall and 300 mm from gable walls.
Roof projection	As per GeM DRG No. 118 (Version-2003)
Purlin provided on the trusses	At a max pitch of 1000 mm or less and are fixed and flushed with the top level of trusses with the hilp off 5 mm thick MS end plates and 10 mm nuts/bolts.
Column to be welded	With 5mm thick MS end plate and to be fixed to the foundation bolts through this plate.
Trusses/purlins to be Fixed	Using 5mm thick MS end plates and 10 mm nuts and bolts
Trusses (Supported on truss column) provided at a distance of	2440 mm
Trusses and Purlin to be made of	Rectangular hollow sections of size 66 X 33 X 2.9 mm conforming to IS 4923/Latest duly ISI marked.
Truss columns to be made of	Rectangular hollow steel sections of size 96 X 48 X 3.2 mm conforming to IS 4923/Latest duly ISI marked.
Roof structural frame work	As pe GeM DRG. No. 118 (Version-2003)
<b><u>VERANDAH &amp; DOORS</u></b>	
Width of verandah	1525 mm
Clear height of verandah	2280 mm
Verandah roof to be made of	GI (Continues provided along the roof of the structure)

*Oh* *Jr*

Purlin provided to verandah Structure	To be made of rectangular hollow steel sections of size 66 X 33 X 2.9 mm and are fixed and flushed with the top level of the truss extension member with the help of 5 mm thick MS end plates and 10 mm nut/bolts.
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Door Hinges	4nos 100mm MS hinges welded on to the frame
Door shutter made of	30 mm thick flush door confmg to IS 2202 (Part-1)/latest.
Door shutter to be fixed with	Door frame with 4nos MS oxidized hinges of 100mm length
Door aldrops	To be provided 2 nos. MS oxidized of 300mm length
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Door handles	2 nos. 150 mm long handles

**WINDOWS & VENTILATORS**

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Ventilators	As per GeM DRG No. 118 (Version-2003)
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Shutter material for windows/Ventilators	Made out of steel rectangular hollow box profile of 1.25mm thick as per drawing ,fabricated type.
Each window shutter consist of	MS oxidized handle of 150 mm-2 Nos.MS oxidized tower bulls of 100mm and 1 ,No window stay.
Each ventilator shutter (Internal) consist of	1 No stay hook
Glass sheet for windows/ventilators	Of 4mm thickness to be fixed using glass putty





**COLOUR & FINISH**

MS Steel members

To be supplied with one coat of red oxide primer coating.

**WARRANTY**

Warranty period in number of years

1

**CERTIFICATION**

Test reports to be furnished to consignee

Yes

*Ankush B.G.*

(Ankush BG)

Capt

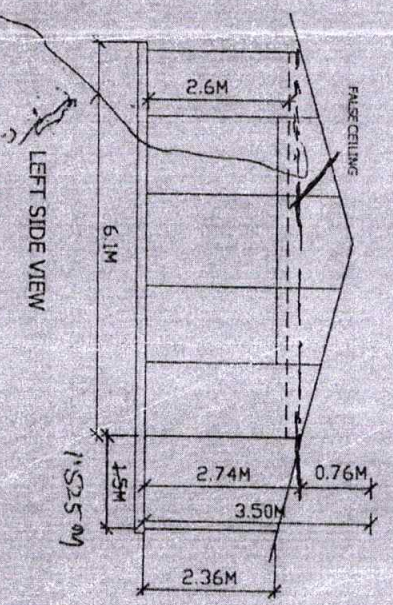
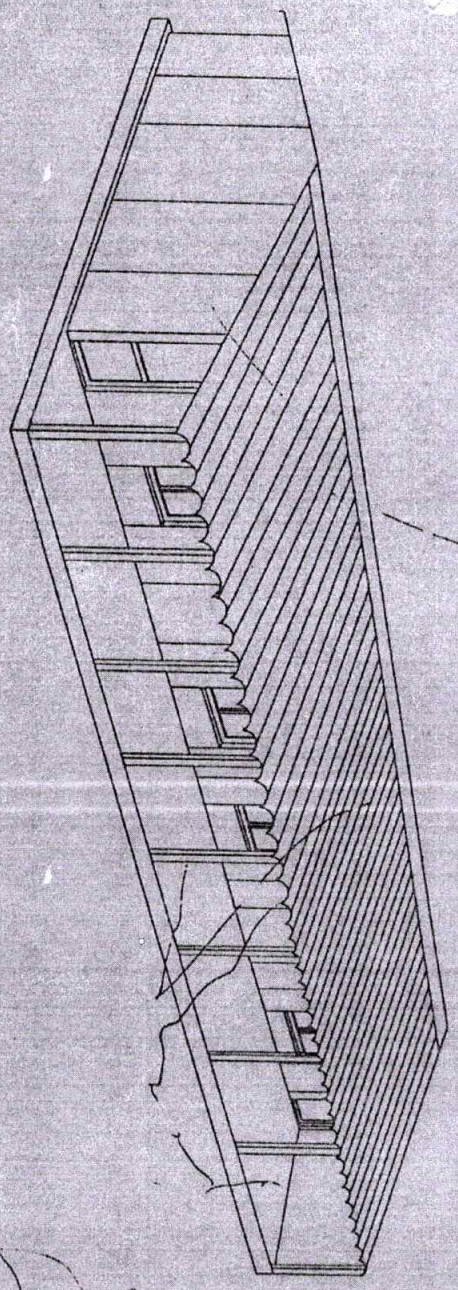
Second-in-Command

For Officer Commanding

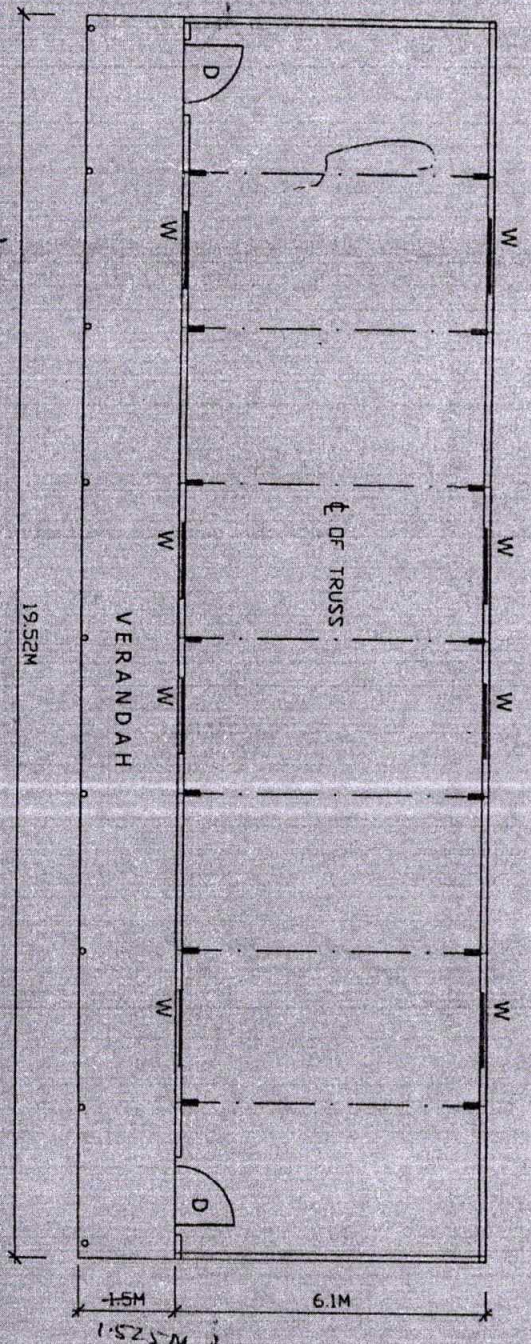
102 RCC (GREF)

*B*

19.52m x 6.1m false ceiling & verandah / 19.52m x 6.1m Appx H' Annx VI



PERSPECTIVE VIEW



TOLERANCES: FOR STRUCTURES DIMENSIONS UPTO:-  
 3MTR=+/-100mm, 3MTR TO 6MTR=+/-150mm  
 BEYOND 6MTR = +/-200mm

SCHEDULE OF OPENING				
S.NO.	MARKED	DESCRIPTION	SIZE	NOS.
1	D	DOOR	2.10 x 2.13 x 0.915M	2 NOS.
2	V	WINDOW	1.22 x 1.22M	8NDS.
3	T	TRUSS	6.1M	7NDS.
4	P	PURLIN	---	88 NDS.

SUB TITLE  
 PREFABRICATED STRUCTURE  
 SIZE 6.1MTRS X 19.52MTRS WITH VERANDAH

TITLE  
 PREFABRICATED STRUCTURES

DRG. NO. DGS&D DRG. NO. 118 (Version - 2003)

Checked By

Capt. J. H.

S.V.

Refer DRG 118

Appx H'  
 Annx VI