

Rev 01  
1<sup>st</sup> Jun  
2012

# NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

Bharat Heavy Electricals Limited



Ref:

Date: --/--/----

=====

**NOTICE INVITING TENDER (NIT)**

**NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES**

**OR**

**PURCHASE TENDERS FROM THIS OFFICE ALSO**

=====

To

Dear Sir/Madam

Sub : **NOTICE INVITING TENDER**

Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting PRE QUALIFICATION CRITERIA as mentioned in Annexure-I) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

## 1.0 Salient Features of NIT

SL NO	ISSUE	DESCRIPTION
i	TENDER NUMBER	<b>BHEL/ NR/SCT/VYASI HEP / EW/1006</b>
ii	<b>Broad Scope of job</b>	CONSTRUCTION OF 02 NOS. CLOSED STORAGE SHEDS AND DEVELOPMENT OF OPEN STORAGE YARD AT BHEL 2X60 MW, VYASI HEP SITE, DISTT. DEHRADUN, UTTARAKHAND.
iii	<b>DETAILS OF TENDER DOCUMENT</b>	
a	Volume-IA	<i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i> <span style="float: right;">Applicable</span>
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> <span style="float: right;">Applicable</span>
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> <span style="float: right;">Applicable</span>
d	Volume-ID	<i>Forms and Procedures</i>
e	Volume-II	<i>Price Schedule (Absolute value).</i> <span style="float: right;">Applicable</span>
iv	Issue of Tender Documents	<ol style="list-style-type: none"> <li><b><u>Sale from BHEL PS Regional office</u></b> <b>Closes on 05/10/2015 , Time : 1200 Hrs (IST)</b></li> <li><b>From BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>)</b> Tender documents will be available for downloading from website till due date of submission</li> </ol> <span style="float: right;">Applicable/ Not applicable</span>
v	<b>DUE DATE &amp; TIME OF OFFER SUBMISSION</b>	<b>Date : 05/10/2015, Time : 1500 Hrs (IST)</b> <b>Place : Noida</b> <span style="float: right;">Applicable</span>
vi	<b>OPENING OF TENDER</b>	<b>Date : 05/10/2015, Time :</b> <i>(within 2 hours of the latest due date and time of offer</i> <span style="float: right;">Applicable</span>

		submission). Notes: (1) In case the due date of opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender	
vii	EMD AMOUNT	Rs 1,50,000/-	Applicable
viii	COST OF TENDER	Rs 2000/-.	Applicable/Not Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: 25/09/2015 Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)	Date :	Applicable/Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		Applicable/Not Applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigendums) <b>and not in the newspapers</b> . Bidders to keep themselves updated with all such information	

- 2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed & stamped on each page, as part of offer. **Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.**
- 3.0 Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Power Sector Regional HQ at Noida issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day; and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL PS HQ at Noida, Sundays and second/ last Saturdays
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Noida .For other details and for 'One Time EMD' please refer General Conditions of Contract.
- 5.0 **Procedure for Submission of Tenders:** The Tenderers must submit their Tenders to Officer inviting Tender, as detailed below:
- PART-I consisting of 'PART-I A (Techno Commercial Bid)' & 'PART-I B (EMD/COST of TENDER)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
  - PART-II (Price Bid) – in sealed and superscribed envelope (ENVELOPE-III)
  - One set of tender documents shall be retained by the bidder for their reference

6.0 The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below.

**(All pages to be signed and stamped)**

Sl no	Description	Remarks
<b>Part-I A</b>		
	<p><b>ENVELOPE – I superscribed as :</b>            PART-I (TECHNO COMMERCIAL BID)            TENDER NO :            NAME OF WORK :            PROJECT:            DUE DATE OF SUBMISSION:</p> <p><b>CONTAINING THE FOLLOWING:-</b></p>	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	<p>Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above.</p> <p><b>Note:</b></p> <p>a. In case of any deviation, the same should be submitted separately for technical &amp; commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</p> <p>b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.</p> <p>i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p>ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender</p>	
iii.	<p>Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria.</p> <p>It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.</p>	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	

<b>PART-I B</b>		
	<p><b>ENVELOPE – II superscribed as:</b>            PART-I (EMD/COST of TENDER)            TENDER NO :            NAME OF WORK :</p>	

	PROJECT: DUE DATE OF SUBMISSION:  <b>CONTAINING THE FOLLOWING:-</b>	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender <b>OR</b> Documentary evidence for 'One Time EMD' with the Power Sector Region of BHEL floating the Tender  2. Cost of Tender ( Demand Draft or copy of Cash Receipt as the case may be)	

	<b>PART-II</b>	
	<b>PRICE BID</b> consisting of the following shall be enclosed	
	<b>ENVELOPE-III</b> superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:  <b>CONTAINING THE FOLLOWING</b>	
i	Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I	
ii	Volume II – PRICE BID ( Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)	

	<b>OUTER COVER</b>	
	<b>ENVELOPE-IV</b> (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:  <b>CONTAINING THE FOLLOWING:</b>	
i	<ul style="list-style-type: none"> <li>○ Envelopes I</li> <li>○ Envelopes II</li> <li>○ Envelopes III</li> </ul>	

**SPECIAL NOTE :** All documents/ annexures submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.

- 7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.
- 8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

**9.0 Assessment of Capacity of Bidders:**

**Bidders capacity for executing the job under tender shall be assessed 'LOAD' wise and 'PERFORMANCE' wise as per the following:**

- I. **LOAD:** Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The 'Load' is the sum of the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning 'Load' shall be the month, two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if latest bid submission is in Aug 2011, then the 'load' shall be calculated upto and inclusive of June 2011)

- i). Total number of Packages  
Total number of Packages in hand = P  
Where

- 'P' is the sum of all unit wise identified packages under execution with BHEL Regions as of the cut off month defined above, including packages yet to be commenced, excepting packages which are on HOLD due to reasons not attributable to Bidder..

- II. **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (**under execution/** executed during the 'Period of Assessment' in all the Power Sector Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced shall be taken into consideration. The 'Period of Assessment' shall be 6 months preceding the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the month two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

(Note: For example if 'latest date of bid submission' is in Aug 2011, then the 'performance' shall be assessed for a 6 month period upto and inclusive of June 2011, for all the unit wise identified packages (refer Table I)

- i). Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions for the 'Period of Assessment':

This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:

- $P_1, P_2, P_3, P_4, P_5, \dots, P_N$  etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions =  $P_T$  (ie  $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$ )
- Number of Months ' $T_1$ ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package  $P_1$ . Similarly  $T_2$  for package  $P_2$ ,  $T_3$  for package  $P_3$ , etc for the tendered scope. Now calculate cumulative total months ' $T_T$ ' for total similar Packages ' $P_T$ ' for all Regions (ie  $T_T = T_1 + T_2 + T_3 + T_4 + \dots + T_N$ )
- Sum ' $S_1$ ' of 'Monthly Performance Evaluation' Scores ( $S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots, S_{1-N}$ ) for similar package  $P_1$ , for the 'period of assessment' ' $T_1$ ' (ie  $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-N}$ ). Similarly  $S_2$  for package  $P_2$  for period  $T_2$ ,  $S_3$  for package  $P_3$  for period  $T_3$ , etc for the tendered scope for all Regions. Now calculate cumulative sum ' $S_T$ ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' $P_T$ ' for all Regions (ie ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots + S_N$ ')
- Overall Performance Rating ' $R_{BHEL}$ ' for the similar Package/Packages (under execution/** executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL):

**Aggregate of Performance scores for all similar packages in all the Regions**  
= .....

**Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions**

$$= \frac{S_T}{T_T}$$

e) Bidders to note that the risk of non evaluation or non availability of the 'Monthly Performance Evaluation' reports as per relevant formats is to be borne by the Bidder

**f) Table showing methodology for calculating 'a', 'b' and 'c' above**

Sl no	Item Description	Details for all Regions							Total
		(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>5</sub>	...	P <sub>N</sub>	Total No of similar packages for all Regions = <b>P<sub>T</sub></b> ie Sum (Σ) of columns (iii) to (ix)
2	Number of Months for which 'Monthly Performance Evaluation' as per relevant formats should have been done in the 'period of assessment for corresponding similar Package (as in row 1)	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	...	T <sub>N</sub>	Sum (Σ) of columns (iii) to (ix)  <b>= T<sub>T</sub></b>
3	Monthly performance scores for the corresponding period (as in Row 2)	S <sub>1-1,</sub> S <sub>1-2,</sub> S <sub>1-3,</sub> S <sub>1-4,</sub> ... S <sub>1-T1</sub>	S <sub>2-1,</sub> S <sub>2-2,</sub> S <sub>2-3,</sub> S <sub>2-4,</sub> ... S <sub>2-T2</sub>	S <sub>3-1,</sub> S <sub>3-2,</sub> S <sub>3-3,</sub> S <sub>3-4,</sub> ... S <sub>3-T3</sub>	S <sub>4-1,</sub> S <sub>4-2,</sub> S <sub>4-3,</sub> S <sub>4-4,</sub> ... S <sub>4-T4</sub>	S <sub>5-1,</sub> S <sub>5-2,</sub> S <sub>5-3,</sub> S <sub>5-4,</sub> ... S <sub>5-T5</sub>	.. ... ... ... ...	S <sub>N-1,</sub> S <sub>N-2,</sub> S <sub>N-3,</sub> S <sub>N-4,</sub> ... S <sub>N-TN</sub>	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	...	S <sub>N</sub>	Sum (Σ) of columns (iii) to (ix)  <b>= S<sub>T</sub></b>

ii) Calculation of Overall 'Performance Rating' (R<sub>BHEL</sub>) in case 'similar Package/Packages' for the tendered scope ARE NOT AVAILABLE, during the 'Period of Assessment':

This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for ALL the packages, divided by the total number of Package months for which evaluation should have been done. 'R<sub>BHEL</sub>' shall be calculated subject to availability of 'performance scores' for at least 6 'package months' in the order of precedence below:

- a) 'Period of Assessment.
- b) 12 months preceding the cut-off month
- c) 24 months preceding the cut-off month
- d) 36 months preceding the cut-off month

In case, R<sub>BHEL</sub> cannot be calculated as above, then Bidder shall be treated as 'NEW VENDOR'. Further eligibility and qualification of this bidder shall be as per definition of 'NEW VENDOR' described in 'Explanatory Notes'

iii) Factor “L” assigned based on Overall Performance Rating (R<sub>BHEL</sub>) at Power Sector Regions.:

Sl no	Overall Performance Rating (R <sub>BHEL</sub> )	Corresponding value of ‘L’
1	=60	NA
2	> 60 and ≤ 65	0.4
3	> 65 and ≤ 70	0.35
4	> 70 and ≤ 75	0.25
5	> 75 and < 80	0.2
6	≥ 80	NA

III. **‘Assessment of Capacity of Bidder’:**

‘Assessment of Capacity of Bidder’ is based on the Maximum number of packages for which a vendor is eligible, considering the performance scores of similar packages, as below:

Max number of packages  $P_{Max} = (R_{BHEL} - 60)$  divided by corresponding value of ‘L’  
i.e.  $(R_{BHEL} - 60)/L$

**Note:**

- In case the value of  $P_{Max}$  results in a fraction, the value of  $P_{Max}$  is to be rounded off to next whole number
- For  $R_{BHEL} = 60$ ,  $P_{Max} = '1'$
- For  $R_{BHEL} \geq 80$ , there will be no upper limit on  $P_{Max}$

The Bidder shall be considered ‘Qualified’ as per ‘Assessment of Capacity of Bidder’ for the subject Tender if  $P \leq P_{Max}$   
(where P is calculated as per clause 9.1)

IV. **Explanatory note:**

- Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or CI, etc at the individual level irrespective of rating of Plant, and irrespective of whether the subject tender is a single package or as part of combined/composite packages. Normally Boiler, ESP, Piping, Turbine, Electrical, CI, Civil, Structure, etc is considered individual level of package. For example in case the tendered scope is a Boiler Vertical Package comprising of Boiler, ESP and Power Cycle Piping (i.e the ‘identified packages as per Table-1 below), the ‘PERFORMANCE’ part against sl no II above, needs to be evaluated considering all the identified packages (ie Boiler, ESP and Power Cycle Piping) and finally the Bidder’s capacity to execute the tendered scope is assessed in line with III above
- Identified Packages (Unit wise)

**Table-1**

	Civil	Electrical & CI	Mechanical
	i). Enabling works ii). Pile and Pile Caps iii). Civil Works including foundations iv). Structural Steel Fabrication & Erection v). Chimney vi). Cooling Tower vii). Others (Civil)	i). Electrical ii). CI iii). Others (Elec & CI)	i). Boiler & Aux (All types including CW Piping if applicable) ii). Power Cycle Piping/Critical Piping iii). LP Piping iv). ESP v). Steam Turbine Generator set & Aux vi). Gas Turbine Generator set & Aux vii). Hydro Turbine Generator set & Aux viii). Turbo Blower (including Steam Turbine) ix). Material Handling x). Material Management xi). Material Handling & Material Management xii). Others (Mechanical)

- c) Bidders who have not been evaluated for at least six package months in the last 36 months in the online BHEL system for contractor performance evaluation in BHEL PS Regions, wef July'2010 shall be considered "NEW VENDOR".

A 'NEW VENDOR' shall be considered qualified subject to satisfying all other tender conditions

A 'NEW VENDOR' if awarded a job (of package/packages identified under this clause) shall be tagged as "FIRST TIMER" on the date of first LOI/ LOA from BHEL.

The "FIRST TIMER" tag shall remain till execution of work for a period of not less than 09 months, from the commencement of work of first package

A Bidder shall not be eligible for the next job as long as the Bidder is tagged as "FIRST TIMER" excepting for the Tenders which have been opened on or before the date of the bidder being tagged as 'FIRST TIMER'.

After removal of 'FIRST TIMER' tag, the Bidder shall be considered 'QUALIFIED' for the future tenders subject to satisfying all other tender conditions including 'Capacity Evaluation of Bidders'.

- d) In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of Bidders' or due to non-approval by Customer, then BHEL at its discretion reserves the right to consider the further processing of the Tender based on the **Overall Performance Rating 'R<sub>BHEL</sub>'** only, starting from the upper band.
- e) 'Under execution' shall mean works in progress as per the following:
- i. up to Boiler Steam Blowing in case of Steam Generator and Auxiliaries
  - ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
  - iii. Upto execution of at least 90% of anticipated contract value in case of Civil & Structures (unit wise), Enabling works and upto 90% of material unloading (in tonnage) as per the original contract in case of MM Package.
- Note : BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (i), (ii) and (iii) above, depending upon the balance scope of work to be completed.
- f) Performance evaluation in CL 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work.

10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.

11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.

- 12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
- 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.
- 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
- 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.
- 17.0 In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0 BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .
- However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.
- 20.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0 **Consortium Bidding** (or Technical Tie up) shall be allowed only if specified in Pre Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:
- 23.1 Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement with a validity period of six months initially. In case the consortium is awarded the contract, then the Consortium Agreement between the Prime Bidder and Consortium Partner or partners shall be extended till contractual completion period including extension periods if any applicable.

- 23.2 'Stand alone' bidder cannot become a **'Prime Bidder' or a 'Consortium bidder' or 'Technical Tie up bidder' in a consortium (or Technical Tie up) bidding.** Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.
- 23.3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR
- 23.4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work
- 23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0
- 23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'
- 23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified
- 23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.
- 23.9 Prime Bidder shall be responsible for the overall execution of the contract
- 23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats
- 23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.
- 23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
- 23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.
- 23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.
- 23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also
- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.

- 26.0 The offers of the bidders who are on the banned/ hold list as also the offer of the bidders, who engage the services of the banned/ hold firms, shall be rejected. The list of **banned/ hold firms** is available on BHEL web site [www.bhel.com](http://www.bhel.com).
- 27.0 BHEL reserves the right to go for **Reverse Auction (RA)** instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA.

In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non-submission of „online sealed bid“ by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.”

Information and General Terms and Conditions governing RA shall form part of the RFQ/ Enquiry.

- 28.0 It may please be noted that **guidelines/rules** in respect of Suspension of Business dealings’, ‘Vendor evaluation format’, ‘Quality, Safety & HSE guidelines’, etc may **undergo change** from time to time and the latest one shall be followed. The abridge version of extant ‘Guidelines for suspension of business dealings with suppliers/ contractors’ is available on [www.bhel.com](http://www.bhel.com) on “**supplier registration page**”.
- 29.0 **Micro and Small Enterprises (MSE)**  
Any Bidder falling under MSE category, shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer

Type under MSE	SC/ST owned	Others
Micro		
Small		

**Note:** - If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category.

MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM-II certificate having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (format enclosed as Annexure – 4 where deemed validity of EM-II certificate of five years has expired) applicable for the relevant financial year (last audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bids at par with other bidders. No benefits shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer.

MSEs shall be exempted from payment of tender fee.

MSEs shall be exempted from payment of earnest money at the time of tender deposit. However, there is no exemption of security deposit submission.

- 30.0 The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

List of Nodal Officers shall be hosted on BHEL web site.

31.0 Order of Precedence

In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:

- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
- b. Notice Inviting Tender (NIT)
- c. Price Bid
- d. Technical Conditions of Contract (TCC)—Volume-1A
- e. Special Conditions of Contract (SCC) —Volume-1B
- f. General Conditions of Contract (GCC) —Volume-1C
- g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD  
(SCT)

**Enclosure:-**

- (i) Annexure-1: Pre Qualifying criteria.
- (ii) Annexure-2: Check List.
- (iii) Annexure-3: Modification / Deletions in Standard Clause of General Conditions of Contract (GCC) or Special Conditions of Contract (SCC)
- (iv) Annexure-4: Chartered Accountant certificate for MSMED
- (v) Annexure-5: General Terms and Conditions of Reverse Auction (RA)
- (vi) Annexure-6: Authorization of representative who will participate in the online Reverse Auction Process
- (vii) Other Tender documents as per this NIT.

**ANNEXURE - 1****PRE QUALIFYING REQUIREMENTS**

JOB	CONSTRUCTION OF 02 NOS. CLOSED STORAGE SHEDS AND DEVELOPMENT OF OPEN STORAGE YARD AT BHEL 2X60 MW, VYASI HEP SITE, DISTT. DEHRADUN, UTTARAKHAND.
TENDER NO	<b>BHEL/ NR/SCT/VYASI HEP / EW/1006</b>

SL NO	PRE QUALIFICATION CRITERIA	APPLICABLE/ NOT APPLICABLE	Bidders claim in respect of fulfilling the PQR Criteria (Page no of supporting document. <b>Bidder must fill up this column as per applicability</b> )
A	Submission of Integrity Pact duly signed	NOT APPLICABLE	
B	<p><b><u>TECHNICAL</u></b></p> <p><b><u>Bidder who wish to participate should have:</u></b></p> <p>Experience of having successfully 'Executed' <b>Similar Works</b> during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following:</p> <p>Three (03) similar works each costing not less than the amount equal to Rs. 38 Lakhs.</p> <p style="text-align: center;"><b>OR</b></p> <p>Two (02) similar works each costing not less than the amount equal to Rs. 47.5 Lakhs.</p> <p style="text-align: center;"><b>OR</b></p> <p>One (01) similar work costing not less than amount equal to Rs. 76 Lakhs.</p>	APPLICABLE	
C	<p><b><u>FINANCIAL</u></b></p>	APPLICABLE	
C-1	<p><b><u>TURNOVER</u></b></p> <p>Bidders must have achieved an average annual financial turnover (Audited) of Rs. 28.5 Lakhs or more over last three Financial Years (FY) i.e. (2011-2012, 2012-2013, 2013-2014). Bidder shall submit audited accounts (balance sheets and profit &amp; loss account) in support of this.</p> <p>In case audited financial statements have not been submitted for all the three years as indicated above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e. total divided by three</p>		

C-2	<b>NETWORTH</b> Net worth of the Bidder based on the latest Audited Accounts as furnished for 'D-1' above should be positive. Net Worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies)	APPLICABLE	
C-3	<b>PROFIT</b> Bidder should have earned cash profit in any one of the three financial years as applicable in the last three financial years defined in 'D-1' above based on latest Audited accounts. Profit shall be NET profit (PAT +Non cash expenditure viz. depreciation) earned during any one of the three financial years as in 'D-1' above.	APPLICABLE	
D	Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT	APPLICABLE	By BHEL
E	Approval of Customer	NOT APPLICABLE	BY BHEL
F	Consortium criteria (if applicable)	NOT APPLICABLE	
<p><b><u>Explanatory Notes for QR 'B'</u></b></p> <ul style="list-style-type: none"> <li>For QR 'B' above the word 'Executed' means the bidder should have achieved the Technical Criteria, specified in the QR (as in 'B' above), even if the total contract has not been completed or closed. (The Bidder shall submit the work completion certificate issued by Customer / Contractor.)</li> <li>For QR 'B' value of work is to be updated as per the PVC formula of GCC with Indices for "All India Avg. Consumer Price Index for Industrial Workers" with base month as date of execution and indexed up to two months prior to the bid opening month. This condition will be applicable only for the completed jobs and not for the jobs in progress as on date of technical bid opening.</li> <li>If the Qualifying work is executed in the last seven years period, as specified above, even if it has been started earlier, the same will also be considered meeting the qualifying requirements.</li> <li>The word '<b>Similar Works</b>' means Enabling Works like Construction of Covered / Semi Covered Stores OR Offices OR Buildings (Commercial / Industrial / Residential) OR Open Storage Yard.</li> </ul> <p>Relevant documents, meeting above requirements at B &amp; C, shall be submitted by bidders.</p>			

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT INCLUSIVE OF WORK ORDER AND WORK COMPLETION CERTIFICATE ETC IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

**ANNEXURE - 2****CHECK LIST****NOTE:- Tenderers are required to fill in the following details and no column should be left blank**

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No:                      Date : Bank :                      Amount: Please tick ( <input type="checkbox"/> ) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with <b>PRE QUALIFICATION CRITERIA</b> (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable/Not Applicable	YES/NO
8	Copy of PAN Card	Applicable/Not Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable/Not Applicable	YES/NO
10	Integrity Pact	Applicable/Not Applicable	YES/NO
11	Declaration by Authorised Signatory	Applicable/Not Applicable	YES/NO
12	No Deviation Certificate	Applicable/Not Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/Not Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable/Not Applicable	YES/NO
15	Non Disclosure Certificate	Applicable/Not Applicable	YES/NO
16	Bank Account Details for E-Payment	Applicable/Not Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/Not Applicable	YES/NO

18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable/Not Applicable	YES/NO
20	Analysis of Unit rates	Applicable/Not Applicable	YES/NO

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE. TENDER NOT ACCOMPANIED BY THE PRESCRIBED **ABOVE APPLICABLE DOCUMENTS** ARE LIABLE TO BE SUMMARILY REJECTED.

DATE :

**AUTHORISED SIGNATORY**  
(With Name, Designation and Company seal)

**Annexure-3****Modification / Deletions in Standard Clause of General Conditions of Contract (GCC) or  
Special Conditions of Contract (SCC)**

- I. **Clause No. 4.1.4, 4.1.9 & 4.1.10 of SCC (Consumables & Other Items) shall not be applicable.**
- II. **Clause No. 4.2.2 of SCC (Obligations in respect of T&Ps and MMEs provided by BHEL) shall not be applicable.**
- III. **Clause No. 8.3.2, 8.3.3 and 8.3.4 of SCC (Statutory Inspection of Work) shall not be applicable.**
- IV. **Clause No. 2.12 of GCC (ORC) shall not be applicable.**
- V. **Clause No. 2.17 of GCC (PVC) shall not be applicable**
- VI. **Clause No. 2.13 of GCC (Interest bearing recoverable advance) shall not be applicable.**
- VII. **Clause No. 2.14.1 of GCC modified as: The quoted rates shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of Plus (+) or Minus (-) 20% of awarded contract value.**

**ANNEXURE - 4****Certificate by Chartered Accountant on letter head**

This is to Certify that M/S ..... ,  
 (hereinafter referred to as 'company') having its registered office at  
 ..... is registered under MSMED Act 2006, (Entrepreneur  
 Memorandum No (Part—II) ..... dtd:..... ,  
 Category: ..... (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per  
 the latest audited financial year ..... as per MSMED Act 2006 is as follows:

- 1. For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No. S.O.1722(E) dated October 5, 2006:

Rs.....Lacs

- 2. For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the **MSMED** Act, 2006:

Rs.....Lacs

**(Strike off which is not applicable)**

The above investment of Rs.....Lacs is within permissible limit of  
 Rs.....Lacs for ..... Micro / Small **(Strike off which is not applicable)**

Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is ..... (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name -

Membership number -

Seal of Chartered Accountant

**GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)**

Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to "REVERSE AUCTION PROCEDURE" i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit "online sealed bid" in the Reverse Auction. Non submission of "online sealed bid" by the bidder for any of the eligible items for which techno commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
3. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
4. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
5. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
6. Bidders have to fax the Compliance form before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
7. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
8. Reverse auction will be conducted on scheduled date & time.
9. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
10. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, as provided on case-to-case basis to Service provider within two working days of Auction without fail.
11. In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL's standard practice.
12. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the

„Business Rules of Reverse Auction“, which will be communicated before the Reverse Auction.

13. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action *as per extant BHEL guidelines*, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
14. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
15. In case BHEL decides to go for reverse auction, the H1(s) bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

**Authorization of representative who will participate in the on line Reverse Auction Process;**

1	NAME & DESIGNATION OF OFFICIAL	
2	POSTAL ADDRESS (COMPLETE)	
3	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
4	FAX NO.	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM S/HE WILL PARTICIPATE IN THE REVERSE AUCTION	

VOLUME- IA: TECHNICAL  
CONDITIONS OF CONTRACT (TCC)

NAME OF WORK: CONSTRUCTION OF 02  
NOS. CLOSED STORAGE SHEDS AND  
DEVELOPMENT OF OPEN STORAGE YARD AT  
BHEL 2X60 MW, VYASI HEP SITE, DISTT.  
DEHRADUN, UTTARAKHAND.



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Contents

Sl. No.	DESCRIPTION	Chapter	PAGE No.
	<b>Part-I: Contract specific details</b>		
1	Project Information	Chapter-I	3
2	Scope of Works	Chapter-II	4-14
3	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III	15-20
4	T&Ps and MMEs to be deployed by Contractor	Chapter-IV	21-22
5	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V	23
6	Time Schedule	Chapter-VI	24-25
7	Terms of Payment	Chapter-VII	26
8	Taxes and other Duties	Chapter-VIII	27-29
9	Materials and Other Requirements	Chapter-IX	30-31
10	Other Important Conditions	Chapter-X	32-35
11	Annexures	Chapter-XI	36
	<b>Part-II : Drawings</b>		<b>NO. OF SHEETS</b>
	Closed Shed Drawings		13

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- I: Project Information

---

### **PROJECT SYNOPSIS:**

Name of Customer	:	UTTARAKHAND JAL VIDYUT NIGAM LIMITED
Address	:	2X60 MW, VYASI HEP SITE, DISTT. DEHRADUN, UTTARAKHAND, INDIA.
New Installation	:	2 X 60 MW
Nearest Railway station	:	Dehradun Railway Station- 60 Kms from Project Site.
Nearest City / Town	:	Vikas Nagar- 20 Kms. Dehradun- 55 Kms.
Maximum Temperature	:	40 deg. C.
Minimum Temperature	:	0 deg. C.

**Note:- The bidder is advised to visit and examine the site of WORKS and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the CONTRACT. All costs for and associated with site visits shall be borne by the bidder.**

Contact Person for site visit- Sh C.P. Meena, Sr. Engineer (Mob-9811757049)

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

<b>2.0</b>	<b>GENERAL SCOPE OF WORK</b>
<b>2.1</b>	The tender specification covers all the works for “ <b>Construction &amp; Development of 02 No. Closed Storage Shed (Size: 10MX50M Each) including 01 No. Shed with Common Hall, Computer Room, Side Racks, Pantry &amp; Toilet, another Shed with side racks only for storage purpose and development of 3500 SQM Open Storage Yard including internal / external electrification work complete at 2X60 MW, VYASI HEP SITE, DISTT. DEHARDUN, UTTARAKHAND INDIA.</b> ” Work under this tender includes supply of all required materials, labour, consumables, transportation, sample testing such as cement, TMT, Structural Steel, Permanently colour coated GI Sheets, false ceiling, steel / wooden door, brick work, aggregates etc. for completion of Tender Scope in all respect.
<b>2.2</b>	The complete works shall be carried out as per <b>BOQ cum Rate schedule</b> . If any work covered in the scope of contract cannot be executed using items available in BOQ, additional / extra items shall be made and rates for such items shall be worked out as per <b>GCC clause 2.15.7</b> . However contractor shall be bound to execute all the works under the scope of the contract and decision whether an extra item is applicable or not, shall be taken by BHEL Engineer, which shall be binding on the contractor.
<b>2.3</b>	In case the description / specifications as per BOQ are found to be incomplete, Indian Standard Codes (IS Codes) specifications shall be followed. Quantities mentioned in the BOQ cum Rate Schedules, are approximate only and liable for variation due to change of scope of work / variation in schedule of quantities, changes in design etc. The tenderers shall undertake to execute actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out on the basis of quantities actually executed at site and payments will also be regulated for the same. The quantities indicated against each item may vary to any extent and no compensation will be payable in variation of Individual quantity.
<b>2.4</b>	Any activity which is necessarily required for satisfactory execution of any item of BOQ in line with technical specifications shall be deemed to be included in BOQ item even if it is not described in the item description and no extra payment shall be made against such activity.
<b>2.5</b>	<b>The Scope of Work comprise but not limited to the following:</b> A. Construction of Closed Storage Shed (Size: 500 SQM) with Common Hall, Computer Room, Side Racks, Pantry & Toilet etc. – 01 No. B. Construction of Closed Storage Shed (Size: 500 SQM) with side racks only for storage purpose- 01 Nos. C. Development of Open Storage Yard with Internal Roads, Drains, Security Rooms Etc.- 3500 SQM Approx. D. Fencing, External / Internal Electrification, Illumination, Sanitary and Drainage

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

	Works for above sheds. All above jobs shall be executed as per BHEL Engineer's instructions, drawings, detailed specifications and respective BOQ cum Rate Schedule.
<b>2.6</b>	<b>RESPONSIBILITY OF CONTRACTOR</b>
<b>2.6.1</b>	Furnishing all labour (skilled, unskilled etc.), materials ( <b>except those specified in BHEL scope</b> ), supervision, construction plans, equipment, supplies, transport to and from the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown or specified but reasonably implied or necessary for the proper completion, maintenance and handing over the works, in accordance with the stipulations and specifications laid down in the contract documents and additional stipulations as may be provided by the BHEL Engineer during the course of works.
<b>2.6.2</b>	Furnishing samples of all materials required by the BHEL Engineers for testing / inspection and approval, for use in the works. The samples may be retained by the BHEL Engineer for final incorporation in the works.
<b>2.6.3</b>	Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the BHEL Engineer.
<b>2.6.4</b>	Giving all notices, paying all fees, taxes etc., in accordance with the General conditions of contract that is required for all works including temporary works.
<b>2.6.5</b>	Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
<b>2.6.6</b>	Carrying out survey of the work area to establish levels and coordinates at suitable intervals from existing grid levels and coordinates furnished by the owner established bench marks, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc. as required, The contractor shall provide BHEL such assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.
<b>2.7</b>	<b>GENERAL</b>
<b>2.7.1</b>	Contractor shall furnish the <b>manufacturers test certificate</b> for the steel & cement procured by them. Apart from this all the field test shall be arranged by contractor for concrete, bricks, coarse & fine aggregate, GI Sheets etc. either at site or near by Field Quality Lab. approved by BHEL if so desired by BHEL's Engineer. All the expenses in these regards shall be borne by contractor. <b>Contractor shall procure reinforcement steel, structural steel &amp; Cement* from reputed manufacturer</b> & approval for the same shall be obtained from BHEL well in advance before ordering for the materials. *Cement shall be PPC Equivalent to OPC Grade 43 or Higher.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

2.7.2	The contractor shall visit the site and ascertain the local conditions, entry and traffic restrictions, all obstructions in the area and also ascertain all site conditions and particularly the sub-soil conditions etc. <b>The contractor at his own cost shall carry out the survey to study the properties of soil/sub soil like strength to withstand the weight of structure during all weather conditions without sinking of foundation.</b> If any of such defects like cracks, sinking of foundation etc. occur after completion of work till the performance guarantee period, it shall be rectified by contractor free of cost including the supply of materials required. No claim shall be entertained on this account under any circumstances from the contractor.
2.7.3	The contractor shall provide and maintain at his own cost pumps and other equipment to keep the work free from water and continue to do so until the handing over of the work. The contractor shall clear all trees, rubbish, vegetation, brickbats, stones etc. And dispense them suitably in allotted areas at own cost.
2.8	<b>DRAWINGS</b>
2.8.1	The detailed tentative drawings will form part of the tender documents. BHEL reserves the right to modify/alter the tender drawings, if necessary during the actual execution at site. However, the Drawings/Sketches are to be read along with specifications and shall be treated as in the scope of work. Please refer <b>Part - II for Drawings.</b>
2.8.2	<b>Drawings are indicative and strictly for tendering purpose, only meant to give an idea to tenderers about nature of job.</b> If any changes in the layout, plan, section, partition, truss, etc. are felt necessary to suit the site / work requirement, the same shall be done by contractor as per revised sketches / drawings prepared by contractor in consultation with BHEL Engineer after approval of these drawings by BHEL. Contractor shall ensure/ascertain the stability, safety of the said work. <b>Any modification/variation from the said drawings, if necessary as suggested by the contractor will have to get approved from BHEL in writing.</b>
2.9	<b>SPECIFICATION FOR CIVIL WORKS FOR OPEN STORAGE YARD, CLOSED SHEDS AND ITS ELECTRIFICATION WORK, ETC.:</b>
2.9.1	Standard specifications for various items of work for building construction as per the relevant IS-codes (latest edition) shall be applicable for this work. The work has to be executed as per standards, IS Codes specifications, drawings and as directed by BHEL Engineer to the satisfaction of BHEL.
2.9.2	<b>EXCAVATION</b>
2.9.2.1	Excavation for Column Foundations, Roads, Walls, Plinth Beam Drains and Trenches etc. shall be made as per IS specifications. Marking of Area shall be done and Levels shall be measured and recorded before start of Excavation in presence of BHEL Engineer. In case of any discrepancy regarding measurement, BHEL Engineer's decision shall be binding.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

<b>2.9.3</b>	<b>FILLING</b>
<b>2.9.3.1</b>	Any filling/loose soil met below the foundation shall be made up with lean cement concrete 1:4:8 mix (min).
<b>2.9.3.2</b>	<b>Granular Murrum Filling:</b> 150 / 100 mm thick granular murrum filling shall be done as per drawings and as per relevant IS code specifications, including watering, ramming, compaction etc. below Roads, Storage Yard, Ramp, Closed Sheds etc.
<b>2.9.3.3</b>	<b>Stone Soling:</b> Stone soling of required thickness (250 mm to 300 mm) shall be provided as per drawing below Flooring, Ramp of storage shed etc. by using 80 mm size hard broken black granite/ quartzite/ gneiss/ trap stone metal including granular murrum packing, watering & compaction etc. complete. as per standard specification and instructed by BHEL Engineer.
<b>2.9.3.4</b>	<b>Excavated Earth Filling:</b> Filling under floors, sides of foundations, drains, roads with 100mm/150mm thick layer of compacted selected earth/river sand including watering, consolidation etc. shall be executed as per IS specification and drawings if any. Basement and sides of the foundation wall shall be filled in with selected excavated earth in the layers not exceeding 150 mm including watering, consolidation etc. complete as per IS specification and as directed by BHEL Engineer.
<b>2.9.4</b>	<b>DISPOSAL</b>
	The excess/unutilized suitable earth and debris shall be disposed & levelled to the proposed mentioned area for development of Open Storage Yard. All unusable earth, debris, trees, vegetation etc. shall be disposed off at a location embarked by BHEL / Client.
<b>2.9.5</b>	<b>PCC:</b>
<b>2.9.5.1</b>	<p><b>PCC (1:4:8):</b> 100 mm thick PCC (1:4:8) shall be provided for following:</p> <ul style="list-style-type: none"> <li>i) Below RCC Footing of Columns in the Plan of 1.7m X 1.7m</li> <li>ii) Plinth Beam Base in the width of 0.6 m.</li> <li>iii) Floor Filling for Plinth raising</li> <li>iv) Floor Filling for Plinth Raising at Pantry and Bathroom</li> <li>v) Below Ramp, Drains and Internal Wall Foundations.</li> <li>vi) In the Base of Soak Pit Slab.</li> </ul> <p>200 mm thick PCC (1:4:8) shall be provided for the base of septic tank as per drawings and as directed by BHEL Engineer.</p> <p><b>PCC (1:3:6):</b> 100 mm thick PCC (1:3:6) shall be provided in the width of approx. 750 mm around the perimeter of the Closed Sheds for Plinth Protection as per standard specifications and as directed by BHEL Engineer.</p> <p><b>Coping (1:2:4):</b> 40 m thick coping of Cement Concrete (1:2:4) shall be provided over the side walls (230 mm thick) of the Drains in the Open Storage Yard.</p>

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

	<p>This shall include supplying and placing PCC at all depths below plinth level including form work, curing, all materials, tools and plants and labour complete. Concrete of 1:4:8/1:3:6/1:2:4 grade as defined in IS- 456 with 40mm/20mm and downgraded stone aggregates as per drawing and BOQ cum Rate Schedule. Nominal mix (volumetric) shall be allowed to use as per the guidelines of IS-456 (latest edition) with min. W/C ratio &amp; cement content as per IS stipulation for moderate condition. Concrete shall be produced by concrete mixer machine &amp; hand mix is generally not acceptable.</p>
<b>2.9.5.2</b>	<b>However in certain unavoidable circumstances, hand mix shall be permitted with 10% extra cement content as per the discretion of BHEL Engineer.</b>
<b>2.9.6</b>	<b>RCC</b>
<b>2.9.6.1</b>	<p><b>RCC 1:2:4 shall be provided for following Works:</b></p> <ul style="list-style-type: none"><li>i) <b>RCC Footings:</b> 250 mm thick RCC (1:2:4) Footings for Columns, of size 1.5m X 1.5m with the reinforcement of 12 mm dia. bars both ways (Lateral and Longitudinal) @ 150 mm c/c spacing, shall be provided below the column pedestals as per drawings.</li><li>ii) <b>RCC Pedestals:</b> RCC (1:2:4) Column pedestals of size 400mm X 400mm from top of the Column Footing to the F.F.L. with the reinforcement of 4 Nos. 16 mm dia. at the corners and stirrups of 8 mm dia @ 200 mm c/c spacing shall be provided as per drawings.</li><li>iii) <b>Plinth beam:</b> RCC (1:2:4) plinth Beam of size 230mm X 300 mm (W X D), with the reinforcement of 02 Nos. 20 mm dia. bars at Top, 03 Nos. 16 mm dia. bars at bottom and 8 mm dia. Stirrups (2 Legged) @ 200 mm c/c spacing, shall be provided throughout the perimeter of the Closed Sheds along the Column Foundations as per drawings.</li><li>iv) <b>Tie Beam:</b> Tie Beams of size 230mm X 300mm (WxD) of RCC (1:2:4) with the reinforcement of 02 Nos. 12 mm dia. bars at Top, 04 Nos. 12 mm dia. bars at Bottom and 8 mm stirrups (2 legged) @ 200 mm c/c spacing shall be provided for the Internal Walls.</li><li>v) <b>Lintels:</b> Lintels of size 230mm X 300mm (WxD) of RCC (1:2:4) for Windows and Ventilators, fixed in the brick walls shall be provided, with the reinforcement of 03 Nos. 12 mm dia. bars at the bottom.</li><li>vi) <b>Projections:</b> Projections for Doors and Windows of Size 450mm X 125mm (WxD) with projections of 300 mm on each side in length (Doors / Windows) of RCC (1:2:4) with the reinforcement of 12 mm dia. bars both ways (Lateral and Longitudinal) at top and bottom shall be provided as drawings and directions of BHEL Engineer.</li><li>vii) <b>RCC (1:2:4)</b> for Baffle Beam, Slab of Septic tank, Side racks and Ramp etc. shall be provided as per drawings and as directed by BHEL Engineer.</li></ul> <p>This shall include supplying and placing RCC at all depths / levels including form work, curing, all materials, tools and plants and labour complete. Concrete of 1:2:4 grade as defined in IS- 456 with 40mm/20mm and downgraded stone aggregates as per</p>

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

	<p>drawing and BOQ cum Rate Schedule. Nominal mix (volumetric) shall be allowed to use as per the guidelines of IS-456 (latest edition) with min. W/C ratio &amp; cement content as per IS stipulation for moderate condition. Concrete shall be produced by concrete mixer machine &amp; hand mix is generally not acceptable.</p> <p>For Reinforcement the IS Specifications as per SP-34 (latest addition) shall be followed. HYSD- TMT Steel bars of Grade Fe- 415 / 500 from reputed manufacturer shall be used by contractor for reinforcement purpose.</p>
<b>2.9.7</b>	<b>BRICK MASONRY</b>
<b>2.9.7.1</b>	Brick masonry shall be done by using best quality locally available burnt clay bricks / Fly Ash Lime (FAL) bricks of standard size. Minimum strength of the bricks should not be less than 75 KG/sq. cm. Other quality requirement shall be in line with the relevant IS Code. One-brick thick & Half-brick thick brickwork shall be constructed as specified, in Cement Mortar 1:6 & 1:4 respectively including linking, plumbing, levelling, pacing, joints curing etc. Including all materials, tools & plants and labour complete at all level/elevation.
<b>2.9.8</b>	<b>FORMWORK</b>
<b>2.9.8.1</b>	The formwork should be capable of carrying the dead load of concrete, the reinforcements and the forces of vibration. The form works shall be designed by the contractor and approved by BHEL Engineer. After sufficient curing period & after attaining adequate strength of concrete the formwork shall be removed with the approval of BHEL Engineer. The item of PCC/RCC shall be deemed as completed after removal of forms and required finishing is completed.
<b>2.9.9</b>	<b>ROOFING &amp; SIDE CLADDING</b>
<b>2.9.9.1</b>	<p>0.5 mm thick Permanently Profiled Color Coated GI (PPGI) Sheets over the roof trusses of sheds and for side cladding shall be supplied and fixed as per BHEL drawing including providing and fixing suitable flashing, trim closure caps, hips, ridges, galvanized iron J or L hook, bolts / self tapping screws, bituminous washers, GI cramp bolts, nuts, scaffolding etc. complete, all as per latest IS 459, 3307 and 730.</p> <p>Roof cover with FRP/RMP (2.0mm thick) sheet of size 3m X 0.9m at 5 m c/c on both side of Truss, for natural lighting shall be provided with suitable 'J' bolts, GI Cup Washers, GI Plain Washers, and Bitumen Washers / self tapping screws etc. including cutting of GI sheets in shape and size as required for fixing FRP /RMP sheets complete.</p> <p>Wind ties for protection against lifting of roof by wind etc. if any as per standard practice shall be provided by the contractor.</p>
<b>2.9.10</b>	<b>STRUCTURAL WORKS:</b>
<b>2.9.10.1</b>	All structural works like Columns, roof truss, etc. shall be carried out as per BHEL Engineer's Instructions, drawings and relevant IS Code Specifications. <b>All Associated Fitting and Fixing materials such as foundation bolts, J / L hooks, bolts, nuts,</b>

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

	<b>washers, cleats, stiffeners etc. shall be measured and paid along with the weight of Structure (Columns / Trusses etc.)</b> and No extra payments shall be made on this account or on account of scrap generated.
<b>2.9.10.2</b>	<p>Partially fabricated Structure Materials i.e. ISMB Columns, Trusses, MS Pipes etc. shall be provided by BHEL as <b>Free of Cost (FOC) materials</b> for the following Items of BOQ Cum Rate Schedule:</p> <ul style="list-style-type: none"><li>i) Item Code No. C 20: Erection and Fixing of Columns (ISMB 200)</li><li>ii) Item Code No. C21: Erection and Fixing of Roof Trusses (Tubular)</li><li>iii) Item Code No. C 25: Erection and Fixing of Side Runners of MS Pipe.</li></ul> <p>The structural steel materials being provided by BHEL is dismantled and from other BHEL sites and is available at Vyasi HEP Site. The structure materials (Columns &amp; Trusses) being provided by BHEL is complete for 02 Nos. Closed Sheds of Size 10M X 50M. As this structural material is being reused there is certain requirements of rectification, modification, fabrication, straightening, cutting, welding, checking, testing, scraping the surface to make it ready for fresh primer/ painting etc. All such works shall be carried out by the contractor as per the standards, relevant IS specifications and as directed by BHEL Engineer within the quoted rates for the relevant Item.</p>
<b>2.9.10.3</b>	<b>ISSUE AND ACCOUNTING OF STRUCTURAL STEEL (Issued as FOC item by BHEL)</b>
<b>2.9.10.3.1</b>	Materials being provided by BHEL as <b>Free of Cost (FOC)</b> shall be properly accounted for, measured and recorded before issuing the same to the contractor. Contractor shall provide all such assistance, materials, labour, supervisors, T&Ps, MMEs for Measurement, Transportation & Handling as required for issuing the Materials (FOC) and shall prepare joint records with BHEL before taking delivery of any material from BHEL Stores / any other place (within the project premises) as directed by BHEL Engineer.
<b>2.9.10.3.2</b>	Materials will be issued only for permanent works and not for making templates, other temporary works, contractor's own establishment etc. and the same shall not be taken into account for purpose of material reconciliation.
<b>2.9.10.3.3</b>	The contractor shall bear all other costs including the lifting, carting from issue points to works site/contractor's stores, custody and handling etc. and return of surplus scrap /serviceable materials to BHEL's stores to be designated by the BHEL Engineer.
<b>2.9.10.3.4</b>	All steel shall be issued in available lengths / shapes and no claims for extra payment on account of issue of non-standard lengths/shapes will be entertained.
<b>2.9.10.3.5</b>	The contractor shall submit proper account of material / material reconciliation statement for the material drawn by him from BHEL stores with every Running Account (RA) Bill. Failing compliance of this requirement further issue of material to the contractor may be suspended and no claim of compensation for delay in execution on this account shall be entertained.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

<b>2.9.10.3.6</b>	The Structural steel (Partially Fabricated) thus issued for Fabrication & Erection shall be properly accounted for as per the permissible <b>maximum allowable wastage of 4%</b> over the theoretical quantity / consumption incorporated in the works.
<b>2.9.10.3.7</b>	Any unused / serviceable quantity of Structural Steel not returned in good condition & wastages / loss / consumption beyond specified / agreed limit shall be charged at <b>penal rate of Rs. 70,000 per MT</b> for structural steel at the time of preparing final bill, during finalization of the contract. The decision of BHEL Engineer with regard to applicability of penal rates shall be final & binding upon the contractor.
<b>2.9.10.3.8</b>	Since the Structure Steel is being issued free of cost, the scrap generated shall belong to BHEL. All Structural steel of length above 2 Metre shall be considered as serviceable materials provided the materials are in good and acceptable condition. Structural Steel in length less than 2 Metre shall be treated as scrap.
<b>2.9.10.4</b>	Contractor is permitted to get steel truss & other structures fabricated at workshop outside of the plant premises with prior permission of BHEL. In this case contractor has to arrange for shop inspections periodically as required by BHEL Engineer to ensure the quality of fabrication work. Fabricated structures without inspection/certified by BHEL shall not be allowed for erection.
<b>2.9.10.5</b>	The trusses shall be tubular, fabricated in pieces of convenient length for transportation by truck and speedy erection at site. The base plates shall be welded to the trusses for fixing/resting the same on supports. Suitable cleats or fixing plates shall be provided on the trusses for holding the purlins and the bottom tie runners. Bolts shall be fixed in columns and posts by using templates for fixing truss. These foundation bolts, base plates, cleats etc. fixed with truss shall be paid under tonnage of truss only. No separate payment shall be made for templates. Work shall be done as per BHEL Drawings.
<b>2.9.10.6</b>	Any new structural materials required shall be brought to the notice of BHEL Engineer prior to ordering and procured only after the approval of BHEL Engineer. Structural Steel materials shall be bought from the BHEL approved manufacturer only and shall be confirming to the relevant IS Code specifications; contractor shall submit the manufacturing test certificate and other relevant documents for the materials as per BHEL requirement. <b>Note:</b> All efforts shall be made by contractor for reusing the materials available with BHEL and being issued to contractor as Free of Cost (FOC). New Structural Steel Materials shall only be procured if required, as approved by BHEL Engineer.
<b>2.9.11</b>	<b>SANITARY &amp; DRAINAGE WORKS:</b>
<b>2.9.11.1</b>	Necessary sanitary and plumbing works shall be provided with necessary water taps and all connections with supply lines/septic tank shall be provided by the contractor for BHEL Storage Sheds. The materials used and the location etc. shall be as per the directions of BHEL Engineer. Contractor shall procure the materials from the reputed manufacturers only as approved by BHEL Engineer. Prior Approval of sample from BHEL Engineer is necessary before supplying the materials at site.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

<b>2.9.11.2</b>	Septic tanks with soak pit/leaching cesspool shall be provided by the contractor at the location specified by BHEL complete in all respects as per IS specification. <b>The drawing attached with tender is indicative only &amp; any changes required at site shall be done as per the instruction of BHEL Engineer.</b>
<b>2.9.12</b>	<b>ELECTRICAL INSTALLATIONS</b>
<b>2.9.12.1</b>	The electrical installation shall generally be carried out in conformity with the requirements of the Indian electricity act, 1910 as amended up to date and the Indian electricity rules, 1956 framed there under and also the relevant regulations of the electric supply authority concerned as well as IS: 732-1963 (revised). Before commencement of work Contractor has to submit detail electrical layout drawings prepared by experienced & licensed electrical agency/engineer indicating the cable route, internal/external panels, cable sizing, fittings & fixtures etc. in line with the BOQ cum Rate Schedule.
<b>2.9.12.2</b>	Good workmanship is an essential requirement for compliance with the rules in the code. The work shall be carried out under the direct supervision of a person holding a valid certificate of competency, concerned for the type of work involved.
<b>2.9.12.3</b>	All outdoor/external lamps shall have weather-proof fittings of design approved by BHEL Engineer so as to effectively prevent the admission of moisture.
<b>2.9.12.4</b>	All main switches shall be of metal clad enclosed pattern, which shall be fixed at close proximity to the point of entry of supply.
<b>2.9.12.5</b>	Main and branch distribution boards shall be in accordance with Indian Standard IS 732-1963 "Code of practice for electrical wiring installation".
<b>2.9.12.7</b>	PVC conduit (concealed type) wiring system should be adopted through out and all conduit pipes/channel shall be conforming to latest IS.
<b>2.9.12.8</b>	Approved and good quality copper wire with adequate current carrying capacity/voltage rating with proper insulation as per IS should be used for the entire electrical wiring/installation.
<b>2.9.12.9</b>	The service connection from outside mains to the switchboard inside the building shall also be carried out by the contractor.
<b>2.9.13</b>	<b>EARTHING</b>
<b>2.9.13.1</b>	All Earthing system shall be in accordance with IS: 3043-1966 "Code of practice for Earthing".
<b>2.9.13.2</b>	The installation and Earthing shall generally be carried out in accordance with the Indian electricity rules 1956 as amended from time to time and the relevant regulations of the electricity supply authority concerned.
<b>2.9.13.3</b>	All plugs and sockets shall be of three-pin type, one of the pins being connected to earth.
<b>2.9.13.4</b>	Bodies of all electrical appliances shall be earthed by the use of three pin plugs. The

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

	covers of the regulators if of metallic construction shall be earthed by means of a separate earth wire. A separate earth wire shall be used for earthing these appliances.
<b>2.9.13.5</b>	All earth wires and earth continuity conductors shall be of copper/ galvanized iron. They shall be either stranded or solid bars of flat rectangular strips and may be bard, provided, due care is taken to avoid corrosion and mechanical damage to it. Inter connections of earth continuity conductors and main and branch earth wires shall be made in such a way that reliable and good electrical connections are permanently ensured.
<b>2.9.13.6</b>	The neutral conductor shall not be used as earth wire.
<b>2.9.13.7</b>	Welded, bolted and clamped joints only are permissible. For stranded conductor, sleeve connectors are permissible. Bolted connectors and their screws shall be protected against any possible corrosion.
<b>2.9.13.8</b>	The path of the earth wire shall, as far as possible, be out of reach of any person and shall be visible for inspection.
<b>2.9.13.9</b>	<b>Earthing Pits:</b> The galvanized iron pipe electrodes shall be used, which is not smaller than 38MM internal diameter and shall not be less than 4M in length and shall, as far as possible, be embedded below permanent moisture level with charcoal & salt and shall be one piece only without any joints. Earthing Pits shall be provided as per relevant IS Code specifications to fulfil the functional and statutory requirements.
<b>2.9.14</b>	<b>DEWATERING:</b>
<b>2.9.14.1</b>	It is the responsibility of the contractor to engage sufficient dewatering pump (Diesel, electrically operated) of adequate capacity for dewatering of sub-soil, rain water from excavated pit and other localized area and keep the area dry and workable till completion of entire work within their quoted rate.
<b>2.9.15</b>	<b>GENERAL NOTES FOR STEEL DOOR, WINDOWS, AND VENTILATORS</b>
<b>2.9.15.1</b>	<b>Steel Door:</b> - Pressed steel doors as per standard specification, relevant IS code and sizes shall be supplied along with frames and fixed with suitable hold fasts, fixtures and fittings.
<b>2.9.15.2</b>	<b>Steel Window:</b> - All steel Windows shall be supplied and fixed as per standard specifications of relevant IS code and instructions of BHEL Engineer with all fixtures (i.e. handles, locks, latches, hooks etc.), glazing, fittings, holdfasts etc. Complete.
<b>2.9.15.3</b>	<b>Steel Ventilators:</b> - All steel ventilators shall be supplied and fixed as per standard specifications, relevant IS code and instructions of BHEL Engineer with all fixtures (i.e. handles, locks, latches, hooks etc.), glazing, fittings, holdfasts etc. Complete.
	<b>Note:</b> Contractor shall arrange for shop inspection for all steel doors, windows, rolling shutters & trusses etc. if fabricated outside the plant before delivery at site for BHEL Engineer's clearance.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- II: Scope of Work

<b>2.9.16</b>	<b>PAINTING</b>																																							
<b>2.9.16.1</b>	All the steel items such as doors, windows, ventilators, roof trusses, purlins, columns etc. shall be provided with one coat of red oxide primer & two coats of synthetic enamel paint of approved make, colour and quality. Paint shall be applied after fixing in position to achieve uniform finishing. Rates shall be quoted taking into account cost of painting for woodwork, steel work etc.																																							
<b>2.9.16.2</b>	Three coats of white/color washing shall be provided uniformly on all wall surfaces as per IS specification.																																							
<b>2.9.17</b>	PVC water tank of Syntax or any approved make shall be supplied and erected on the R.C.C. Roof of the Rest Room. Proper Stand of Brick work for Erection of Water Tanks shall be provided over the Roof.																																							
<b>2.9.18</b>	<b>Prior Approval from BHEL Engineer</b>																																							
<b>2.9.18.1</b>	Contractor shall take prior approval from BHEL Engineer for use of Sanitary items, FRP/RMP sheets, Overhead water tanks, Doors, Windows, ventilators, Cement, Brick, Steel, structural steel and for other items as specified in respective items description and necessary <b>manufacturer's test certificate (MTC)</b> and laboratory test as required by BHEL shall be arranged by contractor within their quoted rate.																																							
<b>2.10</b>	<b>APPROVED MAKE OF MATERIALS</b>																																							
<b>2.10.1</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1. STRUCTURAL/REINF. STEEL</td> <td style="width: 5%;">:</td> <td style="width: 45%;">SAIL / TATA / JINDAL</td> </tr> <tr> <td>2. PPC EQUIV. TO OPC 43</td> <td>:</td> <td>ACC / BIRLA / JAYPEE</td> </tr> <tr> <td>3. ENAMEL PAINTS</td> <td>:</td> <td>JOHNSON &amp; NICHOLSON / BERGER/ ICI / ASIAN PAINT / NEROLAC</td> </tr> <tr> <td>4. GI &amp; MS PIPES</td> <td>:</td> <td>SURYA/ PRAKASH/ JINDAL-HISSAR/ TATA</td> </tr> <tr> <td>5. ELECTRICAL ACCESSORIES</td> <td></td> <td></td> </tr> <tr> <td>    a) SWITCHES AND SOCKETS         (MODULAR TYPE)</td> <td>:</td> <td>ANCHOR / MK / LK</td> </tr> <tr> <td>6. ELECTRICAL EQUIPMENT</td> <td></td> <td></td> </tr> <tr> <td>    a) EXHAUST FANS</td> <td>:</td> <td>ALSTOM / CROMPTON</td> </tr> <tr> <td>    b) LIGHT FITTINGS</td> <td>:</td> <td>CROMPTON/PHILIPS /WIPRO</td> </tr> <tr> <td>    c) WALL MOUNTING FANS</td> <td>:</td> <td>ORIENT/ CROMPTON/ USHA</td> </tr> <tr> <td>    d) CFL &amp; FL LAMPS / LED</td> <td>:</td> <td>PHILIPS/ WIPRO / BAJAJ</td> </tr> <tr> <td>    e) KWH METERS ETC</td> <td>:</td> <td>BHEL/ GE/ L&amp;T / HAVELS</td> </tr> <tr> <td>    f) MCBs &amp; MCB DBs (10 KA)</td> <td>:</td> <td>MDS/ L&amp;T-HAGGER/ RAJ.L/HAVELS</td> </tr> </table>	1. STRUCTURAL/REINF. STEEL	:	SAIL / TATA / JINDAL	2. PPC EQUIV. TO OPC 43	:	ACC / BIRLA / JAYPEE	3. ENAMEL PAINTS	:	JOHNSON & NICHOLSON / BERGER/ ICI / ASIAN PAINT / NEROLAC	4. GI & MS PIPES	:	SURYA/ PRAKASH/ JINDAL-HISSAR/ TATA	5. ELECTRICAL ACCESSORIES			a) SWITCHES AND SOCKETS (MODULAR TYPE)	:	ANCHOR / MK / LK	6. ELECTRICAL EQUIPMENT			a) EXHAUST FANS	:	ALSTOM / CROMPTON	b) LIGHT FITTINGS	:	CROMPTON/PHILIPS /WIPRO	c) WALL MOUNTING FANS	:	ORIENT/ CROMPTON/ USHA	d) CFL & FL LAMPS / LED	:	PHILIPS/ WIPRO / BAJAJ	e) KWH METERS ETC	:	BHEL/ GE/ L&T / HAVELS	f) MCBs & MCB DBs (10 KA)	:	MDS/ L&T-HAGGER/ RAJ.L/HAVELS
1. STRUCTURAL/REINF. STEEL	:	SAIL / TATA / JINDAL																																						
2. PPC EQUIV. TO OPC 43	:	ACC / BIRLA / JAYPEE																																						
3. ENAMEL PAINTS	:	JOHNSON & NICHOLSON / BERGER/ ICI / ASIAN PAINT / NEROLAC																																						
4. GI & MS PIPES	:	SURYA/ PRAKASH/ JINDAL-HISSAR/ TATA																																						
5. ELECTRICAL ACCESSORIES																																								
a) SWITCHES AND SOCKETS (MODULAR TYPE)	:	ANCHOR / MK / LK																																						
6. ELECTRICAL EQUIPMENT																																								
a) EXHAUST FANS	:	ALSTOM / CROMPTON																																						
b) LIGHT FITTINGS	:	CROMPTON/PHILIPS /WIPRO																																						
c) WALL MOUNTING FANS	:	ORIENT/ CROMPTON/ USHA																																						
d) CFL & FL LAMPS / LED	:	PHILIPS/ WIPRO / BAJAJ																																						
e) KWH METERS ETC	:	BHEL/ GE/ L&T / HAVELS																																						
f) MCBs & MCB DBs (10 KA)	:	MDS/ L&T-HAGGER/ RAJ.L/HAVELS																																						
<b>2.10.2</b>	Approval of BHEL Engineer is to be obtained before procurement of materials. The make of material mentioned if not available in the market or is not suiting the site conditions or the make of any material is not mentioned in the above list, equivalent make may be used after the approval from BHEL Engineer.																																							

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.1.0	<b><u>ESTABLISHMENT</u></b>			
3.1.1	<b>FOR CONSTRUCTION PURPOSE:</b>			
A	<b>OPEN SPACE FOR OFFICE</b>	Yes		BHEL shall provide free of charge limited open space for contractor's office and store as and where made available by its Customer.
B	<b>OPEN SPACE FOR STORAGE</b>	Yes		
C	<b>CONSTRUCTION OF BIDDER'S OFFICE, CANTEEN AND STORAGE BUILDING INCLUDING SUPPLY OF MATERIALS AND OTHER SERVICES</b>		Yes	
D	<b>BIDDER'S ALL OFFICE EQUIPMENT, OFFICE / STORE / CANTEEN CONSUMABLES</b>		Yes	
E	<b>CANTEEN FACILITIES FOR THE BIDDER'S STAFF, SUPERVISORS AND ENGINEERS ETC.</b>		Yes	
F	<b>FIRE FIGHTING EQUIPMENT LIKE BUCKETS, EXTINGUISHERS ETC.</b>		Yes	
G	<b>FENCING OF STORAGE AREA, OFFICE, CANTEEN ETC. OF THE BIDDER</b>		Yes	
3.1.2	<b>FOR LIVING PURPOSES OF THE BIDDER</b>			
A	<b>OPEN SPACE</b>		Yes	
B	<b>LIVING ACCOMMODATION</b>		Yes	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.2.0	<b><u>ELECTRICITY</u></b>			
3.2.1	<b><u>ELECTRICITY FOR CONSTRUCTION PURPOSES</u></b>		<b>Yes</b>	Contractor shall arrange DG Set / any alternate arrangement for Construction Power at his own cost.
3.2.1.1	<b><u>SINGLE POINT SOURCE</u></b>			
3.2.1.2	<b><u>FURTHER DISTRIBUTION FOR THE WORK TO BE DONE WHICH INCLUDE SUPPLY OF MATERIALS, ENERGY METER AND EXECUTION</u></b>		Yes	
3.2.2	<b><u>ELECTRICITY FOR THE OFFICE, STORES, CANTEEN ETC. OF THE BIDDER WHICH INCLUDE:</u></b>		Yes	
3.2.2.1	<b><u>DISTRIBUTION FROM SINGLE POINT INCLUDING SUPPLY OF MATERIALS AND SERVICE</u></b>		Yes	
3.2.2.2	<b><u>SUPPLY, INSTALLATION AND CONNECTION OF MATERIAL OF ENERGY METER INCLUDING OPERATION AND MAINTENANCE</u></b>		Yes	
3.2.2.3	<b><u>DUTIES AND DEPOSITS INCLUDING STATUTORY CLEARANCES FOR THE ABOVE</u></b>		Yes	
3.2.2.4	<b><u>LIVING FACILITIES FOR OFFICE USE INCLUDING CHARGES</u></b>		Yes	
3.2.2.5	<b><u>DEMOBILIZATION OF THE FACILITIES AFTER COMPLETION OF WORKS</u></b>		Yes	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.2.3	<b><u>ELECTRICITY FOR LIVING ACCOMMODATION OF THE BIDDER'S STAFF, ENGINEERS, SUPERVISORS ETC ON THE ABOVE LINES.</u></b>		Yes	
3.3.0	<b><u>WATER SUPPLY</u></b>			
3.3.1	<b><u>FOR CONSTRUCTION PURPOSES:</u></b>			
3.3.1.1	<b><i>MAKING THE WATER AVAILABLE AT SINGLE POINT</i></b>		<b>Yes</b>	Contractor has to arrange for construction water at his own cost by resorting to the methods like bore well, water tankers etc.
3.3.1.2	<b><i>FURTHER DISTRIBUTION AS PER THE REQUIREMENT OF WORK INCLUDING SUPPLY OF MATERIALS AND EXECUTION</i></b>		Yes	
3.3.2	<b><u>WATER SUPPLY FOR BIDDER'S OFFICE, STORES, CANTEEN ETC.</u></b>		Yes	
3.3.2.1	<b><i>MAKING THE WATER AVAILABLE AT SINGLE POINT</i></b>		<b>Yes</b>	Bidder shall arrange for safe drinking water for staff and labour at his own.
3.3.2.2	<b><i>FURTHER DISTRIBUTION AS PER THE REQUIREMENT OF WORK INCLUDING SUPPLY OF MATERIALS AND EXECUTION</i></b>		Yes	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.4.0	<b><u>LIGHTING</u></b>			
3.4.1	<b>FOR CONSTRUCTION WORK (SUPPLY OF ALL THE NECESSARY MATERIALS)</b> 1. At office storage area 2. At the construction site /area		Yes	
3.4.2	<b>FOR CONSTRUCTION WORK (EXECUTION OF THE LIGHTING WORK/ ARRANGEMENTS)</b> 1. At office storage area 2. At the construction site /area		Yes	
3.4.3	<b>PROVIDING THE NECESSARY CONSUMABLES LIKE BULBS, SWITCHES, ETC. DURING THE COURSE OF CONSTRUCTION</b>		Yes	
3.4.4	<b>LIGHTING FOR THE LIVING PURPOSES OF THE BIDDER AT THE COLONY / QUARTERS</b>		Yes	
3.5.0	<b><u>COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER</u></b>			
3.5.1	<b>TELEPHONE, FAX, INTERNET, INTRANET, E-MAIL ETC.</b>		Yes	
3.6	<b>CONSTRUCTION FACILITIES</b>			
3.6.1	<b>ENGINEERING WORKS FOR CONSTRUCTION:</b>			

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.6.1.1	<b><i>PROVIDING THE CONSTRUCTION DRAWINGS</i></b>	Yes		BHEL shall provide tentative drawings only for tendering purpose.
3.6.1.2	<b><i>DRAWINGS FOR CONSTRUCTION METHODS / DETAILED DRAWINGS AS PER SITE REQUIREMENT</i></b>		Yes	<b>In consultation with BHEL.</b>
3.6.1.3	<b><i>AS-BUILT DRAWINGS - WHERE EVER DEVIATIONS OBSERVED AND EXECUTED AND ALSO BASED ON THE DECISIONS TAKEN AT SITE</i></b>		Yes	
3.6.1.4	<b><i>SHIPPING LISTS / PROCUREMENT PLAN ETC. FOR REFERENCE AND PLANNING THE ACTIVITIES</i></b>		Yes	
3.6.1.5	<b><i>PREPARATION OF SITE CONSTRUCTION SCHEDULES AND OTHER INPUT REQUIREMENTS</i></b>		Yes	
3.6.1.6	<b><i>REVIEW OF PERFORMANCE AND REVISION OF SITE CONSTRUCTION SCHEDULES IN ORDER TO ACHIEVE THE END DATES AND OTHER COMMITMENTS</i></b>	Yes	Yes	
3.6.1.7	<b><i>WEEKLY CONSTRUCTION SCHEDULES BASED ON SL. No 3.6.1.5</i></b>		Yes	
3.6.1.8	<b><i>DAILY CONSTRUCTION / WORK PLAN BASED ON SL. No 3.6.1.7</i></b>		Yes	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.6.1.9	<i>PERIODIC VISIT OF THE SENIOR OFFICIAL OF THE BIDDER TO SITE, REVIEW THE PROGRESS SO THAT WORKS ARE COMPLETED AS PER SCHEDULE. IT IS SUGGESTED THIS REVIEW BY THE SENIOR OFFICIAL OF THE BIDDER SHOULD BE DONE ONCE IN EVERY TWO MONTHS.</i>		Yes	
3.7	<i>PREPARATION OF PREASSEMBLY BAY</i>		Yes	<b>As per Work Requirement.</b>

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- IV: T&Ps and MMEs to be deployed by Contractor**

---

A	<b><u>TOOL &amp; PLANTS (T&amp;Ps)</u></b> - INDICATIVE LIST OF T & Ps
Sl. No.	EQUIPMENT
1	CONCRETE MIXER M/C OF SUITABLE CAPACITY
2	CONCRETE VIBRATORS
3	JCB/ EXCAVATOR/ DOZER/ JACK HAMMER WITH COMPRESSOR.
4	TRUCKS/LORRIES/TRACTORS/DUMPERS
5	WATER TANKER
6	DEWATERING PUMP
7	WINCHES
8	WELDING MACHINES
9	TYRE MOUNTED MOBILE CRANES / HYDRA (14MT TO 20MT)
NOTES:	<p>1 The above list is only indicative and these T&amp;Ps may not be required for entire contract period but contractor will ensure that these T &amp; Ps are provided as per need. Contractor will assess actual quantity and period of requirement based on his experience. <b>Contractor has to mobilize / maintain adequate numbers of equipment for meeting the work schedule and intermediate milestones as notified by BHEL Engineer.</b></p> <p>2 Other terms and conditions regarding T&amp;Ps / MMEs please also refer clause for T&amp;Ps &amp; MMEs in SCC.</p> <p>3 All the tools and plants required for this scope of work are to be arranged by the contractor within the quoted rates. The list is suggestive in nature. Any additional T&amp;Ps required to be arranged by the contractor.</p> <p>4 If work gets delayed due to non-availability of T&amp;Ps, BHEL reserves the right to get the work done at the risk and cost of contractor without prejudice to rights of BHEL as in GCC.</p>

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- IV: T&Ps and MMEs to be deployed by Contractor**

<b>B</b>	<b><u>MONITORING AND MEASURING EQUIPMENTS (MMEs)</u>- INDICATIVE LIST OF MMEs</b>
<b>SL NO</b>	<b>EQUIPMENT</b>
1	TOTAL STATION
2	AUTO LEVEL
3	MEASURING TAPE
4	PLUMB BOBS
5	COMPRESSION STRENGTH TESTING EQUIPMENT
6	CONSTRUCTION MATERIAL TEST EQUIPMENT
7	CONCRETE CUBE MOULD (150mm X 150mm X 150mm)
8	CONCRETE SLUMP CONE
9	COARSE AGGREGATE SIEVES & SAND SIEVES
10	SIEVE SHAKER
NOTES:	<ol style="list-style-type: none"> <li>1. The above list is only indicative and these MMEs may not be required for entire contract period but contractor will ensure that these T &amp; Ps are provided as per need. Contractor will assess actual quantity and period of requirement based on his experience</li> <li>2. Other terms and conditions regarding T&amp;Ps / MMEs please also refer clause for T&amp;P&amp; MMEs in SCC.</li> <li>3. All the MMEs required for this scope of work are to be arranged by the contractor within the quoted rates. The list is suggestive in nature. Any additional MMEs required to be arranged by the contractor.</li> <li>4. Contractor should set up the field laboratory with facilities required for material &amp; concrete testing, alternatively all the materials used and proposed to be used for construction may be tested in an authorized and accredited laboratory outside and the material test reports shall be furnished to BHEL Engineer before use of material in work.</li> <li>5. If work gets delayed due to non-availability of MMEs, BHEL reserves the right to get the work done at the risk and cost of contractor without prejudice to rights of BHEL as in GCC.</li> </ol>

**NOT APPLICABLE**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VI: Time Schedule

<b>TIME SCHEDULE</b>		
<b>6.0</b>	<b>MOBILIZATION, TIME SCHEDULE, CONTRACT PERIOD AND GRACE PERIOD</b>	
<b>6.1</b>	<b>INITIAL MOBILIZATION</b> After receipt of LOA, Contractor shall discuss with Project Manager / Construction Manager regarding initial mobilization. Contractor shall mobilize necessary resources within 2 weeks of issue of letter of award or as per the directive of Project Manager / Construction Manager. Such resources shall be progressively augmented to match the schedule of milestones as directed by BHEL Engineer.	
<b>6.2</b>	<b>START DATE / ZERO DATE</b> The schedule date of start of work shall be the date after 2 weeks of issue of LOA; The Actual Date of Start of Contract Period (Zero Date) shall be date of handing over of site to contractor for work and shall be certified by the BHEL Engineer.	
<b>6.3</b>	<b>COMPLETION PERIOD</b> Entire work as detailed in tender specification <b>shall be completed within 4 months from the actual date of start of contract period (Zero Date)</b> . Contractor has to mobilize adequate resources to meet BHEL's commitments to their customer as indicated from time to time.	
<b>6.4</b>	Detailed Work completion Schedule will be submitted for approval by the successful bidder within 2 weeks of issue of LOA.	
<b>6.5</b>	In case due to reasons not attributable to the contractor, the work gets delayed and scheduled completion gets extended, time extension will be accordingly granted by BHEL.	
<b>6.6</b>	The work under the scope of this contract is deemed to be completed in all respects, only when all the works are carried out as per satisfaction of BHEL. The decision of BHEL on completion date shall be final and binding on the contractor.	
<b>6.7</b>	In order to meet above schedule in general, and any other intermediate targets set, to meet customer/ project schedule requirements, contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL.	
<b>6.8</b>	<b>MILESTONES FOR COMPLETION OF WORKS</b>	
<b>6.8.1</b>	COMPLETE WORKS : <b>Four (4) Months from Actual Date of Start of Contract Period (Zero Date)</b> with indicative milestones as below:	
<b>6.8.2</b>	A. Completion of Closed Storage Shed with C&I Room, In-charge Room etc.	Within 02 Months from Zero Date
	B. Completion of Closed Shed with Side Racks Only	Within 03 Months from Zero Date

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VI: Time Schedule

	C. Development of Open Storage yard Area- 2500 SQM	Within 2 Months from Zero Date
	D. Development of Open Storage Yard Area- 1000 SQM	Within 3.5 Months from Zero Date
	E. Clearing the Site and Handing over the Complete Works	Within 04 Months from Zero Date.
<b>6.9</b>	<b><u>CONSEQUENCE OF DELAY</u></b> In case of delay in completion is attributable to the contractor, BHEL may impose LD on the contractor as per GCC.	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter- VII: Terms of Payment**

---

<b>7.0</b>	<b>TERMS OF PAYMENT</b>
<b>7.1</b>	The 'Engineer' will certify regarding the actual work executed in the measurement books and bills, which shall be accepted by the contractor in measurement book.
<b>7.2</b>	<b>The Contractor shall be paid monthly running bill as per chapter - X of SCC and Clause Nos. 2.22 &amp; 2.23 of GCC.</b> The format for billing shall be approved by BHEL before raising invoices.
<b>7.3</b>	The contractor on certification of the BHEL Engineer at site is entitled for payments of his running bills which shall be subject to any deduction/retention specifically under clauses 2.22 of GCC and 10.0 of SCC.
<b>7.4</b>	<b>Interest bearing recoverable advance: Not Applicable</b>

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VIII: Taxes & Duties

<b>8.0</b>	<b>TAXES &amp; DUTIES</b> The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit. However, provisions regarding <b>Service Tax</b> and <b>Value Added Tax (VAT)</b> on output services and goods shall be as per following clauses.
<b>8.1</b>	<b>Service Tax &amp; Cess on Service Tax</b> Service Tax and Cess on Service Tax as applicable on output Services are included in contractor's scope; therefore contractor's price/rates shall be <b>inclusive</b> of Service Tax and Cess on Output Services. Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. The Service Tax Rules permit more than one option or methodology for discharging the liability of tax/levy/duty and BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor. Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. For the purpose of claiming any Service Tax from BHEL, the following procedure shall be adopted: Contractor shall submit serially numbered Service Tax and Cess Invoices, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely:  <ul style="list-style-type: none"><li>A. The name, address and registration number of the contractor</li><li>B. The name and address of the party receiving taxable service (BHEL)</li><li>C. Description, classification and value of taxable service provided and</li><li>D. The Service Tax payable thereon.</li></ul> All the four conditions shall be fulfilled in the invoice for payment of Service Tax by BHEL. Where more than one nature of Service under Service Tax Rules is involved, the invoice mentioned above shall contain the breakup of all values for each nature of Service.
<b>8.2</b>	<b>VAT (Sales Tax /WCT)</b>
<b>8.2.1</b>	<b>Civil Works:</b> As regards Value Added Tax (VAT) on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be <b>inclusive</b> of the same. Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. In case contractor opts for composition, it will be with the prior express

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VIII: Taxes & Duties

	<p>consent of BHEL. The VAT Rules permit more than one option or methodology for discharging the liability of tax/levy/duty and BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor. BHEL also reserves the right to demand "Tax Invoice" under the relevant VAT Act, from the Contractor.</p>
<b>8.2.2</b>	<p><b>Works other than Civil Works:</b> The rates quoted by the Contractor shall be inclusive of VAT/Sales Tax and BHEL shall not reimburse any amount on this account due to any reason whatsoever.</p>
<b>8.2.3</b>	<p><b>Common to all Works (Both Civil and Other than Civil)</b> The Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. Deduction of tax at source shall be made as per the provisions of law unless otherwise found exempted. In case tax is deducted at source as per the provisions of law, this is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made unless specifically agreed to. Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax/VAT Authorities, for bringing all their material, plant and equipment etc at site for the execution of the work, including arrangement of Road Permits if and as applicable under the relevant VAT Act.</p>
<b>8.3</b>	<p><b>Modalities of Tax Incidence on BHEL</b> Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.</p>
<b>8.4</b>	<p><b>New Taxes/Levies</b> In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of Price Bid. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p>

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- VIII: Taxes & Duties

	<p>In case Government imposes any new levy/tax on the output service/ goods/work after award of the contract, no reimbursement shall be made by BHEL.</p> <p>No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.</p>
--	---

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter- IX: Materials and Other Requirements

<b>9.0</b>	<b>MATERIALS</b>
<b>9.1</b>	The contractor shall, at his own expenses (Inclusive of Taxes), provide all materials (save the materials to be provided by BHEL as Free of Cost) required for the work.
<b>9.2</b>	All materials to be provided by the Contractor shall be of the best kind in conformity with the specifications laid down in the contract or as per relevant Indian standard and the Contractor shall, if requested by the BHEL Engineer, furnish proof to the satisfaction of BHEL Engineer that the materials so comply.
<b>9.3</b>	The Contractor shall, at his own expense and without delay, supply to the BHEL Engineer samples of materials proposed to be used in the works. The BHEL Engineer shall within seven days of supply of samples or within such further period as he may require will intimate to the Contractor in writing, whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the BHEL Engineer for his approval fresh samples complying with the specifications laid down in the Contract. Any delay in approval of samples (original or fresh ones) shall not make the contractor eligible for any compensation.
<b>9.4</b>	The BHEL Engineer shall have full powers for removal of any or all of the materials brought to site by the Contractor which are not in accordance with the Contract specifications or do not conform in character or quality to samples approved by him. In case of default on the part of the Contractor in removing rejected materials, the BHEL Engineer shall be at liberty to have them removed by other means. The BHEL Engineer shall have full powers to procure other proper material to be substituted for rejected materials and in the event of the Contractor refusing to comply; he may cause the same to be supplied by other means. All costs, which may attend upon such removal and / or substitution, shall be borne by the Contractor.
<b>9.5</b>	The Contractor shall indemnify BHEL, its representatives or employees against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties or other charges which may be payable in respect of any article or material or part thereof included in the Contract. In the event of any claim being made or action being brought against BHEL or any agent, servant or employee of BHEL in respect of any such matters as aforesaid, the Contractor shall immediately be notified thereof, provided that such indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by BHEL but the Contractor shall pay any royalties or other charges payable in respect of any such use, the amount so paid being reimbursed to the Contractor only if the use was the result of any drawings / specifications issued after submission of the tender.
<b>9.6</b>	The BHEL Engineer shall be entitled to have tests carried out as specified in the Contract for any materials supplied by the Contractor other than those for which, as stated above, satisfactory proof has already been furnished, at the cost of the Contractor and the Contractor shall provide at his expense all facilities which the Engineer may require for the purpose. If no tests are specified in the Contract, and such tests are required by the Engineer, the Contractor shall provide all

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter- IX: Materials and Other Requirements

	facilities required for the purpose and the charges for these tests shall be borne by the Contractor only. The cost of materials consumed in tests shall be borne by the Contractor in all cases except when otherwise provided.
<b>9.7</b>	In addition, the Contractor shall perform / submit at his own cost such tests / samples as may be required by the BHEL Engineer out of the materials used by the company except for the costs of materials used in such tests/ samples.
<b>9.8</b>	After acceptance of the Contract, if Contractor desires BHEL to supply any other materials, such material may be supplied by BHEL, if available, at rates to be fixed by the BHEL Engineer along with prevailing departmental charges (current rate of 30%). BHEL reserve the right not to issue any material. The non-issue of such material will not entitle the Contractor for any compensation whatsoever either in time or in cost.
<b>9.9</b>	Material required for the works, whether brought by the Contractor or supplied by BHEL, shall be stored by the Contractor only at places approved by the Engineer. Storage and safe custody of material shall be the responsibility of the contractor.
<b>9.10</b>	BHEL's officials concerned with the Contract shall be entitled at any time to inspect and examine any materials intended to be used in or on the works, either on the Site or at factory or workshop or other place(s) where such materials are assembled, fabricated, manufactured or at any place (s) where these are lying or from which these are being obtained and the Contractor shall give such facilities as may be required for such inspection and examination.
<b>9.11</b>	All materials brought to the Site shall become and remain the property of BHEL and shall not be removed off the Site without the prior written approval of the BHEL Engineer. But whenever the Works are finally completed and advance, if any, in respect of any such material is fully recovered, the Contractor shall at his own expense forthwith remove from the Site all surplus material originally supplied by him and upon such removal, the same shall re-vest in and become the property of the Contractor.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- X: Other Important Conditions

<b>10.0</b>	<b>EXECUTION OF WORK</b>
<b>10.1</b>	The work shall be executed in a workman like manner and to the entire satisfaction of the BHEL Engineer and as per technical specification issued with tender, IS codes, CPWD specifications as applicable. In case of conflict, the decision of the <b>BHEL</b> Engineer shall be final & binding.
<b>10.2</b>	<b>SETTING OUT</b>
<b>10.2.1</b>	All the works shall be set out to the true lines, grades and elevation indicated on the drawing. The contractor shall be responsible to locate and set out the works. Only one grid reference line and bench mark shall be made available for setting out the works under the contract. This reference lines shall be used as datum for the works under the contract and the contractor has to establish for his work area at available points horizontal and vertical control points. The contractor shall inform BHEL well in advance of the times & places at which he wishes to do work in the area allotted to him so that suitable datum points established by him are checked by BHEL / Customer to enable the contractor to proceed with the works. Any work done without being properly located may be removed and / or dismantled by BHEL / Customer at contractor's expenses.
<b>10.2.2</b>	The contractor shall at his own expense take all proper and responsible precautions to preserve and maintain these datum marks to its true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may be deemed necessarily placed by BHEL / Customer at contractor's expenses.
<b>10.3</b>	<b>SITE DRAINAGE</b>
<b>10.3.1</b>	All water including sub-soil water which may accumulate on the Site during the progress of the works or in trenches and excavations, including monsoon period shall be removed by the contractor from the Site to the satisfaction of the BHEL Engineer. It will also be responsibility of the contractor to de-water all the foundation pits, trenches with suitable de-watering methods like, pumping out, well point system etc. Considering the depth of water table at plant site. All such expenditure on de-watering shall be deemed to be included in quoted rates.
<b>10.4</b>	<b>INSPECTION AND STAGE APPROVAL OF THE WORK</b>
<b>10.4.1</b>	All work embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice in writing to the BHEL Engineer when each stage is ready. In default of such notice being received, the BHEL Engineer shall be entitled to approve the quality and extent thereof at any time he may choose and in the event of any dispute, the decision of the BHEL Engineer thereon shall be final and conclusive.
<b>10.5</b>	<b>UNCOVERING AND MAKING GOOD</b>
<b>10.5.1</b>	The Contractor shall uncover any part of the Works and/or make openings in or through the same as the BHEL Engineer may from time to time direct for his verification and shall reinstate and make good such part to the satisfaction of the BHEL Engineer. If any such part has been covered up or put out of view after being approved by the BHEL Engineer and is subsequently found on uncovering to be executed in accordance with the Contract, the expenses of uncovering and

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- X: Other Important Conditions

	/ or making opening in or through, reinstating and making good the same shall be borne by BHEL. In any other case all such expenses shall be borne by the Contractor.
<b>10.6</b>	<b>NUISANCE</b>
<b>10.6.1</b>	The Contractor shall not at any time do, cause or permit any nuisance on Site or do anything which shall cause unnecessary disturbance or inconvenience to owners, tenants or occupiers of other properties near the Site and to the public generally.
<b>10.7</b>	<b>MATERIAL OBTAINED FROM EXCAVATION</b>
<b>10.7.1</b>	Materials of any kind obtained from excavation on the Site shall remain the property of BHEL / its client and shall be disposed of as the BHEL Engineer may direct.
<b>10.8</b>	<b>TREASURE, TROVE, FOSSILS etc.</b>
<b>10.8.1</b>	All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site shall be the absolute property of BHEL / BHEL's client and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing and immediately upon discovery thereof and before removal, acquaint the BHEL Engineer with such discovery and carryout the BHEL Engineer's directions as to the disposal of the same.
<b>10.9</b>	<b>PROTECTION OF WORKS</b>
<b>10.9.1</b>	Trees designated by the BHEL Engineer shall be protected from damage during the course of the Works and earth level within 1 meter of each such tree shall not be charged. Where necessary, such trees shall be protected by providing temporary fencing.
<b>10.9.2</b>	The contractor shall provide and maintain at his own expense all lights, guards, fencing and watching when and where necessary or required by the BHEL Engineer for the protection of the Works or for the safety and convenience of those employed on the Works or the public.
<b>10.9.3</b>	The contractor shall have total responsibility for protecting his works till it is finally taken over by the BHEL. No claim will be entertained by the BHEL for any damage or loss to the contractor's works and the contractor shall be responsible for the complete restoration of the damaged works to its original condition to comply with the specifications and drawings. Should any such damage to the contractor's works occur because of other party not under his supervision or control, the contractor shall make his claim directly with the party concerned. The contractor shall not cause any delay in the repair of such damaged works because of any delay in the resolution of such disputes. The contractor shall proceed to repair the work immediately and no cause thereof will be assigned pending resolution of such disputes.
<b>10.10</b>	<b>PROTECTION OF EMBEDMENTS BOLTS ETC.</b>
<b>10.10.1</b>	The contractor shall ensure proper protection to the satisfaction of the BHEL Engineer, of all bolts, inserts, embedment etc. from weather etc. by greasing, rapping them with gunny bags or canvas or by any other means as directed by

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- X: Other Important Conditions

	BHEL Engineer. Cost of such protections shall be deemed to be included in the rates quoted for the item.
<b>10.11</b>	<b>CLEARANCE OF SITE AND REPAIRS.</b>
<b>10.11.1</b>	Contractor has to clear the site / area where mechanical and electrical erection work is to be commenced / or in progress. The contractor shall remove construction materials and equipment lying in the vicinity and causing obstruction in the erection work within 24 hrs. notice, In case he fails to clear the site, this will be done at his risk & cost by BHEL.
<b>10.12</b>	<b>QUALITY ASSURANCE</b>
<b>10.12.1</b>	The contractor has to establish / arrange at site the field testing facilities for testing of civil construction materials and concrete cubes for ensuring the proper quality, grade and strength of the materials used in the construction in line with approved field quality check list/ relevant IS Code specifications as specified by BHEL Engineer. Contractor has to submit detailed report for testing of all material used etc. All testing shall be done as per IS code specifications/ BHEL's quality plan. If further test is required by the engineer to be carried from outside laboratory, the cost of the same shall be borne by the contractor.
<b>10.13</b>	<b>COMPLETION OF WORK</b>
<b>10.13.1</b>	The works shall be completed to the entire satisfaction of the BHEL Engineer and in accordance with the completion schedule as specified in the Contract, and all unused stores and materials, tools, plant, equipment, temporary buildings, site office, labour hutments and other things shall be removed and the site and work cleared of rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the BHEL Engineer at the Contractor's expenses.
<b>10.13.2</b>	BHEL shall have power to take over from the Contractor from time to time such sections of the work as have been completed to the satisfaction of the BHEL Engineer. Such work however shall not be treated as have been completed until the extra works are executed to the satisfaction of BHEL Engineer.
<b>10.14</b>	<b>COMMENCEMENT OF GUARANTEE PERIOD</b>
<b>10.14.1</b>	<b>The Guarantee period shall commence only after completion &amp; handing over of the entire works.</b> The BHEL Engineer shall certify to the contractor the date on which the work is completed & handed over and the date thereof for commencement of Guarantee Period. The duration of Guarantee Period shall be as per GCC.
<b>10.15</b>	<b>METHOD OF MEASUREMENT</b>
<b>10.15.1</b>	Method of measurements if not specified in the tender, shall be as per relevant IS Codes / CPWD codes.
<b>10.16</b>	<b>HSE &amp; OHSAS:</b>
	<b>The contractor shall comply with the requirements / stipulations of Chapter-IX of SCC towards Health, Safety and Environment.</b>
<b>10.17</b>	<b>DISCREPANCIES AND ADJUSTMENT OF ERRORS:</b>
<b>10.17.1</b>	The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter- X: Other Important Conditions

	small scale drawings and figures dimensions in preference to scale and special conditions in preference to general conditions.
<b>10.17.2</b>	In case of discrepancies between schedules of quantities, the specification and / or the drawings, the following order of preference shall be observed: (a) Description in schedule of quantities. (b) Technical Conditions of Contract (c) Drawings (d) Technical Specifications / Standard Specifications (e) Special Conditions of Contract (f) General conditions of contract
<b>10.17.3</b>	If there are varying or conflicting provisions made in any one document forming part of the contract, the BHEL Engineer shall be the deciding authority with regard to the document.
<b>10.17.4</b>	Any error in description, quantity in schedule of quantities or any omission therefrom shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to the drawings and specifications or from any of his obligations under the contract.
<b>10.18</b>	<b>MODIFICATION/ DELETION OF GCC &amp; SCC CLAUSES:</b> I. Clause No. 4.1.4, 4.1.9 & 4.1.10 of SCC (Consumables & Other Items) shall not be applicable. II. Clause No. 4.2.2 of SCC (Obligations in respect of T&Ps and MMEs provided by BHEL) shall not be applicable. III. Clause No. 8.3.2, 8.3.3 and 8.3.4 of SCC (Statutory Inspection of Work) shall not be applicable. IV. Clause No. 2.12 of GCC (ORC) shall not be applicable. V. Clause No. 2.17 of GCC (PVC) shall not be applicable VI. Clause No. 2.13 of GCC (Interest bearing recoverable advance) shall not be applicable. VII. Clause No. 2.14.1 of GCC modified as: The quoted rates shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limits of Plus (+) or Minus (-) 20% of awarded contract value.

TECHNICAL CONDITIONS OF CONTRACT (TCC)  
Chapter- XI: Annexures

---

**Annexure - A**

**UNPRICED RATE SCHEDULE**

**Scope Of Work :-** Construction of 02 Nos. Closed Storage Sheds and Development of Open Storage Yard at BHEL 2x60 MW, Vyasi HEP Site, Distt. Dehradun, Uttarakhand.

Sl.	Description of Works	Lump sum Price ("A") in Rupees (In Figures and word) are to be quoted.
1	<b>Lumpsum price for the work of</b> "Construction of 02 Nos. Closed Storage Sheds and Development of Open Storage Yard at BHEL 2x60 MW, Vyasi HEP Site, Distt. Dehradun, Uttarakhand."	/
<b>Total Amount (in Rs.)</b>		/

**NOTE:-** The rates of different items for the entire scope shall be worked out & awarded as per Annexure 'B'.

## BOQ CUM RATE SCHEDULE

SCOPE: CONSTRUCTION OF 02 NOS. CLOSED STORAGE SHEDS AND DEVELOPMENT OF OPEN STORAGE YARD AT 2X60 MW VYASI HEP SITE, DISTT. DHRADUN, UTTARAKHAND. SCOPE INCLUDES 01 NO. CLOSED STORAGE SHED WITH OFFICE, CONFERENCE HALL, PANTRY, TOILET ETC. AND 01 NO. CLOSED STORAGE SHED FOR STORGAE PURPOSE ONLY WITH SIDE RACKS, REUSING THE STRUCTURAL STEEL MATERIALS TRANSPORTED FROM OTHER BHEL SITES TO VYASI HEP SITE.

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
	SECTION C	CIVIL WORKS FOR CONSTRUCTION OF 02 NO. CLOSED STORAGE SHEDS (10MX50MX5M)					
		EARTH WORK					
1	C1	EARTH WORK IN EXCAVATION FROM 0 (ZERO) TO 2 M DEPTH IN ALL KINDS OF SOIL (EXCEPT SOFT ROCK AND HARD ROCK) FOR FOUNDATIONS, SEPTIC TANK, SOAK PIT, RAMPS ETC., AS DIRECTED BY BHEL ENGINEER INCLUDING REMOVING THE EXCAVATED MATERIALS UP TO A DISTANCE OF 50M, DEWATERING (BOTH GROUND WATER AS WELL AS RAIN WATER) AND KEEP THE AREA DRY TILL COMPLETION OF ALL THE WORKS, INCLUDING LABOURS, MATERIALS AND REQUIRED T&Ps ETC. COMPLETE.	CUM	406	1.6543		
2	C2	EARTH WORK IN EXCAVATION FROM 0 (ZERO) TO 2 M DEPTH FOR SOFT ROCK AND HARD ROCK (BY MANUAL CHISELING OR BY MECHANICAL MEANS BUT WITHOUT BLASTING) FOR FOUNDATIONS, SEPTIC TANK, SOAK PIT, RAMP ETC., AS DIRECTED BY BHEL ENGINEER INCLUDING REMOVING THE EXCAVATED MATERIALS UP TO A DISTANCE OF 50M, DEWATERING (BOTH GROUND WATER AS WELL AS RAIN WATER) AND KEEP THE AREA DRY TILL COMPLETION OF ALL THE WORKS, LABOURS, MATERIALS AND REQUIRED T&Ps ETC. COMPLETE.	CUM	103	2.7329		
3	C3	EARTH WORK IN EXCAVATION FROM 2.0 M TO 4.0 M DEPTH IN ALL KINDS OF SOIL (EXCEPT HARD ROCK AND SOFT ROCK) FOR FOUNDATIONS, SEPTIC TANK, SOAK PIT, RAMPS ETC., AS DIRECTED BY BHEL ENGINEER INCLUDING REMOVING THE EXCAVATED MATERIALS UP TO A DISTANCE OF 50M, DEWATERING (BOTH GROUND WATER AS WELL AS RAIN WATER) AND KEEP THE AREA DRY TILL COMPLETION OF ALL THE WORKS, LABOURS, MATERIALS AND REQUIRED T&Ps ETC. COMPLETE.	CUM	7	2.2334		
4	C4	EXCAVATION IN ALL KINDS OF SOIL INCLUDING SOFT & HARD ROCK (BY MANUAL CHISELING OR BY MECHANICAL MEANS BUT WITHOUT BLASTING) FROM 2 M TO 4 M DEPTH FOR SEPTIC TANK AND SOAK PIT, WHEREVER REQUIRED INCLUDING REMOVING THE EXCAVATED MATERIALS UP TO A DISTANCE OF 50 M, DEWATERING (BOTH GROUND WATER AS WELL AS RAIN WATER) AND KEEP THE AREA DRY TILL COMPLETION OF ALL THE WORKS, LABOURS, MATERIALS AND REQUIRED T&Ps ETC. COMPLETE.	CUM	27	3.6894		
5	C5	SUB GRADE PREPARATION: CUTTING LEVELLING, FILLING WITH EXCAVATED EARTH, WATERING AND CONSOLIDATION FOR PLINTH PROTECTION AREA BEFORE LAYING THE PCC WITH ALL T&Ps, LABOURS, MATERIALS ETC. COMPLETE.	SQM	193	0.7722		
6	C6	DISPOSAL OF EXCAVATED EARTH / ROCK (NOT SUITABLE FOR BACK FILLING / EXTRA) BEYOND INITIAL LEAD OF 50M AND UPTO A MAXIMUM LEAD OF 2 KM OR PART THEREOF INCLUDING LOADING, UNLOADING, TRANSPORTING AND SPREADING AS PER DIRECTION OF BHEL ENGINEER.	CUM	131	1.2804		
7	C7	BACKFILLING OF FOUNDATION, FLOORS AND PLINTH IN LAYERS NOT EXCEEDING 150 MM THICK. INCLUDING WATERING AND CONSOLIDATING ETC. COMPLETE AS PER STANDARD SPECIFICATION AND INSTRUCTED BY BHEL ENGINEER.					
8	I	WITH GOOD EXCAVATED SOIL AVAILABLE FROM THE EARTH WORK.	CUM	410	1.1327		
9	II	WITH GRANULAR MURUM IN LAYERS (THICKNESS OF EACH LAYER SHOULD NOT EXCEED 150 MM) BELOW FOUNDATIONS, AND RAMP AS PER STANDARD SPECIFICATION, RELEVANT DRAWINGS AND INSTRUCTED BY BHEL ENGINEER INCLUDING ROYALTY. CONTRACTOR HAS TO SUBMIT ROYALTY CERTIFICATE FROM CONCERNED STATE GOVT. MINING DEPARTMENT.	CUM	53	7.2149		
10	III	WITH GOOD EARTH BROUGHT FROM OUTSIDE FROM CONTRACTOR'S OWN SOURCE INCLUDING ROYALTY ETC.	CUM	22	3.4409		
11	C8	PROVIDING & FILLING IN SOAK PIT WITH BRICK BATS 40-80MM INCLUDING SAND PACKING ETC. COMPLETE, AS PER STANDARD SPECIFICATION AND INSTRUCTED BY BHEL ENGINEER.	CUM	9	6.6871		
12	C9	PROVIDING STONE SOLING OF REQUIRED THICKNESS AS PER DRAWING BELOW FLOORING, RAMP OF STORAGE SHED ETC. BY USING 80 MM SIZE HARD BROKEN BLACK GRANITE/ QUARTZITE/ GNEISS/ TRAP STONE METAL INCLUDING GRANULAR MURRUM PACKING, WATERING & COMPACTION ETC COMPLETE. AS PER STANDARD SPECIFICATION AND INSTRUCTED BY BHEL ENGINEER	CUM	278	8.9273		
13	C10	PROVIDING AND LAYING OF PLAIN CEMENT CONCRETE OF MIX 1:4:8 USING PPC CONFIRMING TO IS 1489 (Part-I), 20 MM DOWN SIZE HARD BROKEN GRANITE STONE AGGREGATE FOR FOUNDATION, FLOORING, COLUMN ETC. INCLUDING SHUTTERING, FINISHING, CURING, CONSOLIDATION ETC. COMPLETE AS PER STANDARD SPECIFICATIONS AND AS DIRECTED BY BHEL ENGINEER.	CUM	142	45.2040		
14	C11	PROVIDING AND LAYING OF 100 MM THICK PLAIN CEMENT CONCRETE OF MIX 1:3:6 USING PPC CONFIRMING TO IS 1489 (Part-I), 20 MM DOWN SIZE HARD BROKEN GRANITE STONE AGGREGATE FOR PLINTH PROTECTION WITH TROWEL FINISH INCLUDING SHUTTERING, FINISHING, CURING, CONSOLIDATION ETC. COMPLETE AS PER STANDARD SPECIFICATIONS AND AS DIRECTED BY BHEL ENGINEER.	CUM	16	51.6803		
15	C12	PROVIDING AND LAYING OF RCC MIX 1:2:4 USING PPC CONFIRMING TO IS 1489 (Part-I), 20MM DOWN SIZE HARD BROKEN GRANITE STONE AGGREGATE INCLUDING MECHANICAL MIXING, VIBRATION, CURING, FORM WORK & CENTERING AS PER DRAWING AND SPECIFICATION AND AS DIRECTED BY BHEL ENGINEER BUT EXCLUDING COST OF REINFORCEMENTS.	CUM	98	65.3000		

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
16	C 13	PROVIDING AND LAYING DPC (DAMP PROOF COURSE) 50MM THICK IN 1:2:4 CEMENT CONCRET LAYER USING PPC CONFIRMING TO IS 1489 (Part-I) AND 6 MM DOWN AGGREGATE, INCLUDING FORMWORK, BITUMEN FELT (WITH BITUMEN OF GRADE OF VG-10 OF APPROVED QUALITY USING 1.7 KG PER SQUARE METRE ON DAMP PROOF COURSE AFTER CLEANING THE SURFACE WITH BRUSHES AND FINALLY WITH A PIECE OF CLOTH LIGHTLY SOAKED IN KEROSENE OIL) USING CEMENT WITH WATER PROOFING COMPOUND ETC. COMPLETE	SQM	68	3.6753		
17	C 14	PROVIDING, CUTTING, BENDING AND FIXING IN POSITION REINFORCEMENT OF VARIOUS DIA. USING HIGH TENSILE TMT STEEL (Fe - 415/500) FOR FOUNDATIONS, COLUMNS, BEAMS, FLOORS, SUNSHED, SLAB ETC. AS PER DRAWING AND SPECIFICATION AND AS DIRECTED BY BHEL ENGINEER INCLUDING COST OF ALL MATERIALS, LEADS, LIFT, LABOURS, MS BINDING WIRE 18/20 GAUGE, TACK WELDING AND SUPPORTING IF REQUIRED COMPLETE.	MT	10.7	714.7437		
18	C 15	PROVIDING BRICK WORK IN CM 1:6 (1 CEMENT & 6 COARSE SAND) USING PPC CONFIRMING TO IS 1489 (Part-I), AND LOCALLY AVAILABLE BURNT CLAY BRICKS (CLASS DESIGNATION 7.5) AS PER DRAWING AND SPECIFICATION FOR FOUNDATION, SUPER STRUCTURE, SEPTIC TANK ETC. INCLUDING COST OF ALL MATERIALS, LABOUR, SCAFFOLDING, CURING , AT ALL ELEVATIONS AND LEVELS , RAKING OUT JOINTS ETC. COMPLETE AND AS DIRECTED BY ENGINEER . EXCLUDING PLASTERING & PAINTING.	CUM	79	46.5420		
19	C 16	PROVIDING BRICK WORK IN CM 1:6 (1 CEMENT & 6 COARSE SAND) USING PPC CONFIRMING TO IS 1489 (Part-I) AND FLY ASH LIME BRICKS (CLASS DESIGNATION 7.5) AS PER DRAWING AND SPECIFICATION FOR FOUNDATION, WALL, SEPTIC TANK ETC. INCLUDING COST OF ALL MATERIALS, LABOUR, SCAFFOLDING, CURING , AT ALL ELEVATIONS AND LEVELS , RAKING OUT JOINTS ETC. COMPLETE AND AS DIRECTED BY BHEL ENGINEER . EXCLUDING PLASTERING & PAINTING.	CUM	194	49.8898		
20	C 17	PROVIDING HALF BRICK WORK, PARTITION WALL IN CM 1:4 (1 CEMENT & 4 COARSE SAND) USING PPC CONFIRMING TO IS 1489 (Part-I) AND LOCALLY AVAILABLE BURNT CLAY BRICKS (CLASS DESIGNATION 7.5) AS PER DRAWING AND SPECIFICATION FOR FOUNDATION, WALL ETC INCLUDING COST OF ALL MATERIALS, LABOUR, SCAFFOLDING, RAKING OUT JOINTS,CURING AS PER DRAWING AND DIRECTED BY BHEL ENGINEER.	SQM	1.9	7.2300		
22	C 19	SUPPLY, FABRICATION AND ERECTION OF STRUCTURAL STEEL BEAMS (ISMB), PLATES, CHANNELS, JOISTS, GUSSET PLATES, BOLTS, NUTS ETC. COMPLETE AS PER DRAWINGS AND AS DIRECTED BHEL ENGINEER FOR ISMB - 200 COLUMNS FOR CLOSED STORAGE SHEDS INCLUDING PROVIDING AND FIXING FOUNDATION BOLTS TO FIX THE COLUMNS TO FOUNDATIONS, ALL MATERIALS, LABOUR, T&Ps ETC. , ONE COAT OF PRIMER , FOLLOWED BY TWO COATS OF SYNTHETIC ENAMEL PAINT OF APPROVED MAKE, COLOUR AND TEXTURE FOR FINISHED PRODUCTS AT SITE INCLUDING PREPARATION OF DESIGN & DETAILED FABRICATION DRAWINGS AND GETTING APPROVED FROM BHEL COMPLETE AS PER IS CODES, SPECIFICATIONS AND DIRECTION OF BHEL ENGINEER.	MT	0.5	745.9893		
23	C 20	ERECTION, FIXING AND ALIGNMENT OF ISMB-200 COLUMNS FOR CLOSED STORAGE SHEDS. RATE SHALL BE INCLUSIVE OF ISSUING THESE COLUMNS FROM BHEL STROES / YRAD, LOADING & UNLOADING, TRANSPORTATION (AT SITE), FABRICATION (IF ANY), PROVIDING & FIXING IN POSITION WITH HOLDING DOWN BOLTS, LABOUR, T&Ps, CLEANING / SCRAPPING THE COLUMNS TO RECIEVE THE FRESH PRIPMER / PAINT, AND COST OF RED OXIDE PRIMER AND TWO COATS OF SYNTHETIC ENAMEL PAINTS (OVER PRIMER COAT OF RED OXIDE) OF APPROVED MAKE, COLOUR AND QUALITY AT SITE, AS PER SPECIFIATIONS, STANDARDS AND AS DIRECTED BY BHEL ENGINEER.  NOTE: STRUTURAL STEEL COLUMNS SHALL BE PROVIDED BY BHEL AS FREE OF COST (FOC) ITEM. COLUMNS SHALL BE THOROUGHLY CLEANED, STRAIGHTENED AND RECTIFIED AS PER SITE REQUIREMENT AND AS DIRECTED BY BHEL ENGINEER.	MT	7.42	104.7247		
24	C 21	ERECTION, FIXING, JOINTING AND ALIGNMENT OF TUBULAR TRUSSES (BY USING CLASS B, MEDIUM QUALITY PIPE) AS PER BHEL APPROVED DRAWING WITH WIND TIES (USING FLAT OF SIZE 40X5MM) TO BE PROVIDED ABOVE SHEETS AND PROVIDING & FIXING BASE PLATES WITH HOLDING DOWN BOLTS ON ISMB COLUMNS, GUSSETS, RIBS, PINS, SPLICES ETC. AS REQUIRED INCLUDING TRANSPORT, LOADING, UNLOADING FROM FABRICATION YARD / STORE TO SITE ETC. COMPLETE. RATE IS INCLUSIVE OF ALL MATERIALS, LOADING & UNLOADING, FABRICATION, FIXING IN POSITION, LABOUR, T&Ps AND COST OF RED OXIDE PRIMER AND TWO COATS OF SYNTHETIC ENAMEL PAINTS (OVER PRIMER COAT OF RED OXIDE) OF APPROVED MAKE, COLOUR AND QUALITY AT SITE.  NOTE: TRUSSES SHALL BE ISSUED BY BHEL AS FREE OF COST (FOC) ITEM.THE TRUSSES SHALL BE THOROUGHLY CLEANED, STRAIGHTENED AND SURFACE PREPARED FOR RECEIVING THE FRESH PRIMER / PAINT. THUS PREPARED TRUSSES SHALL BE THOROUGHLY CHECKED FOR THEIR CORRECTNESS AND RECTIFIED AS REQUIRED AND AS DIRECTED BY BHEL ENGINEER BEFORE ERECTION.	MT	13.5	106.9566		
25	C22	DESIGN, SUPPLY, FABRICATING AND ERECTION OF TUBULAR TRUSSES (BY USING CLASS B, MEDIUM QUALITY PIPE) AS PER APPROVED DRAWING WITH WIND TIES (USING FLAT OF SIZE 40X5MM) TO BE PROVIDED ABOVE SHEETS AND PROVIDING & FIXING BASE PLATES WITH HOLDING DOWN BOLTS ON ISMB COLUMNS, GUSSETS, RIBS, PINS, SPLICES ETC. AS REQUIRED INCLUDING TRANSPORT, LOADING, UNLOADING CHARGES FROM FABRICATION YARD TO SITE ETC. COMPLETE. RATE IS INCLUSIVE OF ALL MATERIALS, LOADING & UNLOADING, FABRICATION, FIXING IN POSITION, LABOUR CHARGES, T&Ps AND COST OF RED OXIDE PRIMER AT FABRICATION YARD AND TWO COATS OF SYNTHETIC ENAMEL PAINTS (OVER PRIMER COAT OF RED OXIDE) OF APPROVED COLOUR AND QUALITY AT SITE, PREPARATION OF DETAILED DESIGN & FABRICATION DRAWINGS AND GETTING APPROVED FROM BHEL ETC. COMPLETE AS PER DIRECTIONS OF BHEL ENGINEER.	MT	1.36	821.8715		

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
26	C 23	<b>ERECTION AND FIXING THE SIDE RUNNERS OF MS PIPES INCLUDING PROVIDING AND FIXING THE CLEATS, BOLTS, NUTS &amp; WASHERS ETC.</b> RATE IS INCLUSIVE OF ALL MATERIALS, LOADING & UNLOADING, FABRICATION, FIXING IN POSITION, LABOUR CHARGES, T&Ps AND COST OF RED OXIDE PRIMER AND TWO COATS OF SYNTHETIC ENAMEL PAINTS (OVER PRIMER COAT OF RED OXIDE) OF APPROVED MAKE COLOUR AND QUALITY AT SITE.  <b>NOTE: SIDE RUNNERS (MS PIPES) SHALL BE PROVIDED BY BHEL AS FREE OF COST (FOC) ITEM.</b> PIPES SHALL BE THOROUGHLY CLEANED, STRAIGHTENED AND RECTIFIED AS PER SITE REQUIREMENT AND AS DIRECTED BY BHEL ENGINEER.	MT	3.24	104.7247		
27	C 24	<b>PROVIDING AND FIXING 0.5MM THICK PPGI SHEETS OVER THE ROOF OF SHED AND FOR SIDE CLADDING</b> AS PER BHEL DRAWING INCLUDING FIXING FALSHING, RIDGES, HIPS, GALVANISED IRON J OR L HOOK, BOLTS, SELF TAPING SCREWS WITH EPDM SEAL, BITUMINOUS WASHERS, GI CRAMP BOLTS, NUTS, SCAFFOLDING ETC. COMPLETE, ALL AS PER LATEST IS 459, 3307 AND 730 COMPLETE AS PER DIRECTIONS OF BHEL ENGINEER.	SQM	1678	6.1145		
28	C 25	<b>PROVIDING AND FIXING OF TRANSLUCENT UV STABILISED RMP/FRP (FIBRE GLASS REINFORCED PLASTIC) SHEETS - 2.00 MM THICK</b> OF APPROVED MAKE INCLUDING COST OF GI J OR L HOOKS, BOLTS, SCREWS, NUTS, WASHERS, BITUMEN WASHERS, SCAFFOLDING ETC. COMPLETE SO AS TO MATCH WITH PPGI SHEETS FOR NATURAL LIGHTING.	SQM	81	9.4853		
29	C 26	<b>PROVIDING AND FIXING OF FALSE CEILING OF 12.5 MM THICK TAPERED EDGE GYPSUM PLAIN BOARD CONFIRMING TO IS:2095 PART I</b> WITH 4MM THICK PANELS OF APPROVED QUALITY AND DESIGN OF SIZE 600x600 MM WITH SQUARE EDGES SUPPORTED BY ANODISED ALUMINIUM FRAMES OF TEES 35x23.5x1.5 MM THICK AS MAIN MEMBER AND 19x23.5x1.5 MM TEES AS CROSS SUPPORTING MEMBERS AND WALL ANGLES OF 23.5x23.5x1.5MM. THE MAIN RUNNERS SHALL BE SUSPENDED FROM ROOF AT 1200 MM CENTRE TO CENTRE BY MEANS OF MS RODS WITH GI 'J' THREADED HOOK FOR ADJUSTMENTS. THE CROSS RUNNERS SHALL BE FIXED TO MAIN RUNNER TO FORM A GRID PATTERN OF 600x600MM AND PROVIDING 25 MM WIDE ALUMINIUM STRIP TEES OR MOULDED SECTIONS AT ALL JOINTS. THE RATE SHALL BE INCLUSIVE OF TWO COATS OF APPROVED OBD ON GYPSUM BOARD, SUPPLY & FIXING OF ALUMINIUM FRAME AND SCAFFOLDING ETC. COMPLETE.	SQM	92	8.9809		
30	C 27	<b>PROVIDING AND FIXING OF BEST QUALITY COUNTRY WOOD DOORS COMPRISING OF FRAME 95MM X 70MM AND 38/40 MM THICK FLUSH SHUTTERS</b> OF SOLID CORE TYPE USING COMMERCIAL PLY INCLUDING HOLD FASTS, WIND APPLIANCES, HANDLES, TOWER BOLTS AND ALDROPS, MORTISE OR SUITABLE LOCKS ETC. AS PER THE STANDARD PRACTICE AND APPLYING TWO COATS OF SYNTHETIC ENAMEL PAINT OF APPROVED SHADE & COLOR OVER A COAT OF PRIMER AS DIRECTED BY BHEL ENGINEER.	SQM	9	26.6324		
31	C 28	<b>PROVIDING AND FIXING OF BEST QUALITY PVC PANELLED DOORS OF THICKNESS 29MM</b> , SINTEX/BAJAJ MAKE OR APPROVED EQUIVALENT FOR TOILETS INCLUDING ALL FITTINGS AND FIXTURES, MS ANGLE FRAME OF SIZE 40 X 40 X 6 MM ETC. INCLUDING PRIMER, PAINTING ALL COMPLETE AS PER DRAWINGS AND SPECIFICATIONS.	SQM	2	44.9156		
32	C 29	<b>PROVIDING AND FIXING OF 18 GAUGE M.S. SHEET DOOR WITH FRAME WORK 40 X 40 X 6 MM M.S. ANGLE</b> INCLUDING LOCKING ARRANGEMENTS, HOLD FAST, APPLYING ANTICORROSSIVE PRIMER COAT OF RED LEAD PAINT AND 2 COATS OF SYNTHETIC ENAMEL PAINT OF APPROVED COLOUR COMPLETE AS DIRECTED BY BHEL ENGINEER.	SQM	3	32.8302		
33	C 30	<b>SUPPLYING, MANUFACTURING AND FIXING IN POSITION OF STEEL WINDOWS AND VENTILATORS INCLUDING FRAMES &amp; IRON BARRED (GUARD BAR OF SQUARE SECTION @ 100 MM C/C) AND GLAZED WITH 4MM PLAIN GLASS</b> AS PER STANDARD SPECIFICATIONS & RELEVANT IS CODE AND INSTRUCTIONS OF BHEL ENGINEER. THE COST SHALL BE INCLUSIVE OF ALL ACCESSORIES FITTINGS, HOLD FASTS, PAINTING TWO COATS OF SYNTHETIC ENAMEL PAINT OF APPROVED COLOUR AND QUALITY OVER ONE COAT OF RED OXIDE PRIMER ETC. COMPLETE.					
34	A	<b>STEEL WINDOWS</b>	SQM	14	9.3826		
35	B	<b>STEEL LOUVERED VENTILATORS</b>	SQM	2	9.3826		
36	C31	<b>PROVIDING AND FIXING OF IPS FLOORING 40MM THICK</b> USING PPC CONFIRMING TO IS 1489 (Part-I) WITH CEMENT CONCRETE 1:2:4 (USING 12 MM DOWN AGGREGATES) AS PER STANDARD PRACTICE IN PANELS OF SIZE NOT EXCEEDING 2.0 x 2.0 SQ.M BY PROVIDING, FIXING GLASS STRIPS. INCLUDING CURING & CLEANING ETC. COMPLETE	SQM	949	3.1296		
37	C 32	<b>PROVIDING 2MM THICK NEAT CEMENT FINISH</b> USING PPC CONFIRMING TO IS 1489 (Part-I) OVER CONCRETE BASE FOR FLOORING, PAVING, PLASTERED SURFACE ETC. INCLUDING CURING & CLEANING AND SCAFFOLDING COMPLETE.	SQM	1037	0.4056		
38	C 33	<b>PROVIDING AND LAYING OF 5.5 MM THICK CERAMIC TILES OF APPROVED MAKE CONFIRMING TO IS: 15622</b> , REQUIRED SIZE IN COLOURS WHITE, IVORY, GREY, FUME RED BROWN, LAID OVER THE BED OF CM - 1:4 (1 CEMENT & 4 COARSE SAND) USING PPC CONFIRMING TO IS 1489 (Part-I) INCLUDING POINTTING THE JOINTS WITH WHITE CEMENT AND MATCHING PIGMENT ETC. COMPLETE. TILES FROM REPUTED MANUFACTURER LIKE JONSON OR EQUIVALENT INCLUDING ALL MATERIALS COMPLETE AS PER STANDARD PRACTICE AND SPECIFICATION.					
39	I	<b>(I) FLOORING - 300MM X 300MM</b>	SQM	63	9.1739		
40	II	<b>(II) SKIRTING - 300MM X 150MM</b>	SQM	5	9.7319		

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
41	C 34	SUPPLYING AND FIXING OF WHITE GLAZED TILES OF REQUIRED SIZES LAID OVER THE BED OF CM - 1:4 (1 CEMENT & 4 COARSE SAND) USING PPC CONFIRMING TO IS 1489 (Part-I). DADO IN TOILET & PANTRY ROOM UP TO 1.5 M ELEVATIONS INCLUDING PEREPARATION OF BASE LAYING UNDERBED, FINISHING AND ROUNDING CORNERS AND JUNCTIONS, CURING ETC. COMPLETE AS PER DRAWINGS AND SPECIFICATIONS.					
42	I	(I) FLOORING (5.0MM TO 6.0MM THICK OF SIZE 300MM X 300MM)	M2	26	9.1739		
43	II	(II) DADO (5MM TO 6MM THICK OF SIZE 150MM X 150MM) - 1.5M HEIGHT FROM FINISHED FLOOR LEVEL	M2	32	9.7319		
44	C 35	PROVIDING PLASTERING WITH CEMENT MORTAR -1:6 (1 CEMENT & 6 COARSE SAND) USING PPC CONFIRMING TO IS 1489 (Part-I) OVER BOTH INTERNAL AND EXTERNAL FACES OF BRICKWORK AND CONCRETE SURFACES, PARTITION WALLS ETC. AT ALL LEVELS INCLUDING PREPARING THE SURFACE, RAKING JOINTS, SCAFFOLDING, CURING, COST OF ALL MATERIALS, LABOUR ETC. COMPLETE.					
45	I	(i) EXTERNAL PLASTERING - 18MM THICK	M2	777	2.2073		
46	II	(ii) INTERNAL PLASTERING -12MM THICK	M2	1203	1.4937		
47	C 36	PROVIDING & APPLYING COLOUR WASH -THREE COATS ON NEWLY PLASTERED EXTERNAL SURFACE OF SHED BY USING BEST SHALE LIME TO GIVE AN EVEN SHADE INCLUDING PREPARING THE SURFACE LIKE CLEANING AND BRUSHING & BROOMING OF WALLS AND IN ACCORDANCE WITH STANDARD SPECIFICATION. RATE INCLUDE COST OF ALL MATERIALS , COLOURING AGENT, BASE COAT OF WHITE WASH, APPROVED ADDESSIVE, SCAFFOLDING AT ALL LEVEL, BRUSH ETC. COMPLETE.	M2	777	0.2204		
48	C 37	PROVIDING & APPLYING WHITE WASH - THREE COATS ON NEWLY PLASTERED INTERNAL SURFACE OF SHED (EXCLUDING INNER WALLS OF OFFICE/C&I ROOM) BY USING BEST SHALE LIME TO GIVE AN EVEN SHADE INCLUDING PREPARING THE SURFACE LIKE CLEANING AND BRUSHING & BROOMING OF WALLS AND IN ACCORDANCE WITH STANDARD SPECIFICATION. RATE INCLUDE COST OF ALL MATERIALS , APPROVED ADDESSIVE, SCAFFOLDING AT ALL LEVEL, BRUSH ETC. COMPLETE.	M2	887	0.1311		
49	C 38	PROVIDING & APPLYING TO INTERIOR SURFACES OF STORE OFFICE AND C&I ROOM BY TWO COATS OF OIL BOUND DISTEMPER (OBD) OF APPROVED SHADE ,COLOR AND MAKE CONFIRMING TO IS : 428 TO OBTAIN A EVEN FINISH AND UNIFORM COLOR OVER A COAT OF PRIMER AS PER MANUFACTURE RECOMMENDATION INCLUDING COST OF PAINT, SURFACE PREPARATION LIKE CLEANING AND BRUSHING & BROOMING OF WALLS , SCAFFOLDING AT ALL LEVEL ETC, COMPLETE. SURFACE PREPARATION SHALL BE DONE BY APPLYING PUTTY/PLASTER OF PARIS (POP) INCLUDING COST OF MATERIAL, LABOUR ETC. COMPLETE.	M2	243	0.8888		
50	C 39	PROVIDING AND FIXING OVER HEAD HYDRAULIC DOOR CLOSER (HEAVY DUTY, HAVING BRAND LOGO WITH ISI, IS : 3564, EMBOSSED ON THE BODY) OF APPROVED BRAND AND SIZE, WITH DOUBLE SPEED ADJUSTMENT ON NECESSARY DOORS WITH NECESSARY ACCEROIES AND SCREWS ETC. COMPLETE AS DIRECTED BY BHEL ENGINEER.	NO.	7	11.4627		
		TOTAL VALUE OF SECTION C					
	SECTION S	SANITARY & WATER SUPPLY WORKS- PRIOR APPROVAL OF SAMPLE AND BRAND BY BHEL ENGINEER IS NECESSARY BEFORE USE.					
51	S1	PROVIDING AND FIXING WHITE GLAZED VITREOUS CHINA, HAND WASH BASIN OF 55 CM X 40 CM SIZE INCLUDING COLD WATER PILLER TAP, BRACKETS, STOP TAP, CHROMIUM PLATED BOTTLE TRAP AND NECESSARY PIPE CONNECTIONS INCLUDING UPVC WASTE PIPE AND TRAP UPTO THE OUT SIDE FACE OF THE WALL, MAKING GOOD THE DAMAGED SURFACE, TESTING ETC. COMPLETE.	NO	1	18.9700		
52	S2	PROVIDING AND FIXING EUROPEAN TYPE WHITE GLAZED VITREOUS CHINA W.C. PAN WITH UPVC SEAT AND LID WITH CHROMIUM PLATED BRASS HINGES AND RUBBER BUFFERS INCLUDING UPVC VENT PIPE (APPROX. 2M. HT. WITH COWL) ON THE OUTSIDE FACE OF WALL, 10 LITRE PVC LOW LEVEL FLUSHING CISTERN WITH ALL FITTINGS, PIPE AND STOP COCK, BRACKETS FOR FIXING CISTERN, 32 MM DIA. UPVC FLUSH PIPE WITH FITTINGS AND CLAMPS, 20 MM DIA. UPVC OVERFLOW PIPE, FLOAT VALVES, CUTTING AND MAKING GOOD TO THE WALLS AND FLOORS, TESTING ETC. COMPLETE.	NO	1	35.5949		
53	S3	PROVIDING AND FIXING IN POSITION OF WHITE GLAZED EARTHENWARE FLAT BACK/CORNER TYPE LIPPED FRONT URINALS OF 430X260X350 MM / 340X460X265 MM OF APPROVED MAKE AND QUALITY WITHOUT FLUSHING CISTERN, WITH GI FLUSH PIPE AND SPREADERS WITH BRASS UNIONS, GI CLAMPS, CUTTING OF WALLS AND MAKING GOOD OF ALL DAMAGES AND FINISHING TO MATCH THE EXISTING WORK ETC. COMPLETE. RATE QUOTED SHALL INCLUDE COST OF ALL MATERIALS AND LABOUR FOR CARRYING, LAYING & FIXING AND ALL OTHER INCIDENTAL CHARGES ETC. COMPLETE.	NO	2	35.4258		
54	S4	PROVIDING AND FIXING IN POSITION OF HIGH CLASS BELGIUM OR SUPERIOR MAKE BEVELLED EDGE MIRROR OF SIZE 450MM X 550MM X 6MM WITH 16 MM DIA & 550 MM LENGTH NICKEL PLATED TOWEL ROD MOUNTED ON 6 MM THICK PLYWOOD OR PLASTIC FOLDER SHEET. RATE TO INCLUDE COST OF ALL MATERIALS, LABOUR FOR FIXING THE WOODEN PLUGS WITH CP BRASS SCREWS AND WASHERS ETC. COMPLETE.	NO	1	8.5094		

SL.NO	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
55	S5	PROVIDING AND FIXING IN POSITION OF 15 MM DIA CONCUSSION PUSH BUTTON TYPE BRASS/ GUN METAL SELF CLOSING TAP INCLUDING NECESSARY SOCKET, TESTING ETC. COMPLETE FOR URINALS AS PER DIRECTION OF BHEL ENGINEER.	NO	2	4.7739		
56	S6	PROVIDING AND FIXING IN POSITION OF 15 MM DIA NOMINAL SIZE SCREW DOWN TYPE CHROMIUM PLATES BRASS BIB COCKS OF STANDARD TYPE OF APPROVED MAKE AND QUALITY (LEADER MAKE OR EQUIVALENT) AS PER STANDARD SPECIFICATION. RATE INCLUDES JOINTING MATERIALS, SOCKETS, UNION NUT, TESTING, LABOURS FOR CARRYING AND FIXING ETC. COMPLETE	NO	3	5.1165		
57	S7	PROVIDING AND FIXING IN POSITION OF 25 MM DIA GATE VALVE. INCLUDING ALL NECESSARY FITTING & FIXTURE ETC. COMPLETE AS PER STANDARD SPECIFICATION.	NO	1	4.7739		
58	S8	PROVIDING AND FIXING IN POSITION OF 40 MM DIA GATE VALVE. INCLUDING ALL NECESSARY FITTING & FIXTURE ETC. COMPLETE AS PER STANDARD SPECIFICATION.	NO	1	6.5192		
59	S9	PROVIDING AND FIXING IN POSITION OF 15 MM DIA NOMINAL SIZE SCREW DOWN TYPE CHROMIUM PLATED BRASS STOP COCKS OF APPROVED MAKE AND QUALITY (LEADER MAKE OR EQUIVALENT) AS PER STANDARD SPECIFICATION. RATE INCLUDES COST OF JOINTING MATERIALS, SOCKETS, UNION NUT, TESTING, LABOURS FOR CARRYING AND FIXING ETC. COMPLETE	NO	4	2.8997		
60	S10	PROVIDING AND FIXING IN POSITION OF 100MM X 75 MM HCI "NAHANI" TRAP WITH HCI GRATINGS, BENDS, CONNECTING PIECES OF CI PIPE UPTO OUTSIDE FACE OF THE WALL. MAKING GOOD THE DAMAGED SURFACE, TESTING ETC COMPLETE AS PER STANDARD SPECIFICATIONS. RATE TO BE ALL INCLUSIVES.	NO	4	7.6552		
61	S11	PROVIDING AND FIXING IN POSITION OF SQUARE MOUTH 150 MM SALT GLAZED STONE WARE GULLY TRAP CLASS SP-1 WITH HCI GRATINGS, BRICK MASONARY CHAMBER WITH WATER TIGHT CI COVER WITH FRAME OF SIZE 300X300 MM (INSIDE) OF APPROVED MAKE (WEIGHT OF COVER TO BE NOT LESS THAN 4.5 KG AND FRAME TO BE NOT LESS THAN 2.7 KG) AND QUALITY AS PER STANDARD SPECIFICATIONS. RATE TO BE ALL INCLUSIVE.	NO	2	17.2626		
62	S12	PROVIDING AND LAYING WITH REQUIRED GRADING & LEVELING IN TRENCHES / ON WALLS, MEDIUM GRADE (TYPE) GALVANISED IRON (GI) PIPE HAVING EMBOSSED ISI MARK ON IT, OF REQUIRED DIAMETER WITH SCREWED, SOCKETS, JOINTS, NECESSARY GALVANISED IRON FITTINGS SUCH AS SOCKETS, BACK NUTS, ELBOWS, BENDS, TEES, REDUCERS, ENLARGERS, PLUGS, CLAMPS ETC. INCLUDING ALL NECESSARY EXCAVATION, BACK FILLING, CUTTING AND MAKING GOOD THE WALLS, FIXING WITH CLAMPS, TESTING ETC. COMPLETE.					
63	I	40MM DIA	RM	100	3.6507		
64	II	25MM DIA	RM	50	3.1502		
65	III	20MM DIA	RM	25	2.4718		
66	IV	15MM DIA	RM	20	2.0237		
67	S13	PROVIDING AT WORKING SITE, CARRYING AND LOWERING INTO TRENCHES, LAYING TO PROPER ALIGNMENT, LEVEL AND GRADE, JOINTING WITH CM (1:1) AND TESTING OF JOINTS ETC. OF THE FOLLOWING SIZE OF SALT GLAZED STONEWARE PIPE INCLUSIVE OF ALL NECESSARY SPECIALS TARRER HEMP YARN AND ALL JOINTING MATERIALS COMPLETE AS PER STANDARD SPECIFICATIONS INCLUDING ALL NECESSARY EXCAVATION, BACKFILLING, DISPOSAL OF SURPLUS EARTH, LEAD AND LIFT AS PER SITE CONDITIONS. RATE SHALL INCLUDE COST OF ALL MATERIALS, LABOUR CHARGES AND INCIDENTAL CHARGES ETC. COMPLETE.					
68	A	100 MM DIA STONEWARE PIPELINE (CLASS SP-1) INCLUDING ALL SPECIALS COMPLETE.	RM	50	2.2050		
69	S14	PROVIDING AND FIXING IN POSITION OF PVC OVERHEAD WATER TANK OF SYNTEX OR ANY APPROVED MAKE OF 500 LITRE CAPACITY WITH PROVISION FOR OVERFLOW ARRANGEMENT VALVES, INLET AND OUTLET ETC. COMPLETE. OVERHEAD TANKS SHALL BE PLACED OVER THE ROOF OF REST ROOM.	NO	2	35.1513		
70	S15	CONSTRUCTION OF 230 MM THICK BURNT CLAY / FLY ASH LIME BRICK CHAMBER USING PPC CONFIRMING TO IS 1489 (Part-I) OF THE FOLLOWING DIMENSIONS (INNER DIMENSION) WITH 20MM THICK INTERNAL & EXTERNAL CEMENT PLASTER OF MIX CM 1:5 (1 CEMENT & 5 COARSE SAND), NEAT CEMENT FINISH, TOP CI - COVER AND CONNECTORS FOR SEWER LINES. RATE SHALL BE INCLUSIVE OF ALL NECESSARY EXCAVATION & FILLING, PCC-100 MM THICK OF 1:3:6 FOR BEDDING ON 100MM THICK OVER SIZE SOLING WITH 80 MM METAL ETC. COMPLETE.					
71	I	600X450X450 WITH C.I COVER	NO	2	47.1809		
72	II	900X600X450 WITH C.I COVER	NO	3	61.0498		
73	S16	PROVIDING AND FIXING OF PRECAST 80 MM THICK RCC COVER OF MIX 1:1.5:3 FOR MAN HOLES OF VARIOUS SIZES WITH REINFORCEMENT OF 10 MM DIA BOTH WAY TIED WITH TACK WELDING @ 150 MM C/C WITH 2 HOOKS OF 12 MM DIA BARS ETC. COMPLETE.					
74	I	750MM x 600MM	Nos.	2	13.1232		
75	II	1050MM x 750MM	Nos.	3	24.6059		

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
76	S17	PROVIDING AND FIXING PTMT TOWEL RAIL COMPLETE WITH BRACKETS FIXED TO WOODEN CLEATS WITH CP BRASS SCREWS WITH CONCEALED FITTINGS ARRANGEMENT OF APPROVED QUALITY AND COLOUR AS BELOW:  600 MM LONG TOWEL RAIL WITH TOTAL LENGTH OF 645 MM, WIDTH 78 MM AND EFFECTIVE HEIGHT OF 88 MM, WEIGHING NOT LESS THAN 190 GMS	NO.	1	5.0038		
77	S18	PROVIDING AND FIXING PTMT LIQUID SOAP DISPENSER 109 MM WIDE, 125 MM HIGH AND 112 MM DISTANCE FROM WALL OF STANDARD SHAPE WITH BRACKET OF THE SAME MATERIALS WITH SNAP FITTINGS OF APPROVED QUALITY AND COLOUR, WEIGHING NOT LESS THAN 105 GMS	NO.	1	2.0282		
78	S19	PROVIDING & FIXING OF WOODEN FRAME OF SAL WOOD (2.5" THICK & 3.0" WIDE) FOR INSTALLING PORTABLE 1.5T AIR CONDITIONER ON THE WALL OPENING (31"X22") / AS REQUIRED, SO AS TO MAKE A FRAME OF INSIDE CLEAR DIMENSION REQUIRED FOR INSTALLATION OF A.C. WITH COMPLETE FINISHING, PAINTING, HOLD FAST ETC. RATE TO INCLUDE ALL NECESSARY FITTING & FIXTURE, LABOUR, MAKING GOOD THE DAMAGED SURFACE ETC. COMPLETE. AS DIRECTED BY BHEL ENGINEER.	NOS.	6	14.3273		
79	S20	PROVIDING & FIXING IN POSITION OF CI VENT PIPE OF DIA. 100 MM (APPROX. HT. 3M ), CONFIRMING TO IS:1536 IN SEPTIC TANK. RATE TO INCLUDE ALL NECESSARY FITTING & FIXTURE, LABOUR ETC.	RM	4	11.9704		
80	S21	PROVIDING AND FIXING OF METALLIC DECORATIVE TYPE HEAVY DUTY PELMET ROD FOR DOORS AND WINDOWS. RATE TO INCLUDE ALL NECESSARY FITTING & FIXTURE, LABOUR ETC. AS APPROVED BY BHEL ENGINEER.	EACH	11	5.5782		
81	S22	PROVIDING AND FIXING OF AQUA-GUARD OR EQUIVALENT WATER PURIFIER (15 Litre), ALONG WITH ALL FITTINGS. RATE TO INCLUDE ALL NECESSARY FITTINGS & FIXTURES, LABOUR ETC. AS APPROVED & DIRECTED BY BHEL ENGINEER.	NOS.	1	160.6981		
82	S23	PROVIDING AND FIXING OF 1 No. STAINLESS STEEL A ISI 304 (18/8), 18"X24" SIZE KITCHEN SINK AS PER IS: 13983 WITH C.I. BRACKETS, ALL FITTINGS LIKE DRAIN PIPE, STOP VALVE, DRAIN PLUG 40 MM DIA ETC. RATE TO INCLUDE ALL NECESSARY FITTING & FIXTURE, LABOUR ETC. AS APPROVED & DIRECTED BY BHEL ENGINEER.	NOS.	1	47.8817		
83	S24	PROVIDING , SUPPLYING AND FIXING OF 20 GAUGE MS ROLLING SHUTTERS OF SIZE 5 M X 5 M. AS PER I.S. SPECIFICATIONS, COMPLETE, MECHANICALLY OPERATED FROM IN AND OUTSIDE BOTH AS INSTRUCTED BY BHEL ENGINEER INCLUDING TWO COATS OF SYNTHETIC ENAMEL PAINT OF APPROVED COLOUR AND QUALITY OVER ONE COAT OF RED OXIDE PRIMER INCLUDING LOCKING ARRANGEMENT, FIXING, FITTINGS ETC. RATE SHALL BE INCLUSIVE OF ALL THE ABOVE COMPLETE.	M2	52	20.7473		
		TOTAL VALUE OF SECTION S					
		TOTAL VALUE OF SECTION C & SECTION S					
	SECTION E	INTERNAL ELECTRIFICATION FOR CLOSED STORAGE SHEDS, INCLUDING PROVIDING ALL MATERIALS, LABOURS, T&Ps (AS REQUIRED), COMPLYING WITH THE STATUTORY AND LOCAL AUTHORITIES REQUIREMENTS AS APPLICABLE TO MEET THE FUNCTIONAL REQUIREMENTS AND TO FULL SATISFACTION OF BHEL ENGINEER.					
84	E1	SUPPLYING & INSTALLING POWER DISTRIBUTION BOARD COMPLETE WITH: 1) INCOMING MCB TPH 100 AMPS. - 1 NO. 2) OUTGOING MCB TPH 32 AMPS. - 3NOS. 3) RCCB DP 25/20 AMPS. - 2NOS. 4) OUTGOING MCB SP 6 AMPS - 6NOS. All RCCBs, MCBs SHALL BE MDS/INDO KOPP MAKE. DISTRIBUTION BOARDS SHALL BE SIEMENS / MDS / INDO KOPP MAKE WITH INTERNAL BUSBARS, INTERNAL WIRING, 2 NOS. EARTHING TERMINALS, EARTH CONNECTIONS, INCLUDING GLANDS, LUGS.	Set	2	352.0628		
85	E2	PROVIDING SUITABLE FOUNDATION FOR MOUNTING 415 VOLT AC POWER DISTRIBUTION BOARD AS SPECIFIED ABOVE INCLUDING INSTALLATION & COMMISSIONING OF PANEL ON FOUNDATION.	NO	2	39.7219		
86	E3	WIRING FOR LIGHT POINT/ FAN POINT/ EXHAUST FAN POINT/ CALL BELL POINT/ PLUG POINT (5A) WITH 2.5 SQ.MM FRLS PVC INSULATED COPPER CONDUCTOR SINGLE CORE CABLE IN SURFACE / RECESSED MEDIUM CLASS PVC CONDUIT, WITH MODULAR SWITCH, MODULAR PLATE, SUITABLE GI BOX AND EARTHING THE POINT WITH 2.5 SQ.MM. FRLS PVC INSULATED COPPER CONDUCTOR SINGLE CORE CABLE ETC. AS REQUIRED. (GROUP B)	PER POINT	31	7.5101		
87	E4	WIRING FOR LIGHT/ POWER PLUG/ MCB WITH 2X4 SQ. MM FRLS PVC INSULATED COPPER CONDUCTOR SINGLE CORE CABLE IN SURFACE/ RECESSED MEDIUM CLASS PVC CONDUIT ALONGWITH 1 NO 4 SQ. MM FRLS PVC INSULATED COPPER CONDUCTOR SINGLE CORE CABLE FOR LOOP EARTHING AS REQUIRED	RM	85	1.9082		
88	E5	WIRING FOR CIRCUIT/ SUBMAIN WIRING ALONGWITH EARTH WIRE WITH THE FOLLOWING SIZES OF FRLS PVC INSULATED COPPER CONDUCTOR, SINGLE CORE CABLE IN SURFACE/ RECESSED MEDIUM CLASS PVC CONDUIT AS REQUIRED					

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
89	I	2 X 6 SQ. MM + 1 X 6 SQ. MM EARTH WIRE	RM	88	2.4104		
90	II	2 X 16 SQ. MM + 1 X 16 SQ. MM EARTH WIRE	RM	64	4.9212		
92	E6	PROVIDING AND INSTALLATION OF PLUG POINT OF 5A SOCKET (ANCHOR OR EQUIV.) OUTLET INCLUDING WIRING TERMINATION. THIS INCLUDES ALL FITTINGS ETC. COMPLETE.	NO	13	4.5864		
93	E7	POVIDING AND INSTALLATION OF PLUG POINT OF 15A SOCKET (ANCHOR OR EQUIV.) OUTLET INCLUDING WIRING TERMINATION. THIS INCLUDES FITTINGS ETC. COMPLETE.	NO	7	4.5864		
94	E8	PROVIDING AND FIXING ORDINARY TUBELIGHT WITH FRAME OF STANDARD MANUFACTURER LIKE PHILIPS/BAJAJ OR EQUIVALENT AS APPROVED BY BHEL. THIS INCLUDES TUBE LIGHT FITTINGS ETC. COMPLETE.	NO.	10	3.7514		
95	E9	PROVIDING AND FIXING EXHAUST FANS 12" DIAMETER WITH FRAME OF STANDARD MANUFACTURER LIKE CROMPTAN GREEVES OR EQUIVALENT AS APPROVED BY BHEL.	NO.	2	20.1520		
96	E10	PROVIDING AND FIXING HEAVY DUTY PLUG POINT 15 AMPS ( ANCHOR MAKE OR EQUIV.) WITH ONE SWITCH FOR COMPUTER ,ONE FOR AC CONNECTION WITH BOARD ETC COMPLETE.	NO.	6	4.5864		
97	E11	PROVIDING AND FIXING METAL CLAD PLUG AND MCB OF 30AMPS. (CROMPTON/MDS MAKE) FOR AIR CONDITIONER WITH BOARD ETC COMPLETE.	NO.	4	9.4853		
98	E12	PROVIDING AND FIXING CEILING FAN 48" DIAMETER OF APPROVED COMPANY SUCH AS CROMPTON GREEVES OR ANY OTHER MANUFACTURER AS APPROVED BY BHEL. THIS INCLUDES TUBE LIGHT FITTINGS ETC. COMPLETE.	NO	4	15.0902		
99	E13	PROVIDING AND FIXING CALLING BELLS (WITH INDICATOR LIGHT), BELL PUSH OF APPROVED MAKE I.E. PHILLIPS/ ANCHOR OR EQUIVALENT ICLUDING WIRING, CONDUITING ETC. COMPLETE.	NO	2	6.0817		
100	E14	PROVIDING EARTHING PITS WITH 2 " DIA , 2 M LONG GI PIPES WITH FLANGE & GI WIRES WITH CHARCOAL, SALT AND AS PER THE STANDARD PRACTICE FOR ELECTRICAL CONNECTION.RATE SHALL BE INCLUSIVE OF ALL MATERIALS, LABOURS, ETC COMPLETE.	NO	3	41.8803		
101	E15	PROVIDING & FIXING ALUMINIUM DISPERSIVE LUMINAIRE ENAMELED GREEN AND WHITE WITH CAST ALUMINIUM FLANGE AND NIPPLE SUITABLE FOR USE WITH GLS LAMP, DOME 12" DIAMETER, WITH HANGING BRACKET AND 200W GLS LAMP OF CROMPTON OR EQUIVALENT BAJAJ/PHILIPS MAKE, COMPLETE.	NOS.	50	5.0406		
102	E16	WIRING WITH 2.5 SQ MM ISI MARK COPPER WIRE FOR ABOVE IN PVC CONDUIT ALONG WITH GI EARTH WIRE INCLUSIVE OF ALL MATERIAL, LABOUR ETC. COMPLETE	PER POINT	50	7.5101		
103	E17	SUPPLYING & FIXING WALL MOUNTING TYPE LIGHTING PANELS, EACH WITH. (1) INCOMING MCB TPN -32 AMPS - 1NO. (2) RCCB DP 32 AMPS - 3NOS (3) MCB SP 6AMPS - 30 NOS. ALL MCBS AND RCCBS SHALL BE OF MDS / INDO KOPP MAKE. LIGHTING PANEL SHALL BE SIEMENS/MDS/INDO KOPP MAKE WITH INTERNAL BUSBARS, 2 NOS. EARTHING TERMINALS, EARTH CONNECTIONS, INCLUDING GLANDS, LUGS & WIRING FROM MAIN DB.	Sets.	2	202.1857		
104	E18	SUPPLY OF CABLES 3 -1/2 CORE X 185 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE (THREE AND HALF CORE) CONFIRMING TO IS 1554 ( PART -I)	RM	100	6.5623		
105	E19	INSTALLATION OF CABLES 3 -1/2 COREX 185 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I) INCLUDING LAYING OF CABLE BELOW GROUND , EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGS, PROVIDING SAND LAYER BELOW& ABOVE THE CABLE, BRICK LAYING BOTH SIDE & ABOVE THE CABLE AND BACK FILLING ETC. CABLES ARE TO BE LAID FROM TRANSFORMER SUB STATION TO 415 VOLT AC DISTRIBUTION BOARD.	RM	100	2.1760		
106	E20	SUPPLY OF CABLES 3 -1/2 CORE X 95 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE (THREE AND HALF CORE) CONFIRMING TO IS 1554 ( PART -I)	RM	80	4.2798		
107	E21	INSTALLATION OF CABLES 3 -1/2 CORE X 95 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I) INCLUDING LAYING OF CABLE BELOW GROUND, EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW&ABOVE THE CABLE, BRICK LAYING BOTH SIDE & ABOVE THE CABLE AND BACK FILLING ETC. COMPLETE. CABLES ARE TO BE LAID FROM 415 VOLT AC DISTRIBUTION BOARD TO FEEDER PILLAR BOARD / WALL MOUNTING PANEL.	RM	80	2.0979		
108	E22	SUPPLY OF CABLES 3 -1/2 COREX 35 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE (THREE AND HALF CORE) CONFIRMING TO IS 1554 ( PART -I)	RM	120	1.9867		

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
109	E23	INSTALLATION OF CABLES 3 -1/2 COREX 35 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I) INCLUDING LAYING OF CABLE BELOW GROUND , EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW & ABOVE THE CABLE, BRICK LAYING BOTH SIDE & ABOVE THE CABLE AND BACK FILLING ETC.	RM	120	2.0198		
110	E24	SUPPLY OF CABLES 2 CORE X 10 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I)	RM	200	0.8137		
111	E25	INSTALLATION OF CABLES 2 CORE X 10 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I) INCLUDING LAYING OF CABLE BELOW GROUND, EXCAVATION OF TRENCH OF 600 MM DEPTH (MINIMUM) IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW & ABOVE THE CABLE, BRICK LAYING BOTH SIDE & ABOVE THE CABLE AND BACK FILLING ETC COMPLETE.	RM	200	2.0198		
		<b>TOTAL VALUE OF SECTION-E</b>					
		<b>TOTAL (SECTION C + SECTION S + SECTION E)</b>					
<b>SECTION Y</b>		<b>DEVELOPMENT OF OPEN STORAGE YARD OF AREA 3500 SQM. WITH INTERNAL ROADS, MONSOON YARD, DRAINAGE AND FENCING</b>					
112	Y1	SUB GRADE PREPARATION: CUTTING & DISPOSAL OF GRASS, VEGETATIONS, BUSHES, TREES (GIRTH LESS 300MM), LEVELLING, WATERING AND CONSOLIDATION ( 90% OF PROCTOR DENSITY) BY MEANS OF 10-12 MT CAPACITY POWER/VIBRO ROLLER FOR SUB BASE PREPARATION. THIS WILL INCLUDE AVERAGE CUTTING & FILLING UP TO ± 250MM THICK, GRADING THE AREA WITH PROPER SLOPE FOR DRANING OUT THE RAIN WATER WITH ALL T&P, LABOURS, MATERIALS, DEWATERING (IF REQUIRED) ETC. COMPLETE. FOR DEVELOPMENT OF OPEN STORAGE YARD.	M2	3500	0.1902		
113	Y2	BACK FILLING IN LAYERS NOT EXCEEDING 15 CM THICKNESS FOR LOW LYING AREA OF OPEN STORAGE YARD WHEREVER REQUIRED TO BE DEVELOPED INCLUDING WATERING AND CONSOLIDATING, ROYALTY ETC. COMPLETE AS PER STANDARD SPECIFICATION AND INSTRUCTED BY BHEL ENGINEER.					
114	I	WITH GOOD AVAILABLE EARTH FROM EXCAVATION WORK	M3	318.4	1.1307		
115	Y3	EXCAVATION /CUTTING OF EARTH BEYOND INITIAL 250MM THICK WHICH IS COVERED UNDER ITEM NO.(Y1) ABOVE IF REQUIRED AND SPREADING THE SAME IN LOW LYING AREA, WATERING, COMPACTION BY MEANS OF 10-12 MT CAPACITY POWER/VIBRO ROLLER FOR DEVELOPMENT OF OPEN STORAGE YARD AS PER INSTRUCTION OF BHEL ENGINEER.	M3	8.75	0.4967		
116	Y4	EXCAVATION FOR ROADWAY IN ALL TYPES OF SOILS, SAND AND GRAVEL OR SOFT MURAM INCLUDING DRESSING OF SECTION TO THE REQUIRED GRADE, CAMBER & SIDE SLOPES AND SPREADING OF SURPLUS EXCAVATED EARTH UNIFORMLY OVER THE SPECIFIED AREA FOR SITE LEVELING & DEVELOPMENT OF REQUIRED DEPTH TO MAINTAIN UNIFORM GROUND LEVEL AS DIRECTED BY THE BHEL & CONSOLIDATION OF THE SURFACE INCLUDING SUB- BASE BY ROLLING THE SURFACE WITH 8 - 10 MT CAPACITY POWER/VIBRO ROLLER, DEWATERING (BOTH GROUND WATER AS WELL AS RAIN WATER) AND KEEP THE AREA DRY TILL COMPLETION OF ALL THE WORKS, LABOURS, MATERIALS AND REQUIRED T&Ps ETC. COMPLETE AS PER DRAWINGS & SPECIFICATIONS.	M3	471	1.6379		
117	Y5	EXCAVATION FOR SIDE DRAIN/DRAINS AND CULVERTS IN ALL KINDS OF SOILS, TO THE SPECIFIED SECTION AS PER DRAWINGS & SPECIFICATIONS. INCLUDING SPREADING OF SURPLUS EXCAVATED EARTH UNIFORMLY OVER THE SPECIFIED AREA FOR SITE LEVELING & DEVELOPMENT OF REQUIRED DEPTH TO MAINTAIN UNIFORM GROUND LEVEL, DEWATERING (BOTH GROUND WATER AS WELL AS RAIN WATER) AND KEEP THE AREA DRY TILL COMPLETION OF ALL THE WORKS, LABOURS, MATERIALS AND REQUIRED T&Ps ETC. COMPLETE. DIRECTED BY THE BHEL ENGINEER.					
118	I	IN ORDINARY SOIL	M3	200	1.6485		
119	Y6	BACK FILLING THE SIDES OF DRAINS, CULVERTS WITH GOOD EXCAVATED SOIL AVAILABLE FROM WORK IN LAYERS NOT EXCEEDING 15 CM THICKNESS INCLUDING WATERING AND CONSOLIDATING ETC. COMPLETE AS PER STANDARD SPECIFICATION AND INSTRUCTED BY BHEL ENGINEER.	M3	34.2	1.1307		
120	Y7	DISPOSAL OF EXCAVATED EARTH/ROCK (NOT SUITABLE FOR BACK FILLING) UPTO A MAXIMUM LEAD OF 2 KM OR PART THEREOF INCLUDING LOADING,UNLOADING ,CONVEYING AND SPREADING AS PER DIRECTION OF ENGINEER INCHARGE.AS PER STANDARD SPECIFICATION AND INSTRUCTED BY BHEL ENGINEER.	M3	318.4	1.2787		
121	Y8	PROVIDING & FILLING OF COMPACTED THICK GRANULAR MURUM IN LAYERS (THICKNESS OF EACH LAYER SHOULD NOT EXCEED 150MM ) IN SUB-BASE OF ROAD BELOW SOLING, YARD DEVELOPMENT ETC.COMPLETE INCLUDING WATERING AND COMPACTION WITH 8-10 T POWER ROLLER COMPLETE. RATE SHALL INCLUDE TRANSPORTATION, ROYALTY, DEWATERING (BOTH GROUND WATER AS WELL AS RAIN WATER) AND KEEP THE AREA DRY TILL COMPLETION OF ALL THE WORKS, LABOURS, MATERIALS AND REQUIRED T&Ps ETC. COMPLETE ETC.	M3	332.6	7.2175		

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
122	Y9	PROVIDING COMPACTED THICK WATER BOUND MACADAM (WBM) IN TWO LAYERS OF EACH 75 MM, WITH 40MM TO 60MM METAL (STONE AGGREGATE) INCLUDING SUPPLYING AND SPREADING GRAVEL/MURRUM OVER THE SOLING/CONSOLIDATED BASE, COMPACTING THE SAME WITH POWER ROLLER INCLUDING NECESSARY LABOUR, WATERING, MATERINGS ETC. COMPLETE, ALL AS PER RELEVANT SPECIFICATIONS AND DIRECTIONS OF BHEL ENGINEER (RATE SHALL BE INCLUSIVE OF ALL LABOUR, MATERIALS ETC., COMPLETE).	M3	271.9	18.3027		
123	Y10	PROVIDING AND LAYING OF PLAIN CEMENT CONCRETE OF MIX 1:4:8 USING 20MM & DOWN SIZE HARD BROKEN GRANITE STONE AGGREGATES FOR DRAINS, CULVERTS ETC. INCLUDING SHUTTERING, CURING, CONSOLIDATION ETC. COMPLETE AS PER STANDARD SPECIFICATIONS AND AS DIRECTED BY BHEL ENGINEER.	M3	32	45.8307		
124	Y11	PROVIDING BRICK WORK IN CM 1:6 (1 CEMENT & 6 COARSE SAND) USING PPC CONFIRMING TO IS 1489 (Part-I), WITH LOCALLY AVAILABLE BURNT CLAY BRICKS (MIN STRENGTH 75 KG/CM2) AS PER DRAWING AND SPECIFICATION FOR DRAINS, CULVERTS AND WHERE REQUIRED INCLUDING COST OF ALL MATERIALS, LABOUR, SCAFFOLDING, CURING, AT ALL ELEVATIONS AND LEVELS, RAKING OUT JOINTS ETC. COMPLETE AND AS DIRECTED BY ENGINEER.	M3	8.75	46.5387		
125	Y12	PROVIDING BRICK WORK IN CM 1:6 (1 CEMENT & 6 COARSE SAND) USING PPC CONFIRMING TO IS 1489 (Part-I), WITH FLY ASH LIME BRICKS (FAL - MIN STRENGTH 75 KG/CM2) AS PER DRAWING AND SPECIFICATION FOR DRAINS, CULVERTS AND WHERE REQUIRED INCLUDING COST OF ALL MATERIALS, LABOUR, SCAFFOLDING, CURING, AT ALL ELEVATIONS AND LEVELS, RAKING OUT JOINTS ETC. COMPLETE AND AS DIRECTED BY ENGINEER.	M3	26.25	49.8886		
126	Y13	PROVIDING AND PLASTERING WITH CEMENT MORTAR 1:6 (12MM THICK) OVER BOTH INTERNAL AND EXTERNAL FACES OF BRICKWORK AND CONCRETE SURFACES ETC. OF ALL HEIGHTS INCLUDING PREPARING THE SURFACE, RAKING JOINTS, SCAFFOLDING, CURING, COST OF ALL MATERIALS, LABOUR ETC. COMPLETE.	M2	420	1.4900		
127	Y14	40MM THICK COPING OVER THE DRAIN WALL TOP USING MIX - 1:2:4	M3	4	57.0004		
128	Y15	PROVIDING 2 MM THICK NEAT CEMENT FINISH OVER CONCRETE BASE FOR FLOORING PAVING AND INTERNAL SURFACE OF BRICK DRAINS ETC.	M2	420	0.4016		
129	Y16	PROVIDING & FIXING OF WEEP HOLES WITH 75MM DIA. AC PIPES AT 3M C/C ON BOTH SIDES OF DRAIN WALL WITH FILTER MEDIA USING 40MM SIZE STONE GRIT OF SIZE (300X300X300MM).	RM	69	2.9166		
130	Y17	PROVIDING AND FIXING BARBED WIRE FENCING AROUND OPEN STORAGE YARD AS PER BHEL DRAWING. POSTS SHALL BE SPACED AT 3M CENTRES AND STRUTS AT 30M CENTRES AND AT ALL TURNINGS WITH FOUNDATIONS, SUPPLYING AND FIXING GI BARBED WIRES, 10 HORIZONTAL LINES, 02 DIAGONALS BETWEEN POSTS BY MEANS OF GI STAPLES AS PER STANDARD PRACTICE. THE BARBED WIRE SHALL CONFORM TO IS 278 AND BE MADE OF TWO STRANDS OF GALVANISED TWISTED 2.5MM DIA (12.5 GAUGE) STEEL WIRE WITH FOUR POINT BARS. RATE QUOTED SHALL BE INCLUSIVE OF EXCAVATION, DISPOSAL OF SURPLUS EARTH, CONCRETE (1:3:6), FORM WORK AND ALL MATERIALS, COST OF POSTS, BARBED WIRES, TRANSPORTING, FIXING IN POSITION ETC. INCLUDING COST OF ALL LABOUR AND TWO COATS OF ENAMEL PAINT OF APPROVED SHADE WITH A SHOP COAT OF PRIMER IN ALL STRUCTURAL MEMBERS ETC COMPLETE.	RM	598.5	5.3894		
131	Y18	REMOVAL OF WILD GROWTH, BUSHES VEGETATIONS AND DISPOSAL AS PER INSTRUCTION WITHIN THE PLANT BOUNDARY (SIZE OF STEM FROM 150MM TO 600MM DIA.)	NOS	10	1.9867		
132	Y19	SUPPLY FABRICATION, AND FIXING IN POSITION OF MS GATES WITH STRUCTURAL/TUBULAR STEEL FRAMES AS PER BHEL DRAWING INCLUDING COST OF FOUNDATION & POSTS, PAINTING TWO COATS BY SYNTHETIC ENAMEL PAINT OF APPROVED COLOUR AND QUALITY OVER ONE COAT OF RED OXIDE PRIMER, COST OF ALL MATERIALS, LABOUR, TRANSPORT ETC. COMPLETE.	MT	3	821.8673		
133	Y20	SUPPLYING AT SITE OF WORK, TRENCHING, CARRYING TO TRENCHES AND LOWERING INTO TRENCHES AND ON WALLS, FLOORS ETC., LAYING TO PROPER ALIGNMENT, GRADE, LEVEL AND JOINTING WITH ALL NECESSARY SPECIALS, TEES, ELBOWS, UNIONS AND APPURTENANCES AND INCLUDING PRESSURE TESTING OF THE FOLLOWING SIZES OF GI PIPE LINES INCLUDING REFILLING OF TRENCHES WITH EXCAVATED EARTH IN LAYERS, WATERING AND RAMMING AND RESTORATION OF GROUND, ALL COMPLETE AS PER SPECIFICATIONS. RATE TO INCLUDE EARTH WORK EXCAVATION IN ALL SOILS, EXCEPT HARD ROCK REQUIRING BLASTING, SHORING, BALLING OR PUMPING OUT OF WATER WHEREVER REQUIRED, REMOVAL OF SLUSH ETC. REMOVING AND DEPOSITING SURPLUS EARTH AS DIRECTED BY THE BHEL ENGINEER INCLUDING ALL LEADS AND LIFTS AS PER SITE CONDITIONS.					
134	A	40MM DIA GI PIPE LINE WITH ALL SPECIALS	RM	52	3.6457		
135	B	25MM DIA GI PIPE LINE WITH ALL SPECIALS	RM	15.6	2.6630		

SL.NO	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
136	Y21	PROVIDING PRECAST REINFORCED CONCRETE SLEEPER OF SIZE 300MM WIDE X150MM DEPTH X1200MM LENGTH USING 1:2:4 CONCRETE MIX INCLUDING MOULDING AND REINFORCEMENT (2-10 MM DIA T&B AND 8 MM STIRRUPS @ C/C 250MM).	EACH	100	7.9889		
		<b>TOTAL VALUE OF SECTION-Y IN Rs.</b>					
		<b>TOTAL (SECTION C + SECTION S + SECTION E + SECTION Y)</b>					
	YE	<b>ILLUMINATION OF OPEN STORAGE YARD- 3500 SQM</b>					
137	YE1	SUPPLY & INSTALLING 3 PHASE METERING AND POWER DISTRIBUTION BOARD COMPLETE WITH: (1) INCOMING SFU TPN 400 AMPS- 1NO, (2) OUTGOING SFU TPN 200 AMPS -2NOS. (3) OUTGOING SFU TPN 100 AMPS -2NOS. (4) OUTGOING SFU TPN 32 AMPS -2NOS. 3 PHASE ELECTRONIC ENERGY METER - BHEL / L&T / GEC MAKE. AMMETER, VOLTMETER AND SELECTOR SWITCHES FOR BOTH - AE AND KAYCEE MAKE. PHASE INDICATION LAMPS, HRC FUSES FOR IC AND OG FEEDERS, CABLE GLANDS, POWER TERMINALS FOR CABLES TERMINATION, CABLE LUGS AND PROVISION FOR DOUBLY EARTHING THE PANEL ENCLOSURE. PANEL ENCLOSURE SHALL BE MADE OF SHEET METAL THICHNNNESS NOT LESS THAN 1.6 MM AND SUITABLE FOR OUT DOOR INSTALLATION, MODULAR CONSTRUCTION, HINGED DOOR WITH LOCKING ARRANGEMENT, BASE FRAME, SHOULD HAVE SLOPPED CANOPY, DULY PAINTED WITH FIRST COAT OF PRIMER AND TWO COATS OF SYNTHETIC ENAMEL PAINT (INTERIOR WITH WHITE PAINT AND EXTERIOR WITH LIGHT GREY AS PER SHADE 5, IS 630) INTERNAL POWER DISTRIBUTION TO DEVICES SHALL BE WITH AL BUSBARS OR COPPER FLEXIBLE SINGLE CORE PVC CABLES OF 1.1 KV GRADE, CONTROL WIRING WITH 1.5 SQMM, SUITABLE STOOL MADE OUT OF MS STRUCTURE OF 1.2 METER HIGH FOR MOUNTING OF PANEL WITH ANCHORING ARRANGEMENT AT FOUNDATION, SUITABLE FOR BOTTOM ENTRY OF CABLES.	NO	1	995.1617		

SL.N O	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
138	YE2	PROVIDING SUITABLE FOUNDATION FOR MOUNTING AC DISTRIBUTION BOARD AS SPECIFIED IN ITEM NO. YE1, INSTALLATION & COMMISSIONING OF PANEL.	NO	1	61.5021		
139	YE3	SUPPLY AND ERECTING STEEL TUBULAR SWAGED POLES, 9 MTR LONG MADE OF SHEET STEEL HAVING ULTIMATE TENSILE STRENGTH 42 KG F/SQ.MM CONFIRMING TO BIS :2713 (RPART-II) COMPLETE WITH 300X300X6 MM THICK M. S. BASE PLATE FOR WELDING AT SITE AND SIZE AS PER CONFIGURATION GIVEN IN BIS FOR 410 SP-28 (113 KG- POLE WEIGHT ) WITH 1.5 MTR. DEEP EXCAVATION, CONCRETING IN 1:4:8 RATIO SIZE 45 CMS X 45 CMS X 150 CMS AND POLE PLINTH IN 1:3:6 CEMENT CONCRETING HAVING 300 MM HEIGHT AND 300 MM DIA. INCLUDING DOUBLE EARTHING OF POLE WITH SUITABLE ARRANGEMENT, DULY PAINTED WITH TWO COATS OF RED OXIDE PAINT AND ONE COAT OF ALUMINIUM PAINT TO BE APPLIED AFTER ERECTION; THE LENGTH OF POLE BELOW GROUND TO BE PAINTED WITH TWO COATS OF BLACK BITUMINUS PAINT. THE POLE SHALL BE COMPLETE WITH JB, FUSE AND MINOR FABRICATION AS BELOW : I) DRILING 20 MM DIA HOLE AT ABOUT 2.5 MTR FROM GROUND LEVEL FOR WIRE LEADS FROM JUNCTION BOX TO LIGHT FIXTURE . II) DRILING 15MM DIA HOLES AT ABOUT 0.7 AND AT 2.5 MTR FROOM GROUND LEVEL AND WELDING 12 MM NUTS FOR USING A 12 MM G.I BOLT FOR FASTENING EARTH CONDUCTERS. III) WELDING REQUIRED HOLES FOR FIXING POLE CAP OF STREET LIGHT BRACKET. IV) WELDING DIAMETRALLY 10 MM M.S. ROUND 30 MM BELOW POLE TOP EDGE FOR CLIPPING WIRE LEADS .	NOS.	5	109.4252		
140	YE4	SUPPLY, INSTALLATION & COMMISSIONING OF WEATHER PROOF FLOOD LIGHT LUMINIARIES OF CROMPTON MAKE (FBD 1425/40-WITH HIGH PRESSURE SODIUM VAPOUR LAMP 1X 400 WATT ALONG WITH NON- INTEGRAL TYPE CONTROL GEAR BOX HAVING ADEQUATE NUMBER OF TERMINAL CONNECTORS FOR TERMINATING TWO CABLE OF 3X 10 SQMM AL AND SUITABLE FOR OUT DOOR APPLICATION) OR EQUIVALENT IN BAJAJ, PHILLIPS ONLY , INCLUDING SUPPLY & FIXING CABLES BETWEEN THE CONTROL GEAR BOX AND LIGHT LUMINIARIES AND MOUNTING FIXTURE WITH HARDWARE FOR MOUNTING OF LIGHT LUMINIARIES AND CONTROL GEAR BOX ON POLE TYPE 410 SP-28.	NOS.	5	53.1539		
141	YE5	SUPPLY OF CABLES 3 -1/2 COREX 185 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE (THREE AND HALF CORE) CONFIRMING TO IS 1554 ( PART -I)	RM	300	6.5623		
142	YE6	INSTALLATION OF CABLES 3 -1/2 COREX 185 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I) INCLUDING LAYING OF CABLE BELOW GROUND , EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW/ ABOVE THE CABLE, BRICK LAYING BOTH SIDE /ABOVE THE ABOVE THE CABLE AND BACK FILLING ETC. CABLES ARE TO BE LAID FROM TRANSFORMER SUB STATION TO 415 VOLT AC DISTRIBUTION BOARD.	RM	300	2.1769		
143	YE7	SUPPLY OF CABLES 3-1/2 CORE X 95 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE (THREE AND HALF CORE) CONFIRMING TO IS 1554 ( PART -I) (TO BE USED FORM SHEDS AS WELL AS OPEN STORAGE YARD WHEREVER REQUIRED)	RM	51	4.2798		
144	YE8	INSTALLATION OF CABLES 3 -1/2 CORE X 95 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I) INCLUDING LAYING OF CABLE BELOW GROUND, EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW/ ABOVE THE CABLE, BRICK LAYING BOTH SIDE /ABOVE THE ABOVE THE CABLE AND BACK FILLING ETC COMPLETE. CABLES ARE TO BE LAID FROM 415 VOLT AC DISTRIBUTION BOARD TO FEEDER PILLAR BOARD .	RM	51	2.1029		
145	YE9	SUPPLY OF CABLES 3 -1/2 COREX 35 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE (THREE AND HALF CORE) CONFIRMING TO IS 1554 (PART -I)	RM	51	1.9867		
146	YE10	INSTALLATION OF CABLES 3 -1/2 COREX 35 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I) INCLUDING LAYING OF CABLE BELOW GROUND , EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW/ ABOVE THE CABLE, BRICK LAYING BOTH SIDE /ABOVE THE ABOVE THE CABLE AND BACK FILLING ETC. CABLES ARE TO BE LAID FROM FEEDER PILLER TO HIGH MAST TOWER	RM	51	2.0184		
147	YE11	SUPPLY OF CABLES 2 CORE X 10 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I)	RM	100	0.8137		
148	YE12	INSTALLATION OF CABLES 2 CORE X 10 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 ( PART -I) INCLUDING LAYING OF CABLE BELOW GROUND , EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW/ ABOVE THE CABLE, BRICK LAYING BOTH SIDE /ABOVE THE ABOVE THE CABLE AND BACK FILLING ETC COMPLETE. CABLES ARE TO BE LAID FROM 415 VOLT AC POWER FEEDER PILLAR BOARD TO LIGHTING POLES & POLE TO POLE	RM	100	2.0184		

SL.NO	ITEM CODE NO.	DESCRIPTION OF WORK	UNIT	TOTAL QTY	FACTOR (F)	RATE (Rs.) = FACTOR (F) * A / 100000 (Rounded off to two places after decimal)	AMOUNT (Rs.) = RATE * QUANTITY
149	YE13	SUPPLY AND INSTALLATION SUITABLE ELECTRICAL PUMP FOR MINIMUM HEAD OF 10M (BUT NOT LESS THAN 2 H.P.) OF REPUTED MANUFACTURER LIKE SUGUNA/ CRI/ KILOSKAR/ SHAKTI/SHARP/ CROMPTON INCLUDING ALL ACCESSORIES, STARTER, D.B., ETC. AND TO BE CONNECTED TO OVER HEAD TANK FROM WATER STORAGE TANK BELOW G.L. GARRANTY/WARRANTY CARD TO BE SUBMITTED TO BHEL. SUCTION, DISCHARGE GI PIPES SHALL BE PAID SEPERATLY UNDER RELEVANT ITEMS.	NO	1	163.2449		
		<b>TOTAL VALUE OF SECTION-YE IN Rs.</b>					
		<b>GRAND TOTAL (SECTION C + SECTION S + SECTION E + SECTION Y+ SECTION YE)</b>					

**NOTES:**

1	Bidder's quoted price above shall be complete in all respect for the full scope defined in specification and in accordance with all terms & conditions of tender.
2	Contractor shall fully understand description and Specifications of items mentioned in BOQ.
3	Conditional price bids with any deviation / clarification etc are liable to be rejected. No cutting / erasing / over writing shall be done.
4	Quantities mentioned in rate schedules are approximate only and liable for variation on either side depending upon site / design requirement. The tentative contract value (CV) of entire scope of work shall be calculated as per finally quoted / accepted rates & the Quantities indicated in BOQ cum Rate Schedule .
5	Contractor's total quoted price as per rate schedule will be taken as tentative only. The contractor undertakes to execute actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out on the basis of quantities actually executed at site and payments will also be regulated for the same.
6	In case of any mis-match in rate and amount on price discrepancy, the same will be dealt as per clause no. 1.4 of GCC.
7	Evaluation of bids shall be done on Lumpsum price ('A') against this Rate Schedule.

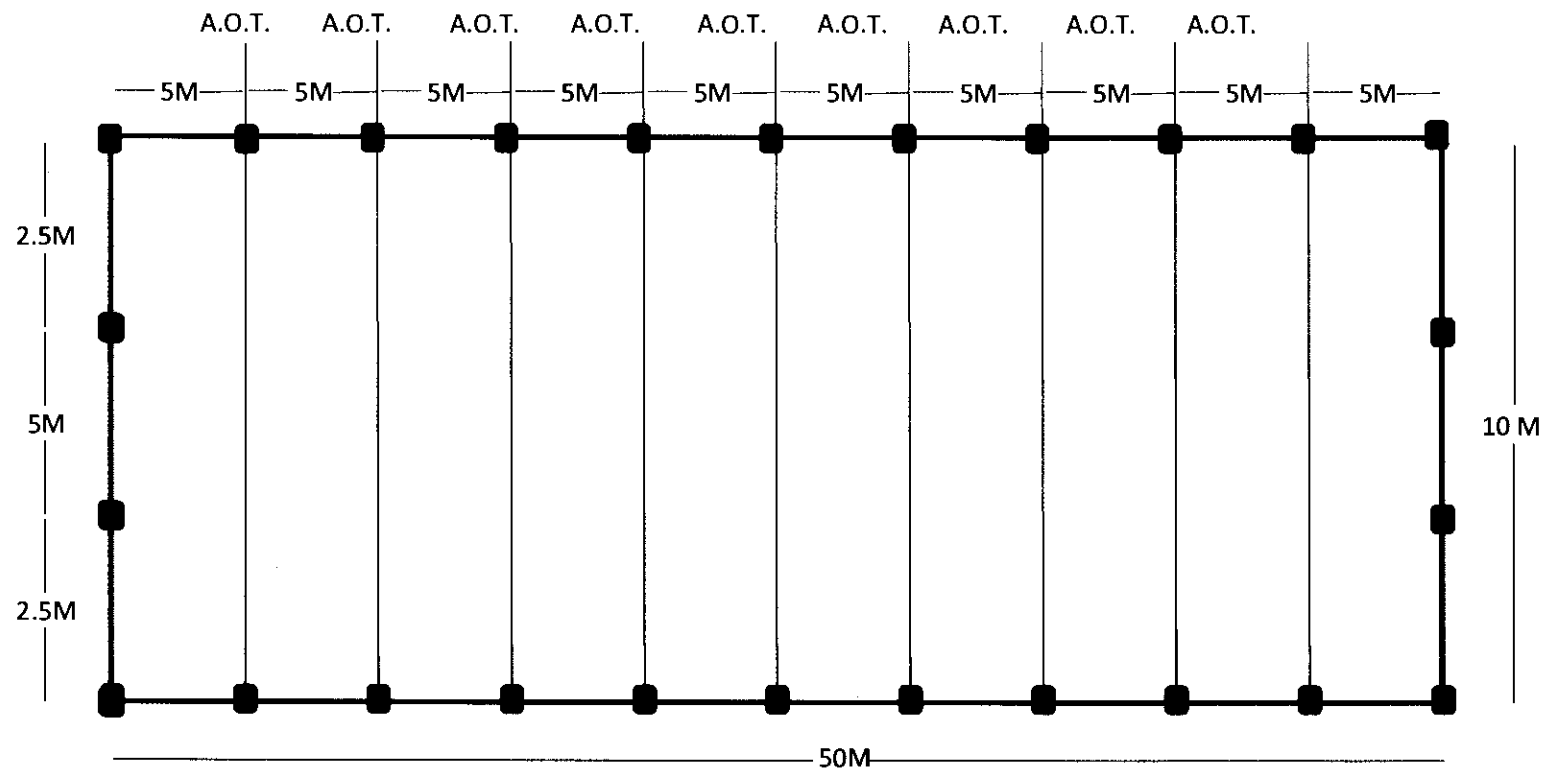
# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Drawings

Following Drawings are attached for reference purpose only.

SL. NO.	DRAWING NO.	DESCRIPTION
<b>CLOSED STORAGE SHED DRAWINGS</b>		
1.	BHE/PW/CS-01	PLAN AT PLINTH LEVEL FOR CLOSED STORAGE SHED (10M x 50M)
2.	BHE/PW/CS-02	SECTIONAL DETAILS OF RCC FOOTING & ISMB COLUMNS FOR CLOSED STORAGE SHEDS
3.	BHE/PW/CS-03	PLAN & RCC DETAILS FOR CLOSED SHED
4.	BHE/PW/CS-05	SECTION OF BEAM (230MM X 300MM)
5.	BHE/PW/ST-SP-01 (SHEET 01 OF 02)	DETAILS OF SEPTIC TANK AND SECTION
6.	BHE/PW/ST-SP-01 (SHEET 02 OF 02)	SECTION A-A
7.	BHE/PW/ST-SP-03	DETAILS OF SOAK PIT
8.	BHE/PW/COS-01	PLAN FOR CLOSED SHED WITH OFFICE (50M x 10M)
9.	BHE/PW/COS-02	SECTION OF LINTEL & SUNSHED PROJECTION FOR CLOSED SHED
10.	BHE/PW/COS-03	INTERNAL WALL FOUNDATION DETAILS AND PARTITION WALL FOUNDATION DETAILS
<b>OPEN STORAGE YARD DRAWINGS</b>		
1.	BHE/PW/OY-01	LAYOUT OF OPEN STORAGE YARD- 3500 SQM.
2.	BHE/PW/OY-02	SECTION OF 8M / 6M WIDTH WBM ROAD
3.	BHE/PW/OY-04	DETAILS OF 0.5 M DEPTH DRAIN
4.	BHE/PW/GATE	MS PIPE GATE
5.	BHE/PW/OY-11	DETAILS OF BARBED WIRE FENCING

**Note:** Drawings are indicative and strictly for tendering purpose, only meant to give an idea to tenderers about nature of job.



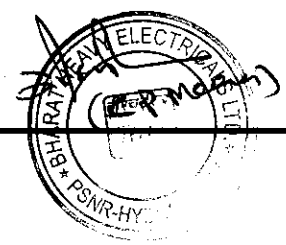
■ COLUMN ISMB- 200

A.O.T. AXIS OF TRUSS

\* TOTAL NO. OF COMPLETE TRUSS- 11 NOS.

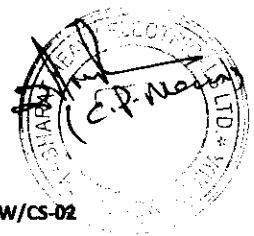
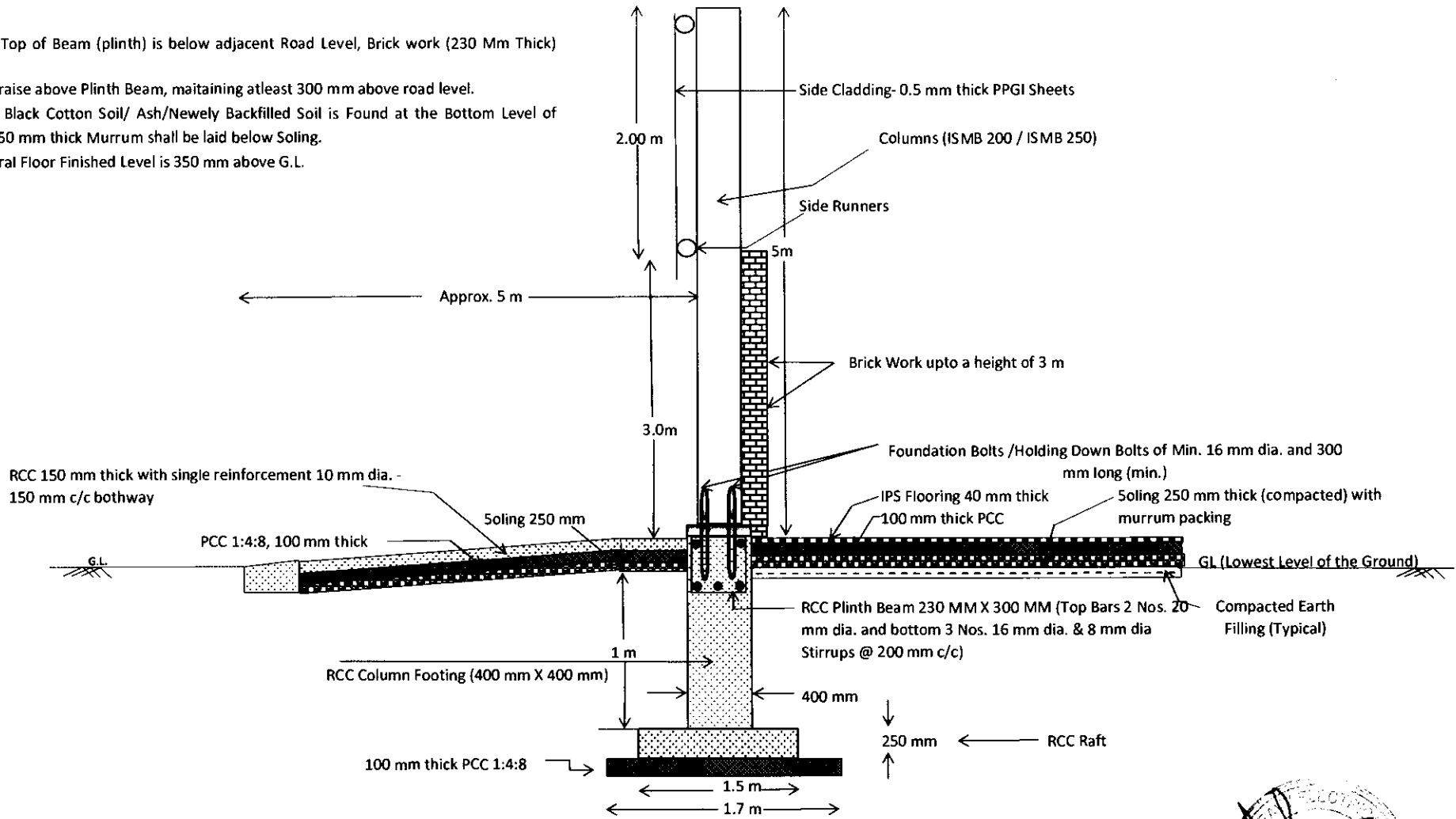
DRG. NO. BHE/PW/CS/01

PLAN AT PLINTH LEVEL FOR CLOSED STAORAGE SHED (10M X 50M)



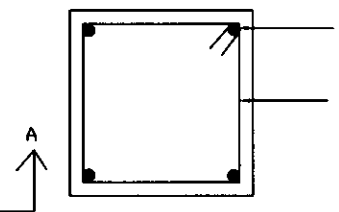
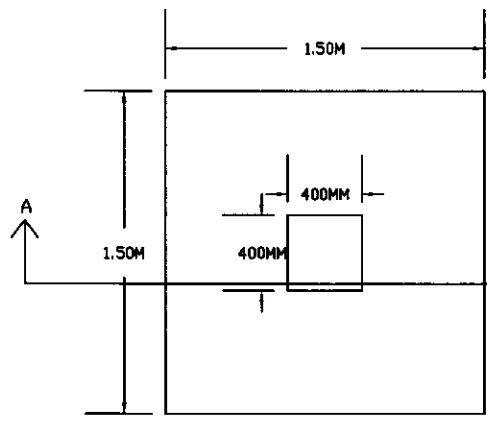
**Note:**

- 1. In case Top of Beam (plinth) is below adjacent Road Level, Brick work (230 Mm Thick) should be raise above Plinth Beam, maintaining atleast 300 mm above road level.
- 2) In case Black Cotton Soil/ Ash/Newely Backfilled Soil is Found at the Bottom Level of Soling, a 150 mm thick Murrum shall be laid below Soling.
- 3) In General Floor Finished Level is 350 mm above G.L.



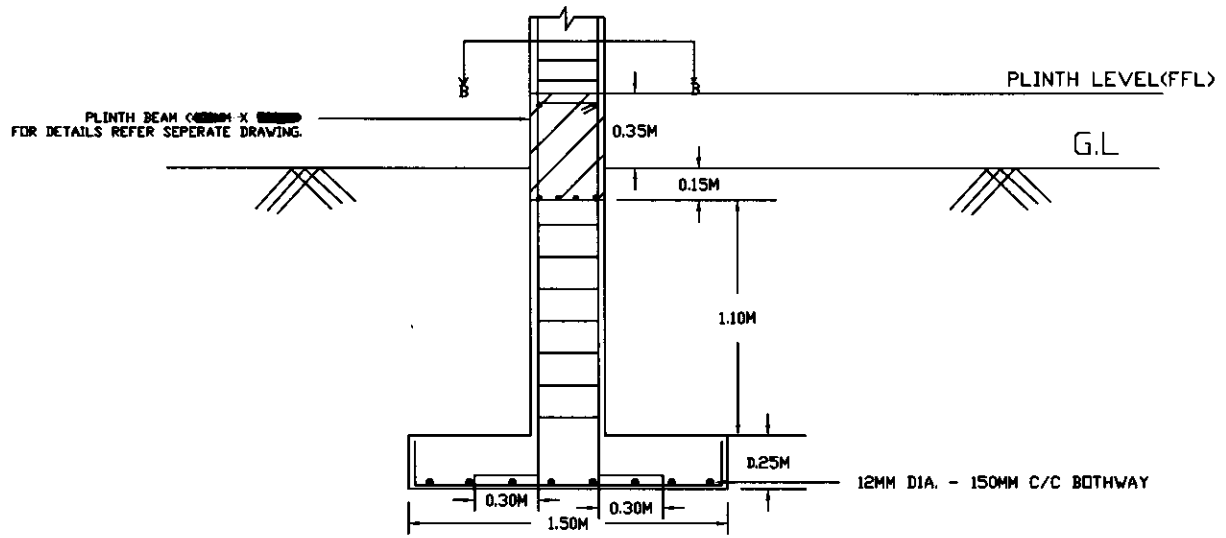
DRG. NO.: BHE/PW/CS-02

**SECTIONAL DETAILS OF RCC FDDTING & ISMB COLUMNS FOR CLOSED STORAGE SHED**



4 - 16 MM DIA.  
 STIRRUPS 8MM DIA. - 200MM C/C

SECTION B-B  
 (DETAILS OF COLUMN)

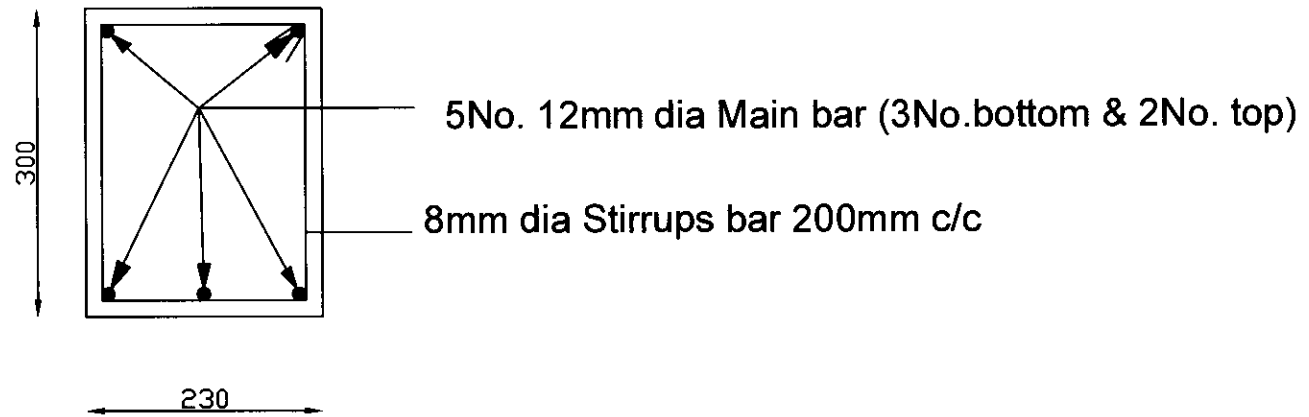


SECTION A -A

DRG NO. BHE/PW/CS-03

PLAN & RCC DETALIS OF FOOTINGS FOR CLOSED SHED

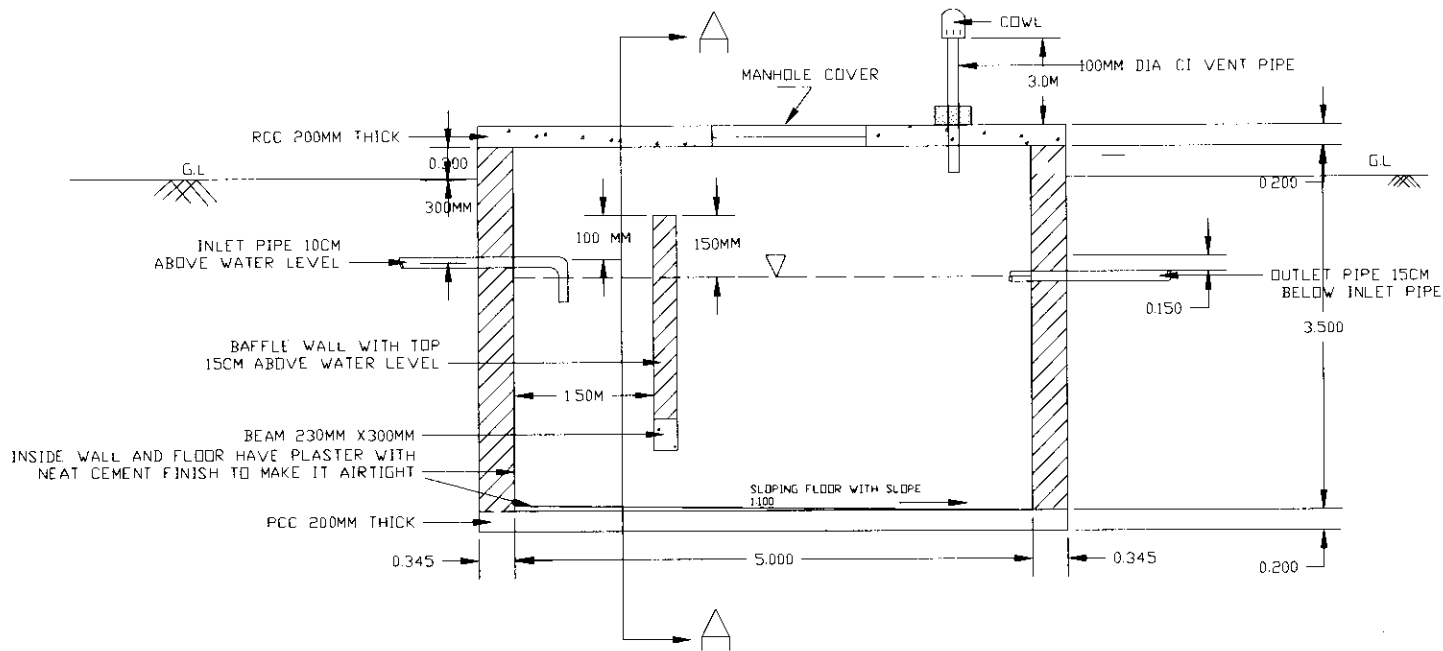
*(Handwritten signature)*  
 BHARATI  
 (C.P. Meena)



SECTION OF BEAM (230mm x 300mm)

DRG NO. BHE/PW/CS-05



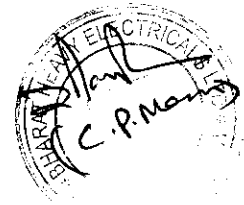


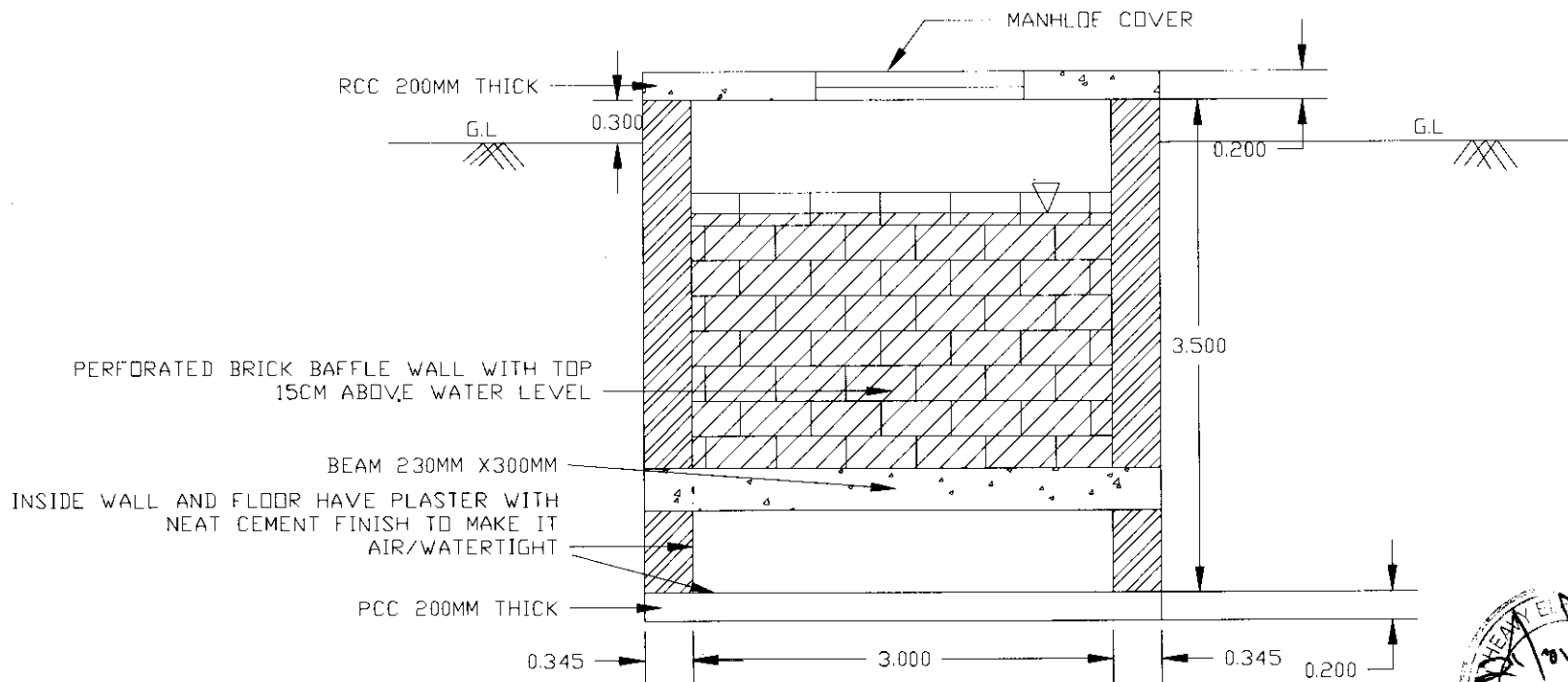
DRG NO. BHE/PW/ST-SP-01

SEPTIC TANK(5.0M X 3.0M X3.5M)

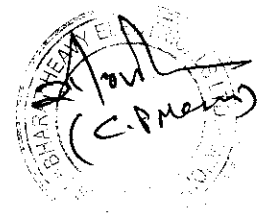
NOTE : F.B 30-50CM ABOVE LIQUID LEVEL

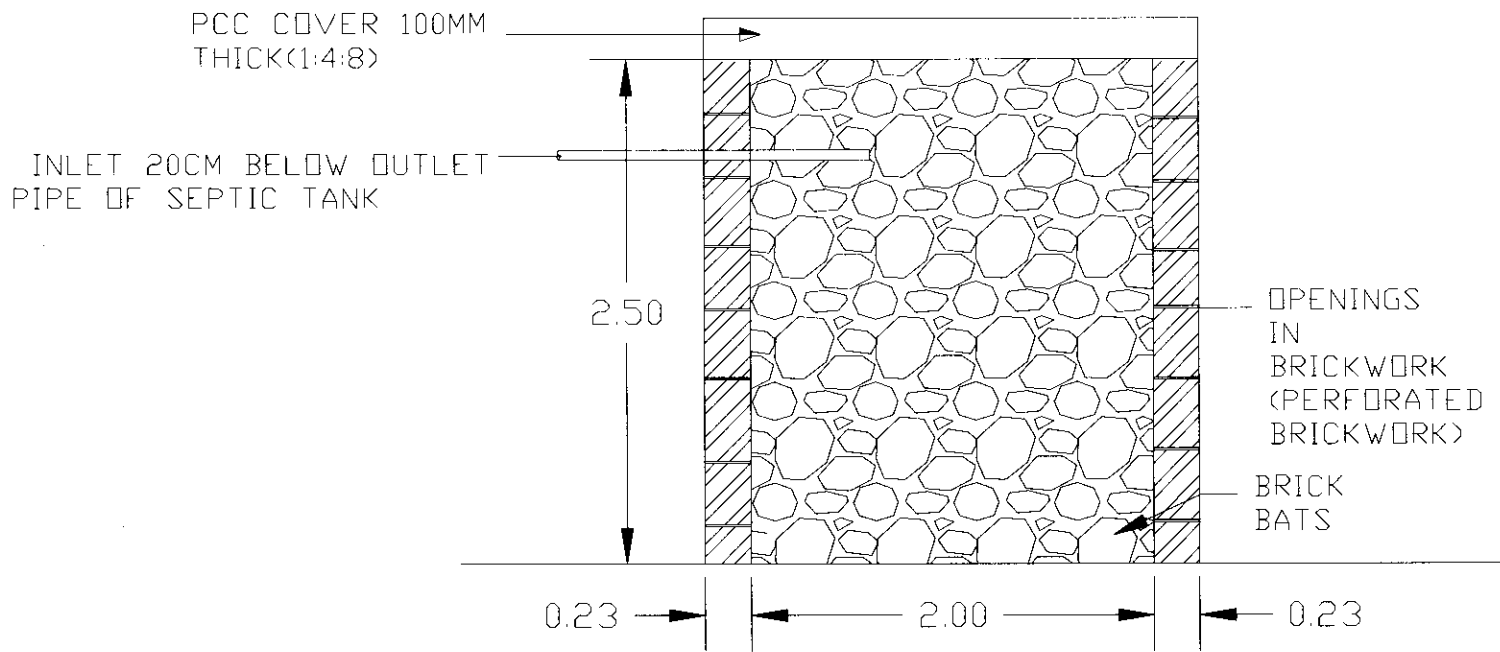
DETAILS OF SEPTIC TANK & SECTION



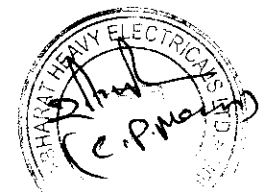


SECTION A-A





DETAILS OF SOAK PIT

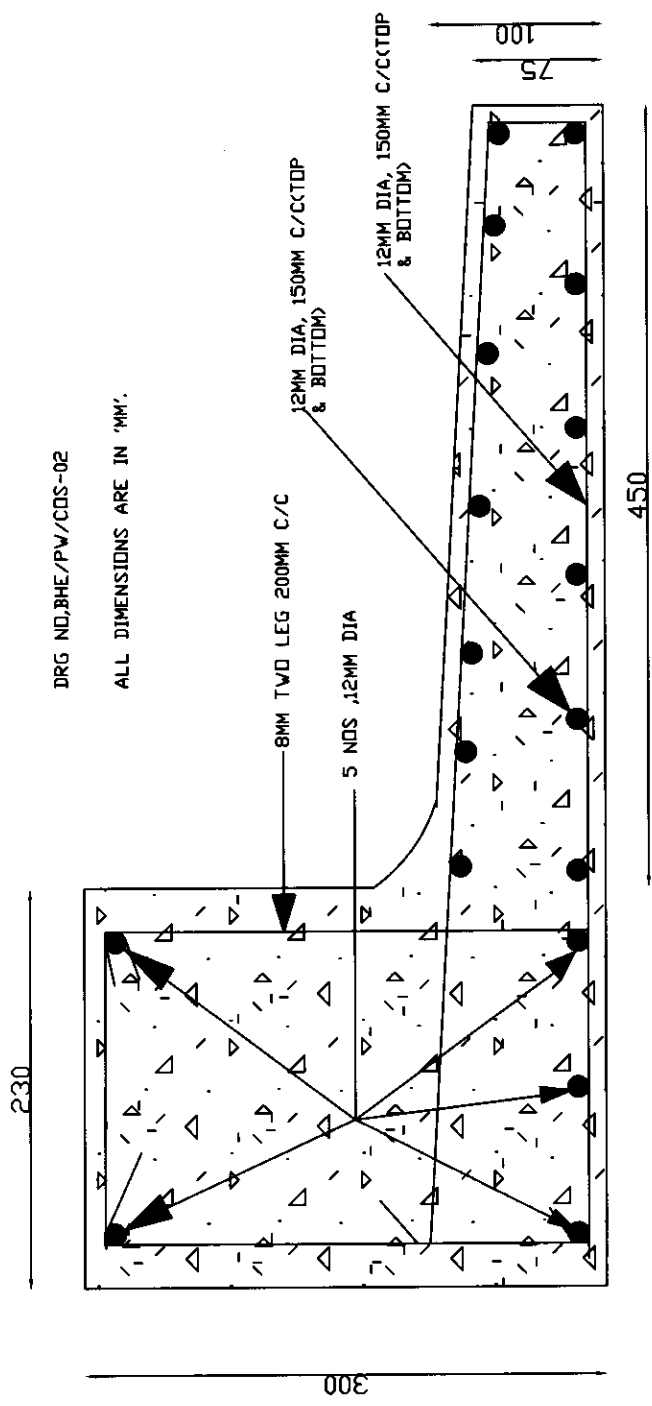


DRG. NO. BHE/PW/ST-SP-03

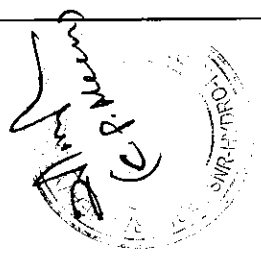


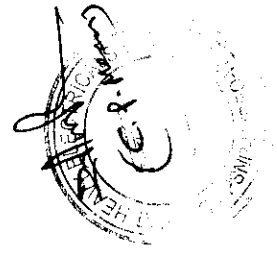
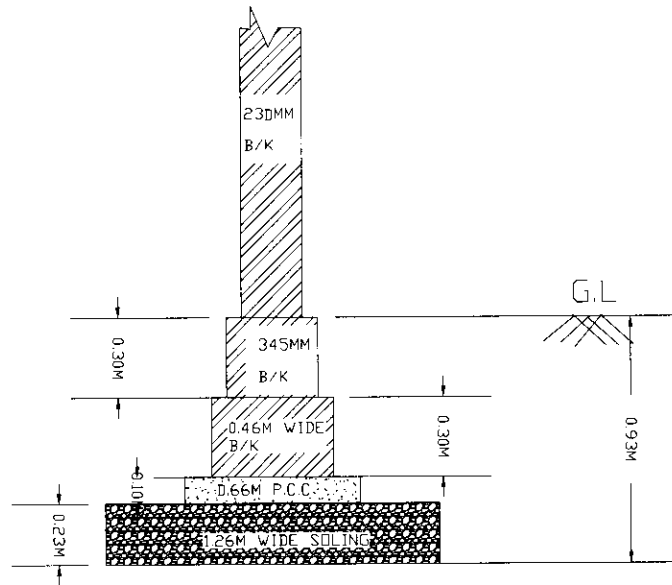
DRG NO. BHE/PV/CDS-02

ALL DIMENSIONS ARE IN 'MM'.

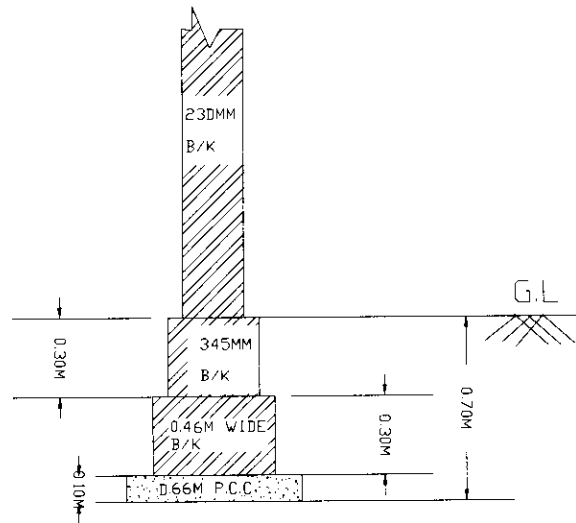


SECTION OF LINTEL & SUN SHED PROJECTION FOR CLOSED SHED



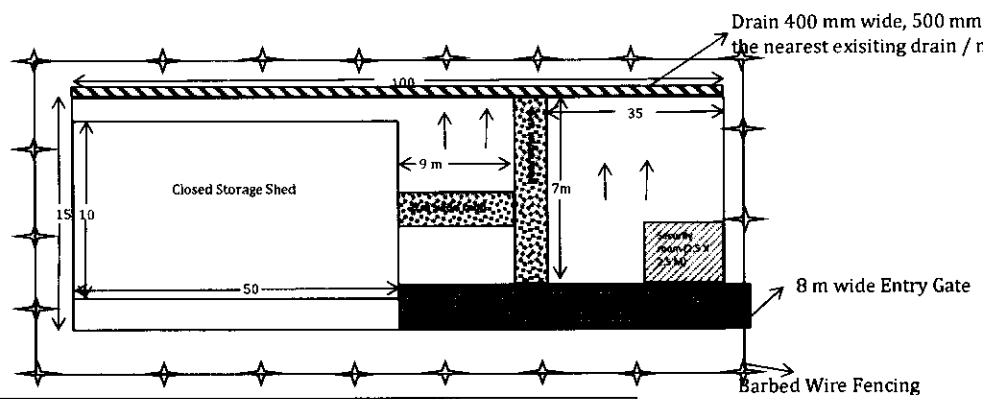
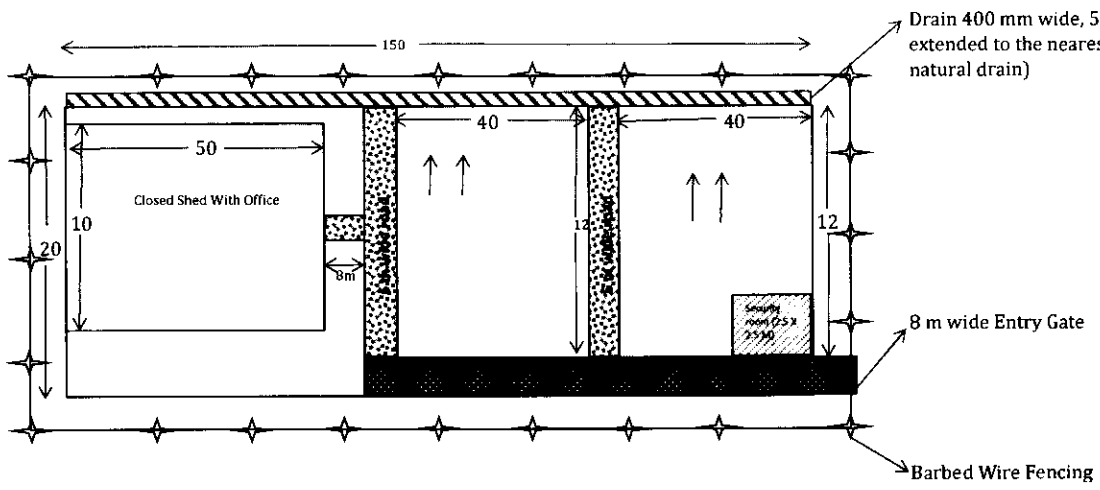


Internal wall Foundation details



Partition wall Foundation details

Drg.No. BHE/PW/CDS-03

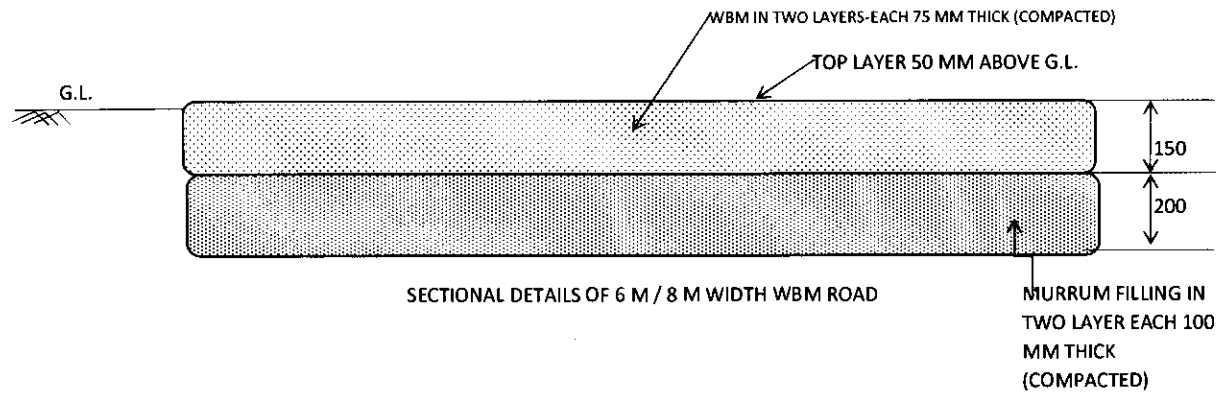


**LAYOUT FOR OPEN STORAGE YARD- 3500 SQ.M.**

	8 Metre Wide Road
	6 Metre Wide Road
	400 mm wide and 500 mm deep drain
	Security Cabin of Size 2.5M X 2.5M X 3M (height)
	Barbed Wire Fencing

PROJECT:	2X60 MW VYASI HEP, DIST. DEHRADUN, UK
TITLE:	LAYOUT FOR OPEN STORAGE YARD- 3500 SQ.M.
DRG NO.	BHE/PW/OY-01
OWNER:	BHEL, PSNR NOIDA

*Handwritten signature and stamp:*  
 (C.P. Nema)  
 27/11/10

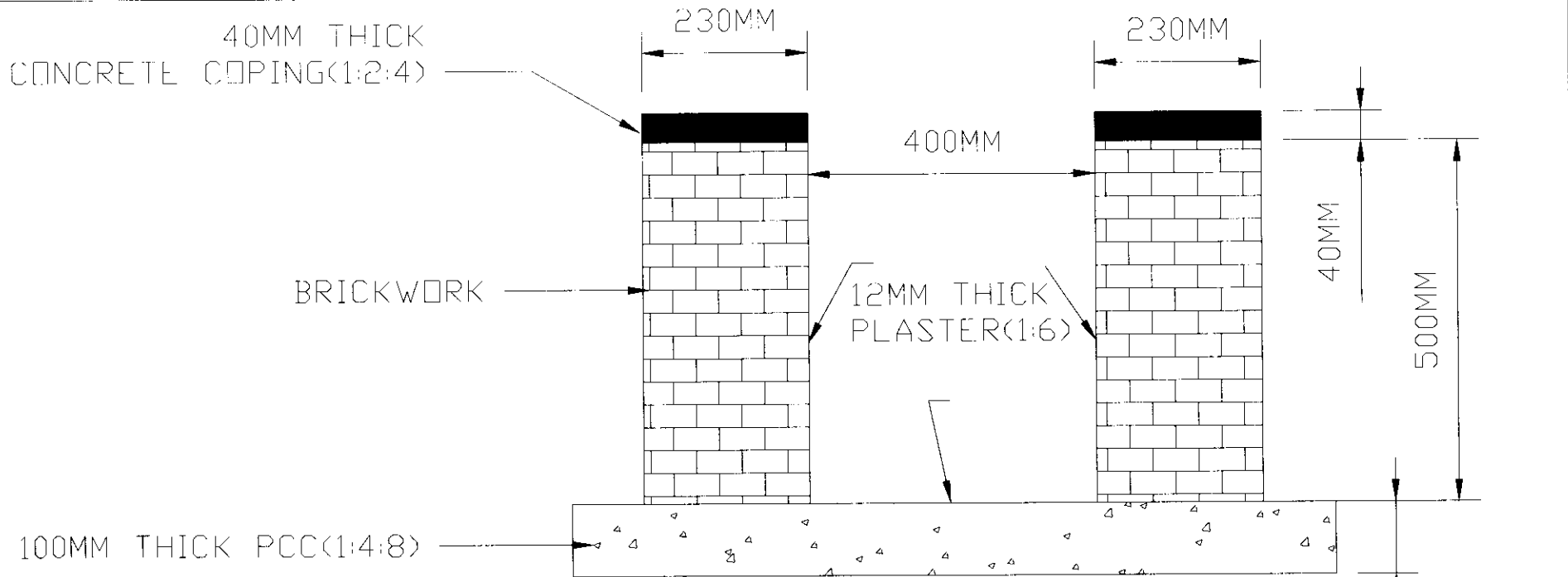


**NOTE:**

- 1) CAMBER SHALL BE MAINTAINED FROM THE SUBGRADE LEVEL
- 2) IN CASE SOFT / HARD ROCK MET WITH SUBGRADE IS FOUND THEN 100 MM THICK MURRUM SHALL BE LAID IN PLACE OF 20 MM THICK MURRUM FLLING.

*(Handwritten signature and stamp)*

PROJECT:	2X60 MW VYASI HEP
TITLE:	SECTION OF 8M / 6M WIDE WBM ROAD
DRG. NO.	BHE/PW/OY-02
OWNER	BHEL PSNR NOIDA

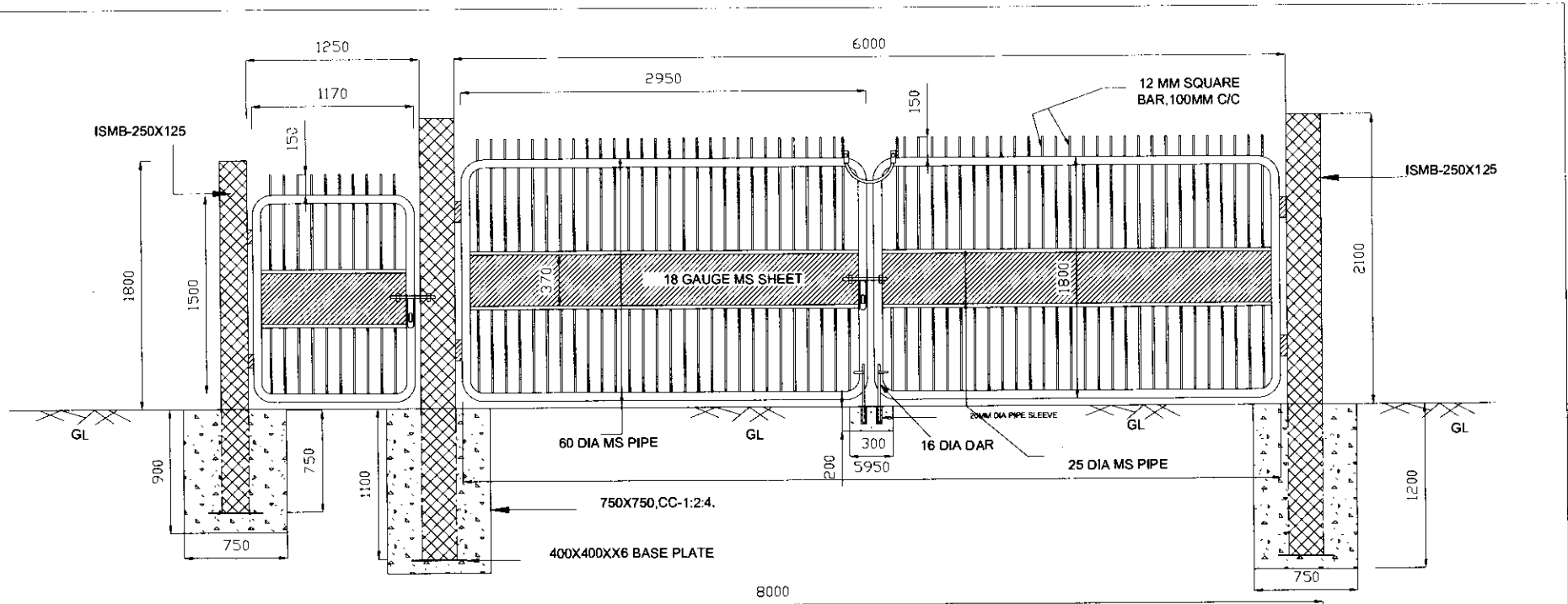


DRAIN DETAILS 0.5M DEPTH

100MM  
 HEAVY BLENDED  
 C.P. Heavy  
 HYDR.

**DETAILS OF 0.5M DEPTH DRAIN**


PROJECT: TYPICAL DRAWING
TITLE: DETAILS OF 0.5M DEPTH DRAIN
DRG. NO. BHE/PW/OY- 04



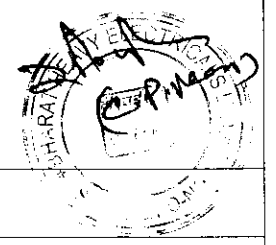
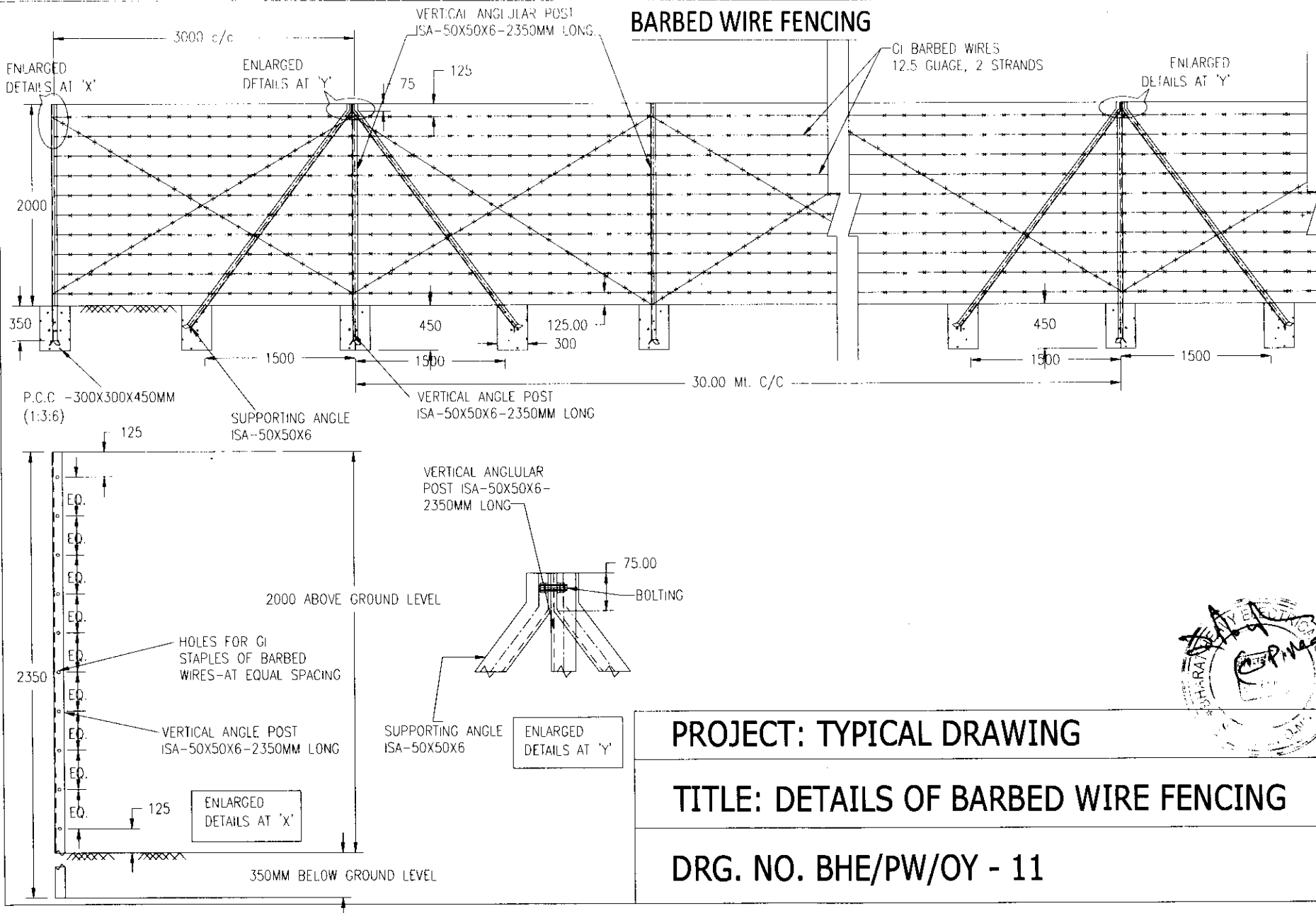
- NOTE:
- 1) ALL DIMENSIONS ARE IN 'MM'.
  - 2) CONCRETE FOR POST FOUNDATION-CC-1:2:4.
  - 3) PANEL: 2950 X 1800.
  - 4) GAP BETWEEN EARTH TO PANAL - 100MM.
  - 5) TOTAL WEIGHT OF GATE - 750 KG (APPROX)

**PROPOSED MS PIPE GATE**

*[Handwritten signature]*  
*[Circular stamp]*

PROJECT :- TYPICAL DRAWING	
TITLE	:- MS PIPE GATE
DRG NO.	:- BHE/PW/GATE
OWNER :-	 BHEL-PSWR NAGPUR

# BARBED WIRE FENCING



PROJECT: TYPICAL DRAWING

TITLE: DETAILS OF BARBED WIRE FENCING

DRG. NO. BHE/PW/OY - 11