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2012

NOTICE INVITING TENDER

(Document No PS:MSX:NIT)

Bharat Heavy Electricals Limited



Ref:

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

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NOTICE INVITING TENDER (NIT)

NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES

OR

PURCHASE TENDERS FROM THIS OFFICE ALSO

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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	BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955
ii	Broad Scope of job	“Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA”
iii	DETAILS OF TENDER DOCUMENT	
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> Applicable
b	Volume-IB	<i>Special Conditions of Contract (SCC)</i> Applicable
c	Volume-IC	<i>General Conditions of Contract (GCC)</i> Applicable
d	Volume-ID	<i>Forms and Procedures</i> Applicable
e	Volume-II	<i>Price Schedule (Absolute value).</i> Applicable
iv	Issue of Tender Documents	<ol style="list-style-type: none"> Sale from BHEL PS Regional office at : Start : 30/05/2014 , Time :0900 Hrs (IST) Closes: 21 /06/2014 , Time : 1200Hrs (IST) From BHEL website (www.bhel.com) Tender documents will be available for downloading from website till due date of submission Applicable/
v	DUE DATE & TIME OF OFFER SUBMISSION	Date : 21 /06/2014, Time :1500 Hrs (IST) Place : BHEL-PSNR-Noida Applicable
vi	OPENING OF	Date : 21 /06/2014, Applicable

	TENDER	<i>(within 2 hours of the latest due date and time of offer submission).</i> Notes: <i>(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.</i> <i>(2) Bidder may depute representative to witness the opening of tender</i>	
vii	EMD AMOUNT	Rs 2,00,000/-	Applicable
viii	COST OF TENDER	Rs 2000/-.	Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	Date: 09/06/2014 Along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
x	SCHEDULE OF Pre Bid Discussion (PBD)		Not applicable.
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)		Not Applicable
xii	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigena, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (www.bhel.com -->Tender Notifications →View Corrigenums) and not in the newspapers . 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
Part-I A		
	<p>ENVELOPE – I superscribed as : PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION:</p> <p>CONTAINING THE FOLLOWING:-</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>Note:</p> <p>a. In case of any deviation, the same should be submitted separately for technical & 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.	

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

	NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING:-	
i.	1. Earnest Money Deposit (EMD) in the form as indicated in this Tender OR 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)	

	PART-II	
	PRICE BID consisting of the following shall be enclosed	
	ENVELOPE-III superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: DUE DATE OF SUBMISSION: CONTAINING THE FOLLOWING	
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)	

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

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
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P ₁	P ₂	P ₃	P ₄	P ₅	...	P _N	Total No of similar packages for all Regions = P _T 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 ₁	T ₂	T ₃	T ₄	T ₅	...	T _N	Sum (Σ) of columns (iii) to (ix) = T _T
3	Monthly performance scores for the corresponding period (as in Row 2)	S _{1-1,} S _{1-2,} S _{1-3,} S _{1-4,} ... S _{1-T1}	S _{2-1,} S _{2-2,} S _{2-3,} S _{2-4,} ... S _{2-T2}	S _{3-1,} S _{3-2,} S _{3-3,} S _{3-4,} ... S _{3-T3}	S _{4-1,} S _{4-2,} S _{4-3,} S _{4-4,} ... S _{4-T4}	S _{5-1,} S _{5-2,} S _{5-3,} S _{5-4,} ... S _{5-T5}	S _{N-1,} S _{N-2,} S _{N-3,} S _{N-4,} ... S _{N-TN}	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S ₁	S ₂	S ₃	S ₄	S ₅	...	S _N	Sum (Σ) of columns (iii) to (ix) = S _T

ii) Calculation of Overall 'Performance Rating' (R_{BHEL}) 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_{BHEL}' 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_{BHEL} 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_{BHEL}) at Power Sector Regions.:

Sl no	Overall Performance Rating (R _{BHEL})	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 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_{BHEL}'** 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 **Not Used**
- 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 list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of **banned firms** is available on BHEL web site 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.
- 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 – 3 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.

30.0 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

01. Annexure-1: Pre Qualifying criteria.
02. Annexure-2: Check List.
03. Annexure-3: Chartered Accountant certificate for MSMED
04. Other Tender documents as per this NIT.

ANNEXURE - 1**PRE QUALIFYING REQUIREMENTS**

JOB	“Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA”
TENDER NO	BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

S. NO.	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no. of supporting document
A	Submission of Integrity Pact duly signed (if applicable)	Not Applicable	
B	Assessment of Capacity of Bidder to execute the work as per sl. no. 9 of NIT (if applicable)	Applicable (BY BHEL)	
C	<p>Technical</p> <p>Bidder who wish to participate should have executed, during last seven years, as on the date of opening of Technical Bid, works of similar nature covered in this tender as per the following:</p> <p>One single work of valuing Rs. 477 lacs or above. “OR” Two works of valuing each of Rs. 298 lacs or above. “OR” Three works of valuing each of Rs. 238 lacs or above.</p>	Applicable	
D	<p>Financial</p> <p>1.1 TURNOVER: Bidders should have achieved an average annual financial turnover (Audited) of Rs. 179 lacs or more over the last three financial years (FY) i.e. 2010-2011, 2011-2012, 2012-2013.</p> <p>Net worth: Net worth of the bidder based on the latest audited accounts as furnished for D 1.1 above should be positive.</p> <p>Profit: 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 1.1 above based on latest audited accounts.</p> <p>1.2 (Relevant documents, meeting above requirements at C & D, shall be submitted by bidders.)</p>	Applicable	
E	Approval of Customer (if applicable)	Not Applicable	
F	Consortium criteria (if applicable)	Not Applicable	
	<p><u>Explanatory Notes for QR ‘C’</u></p> <ul style="list-style-type: none"> For QR ‘C’ above the word ‘Executed’ means the bidder should have achieved the criteria, specified in the QR, even if the total contract has not been completed or closed. 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. The word “work of similar nature” means Civil works like Construction and Development of Open Storage Yards or Covered / Semi Covered Stores or Offices or Buildings (Industrial / Residential/Commercial). 		

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 PRE QUALIFICATION CRITERIA (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**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.

ANNEXURE – 4**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	

Rev 01
1st June
2012

TECHNICAL CONDITIONS OF CONTRACT (TCC)

(Document No PS:MSX:TCC)

BHARAT HEAVY ELECTRICALS
LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC)

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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter- I: Project Information

PROJECT INFORMATION

1.1 INTRODUCTION

Nuclear Power Corporation of India (NPCIL) intends to set up two (2) nos. of 700 MWe PHWR type Nuclear Power Plants (RAPP-7 and 8) at Rawatbhata near kota, Rajasthan, India. The Rawatbhata site is situated on the bank of the Dam Maharana Pratap Sagar in Rawatbhata of Chittorgarh District of Rajasthan state. The site is accessible by road from Kota is about 70 km from NH-12. Nearest railway station, Kota, is about 70 km from Site. The nearest airport is at Jaipur which is about 250 km from site by road.

SITE INFORMATION

Name of the Owner	:	Nuclear Power Corporation of India Limited (NPCIL)
Address	:	Rajasthan Atomic Power Project – 7 & 8 , Plant Site, P. O. Anushakti, Via: Kota, Rajasthan – 323303 .
New Installation	:	2 x 700 MWe
Nearest Railway station	:	Kota Railway Station (Western Railway) - 70 Km
Nearest Road	:	13 Km from Town of Rawatbhata
Nearest City	:	Kota
Nearest Airport	:	Jaipur Airport (Approx 250 Km from Rawatbhata),
Highest Temperature	:	48.7 deg C
Lowest Temperature	:	6.7 deg C
Elevation	:	354.77 metres from MSL

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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: General Scope of Works

2.0 GENERAL SCOPE OF WORK

2.1 The tender specification covers the construction of all works for “**Construction & Development of BHEL Office , Closed Storage Sheds, and Open Yard for 2 x 700 MW Rawatbhata Atomic Power Plant at Kota, District Kota, RAJASTHAN, INDIA**”. Work under this tender includes **supply of all materials**, labour, consumables, transportation, sample testing such as cement, TMT, Structural Steel, Permanently colour coated Galvalume /GI Sheets and false ceiling, steel / wooden door, brick work, aggregates etc.

2.2 The scope of work shall generally include but not limited to the following. The contract will be executed as per BOQ cum Rate Schedule.

- Earth work including excavation, filling, compaction, leveling and grading.
- Plain & Reinforced cement concrete and Masonry (Full and half brick work).
- Structural & reinforcement steel work, AC/GS sheet roofing/side cladding & partition work
- Scaffolding & Formwork
- Finishing work including plastering, doors/windows, flooring, false ceiling, painting etc.
- Water supply and Sanitary work.
- Electrification of Building by providing Incoming cable, Main Distribution Board, Wiring for all installation Light fixtures, power sockets, Exhaust fans, Energy meter Etc.
- Drainage(open and covered)
- MS gates for Entrance/Exit
- Barbed Wire fencing, WBM etc.
- Road work, Culverts, Security Cabins, etc.

2.3 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 GCC clause 2.15.7. 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 will be binding on the contractor.

2.4 Wherever description of items in BOQ cum Rate schedule is found incomplete, CPWD specifications shall be followed.

2.5 CPWD specifications shall be the standard specifications for this contract.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: General Scope of Works

2.6 **BRIEF DESCRIPTION FOR BHEL SITE OFFICE, CLOSED STORAGE SHEDS AND OPEN STORAGAE YARD:**

There is a rocky stratum at project site, therefor blasting shall have to be carried out for excavation (wherever required) as per "TECHNICAL SPECIFICATIONS FOR BLASTING WORK".

A. **SITE OFFICE :**

Civil Works:

The office shed shall be developed having the built up area of Approx. 450 Sq.m on land given by BHEL. The layout plan of the office block is attached for reference. The complete works shall be carried out as per the layout Plan and as directed by BHEL Engineer.

The office along with a 5X5 Sq.Mt. porch on the front side shall be made of Brickwork, Truss, Bottom Ties, and Wind Ties of minimum 25 x 5 mm over the roof sheets along the purlins, permanently colour coated profiled GS sheets. The foundation is to rest on firm rock / ground as instructed / approved by Engineer-in-charge and around 900 mm below existing ground surface. The brick masonry foundation is to rest over 75 mm PCC on firm rock / ground as instructed / approved by Engineer-in-charge. **Permanently colour coated profiled GS sheets** of approved colour, shade & pattern shall be provided with polymer coated J or L hooks, 8mm nut bolts for roofing with appropriate anchoring, fixing and drainage arrangements. Approved quality Enamel paint shall be used for painting work to MS. The wall above finished floor level is of brick masonry of 23 cm width course, to a height of 3000 mm minimum, in cement mortar 1:6 and plastered with CM 1:6. Below the Finished floor level brick masonry of 46 cm width course of 200 mm thickness (minimum), in cement mortar 1:6 is to be laid which shall rest on top of PCC 75 mm thick and 600 mm wide. Above 2 brick wide course shall be 1.5 brick wide masonry of height 600 mm , a plinth beam of size 300x230 mm shall be provided all around (extra tie beams wherever reqd.) with bottom of plinth beam at 0.00 lvl and 23 cm wide brick masonry thereafter.

The finished floor level of the office shall be at least 400 mm above existing ground level. The main office flooring consists of 100 mm minimum thick PCC over which approved vitrified tiles (600 x 600) are to be laid. The all-round walls, of 230mm thick and inside walls (115mm) partitions, (over a DPC course of Cement Concrete 1:2:4 & 50 mm thick with water proof compound- 1kg per bag of cement), are to be constructed with brick work in CM 1:6 and plastered with CM 1:6, 18 mm thick on External Wall Sides and 12 mm thick on Internal Wall Sides, the external plastered surface is to be colour washed with two coats minimum over a priming coat using best quality shale lime to give an even shade and the internal plastered surface is to be painted with two coats (minimum) of Oil Bound Distemper of approved shade, colour and make to obtain an even finish and shade.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: General Scope of Works

Door and Windows:

The windows and ventilators frames and shutters are to be made of approved M.S. as per relevant I.S.

Main entrance door shall be of powder coated Al section, pivoted and provide with lock, Al safety grill, handles, etc.

The doors shall be made of best quality country wood, comprising of frame 95X70 mm and flush door shutters minimum 38/40mm thick (solid core type) and commercial Ply, The windows (1500x1200 or as specified) are of steel and glazed shutters, double leaved and central portion (fixed with glass panel of 4mm thick). Frames are to be provided with 12 mm MS bars @ 120mm intervals. The door & windows are to be properly fixed with the wall using hold fasts/anchors grouted of minimum 200mm long. The doors will have flush shutters, with all fixtures like aldrops, tower bolts, handles, locking arrangement, wind stopper etc. and similarly the windows will have fixtures like hook and eye, towel bolts, minimum of two handles, etc. There shall be a lintel beam at +2100 lvl as per instructions.

Water Supply and Sanitary Works:

There should be ceramic wash basins of approved colour & make, one at Construction Manager's toilet, one at Conference hall toilet and others in general toilet along with mirror of size 550mmx450mm (minimum), towel rail, liquid soap dispenser etc. There will be European Ceramic Water Closets of approved colour and make. All required G.I. water lines 15mm – 40 mm dia., sewer lines (100mm – 150mm), soak pit of minimum 1.2 mm dia. and depth to suit at site, fixtures required for proper functioning like traps, chambers wall plugs, clamps, screws, Low height fibre made Flushing cisterns of minimum 5 Ltr capacity each, Taps for water wash basins & toilets along with liquid soap dispenser etc. are in the contractor's scope. Contractor to note no fixtures, specials or any material will be given for any works which are required for the completion of scope. The pantry is to be provided with kitchen sink (18"X24") and counter with 18 mm thick Gang Saw Cut, Mirror Polished and Premoulded Granite stone top.

One/Two 500 Ltr / 1000 Ltr. PVC (Syntax/ Rotax / Polymer) make water tanks is to be provided at side of the building with supporting structure of 3.60m height made with 65 x 65 x 6mm and 50 x 50 x 6mm angles duly painted with 2 coats finish paint over a primer coat provided and the required incoming and outgoing water lines to the services with minimum 20 mm dia GI pipe, is in the contractor scope only. The incoming GI line is to be laid from nearby water line source (which is feeding surrounding place) up to overhead tanks and one direct line is to be provided in the pantry.

False Ceiling:

The false ceiling shall consist of 12.5 mm thick Gypsum board laid over Aluminium Tees and edge angles at a grid size of 600mm x 600mm with arrangements for lighting fixtures, Fans etc. as per instructions.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: General Scope of Works

Electrical Works:

Wiring for light point, fan point etc. are to be with 2.5 Sq.mm PVC insulated conductor wire. Wiring for a 3 pin 250 volts 5/15 Amp single phase and neutral switch socket outlet, with 2.5 Sq.mm PVC insulated conductor wire. The wiring is to be done with good and approved quality PVC conduits of 20 / 25 mm dia, above false ceiling and concealed PVC conduits below false ceiling. The fans of size 48 inch and tube light fittings of approved ISI makes are to be provided. The switches (modular switches) of approved make are to be used. The three phase distribution with three phase energy meter with reqd. ELCB is in contractor scope. All samples are to be got approved by the Engineer-in-charge before the purchase and installation.

The Plinth level of the building is to be decided at site to suit the site condition by the Engineer-in-charge. The relevant Indian standards are to be followed for all works.

The entire scope of work is with the contractor and BHEL will not provide any material, manpower etc. for the satisfactory completion of work. The decision of the Engineer-in-charge is final and binding.

Covered parking (5.0x10.0mtr) shall be provided with tubular columns and purlins and AC sheets. PCC as specified in BOQ shall be done under covered parking, porch and approach road as per drawings. Horticulture work as specified shall be completed.

Incoming supply will be drawn from Identified power source with at least 3 ½ core 95 Sq. mm Al Cond Armoured PVC insulated cable will be laid underground & on surface duly supported. Suitable size GI pipe is to be provided for Road crossing. Connections at both the ends will be made by suitable size lugs & double compression glands. The minimum depth of the cable shall be 300 mm where no vehicles or equipment movement is there. Whenever the vehicles or equipment movement is there, the depth of cable should be 800 mm or to be provided through GI pipe of suitable size.

Furniture and Furnishing:

Contractor shall prepare a siting layout for the BHEL Office in consultation of BHEL Engineer. Contractor shall get this layout approved from BHEL Engineer before procuring and supplying the furniture /furnishing items to BHEL Site Office.

Furniture shall be procured from the reputed approved manufacturers only as per BOQ and as directed by BHEL Engineer. If the furniture items of approved model as per BOQ are not available / discontinued by manufacturer, the same can be substituted by another model of same brand / other approved brand after approval from BHEL Engineer.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: General Scope of Works

B. CLOSED STORAGE SHEDS:

Civil Works

The closed storage sheds shall be developed on land given by BHEL having the built up area of Approx. 900 Sq.M each.

Closed Shed (60M X 15M)

- 3 no.

1 No. Closed Storage Shed shall be provided with Store Office, C&I Store, Common Hall, Common Room, Pantry and Toilet Block etc., 2 Nos. Closed Storage Shed shall be only for storage purpose with side racks as specified in drawings / as instructed by BHEL Engineer.

The Store area shall be cleared of all vegetation, scrap and debris. The stores shall be made of RCC (1:2:4) Columns of size 400mmX400mm with reinforcement as per the drawings up-to a height of 5M above F.F.L., tubular truss, tubular purlins, side ties, bottom ties, wind ties of minimum 25mm x 5mm over the roof sheets along the purlins, as specified (drawings attached for reference). **The working/shop drawings for Steel structures, trusses, etc. shall be got approved from BHEL before start of work.**

The columns foundation shall consist of the bottom most layer of Murrum filling 150 mm thick in plan size of 2mX2m properly watered and compacted, over that a 100 mm thick PCC (1:4:8) layer in 1.7mX1.7m plan area, above PCC shall be casted the Column Footing with RCC (1:2:4) 250 mm thick with the reinforcement of 12 mm dia 150 mm c/c both way. Above the Column Footing shall start the Column with RCC (1:2:4) & with the reinforcement of 4- 16 mm dia main bars and stirrups of 8 mm dia 150 mm c/c spacing as specified in the drawings. The Column shall start from 1.0 m below the existing ground level. RCC (1:2:4)Plinth Beam of 400mmX500mm shall be provided with the reinforcement of Top bars 2- 20 mm dia., bottom bars 4- 16 mm dia. and stirrups 8 mm dia. @ 200 c/c spacing. The top of the Plinth Beam shall be at least 350 mm above the existing ground level. The Column Height above the FFL shall be 5 m (minimum). 2 Nos. of Tie Beams at a height of 2.5 m and 5 m respectively from the FFL shall be provided. Tie Beams shall be of cross-section size 230X300 Sq. mm. with RCC (1:2:4), reinforcement of 5 Nos. 12 mm dia bars and stirrups of 8mm dia @ 200 mm c/c distance shall be provided as per drawings.

Permanently colour coated profiled Galvalume / Permanently Colour Coated Profiles GS / GI sheets shall be provided with polymer coated self-drilling screws for roofing and side cladding with appropriate anchoring, fixing and drainage arrangements. Approved quality Enamel paint shall be used for painting work to MS. The wall above finished floor level is of brick masonry of 230 mm width course, to a height of 5000 mm minimum, in cement mortar 1:6 and plastered with CM 1:6. Below the Finished floor level brick masonry of 230 mm width course, to a depth of 300 mm minimum, in cement mortar 1:6 is to be laid which shall rest on top of 400X500 mm plinth beam. The base course under plinth beam shall be PCC 100 mm thick and 500 mm wide. The finished floor level of the stores shall be at least 390 mm above existing ground level / adjacent road level. The Store flooring consists of raising the Ground level by filling good earth and stone soling of 250 mm thickness and 100 mm PCC over which approved IPS

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: General Scope of Works

flooring is to be laid. Extended roofing shall also be provided as per the instructions of the BHEL Engineer. Rolling shutters (5mX5m) complete with all guides, rollers, anchors, etc. shall be provided as per BOQ. The inside and outside plastered surface is to be white washed and colour washed respectively with two coats minimum over a priming coat. Contractor to note that no fixtures, specials or any material will be given by BHEL for any works which are required for the completion of works. Average 275 mm deep and 250 mm wide drains shall be constructed along the plinth protection as per directions of the BHEL Engineer.

One no. of Septic tank and Soak Pit shall also be constructed along with the Closed Store with C&I Store and Store Office. Water tank (1000 Litre.) with the Structure along with providing and fixing G.I. piping for Incoming and Outgoing Water as per BOQ, standard codes & practices and as directed by BHEL Engineer is also in the scope of contractor.

100 mm thick, 1.0 metres wide RCC racks / slabs all along one store wall shall be provided at 1.0 metre & 1.8 metre heights from FFL. The slabs shall be rested on brick masonry every 1.2 metre span of size 2.0 metres high. The brickwork shall be plastered to finish and whitewashed as per drawings and BOQ.

IT IS PROPOSED TO ELECTRIFY THE CLOSED SHED AS FOLLOWS:

Adequate Nos. of Aluminium dispersive Luminaries shall be provided in closed shed with accessories and mounting arrangements as specified in BOQ according to standard codes and practices using best quality materials. Each storage shed shall be provided with the suitable nos. of Ordinary Tube Lights, fans, Exhaust Fans, 5A/ 15A sockets, 3 phase power sockets and switches, power sockets, MCBs, MCCBs, ELCBs, complete with cabling in PVC conduits, Earthing etc. as per the BOQ and as directed by BHEL Engineer for fulfilling functional requirements.

Supplying, Installation and commissioning of common main panel to cater requirement of all total layout, laying incoming cable for the above panel from the outside nearest source, providing feeder panel, lights & sockets requirement etc., laying interconnecting panel between common main panel and feeder main panel, providing MCB distribution board to cater lights, sockets & fans requirement, providing earth electrode and earth conductors complete as per requirement.

Panels are Floor mounted & of 2 mm (min.) thick sheet, outdoor type (IP 55), powder coated having major components from L&T / GE / SIEMENS. Bus bar shall be of copper, current density 1 Amp. /mm².

The scope of work has to be completed in all manners to meet the functional requirement by covering all the left out allied work in BOQ thereby to commission the system as a whole.

Complete Electrification along with necessary lighting-fixtures, fans, necessary cables, MCB, ELCB, Main switch, Energy meter, Junction box, switches, switch boards, Plug points etc. are in the contractor's scope so that installation is fully safe & meets local

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: General Scope of Works

authorities statutory requirement. The necessary covers required for the MCB, energy meter etc., are to be provided by the contractor. Necessary earthing along with earth pit required as per the standards is to be provided by the contractor.

All the material used to be approved by BHEL Engineer. In case of non-availability of approved make of material (as specified in clause 2.5 E of TCC and BOQ); BHEL

C. OPEN STORAGE YARD AND ROADS:

The Storage yards and roads shall be developed on land given by BHEL having the built up area of Approx. **25000** Sq.M., the raised concrete platform area shall be **540** Sq.M. and **800** Nos. concrete sleepers shall be provided as per BOQ and as instructed by BHEL Engineer. The yard area shall be levelled, watered and compacted with at least 10 passes of 8-12 T rollers to the entire satisfaction of BHEL.

Entire storage yard is to be levelled first by making good the undulations, watered, compacted and rolled with road rollers to required slope (1:300) towards the drains/periphery so that no waterlogging is present. The road area, subgrade shall be prepared after dressing to camber and consolidation with 8-12 T Road rollers, over which Murrum (properly watered and compacted), stone soling and 150 mm thick water bound macadam, is to be laid with stone aggregate 63 mm to 45 mm, stone screenings, murrum, red bajri, binding earth etc. and is to be properly compacted and rolled with road roller as shown in drawings. Appropriate approaches shall be made to Closed and open storage areas from the roads. The internal road of storage yard is to be connected with existing approach road (this is in the contractor's scope). **Open and covered PCC/Brick drains** as specified in drawings / BOQ and as instructed by BHEL Engineer shall be provided and terminated at Existing drains for proper and sufficient rainwater drainage.

Open yard shall be adequately illuminated by providing proper lighting arrangements i.e. 3 phase Metering and Power Distribution Boards, Power Feeder Pillar Boards, Flood Light Luminaries and Steel swaged tubular poles with sodium vapour lamps along with adequate earthing arrangements etc. complete with all cabling, fittings and fixtures as per BOQ / as instructed by BHEL Engineer such as the complete electrification work comply with the local statutory requirement & functional requirement as per the standard codes and practices.

Contractor to note no machinery, tools & plants, material & manpower shall be provided by BHEL.

D. FENCING:

Barbed wire fencing work: Pits of size 300x300 mm² and 450 mm deep shall be excavated for MS angle posts at 3 metres. c/c. At least 2 m high **GI barbed wire** fencing with 2.35 m angle iron 50 x 50x 6 mm posts placed every 3 m c/c embedded in cement

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Chapter - II: General Scope of Works

concrete block (1:3:6), every 15th post but one end post and corner post shall be struted on both sides and end post on one side only and provided with 10 horizontal lines and two diagonals inter woven with horizontal / diagonal wires of barbed wire, weighing 9.38 Kg per 100 m (min) (12.5 gauge, 2 strands) between the two posts and fixed with GI staples , turn buckles etc. complete shall be provided by the contractor.

E. APPROVED MAKE OF MATERIALS:

1. STRUCTURAL/REINF. STEEL : SAIL / TATA / JINDAL
2. CEMENT : 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 : ANCHOR / MK / LK
(MODULAR TYPE SWITCHES)
6. ELECTRICAL EQUIPMENT:
 - a) EXHAUST FANS : ALSTOM / CROMPTON/ GC/
NUTECH
 - b) LIGHT FITTINGS : CROMPTON/PHILIPS /WIPRO
 - c) WALL MOUNTING FANS : ORIENT/ CROMPTON/ GC/USHA
 - d) CFL & FL LAMPS : PHILIPS/ OSRAM / WIPRO / BAJAJ
 - e) KWH METERS ETC : BHEL/ GE/ L&T / HAVELS
 - f) MCBs & MCB DBs (10 KA) : MDS/ L&T-HAGGER/ RAJ.L/ HAVELS
 - g) EARTH LEAKAGE CIRCUIT: MDS/ L&T-HAGGER/ RAJ.L
 - h) BREAKER: HAVELS EURO

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F. Approval of BHEL Engineer is to be obtained before procurement of materials specified above. The make of material mentioned if not available in the market or is not suiting the site conditions or the make of material is not mentioned in the above list, equivalent make may be used after the approval from BHEL engineer.

2.7 The scope of work will also include such other related works although they may not be specifically mentioned in the above paragraph and all such incidental items not specified but reasonably implied and necessary for completion of the job as a whole all as desired and as directed by the BHEL Engineer.

The detail scope of work covered above is not a comprehensive list of items of work involved. The detail scope of work may vary considerably depending on the actual construction requirements.

2.8 The work under this contract shall be carried out as per BOQ Cum Rate Schedule. In case the description / specifications as per BOQ are found to be incomplete CPWD / IS Code specifications shall be followed. Quantities mentioned in the 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.

2.9 **ALSO INCLUDED IN THE SCOPE**

Unless otherwise specified, the work to be provided by the contractor for the items mentioned in the "Bill of Quantities" shall include but not be limited to the following.

- a) Furnishing all labour, materials, 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

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: General Scope of Works

reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provide by the BHEL engineer during the course of works.

- b) Furnishing samples of all materials required by the BHEL Engineer for testing / inspection and approval for use in the works. The samples may be retained by the engineer for final incorporation in the works.
- c) 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.
- d) Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, those are required for all works including temporary works.
- e) Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
- f) Carrying out topographic survey of the work area and 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., The contractor shall provide the owner/BHEL such a 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.
- g) Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
- h) Police verification is required for all Employee, Supervisor and labour.
- i) Labour licence is required for all the labour.
- j) One identity Card is required ie. Voter Card , Aadhar Card or any Government issued Identity Card for all employee of bidder.

2.10 STORAGE OF EXPLOSIVES

Storage of Explosives shall be carried out as per IS Code 4081

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter - II: General Scope of Works

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
1.1.0	<u>ESTABLISHMENT</u>			
1.1.1	FOR CONSTRUCTION PURPOSE:			
A	OPEN SPACE FOR OFFICE	Yes		BHEL shall provide free of charge limited open space for BHEL Site Office, Open Yard and Closed Stores as and where made available by its customer (M/s NPCIL).
B	OPEN SPACE FOR STORAGE	Yes		
C	CONSTRUCTION OF BIDDER'S OFFICE, CANTEEN AND STORAGE BUILDING INCLUDING SUPPLY OF MATERIALS AND OTHER SERVICES		Yes	
D	BIDDER'S ALL OFFICE EQUIPMENT, OFFICE / STORE / CANTEEN CONSUMABLES		Yes	
E	CANTEEN FACILITIES FOR THE BIDDER'S STAFF, SUPERVISORS AND ENGINEERS ETC.		Yes	
F	FIRE FIGHTING EQUIPMENT LIKE BUCKETS, EXTINGUISHERS ETC.		Yes	
G	FENCING OF STORAGE AREA, OFFICE, CANTEEN ETC. OF THE BIDDER		Yes	
1.1.2	FOR LIVING PURPOSES OF THE BIDDER			
A	OPEN SPACE		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
B	<i>LIVING ACCOMMODATION</i>		Yes	
1.2.0	<u>ELECTRICITY</u>			
1.2.1	<u>ELECTRICITY FOR CONSTRUCTION PURPOSES</u>		Yes	Contractor shall have to deploy the DG sets for carrying out the tender works. However electricity shall be provided on chargeable basis at customer's single point source subject to availability.
1.2.1.1	SINGLE POINT SOURCE			
1.2.1.2	FURTHER DISTRIBUTION FOR THE WORK TO BE DONE WHICH INCLUDE SUPPLY OF MATERIALS AND EXECUTION		Yes	
1.2.2	ELECTRICITY FOR THE OFFICE, STORES, CANTEEN ETC. OF THE BIDDER WHICH INCLUDE:		Yes	
1.2.2.1	DISTRIBUTION FROM SINGLE POINT INCLUDING SUPPLY OF MATERIALS AND SERVICE		Yes	
1.2.2.2	SUPPLY, INSTALLATION AND CONNECTION OF MATERIAL OF ENERGY METER INCLUDING OPERATION AND MAINTENANCE		Yes	
1.2.2.3	DUTIES AND DEPOSITS INCLUDING STATUTORY CLEARANCES FOR THE ABOVE		Yes	
1.2.2.4	LIVING FACILITIES FOR OFFICE USE INCLUDING CHARGES		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
1.2.2.5	<i>DEMOBILIZATION OF THE FACILITIES AFTER COMPLETION OF WORKS</i>		Yes	
1.2.3	<u><i>ELECTRICITY FOR LIVING ACCOMMODATION OF THE BIDDER'S STAFF, ENGINEERS, SUPERVISORS ETC ON THE ABOVE LINES.</i></u>		Yes	
1.3.0	<u><i>WATER SUPPLY</i></u>			
1.3.1	<u><i>FOR CONSTRUCTION PURPOSES:</i></u>			
1.3.1.1	<i>MAKING THE WATER AVAILABLE AT SINGLE POINT</i>		Yes	Bidder has to arrange for construction water at his own arrangement by restoring to the methods like Water Container, water tankers etc.
1.3.1.2	<i>FURTHER DISTRIBUTION AS PER THE REQUIREMENT OF WORK INCLUDING SUPPLY OF MATERIALS AND EXECUTION</i>		Yes	
1.3.2	<u><i>WATER SUPPLY FOR BIDDER'S OFFICE, STORES, CANTEEN ETC.</i></u>		Yes	
1.3.2.1	<i>MAKING THE WATER AVAILABLE AT SINGLE POINT</i>		Yes	Bidder has to arrange for safe drinking water for staff and labour at his own.
1.3.2.2	<i>FURTHER DISTRIBUTION AS PER THE REQUIREMENT OF WORK INCLUDING SUPPLY OF MATERIALS AND EXECUTION</i>		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
1.4.0	<u>LIGHTING</u>			
1.4.1	FOR CONSTRUCTION WORK (SUPPLY OF ALL THE NECESSARY MATERIALS) 1. At office storage area 2. At the preassembly area 3. At the construction site /area		Yes	
1.4.2	FOR CONSTRUCTION WORK (EXECUTION OF THE LIGHTING WORK/ ARRANGEMENTS) 1. At office storage area 2. At the preassembly area 3. At the construction site /area		Yes	
1.4.3	PROVIDING THE NECESSARY CONSUMABLES LIKE BULBS, SWITCHES, ETC. DURING THE COURSE OF CONSTRUCTION		Yes	
1.4.4	LIGHTING FOR THE LIVING PURPOSES OF THE BIDDER AT THE COLONY / QUARTERS		Yes	
1.5.0	<u>COMMUNICATION FACILITIES FOR SITE OPERATIONS OF THE BIDDER</u>			
1.5.1	TELEPHONE, FAX, INTERNET, INTRANET, E-MAIL ETC.		Yes	
1.6.0	<u>COMPRESSED AIR SUPPLY</u>			
1.6.1	SUPPLY OF COMPRESSOR AND ALL OTHER EQUIPMENT REQUIRED FOR COMPRESSOR AND COMPRESSED AIR SYSTEM INCLUDING PIPES, VALVES, STORAGE SYSTEMS ETC.		Yes	

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
1.6.2	<i>INSTALLATION OF THE ABOVE SYSTEM AND OPERATION AND MAINTENANCE OF THE SAME.</i>		Yes	
1.6.3	<i>SUPPLY OF THE ALL THE CONSUMABLES FOR THE ABOVE SYSTEM DURING THE CONTRACT PERIOD.</i>		Yes	

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
2.0	<u>CONSTRUCTION FACILITIES</u>			
2.1.0	<i>ENGINEERING WORKS FOR CONSTRUCTION:</i>			
2.1.1	<i>PROVIDING THE CONSTRUCTION DRAWINGS FOR ALL THE STRUCTURES COVERED UNDER THIS SCOPE</i>	Yes		
2.1.2	<i>DRAWINGS FOR CONSTRUCTION METHODS</i>		Yes	Fabrication Drawings.
2.1.3	<i>AS-BUILT DRAWINGS – WHERE EVER DEVIATIONS OBSERVED AND EXECUTED AND ALSO BASED ON THE DECISIONS TAKEN AT SITE– ROUTING OF SMALL BORE PIPES</i>			NA
2.1.4	<i>SHIPPING LISTS ETC. FOR REFERENCE AND PLANNING THE ACTIVITIES</i>			NA

TECHNICAL CONDITIONS OF CONTRACT (TCC)
Chapter – III: Facilities in the scope of Contractor/BHEL

Sl.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
2.1.5	<i>PREPARATION OF SITE CONSTRUCTION SCHEDULES AND OTHER INPUT REQUIREMENTS</i>		Yes	
2.1.6	<i>REVIEW OF PERFORMANCE AND REVISION OF SITE CONSTRUCTION SCHEDULES IN ORDER TO ACHIEVE THE END DATES AND OTHER COMMITMENTS</i>	Yes	Yes	
2.1.7	<i>WEEKLY CONSTRUCTION SCHEDULES BASED ON SL. No 2.1.5</i>		Yes	
2.1.8	<i>DAILY CONSTRUCTION / WORK PLAN BASED ON SL. No 2.1.7</i>		Yes	
2.1.9	<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	
2.1.10	<i>PREPARATION OF PREASSEMBLY BAY</i>		Yes	
2.1.11	<i>LAYING OF RACKS FOR GANTRY CRANE IF PROVIDED BY BHEL OR BROUGHT BY THE CONTRACTOR/BIDDER HIMSELF</i>			NA

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

LIST OF TOOL & PLANTS TO BE DEPLOYED BY THE CONTRACTOR -

INDICATIVE LIST OF T & P TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN
COST

SI. No.	EQUIPMENT	QTY
1	CONCRETE MIXER M/C OF SUITABLE CAPACITY	AS PER WORK REQUIREMENT
2	CONCRETE VIBRATORS	AS PER WORK REQUIREMENT
3	JCB/ Excavator/ Dozer/ Jack Hammers with compressor.	AS PER WORK REQUIREMENT
4	Trucks/lorries/Tractors/Dumpers	AS PER WORK REQUIREMENT
5	WATER TANKER	AS PER WORK REQUIREMENT
6	DEWATERING PUMP	AS PER WORK REQUIREMENT
7	WINCHES	AS PER WORK REQUIREMENT
8	WELDING MACHINES	AS PER WORK REQUIREMENT
9	ROAD ROLLERS	AS PER WORK REQUIREMENT

NOTES:

- 1 The above list specifies only major T&P (may not be complete to be deployed by the contractor). All additional / other tools and plants including trucks & devices, tackles, machines, measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price. **Contractor has to mobilize / maintain adequate numbers of equipment for meeting the Concreting and Structural Fabrication and Erection Requirement.**
- 2 For Other terms and conditions regarding above items please also refer clause for T&P/IMTEs in GCC & SCC

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – IV: T&Ps and MMEs to be deployed by Contractor

- 3 All the tools and plants required for this scope of work, except the Tools & Plants provided by BHEL are to be arranged by the contractor within the quoted rates. The list is suggestive in nature. Any additional T & P required to be arranged by the contractor.
- 4 If work gets delayed due to non-availability of T&P, 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.

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

B: INSPECTION, MEASURING AND TESTING EQUIPMENTS (IMTE's):

INDICATIVE LIST OF IMTEs TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST

SL NO	EQUIPMENT	QTY
1	TOTAL STATION	1 NO
2	AUTO LEVEL	2 NOS
3	MEASURING TAPE	AS PER REQUIREMENT
4	PLUMB BOBS	AS PER WORK REQUIREMENT

NOTES:

1. The above list specifies only major IMTEs (may not be complete to be deployed by the contractor). Contractor has to set up the field laboratory with facilities required for material & 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. All additional / other IMTEs / measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price.
2. Other terms and conditions regarding above items please also refer clause for T&P/IMTEs.
3. All the tools and plants required for this scope of work, except the Tools & Plants provided by BHEL are to be arranged by the contractor within the quoted rates. The list is suggestive in nature. Any additional T & P required to be arranged by the contractor.
4. If work gets delayed due to non-availability of IMTE, 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.

NOT APPLICABLE

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: Time Schedule

TIME SCHEDULE

6.0 MOBILIZATION, TIME SCHEDULE, CONTRACT PERIOD AND GRACE PERIOD

6.1 INITIAL MOBILIZATION

After receipt of fax LOI, Contractor shall discuss with Project Manager / Construction Manager regarding initial mobilization. Contractor shall mobilize necessary resources within 2 weeks of issue of fax letter of intent or as per the directive of Project Manager / Construction Manager. Such resources shall be progressively augmented to match the schedule of milestones and commissioning.

The scheduled date of start of work shall be the date after 2 weeks of issue of LOI; however the actual date of start of contract period shall be date of handing over of site to contractor for work and shall be certified by the BHEL Engineer.

“In case BHEL/Customer is not able to give the front for start of work within 6 months from the date of issue of L.O.I. The Contractor has the option to withdraw without any implication on either side”.

6.2 Entire work as detailed in tender specification **shall be completed within 6 months from the scheduled date of start of work.** Contractor has to mobilize adequate resources to meet BHEL’s commitments to their customer as indicated from time to time. Time of Completion of Major Mile stones shall be as under.

6.3 Detailed Work completion Schedule will be submitted for approval by the successful bidder within 2 weeks of issue of LOI.

6.4 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.

6.5 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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter – V: Time Schedule

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.

6.6 CONTRACT PERIOD

The contract period for completion of entire work under scope from the “**START OF CONTRACT PERIOD**” as specified earlier shall be as follows:

COMPLETE WORKS : 6 MONTHS

With indicative milestones as below:

Office (450 Sqm)	:	Within 5 months from Scheduled date of start
Open Yard Area - 1 (25000 Sqm):	:	Within 5 months from Scheduled date of start
Closed Sheds - 1 Nos.	:	Within 4 months from Scheduled date of start
Closed Sheds - 2Nos.	:	Within 6 months from Scheduled date of start

6.7 CONSEQUENCE OF DELAY

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-VI: Terms of Payment

7.0 TERMS OF PAYMENT

- 7.1 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.
- 7.2 **The Contractor shall be paid monthly running bill as per Chapter – X of SCC and Clause Nos. 2.22 & 2.23 of GCC.** The format for billing shall be approved by BHEL before raising invoices.
- 7.3 The contractor on certification of the 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.
- 7.3.1 Interest bearing recoverable advance. : Not Applicable**

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Taxes and Other Duties

8.0 TAXES & DUTIES

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 **Service Tax** and **Value Added Tax (VAT)** on output services and goods shall be as per following clauses.

8.1 Service Tax & Cess on Service Tax

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 **inclusive** 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:

The name, address and registration number of the contractor

The name and address of the party receiving taxable service (BHEL)

Description, classification and value of taxable service provided and

The Service Tax payable thereon.

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.

VAT (Sales Tax /WCT)

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Taxes and Other Duties

Civil Works:

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 **inclusive** 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 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. Where such taxes are required to be paid by the contractor subject to the above, this will be reimbursed on production of proof of payment made to the authorities by the Contractor. The contractor has to take all necessary steps to **minimize tax on input goods** by purchasing the materials from any registered dealer of the concerned state only.

Works other than Civil Works:

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.

Common to all Works (Both Civil and Other than Civil)

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.

8.2.1 Modalities of Tax Incidence on BHEL

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.

New Taxes/Levies

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VII: Taxes and Other Duties

In case the Government imposes any new levy/tax on the output service/ goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.

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.

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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter-VIII : Any other Special requirements

9.0 MATERIALS

- 9.1 The contractor shall, at his own expenses (Inclusive of Taxes), provide all materials required for the work.
- 9.2 All stores and 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.
- 9.3 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.
- 9.4 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.
- 9.5 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

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Chapter-VIII : Any other Special requirements

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.

- 9.6 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 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.
- 9.7 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.
- 9.8 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.
- 9.9 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.
- 9.10 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

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Chapter-VIII : Any other Special requirements

obtained and the Contractor shall give such facilities as may be required for such inspection and examination.

- 9.11 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.

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Chapter-IX: OTHER REQUIREMENTS

10.0 EXECUTION OF WORK

- 10.1 The work shall be executed in a workman like manner and to the entire satisfaction of the Engineer and as per technical specification issued with tender, IS codes, CPWD specifications as applicable. In case of conflict, the decision of the **BHEL** Engineer shall be final & binding.
- 10.2 The BHEL Engineer will communicate or confirm his instructions to the Contractor in respect of the execution of the work in a "Work Site Order Book" maintained at his office and the Contractor shall visit this office daily and shall confirm receipt of such instructions by signing the relevant entries in this book. Such entries will rank as order or notices in writing within the intent and meaning of these conditions.

11.0 SETTING OUT

- 11.1 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.
- 11.2 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 necessary placed by BHEL / Customer at contractor's expenses.

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12.0 SITE DRAINAGE

12.1 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.

13.0 INSPECTION AND STAGE APPROVAL OF THE WORK

13.1 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.

14.0 UNCOVERING AND MAKING GOOD

14.1 The Contractor shall uncover any part of the Works and/or make openings in or through the same as the 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 Engineer and is subsequently found on uncovering to be executed in accordance with the Contract, the expenses of uncovering and / 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.

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14.2 If neither drawing nor specification contain any mention of minor details of construction which in the opinion of the BHEL Engineer whose decision shall be final and conclusive, are reasonable and obviously and fairly intended for satisfactory completion of work, such details shall be provided by the contractor without any extra cost, as if they were specially mentioned and shall be deemed to be included in the scope.

15.0 NUISANCE

15.1 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.

16.0 MATERIAL OBTAINED FROM EXCAVATION

16.1 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, at no extra cost.

17.0 TREASURE, TROVE, FOSSILS etc.

17.1 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, shall immediately upon discovery thereof and before removal acquaint the BHEL Engineer with such discovery and carryout the Engineer's directions as to the disposal of the same.

18.0 PROTECTION OF WORKS

18.1 Trees designated by the 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.

18.2 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

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protection of the Works or for the safety and convenience of those employed on the Works or the public.

- 18.3 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 Engineer 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.

19.0 PROTECTION OF EMBEDMENTS BOLTS ETC.

- 19.1 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 BHEL Engineer. Cost of such protections shall be deemed to be included in the rates quoted for the item.

20.0 CLEARANCE OF SITE AND REPAIRS.

- 20.1 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.

21.0 QUALITY ASSURANCE

- 21.1 **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 of BHEL/ its client. 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**

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by the engineer to be carried from outside laboratory, the cost of the same shall be borne by the contractor.

22.0 COMPLETION OF WORK

- 22.1 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.
- 22.2 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. The Guarantee period shall commence only after handing over of the entire works.
- 22.3 The BHEL Engineer shall certify to the contractor the date on which the work is completed and the date thereof.

23.0 METHOD OF MEASUREMENT

23.1 Method of measurements if not specified in the tender, shall be as per relevant IS Codes / CPWD codes.

24.0 HSE: The contractor shall comply with following towards Safety and Social Accountability;

- 24.1 Besides provision with regard to SAFETY under Clause 27 of GCC, the contractor will be responsible for Health, Safety & Environment management at site for the construction activities to be carried out by them in accordance with requirements **given under section I(a) of GCC of this document**. The contractor shall continuously take special care to ensure the safety and prevention of human and equipment accidents and maintain good sanitary conditions in and around the site. All the construction work and plant operation must be carried out in the safest possible manner. The BHEL Engineer reserves the right to stop any process which, in the E I/C's opinion, is being performed dangerously. In this case the contractor must immediately adhere the requisite safety precautions and any delays attributed to the work stoppage on this account shall not affect the agreed contractual finishing dates.

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24.2 The contractor shall appoint dedicated full-time Qualified Safety Officers who shall have full authority to ensure that all necessary safety precautions are observed by the Contractor's employees and sub-contractors. These appointees shall have full responsibility for the safety of all personnel within the contractor's area of the works.

24.3 Some of the common safety rules to be followed during working are as follows:-

- Nobody is allowed to enter at construction site without Safety Shoe.
- Never enter work area without Safety helmet & chin strap in place.
- No climbing/working allowed without proper safety belt above 2 m. height.
- Do not exceed the speed limit 25 Kmph within premises.
- No debris obstacles allowed on the roads & passages.
- Do not walk on pipelines or false ceiling.
- Maintain good Housekeeping at work site.
- No photography/ Videography allowed without permission
- All Site supervisors & engineers (including subcontractor's) must be imparted structured training on construction safety before start of the job & record to be maintained.
- Availability of qualified & trained Site Engineer at site during all working hours.
- Site Safety training to be imparted to all workers & plan to be made to cover every worker.
- Tools box talk (5-15 minutes) by supervisor prior to commencement of any job.
- All accident / incidents(Near Miss) to be reported & investigated.(formats & procedure should be finalized)
- Daily Safety Checking by Each Site Engineer along with Safety engineer.
- Weekly co-ordination meeting of all Safety engineers with BHEL safety officer.
- Monthly safety meeting with Site In-charges.
- All Safety equipment must be ISI marked & checked by Safety officer before use.
- Tag system for erection & use of scaffoldings.
- Bamboo/wooden Scaffolding material not allowed.
- LPG cylinders not allowed for gas cutting.
- Good Housekeeping. Separate waste bins to be used for flammable & non-flammable material.
- Safety awareness programs for workers by display of boards, posters, competitions, talks etc.
- Deployment of Safety Supervisors for every 250 workers and part thereof at work site.
- Display of List of First Aid trained persons.
- Testing certificates for lifting tools & tackle.
- Provision & maintenance of fire extinguishers at construction site & material stores.
- Display of emergency telephone numbers at various locations.
- For work in confined space use 24 V lamp fitting & use tools with air motors or electric tools with max. 24 V.
- For confined space entry Gas test must be done before & at regular intervals.
- Checking & tag of equipment like grinding machine, welding machine, gas cutting set etc. by supervisors before use.

24.4 **Contractor shall ensure following:**

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1. Contractor has to maintain contact with local hospital having scanning & other ultra-modern medical facilities required during emergency including Ambulance.
2. Contractor has to ensure pre-employment medical check for all staff & workers.
3. Contractor has to ensure that adequate First Aid facilities with trained nurse & ambulance are available at work site for emergency purpose. This emergency set-up should include, but not limited to, following
 - Male nurse (in shifts)
 - Oxygen set up
 - Breathing apparatus
 - Eye wash facility
 - Stretcher
 - Trauma blanket
 - Medicines

In addition to above, BHEL may arrange ambulance at work site for emergency purpose, which can be utilized, free of cost, by contractor in case of emergency. In case, under unavoidable circumstances, if the ambulance is not available/ being used elsewhere, the contractor will have to arrange for the same. as under clause 24.4 SI No. 1.

- 24.5 The Contractor shall be fully responsible for accidents caused due to him or his agents or workmen's negligence or carelessness in regard to the observance of the safety requirements and shall be liable to pay compensation for injuries. **It may be noted that non-compliance to HSE requirements will result in penal action. In case of violations of safety requirements, the Contractor shall be liable for a penalty of Rs. 500/- for the first violation and Rs. 1000/- for the subsequent violations. For serious lapses, as decided by BHEL Engineer, fines upto Rs. 5000/- at a time can be imposed.**

The amount towards penalties as above will be deducted from running bills of the Contractor. The amount so collected above will be utilized for supporting the safety activities at site. The decision of BHEL on above will be final and binding on the Contractor.

24.6 **The contractor shall comply with following towards Social Accountability;**

- (a) The contractor shall not employ any employee less than 15 years of age in pursuant to ILO convention. If any child labour were found to have been engaged , the Contractor shall be levied with expenses of bearing his education expenditure which will include stipend to substantiate appropriate education or employ any other member of family enabling to bear the child education expenditure.
- (b) The contractor shall not engage Forced/Bonded Labour and shall abide by abolition of Bonded Labour System (Abolition) Act, 1976.
- (c) The contractor shall maintain Health & safety requirement as stipulated in the Contract and Contract Labour (Regulation & Abolition) Act 1970.
- (d) The Contractor shall abide by UN convention w.r.t Human Rights and shall be liable for Discrimination/Corporal punishment for failure in meeting with relevant requirements.
- (e) The Contractor shall abide the requirement of Contract Labour (Regulation & Abolition) Act, 1970 for working hours.
- (f) The Contractor shall abide by the statutory requirement of Minimum Wages Act 1948, payment of Wages Act 1936.

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- (g) The Contractor shall arrange potable drinking water to its employees & workers.

25.0 DISCREPANCIES AND ADJUSTMENT OF ERRORS

25.1 The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawings and figures dimensions in preference to scale and special conditions in preference to general conditions.

25.2 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
- (e) Special Conditions of Contract
- (f) General conditions of contract

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.

25.3 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.

26.0 Modification/ deletion of GCC & SCC clauses:

- 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. 2.12 of GCC (ORC) shall not be applicable.
- IV. Clause No. 2.17 of GCC (PVC) shall not be applicable
- V. Clause No. 2.13 of GCC (Interest bearing recoverable advance) shall not be applicable.
- VI. 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 (-) 30% of awarded contract value.

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Chapter-XI: ANNEXURES

ANNEXURE -I

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	

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ANNEXURE - II

FORMAT FOR E-PAYMENT DETAILS : - BHEL-PSNR-NOIDA

(To be given in Company letterhead)

Beneficiary Name :

Bank Name & Branch :

MICR Code (9 Digits) :

IFSC CODE :

(VALID FOR NEFT)

Beneficiary Account No. :

Beneficiary E-mail ID :

(For payment confirmation)

2.7 TECHNICAL SPECIFICATIONS FOR BLASTING:-

REFERENCES

- Explosive Rule 2008
- Explosive Act 1884
- IS 4081
- BHEL Specification No.- PE-TS-392-600-001, Sec- D, Vol- IIB

PRE- REQUISITE:

1. Approved Work Procedure / Blasting Procedure.
2. Excavation Work Permit
3. Blasting Work Permit
4. Certificate of Qualified and Licensed blaster.

TERMINOLOGY IN BLASTING

- **Blaster:** - The person assigned the duty of loading and blasting the explosives.
- **Blasting Cap** - A shell closed at one end and containing a charge of detonating compound, which is ignited from a spark. It is used for detonating explosives.
- **Detonator** - Any device containing a detonating charge that is used for initiating detonation in an explosive. The term includes, but is not limited to, electric blasting caps of instantaneous and delay type blasting caps for use with safety fuse and detonating cord delay connectors.
- **Electric Blasting Cap** - A shell containing a charge of detonating compound which is ignited by an electric current from two projecting insulated leg wires.
- **Explosive** - Any mixture or chemical compound which is capable of producing an explosion by its own energy. This includes black powder, dynamite, nitroglycerine compounds, fulminate, or explosive substance having explosive power equal to or greater than black powder.
- **Magazine** - Any building or other structure used for the storage of explosives.
- **Missed Hole** - A drilled hole containing an explosive charge that failed to explode.
- **Permanent Blasting Wires** - Wires between the firing switches, for use in blasting where the power source is an electric circuit.
- **Primer** - An explosive cartridge with a detonator or igniting agent inserted therein.
- **Safety Fuse/Detonating Fuse** - A medium manufactured especially for firing explosive charges that conveys a flame at uniform rate rather than one that is in itself a detonator or one that operates on some other principle.
- **Stemming** - Material used for confining a charge of explosives in a hole or to cover explosives in mud capping.

BLASTING: -

A. INITIATION & ROUTING OF WORK PERMIT FOR ROCK BLASTING.

(i) BHEL Engineer and NPCIL Engineer shall initiate the blasting work permit by filling the blasting work permit format (as per Annexure-2). Contractor shall depute the one representative as a work permit holder for carrying out the rock blasting work. After ensuring the requirements as mentioned in work permit format, Contractor shall authorize the rock blasting work permit. After authorization of work permit, the permit format shall be forwarded to Safety Engineer for guidance regarding safety precautions to be taken while carrying out blasting work.

(ii) BHEL/ NPCIL Safety Engineer shall describe the safety precautions, which shall be taken care by Contractor before starting the work, during carrying out the work and after completion of the work. BHEL/ NPCIL Safety engineer shall forward the work permit to Contractor for ensuring the described precautions.

(iii) Contractor shall confirm / ensure the all precautions as described by Safety Engineer. After confirming / ensuring the said safety precautions & responsibilities, permit shall be forwarded to Safety Officer authorised by NPCIL.

B. JOB HAZARDS ANALYSIS:

Contractor Engineer shall ensure the completion of the Job Hazards analysis of the work prior to initiating the work permit. According to the outcome of job hazard analysis safety precautions / corrective actions shall be taken by Contractor Engineer and the same shall be mentioned in the work permit.

C. ENTRY OF EXPLOSIVES:

The number of explosives, detonators, safety fuses, arc chords etc brought from the magazine, shall be recorded at Safety Officer authorised by NPCIL. Commandant (Security) or available Security Officer shall depute a Security representative for witnessing the blasting

D. LOADING OF EXPLOSIVES :

The explosives shall be loaded in presence of the representatives of Contractor and Safety Officer authorised by NPCIL. Work permit holder shall ensure the shutdown of electrical installation (if required) before loading of the explosives.

E. CARRY OUT THE BLASTING PROCESS:

A licensed blaster should carry out the blasting process only after compliance of necessary safety precautions.

F. POST- BLASTING ACTIVITIES:

The number of unused explosives, detonators and safety fuses shall be recorded in the prescribed form (Annexure-1). All unused explosives, detonators and safety fuses shall be taken back to the magazine. The permit holder, & Security shall certify the safe completion of the blasting in the prescribed form (Annexure-1).

DUTIES & RESPONSIBILITY OF VARIOUS AGENCIES:

I. CONTRACTOR ENGINEER

Before authorizing the blasting work permit, the Engineer shall ensure the safety of man, material, public utilities System, if present in the vicinity of the blasting zone by taking appropriate steps. He shall ensure the implementations of job hazards analysis outcome. He shall also ensure that the blaster has got a valid license. He shall send Blasting Notice to all concerned agencies well in advance.

II. PERMIT HOLDER (REPRESENTATIVE OF CONTRACTOR):

The permit holder shall accompany the explosives from the magazine to the loading site. He shall ensure that all necessary precautions are taken during transportation, loading and blasting of explosives. He shall ensure that charging of explosive in holes shall be done in presence of Security representatives & him. Quantity of charge (explosive) per hole shall be as recommended in the work permit. He shall also ensure that shut down of any electrical installation, if so mentioned in the permit, is taken before loading of the explosives. After the blasting, he shall check for any misfired holes and if found, shall do necessary arrangements for exploding them. He shall also check for any damages caused to any electrical or public utility systems and then shall certify the completion of blasting process.

III. CONTRACTOR SAFETY ENGINEER

Safety Engineer shall inspect the blasting zone before forwarding the permit .He shall indicate the precautions to be taken for carrying out the rock blasting work.

IV. REPRESENTATIVE OF SAFETY SECTION:

The representative of Safety Section shall carry out the verification of the compliance of safety precautions, which are to be taken by the permit holder on sample basis as per the advice of Safety Engineer.

V. REPRESENTATIVE OF SAFETY OFFICER AUTHORISED BY NPCIL.

The representative of Safety officer shall check the amount of explosives, detonators, fuses, arc chords etc. brought from the magazine. He shall also ensure that all the unused explosives, detonators, fuses, arc chords etc are taken back to the magazine after completion of blasting and the same entries shall be made in records. Explosives shall be handled up to blasting site in explosive department certified van only. Charging of explosive in the holes shall be done in presence of Engineer & Security representatives. Blasting zone should be properly barricaded & RED flagged and restriction of entry of the Vehicles /Public/ animals etc. to blasting zone shall be ensured at all entry points by Safety Officer & work permit holder.

VI. ON DUTY ELECTRICAL SUBSTATION OFFICER:

The On duty electrical substation Officer shall provide shut down of electrical system, as and when required, on request of the Contractor as per prevailing procedure. He shall energize the system again, only after clearance from the Contractor representative.

VII. RECORDS:

All records pertaining to the blasting shall be maintained by the Contractor and shall be produced for auditing as and when required.

PRECAUTIONS TO BE FOLLOWED:

1. PRECAUTIONS AT MAGAZINE AND DURING TRANSPORTATION:

The specification of the magazine should comply with latest provisions in Explosives Act/ Rules.

- (a) Transportation should be done between sunrise & sunset.
- (b) A Tarpaulin should suitably cover the packages containing the explosives.
- (c) Red flags should be displayed on the vehicle authorized by explosive Dept.
- (d) Explosive should be stored in such a manner that during transportation they should not move and should be protected against bumping and friction.

2. PRECAUTION DURING LOADING OF EXPLOSIVES:

Permit holder shall follow the precautions as stipulated in the explosive Act / Rules.

- Explosives should be thoroughly checked before loading.
- Drilling of the holes and loading of explosives should not be done simultaneously at the same blasting site.
- Detonator leads should be kept short circuited till all explosives are loaded and it should be opened only at the time of the connection.

- No work other than that associated with the loading operation shall be carried out within 10m of the holes.
- Loading should be avoided during thunderstorm, lightening and when stray current passes through the ground. Loading should also be avoided when high voltage line is passing above the blasting area.
- Use of synthetic clothes by the persons handling detonators and explosives should be avoided.
- Due care should be taken while pulling / untwisting the lead wires of the detonator and while doing so one hand should hold the terminals of wire coming out from detonator.
- Jerks, impacts and friction on detonator should be avoided. Detonator should not be pressed.
- Smoking should be completely prohibited within blasting zone. Fire fighting tools / material (Water, Sand & CO₂ Cylinder) shall be made available at the blasting site.
- After the completion of the loading, left over explosives, detonators and fuses must be immediately removed from blasting area.
- Care should be taken to ensure that fuses or wires connected to detonators are not damaged during the loading.
- If muffled blasting is being carried out, the cover plates should be covered with gunny bags filled with fine sand.

Blasting Procedure:

- Valid License holder blasting foreman/ blaster shall be engaged for executing blasting. Prior to any operation, permission for blasting shall be taken from NPCIL.
- Blasting permits duly signed by above shall be submitted to Security department for their permission to take this explosive inside the plant site.
- It is proposed to carryout blasting operation in mutually agreed time between nearly 5.00 to 8.00 AM , 12.00 to 2.00PM and 5.00 to 7.00 PM.
- M/s NPCIL and M/s BHEL safety group shall be informed prior to loading and charging, it shall be done in presence of them. Authorized person of blasting must be ensured that nearby structure is safe.
- Detail of explosives, detonator, detonating fuse and card delay used shall be recorded and the unused explosives, detonators shall also be recorded after completing of all blasting activities.
- After loading operation, entire area shall be evacuated 15 minutes prior to blasting by blowing supervisor.
- Blasting operation should be carried out in presence of site engineer and authorized blasting supervisor.
- Vibration monitoring meter shall be installed for monitoring of vibration at the nearby location as per site requirements.
- Communication will be done through a notice to all agencies to proceed in safe manner.
- A blasting coordinator will be deputed for coordinating blasting work.

- Blasting Coordinator will have white, green and red flag with him along with a whistle.
- Blasting operator will have yellow and red colour flags along with a whistle.
- After loading the explosives by the agency, blasting coordinator will send the persons with red flag and whistle to restrict entry of vehicles/ persons at all entry points

STORAGE OF EXPLOSIVES

Storage of Explosives shall be carried out as per IS Code 4081

BLASTING COMPLETION CERTIFICATE

1. Date & time of blasting:
2. Location of blasting:
3. Name of Engineer
4. Name of blaster:
5. Name of Permit holder:
6. Name of the Contractor:
7. Detail of Explosives

Item Quantity brought in Quantity Used Balance

Item	Qty brought In	Qty Brought Out	Balance
Gelatin rods			
Detonators			
Safety fuse			
C/R			
D Fuse			
No. of holes Blasted			

(Strike out which ever inappropriate)

A. The blasting has been carried out as per our satisfaction. No damage has been caused to person or property.

B. The following deficiencies/damages were observed during/after blasting:

(i)

(ii)

(Name & Signature of

Signature of Contractor representative)

BHEL

(Name & Signature of

Safety representative

Authorised by NPCIL

(Name &

M/s

BLASTING WORK PERMIT

Permit no.

Dated:

1. Name of the Blaster:
2. License No. :
3. Place & location where blasting is to be carried out:
4. Time & Date when to be carried out:
5. No. of holes/amount of explosive:
6. Type of detonator to be used:
7. Type of blasting to be carried out: Open / Muffled
8. Name of permit holder (NPCIL), deputed by Contractor for blasting:
9. Job hazards analysis of the job carried out:
(Attached the report)
10. If any civil structures/public utility: system/ O.H.
Electric lines are present in the premises of blasting.
If so, give details. (If yes, clearance required):
11. Blasting Notification letter No & Date:
12. Name of the Company:

Signature

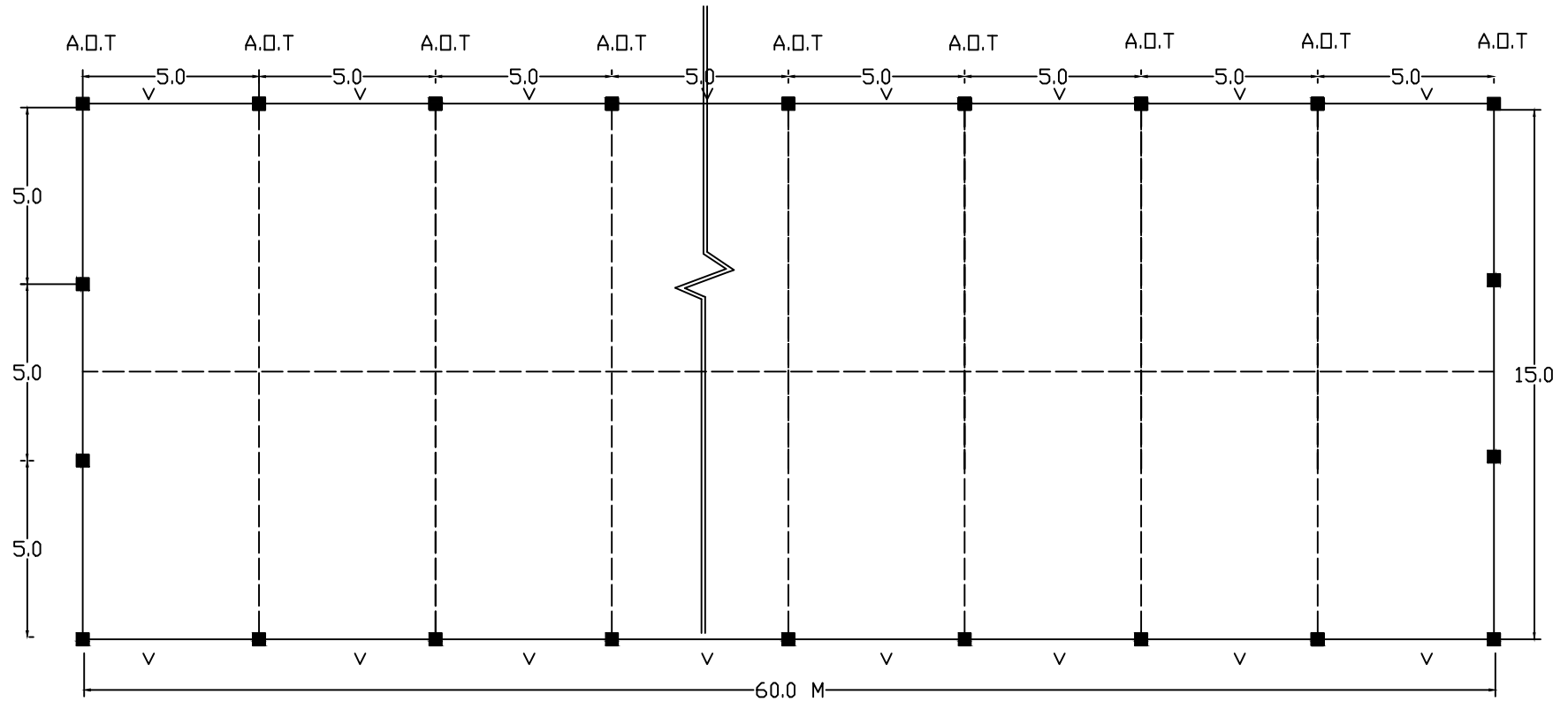
(Name & Desig. of contractor

Signature

Name & Desig. of Permit Holder

All Control measure has been taken as per the outcome of job hazards analysis. Precautionary measure has been taken for safety of electrical installations & public utilities systems presents in the vicinity of the blasting zone. Blaster has got a valid license. Blasting Notice sent and acknowledgement received from all concerned agencies / required authorities / local Police well in advance and work Permit is authorized.

Name & Desig. of BHEL Engineer



■ = COLUMN 400MM X 400MM
 V-STEEL LOUVERD VENTILATORS OF SIZE
 600MM X 450MM

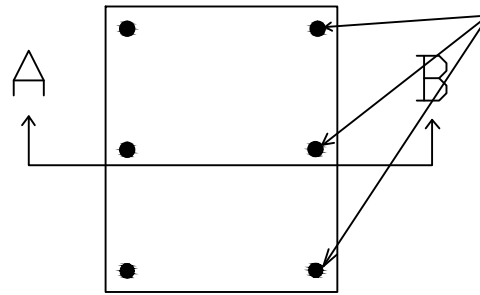
A.D.T = AXIS OF TRUSS

*TOTAL NO OF COMPLETE TRUSS-11 NOS.

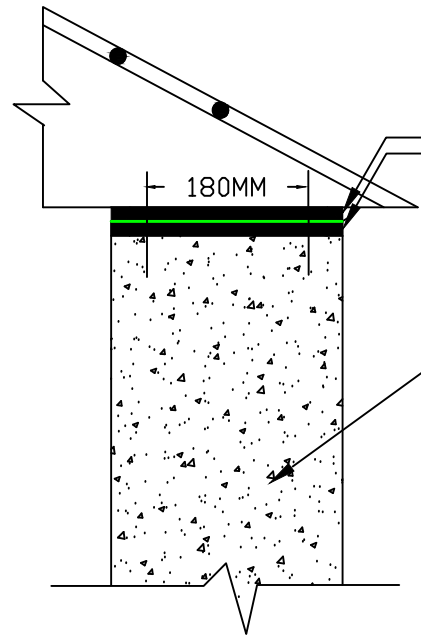
*HALLOW TRUSS WITHOUT VERTICAL & CROSS BRACING/STRUDS SHALL BE
 PROVIDED AT BOTH ENDS OF THE GABLE END.

DRG. NO. BHEL/PN/CS-01

PLAN AT PLINTH LEVEL FOR CLOSED SHED (60M X 15M)



MS FOUNDATION BOLTS 16MM Dia. - 4 NOS. AT CORNERS
AND 20MM Dia. - 2No. AT CENTRE.
TOTAL LENGTH OF BOLT - 450MM.



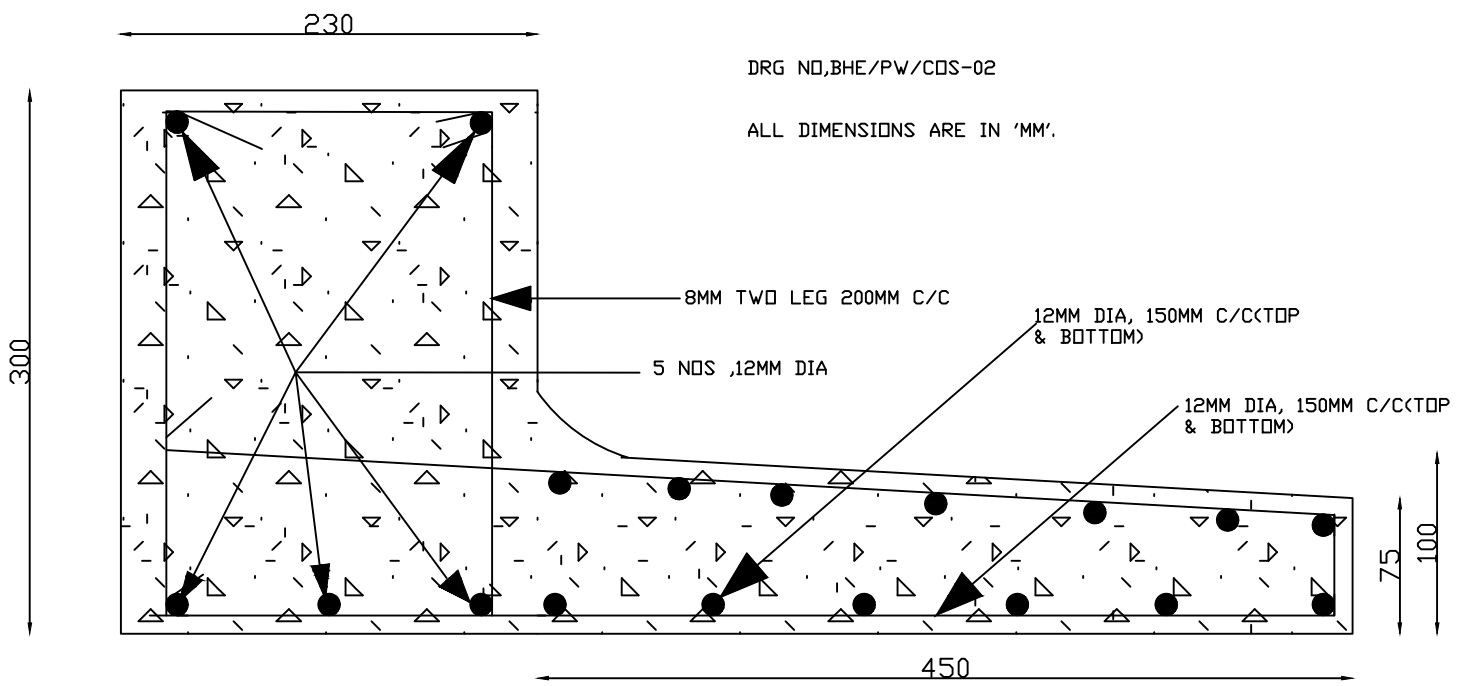
BASE PLATE 345MM X 345MM X 16MM THICK
BEARING PLATE 345MM X 345MM X 20MM THICK

RCC COLUMN 400MM X 400MM

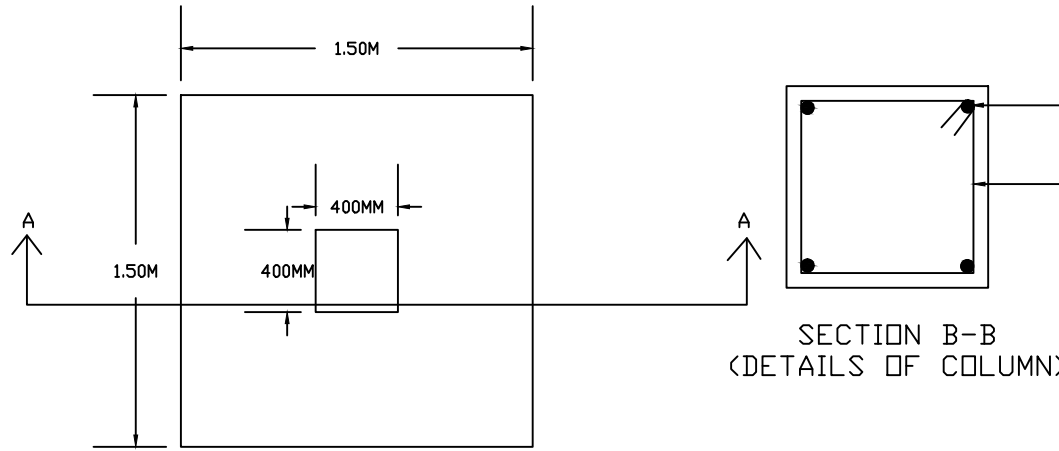
DRG.NO. BHEL/PN/CS-07

SEC A - B

DETAILS OF BASE PLATE AT TRUSS LEVEL OF CLOSED STORAGE SHED

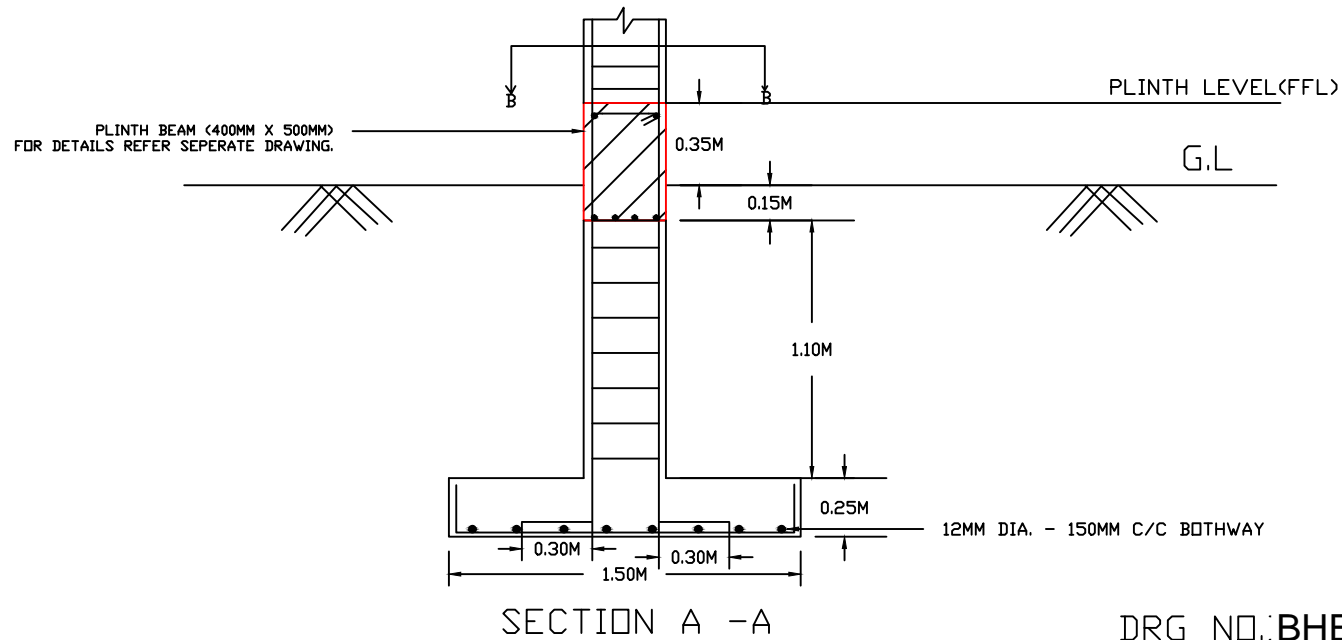


SECTION OF LINTEL & SUN SHED PROJECTION FOR CLOSED SHED



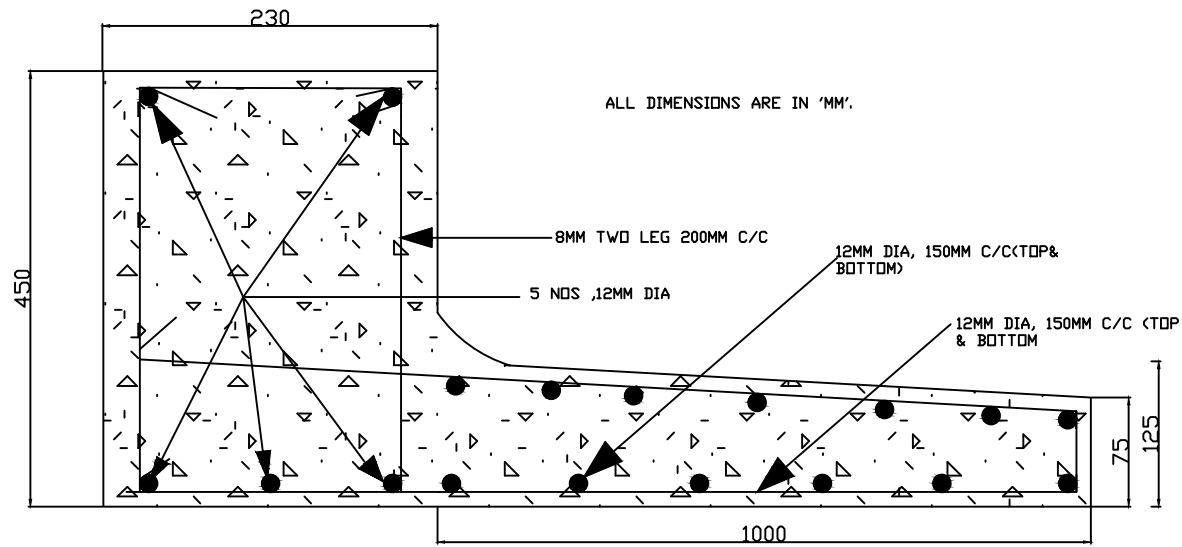
4 - 16 MM DIA.

STIRRUPS 8MM DIA. - 200MM C/C



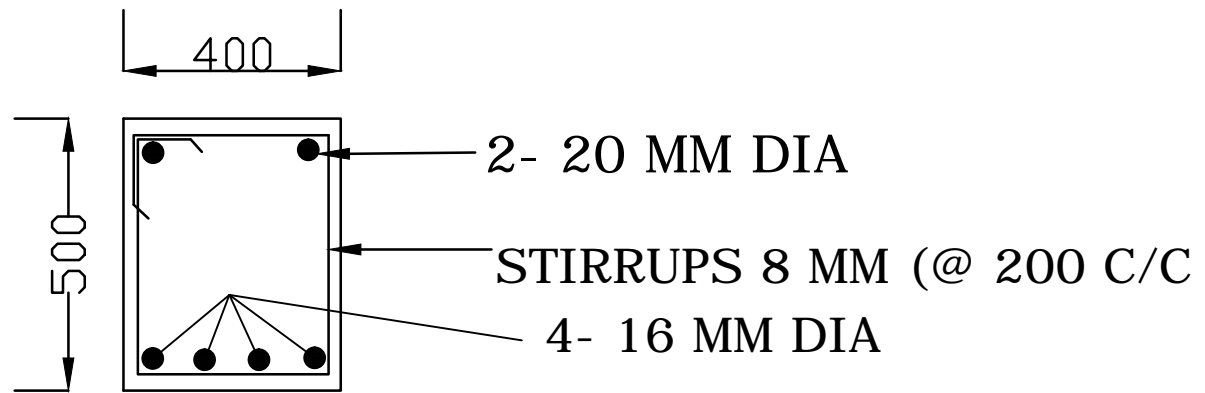
DRG NO.: BHEL/PN/CS-03

PLAN & RCC DETALIS OF FOOTINGS FOR CLOSED SHED



DRG NO, BHEL/PN/CS-06

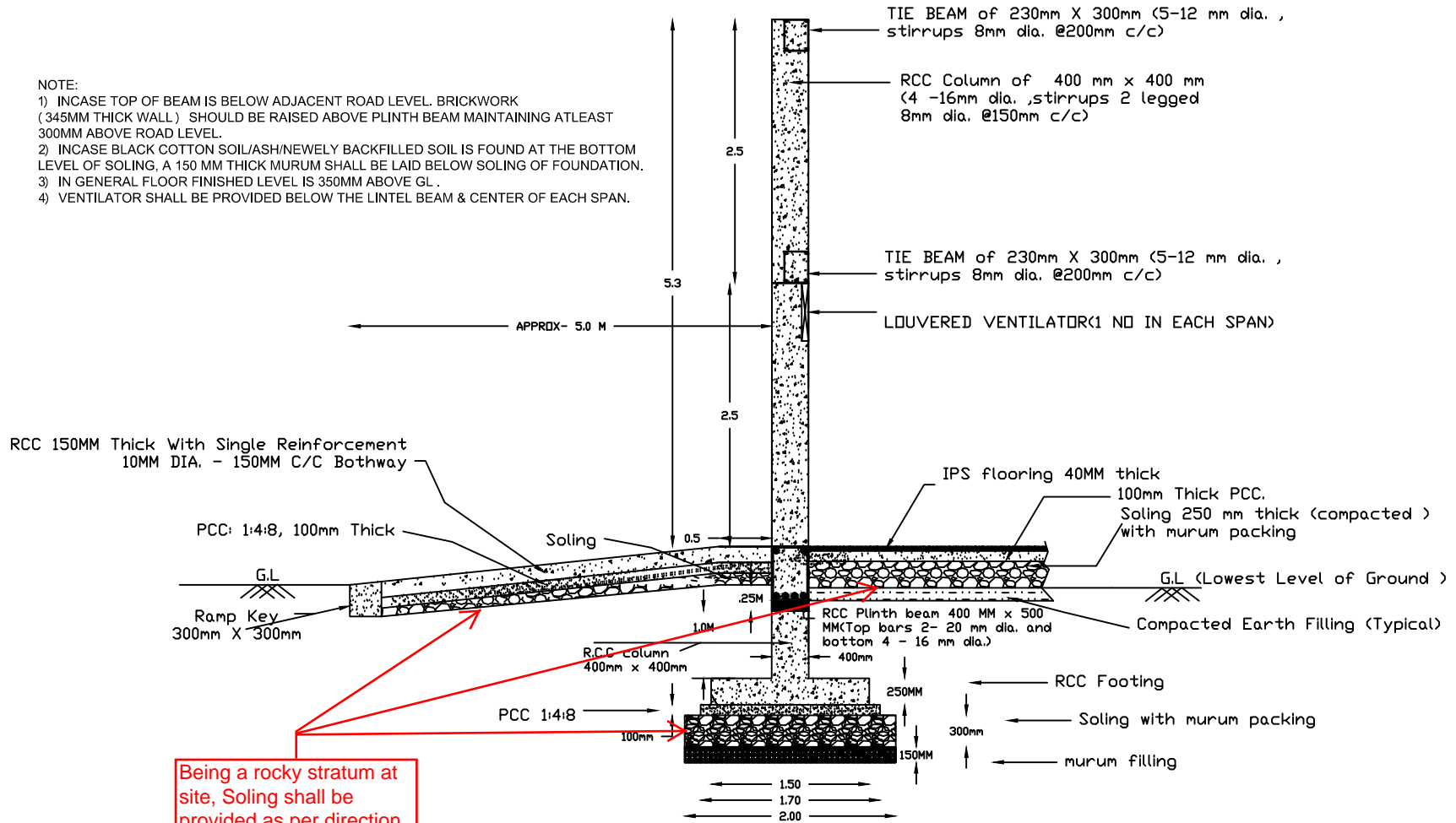
SECTION OF LINTEL & SUN SHED PROJECTION FOR CLOSED SHED ROLLING SHUTTER



SECTION OF PLINTH BEAM
(400MMX500MM)

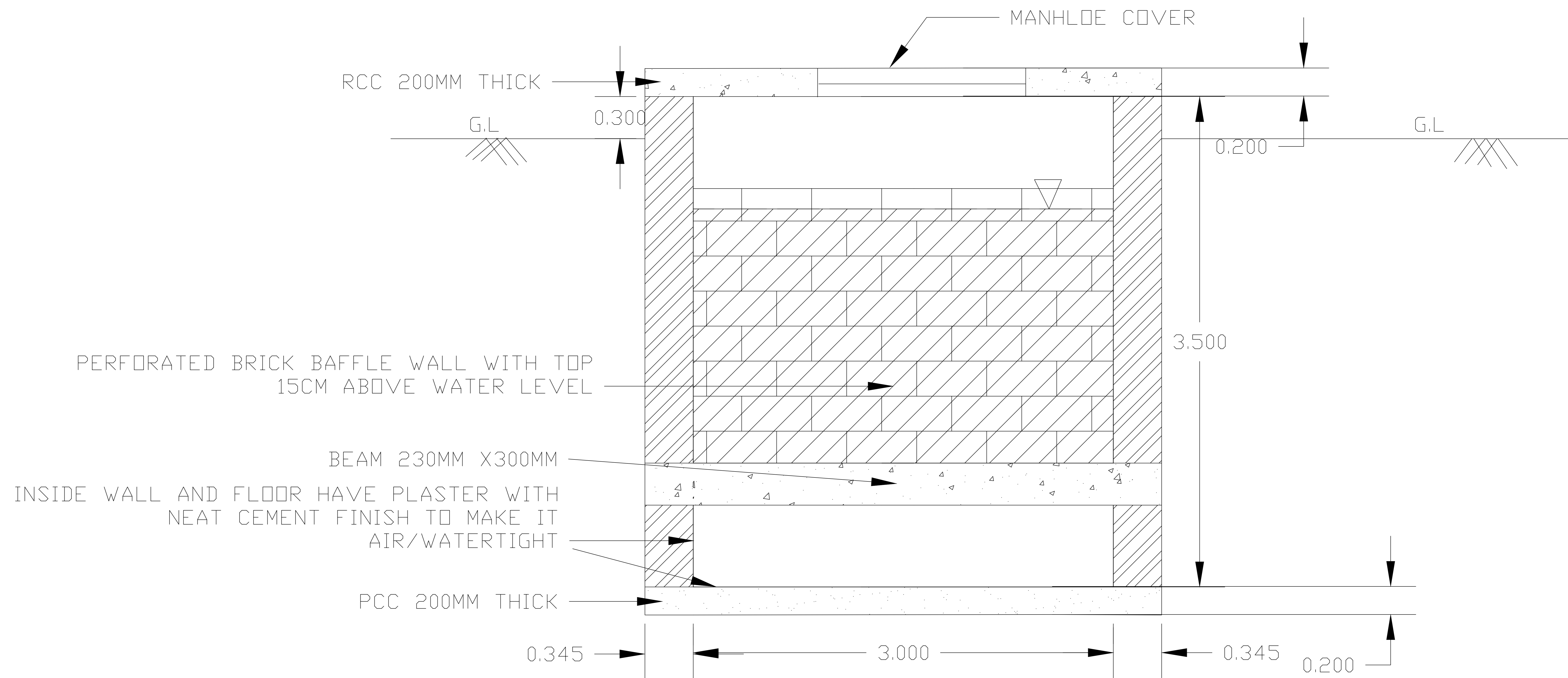
NOTE:

- 1) INCASE TOP OF BEAM IS BELOW ADJACENT ROAD LEVEL. BRICKWORK (345MM THICK WALL) SHOULD BE RAISED ABOVE PLINTH BEAM MAINTAINING ATLEAST 300MM ABOVE ROAD LEVEL.
- 2) INCASE BLACK COTTON SOIL/ASH/NEWELY BACKFILLED SOIL IS FOUND AT THE BOTTOM LEVEL OF SOLING, A 150 MM THICK MURUM SHALL BE LAID BELOW SOLING OF FOUNDATION.
- 3) IN GENERAL FLOOR FINISHED LEVEL IS 350MM ABOVE GL.
- 4) VENTILATOR SHALL BE PROVIDED BELOW THE LINTEL BEAM & CENTER OF EACH SPAN.

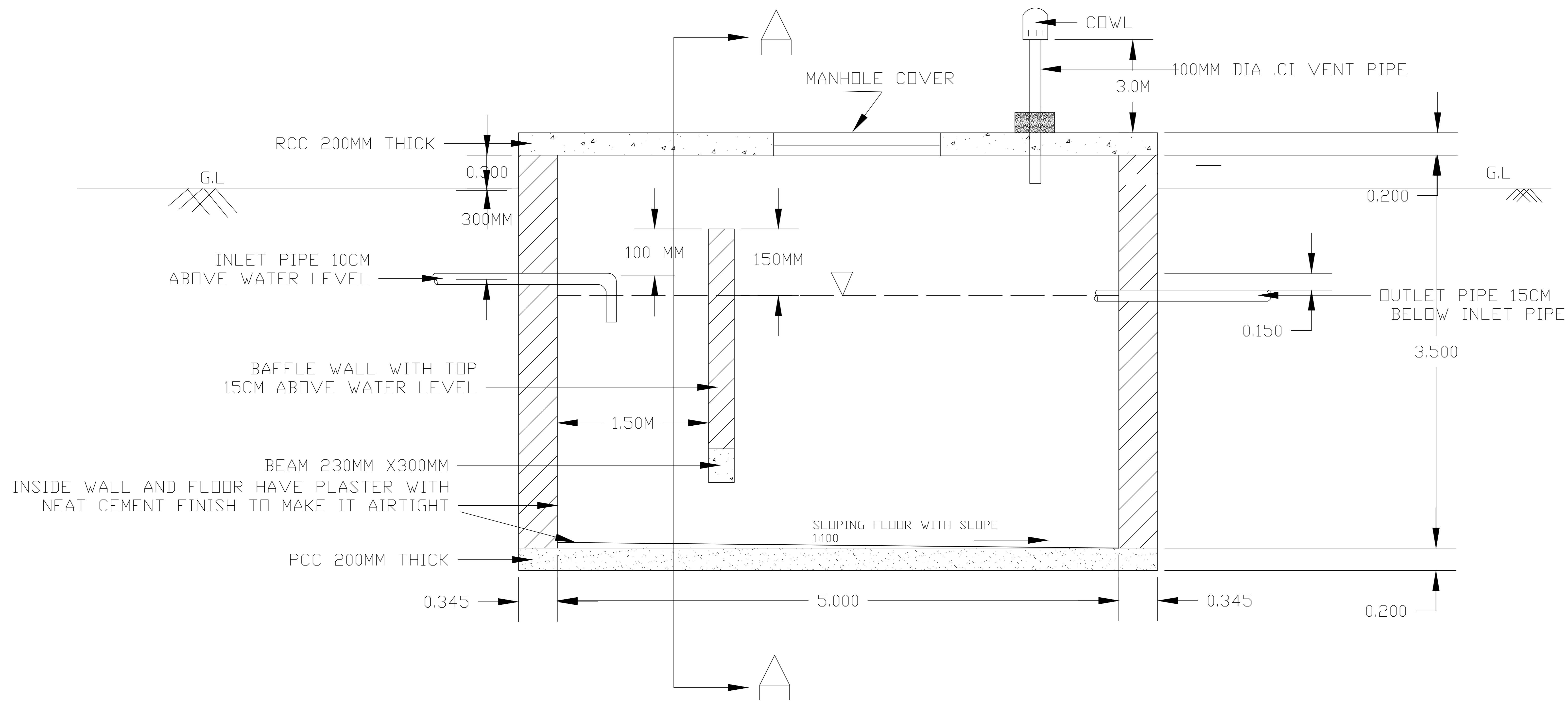


DRG. NO. BHEL/PN/CS-02

SECTIONAL DETAILS OF RCC FOOTING & COLUMN FOR CLOSED STORAGE SHED



SECTION A-A

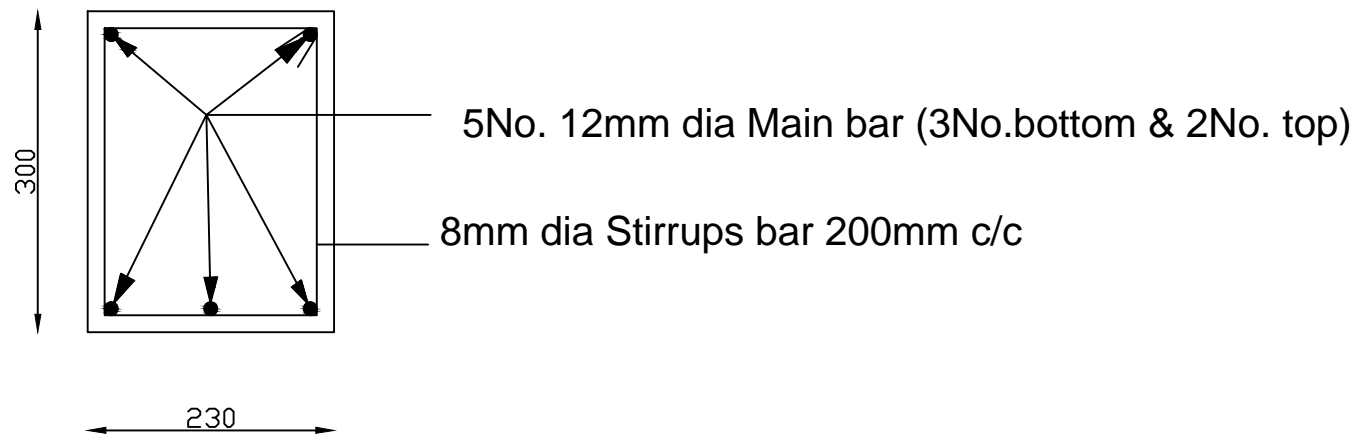


DRG NO. BHEL/PN/ST-SP-01

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

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

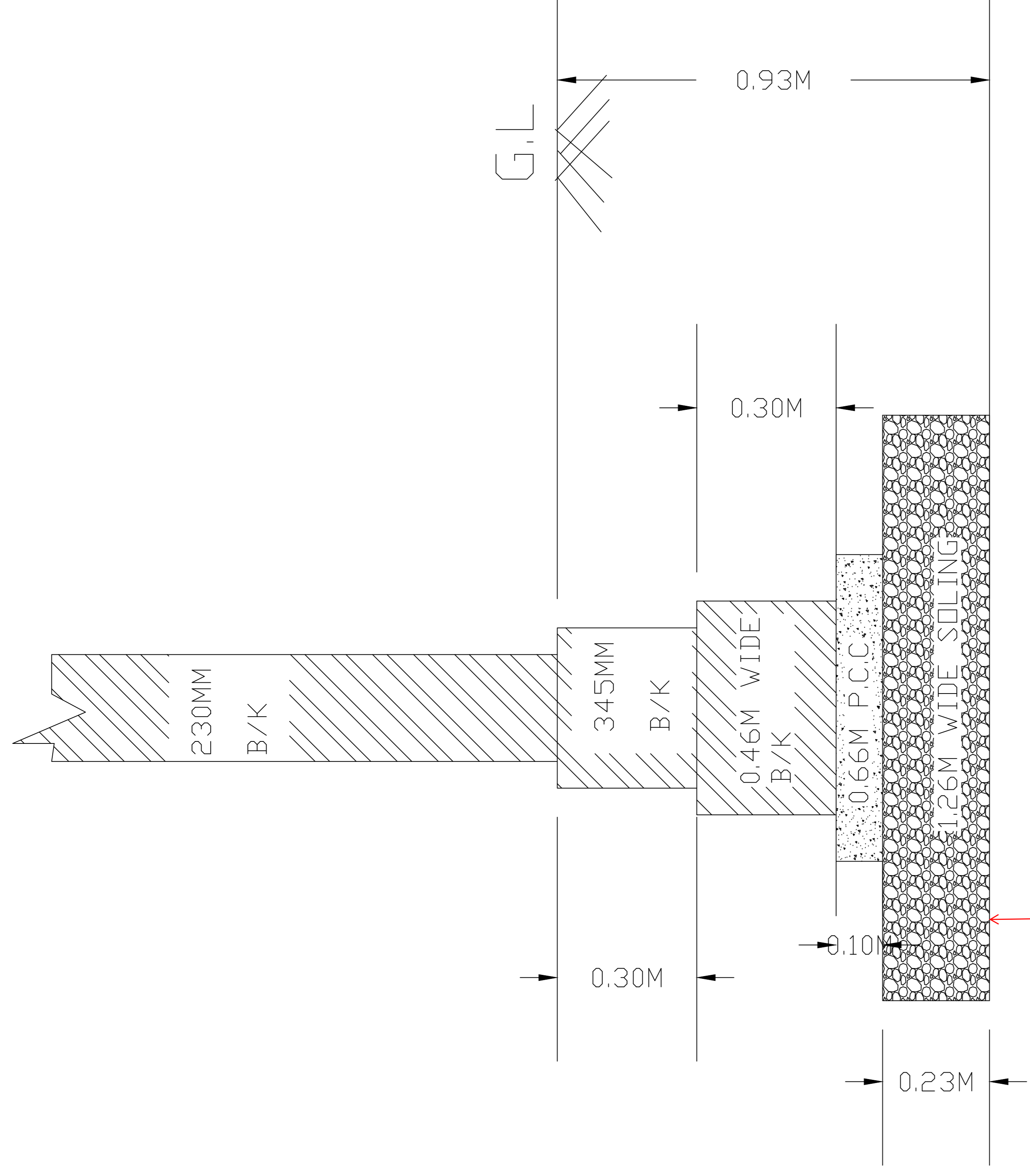
DETAILS OF SEPTIC TANK & SECTION



SECTION OF BEAM (230mm x 300mm)

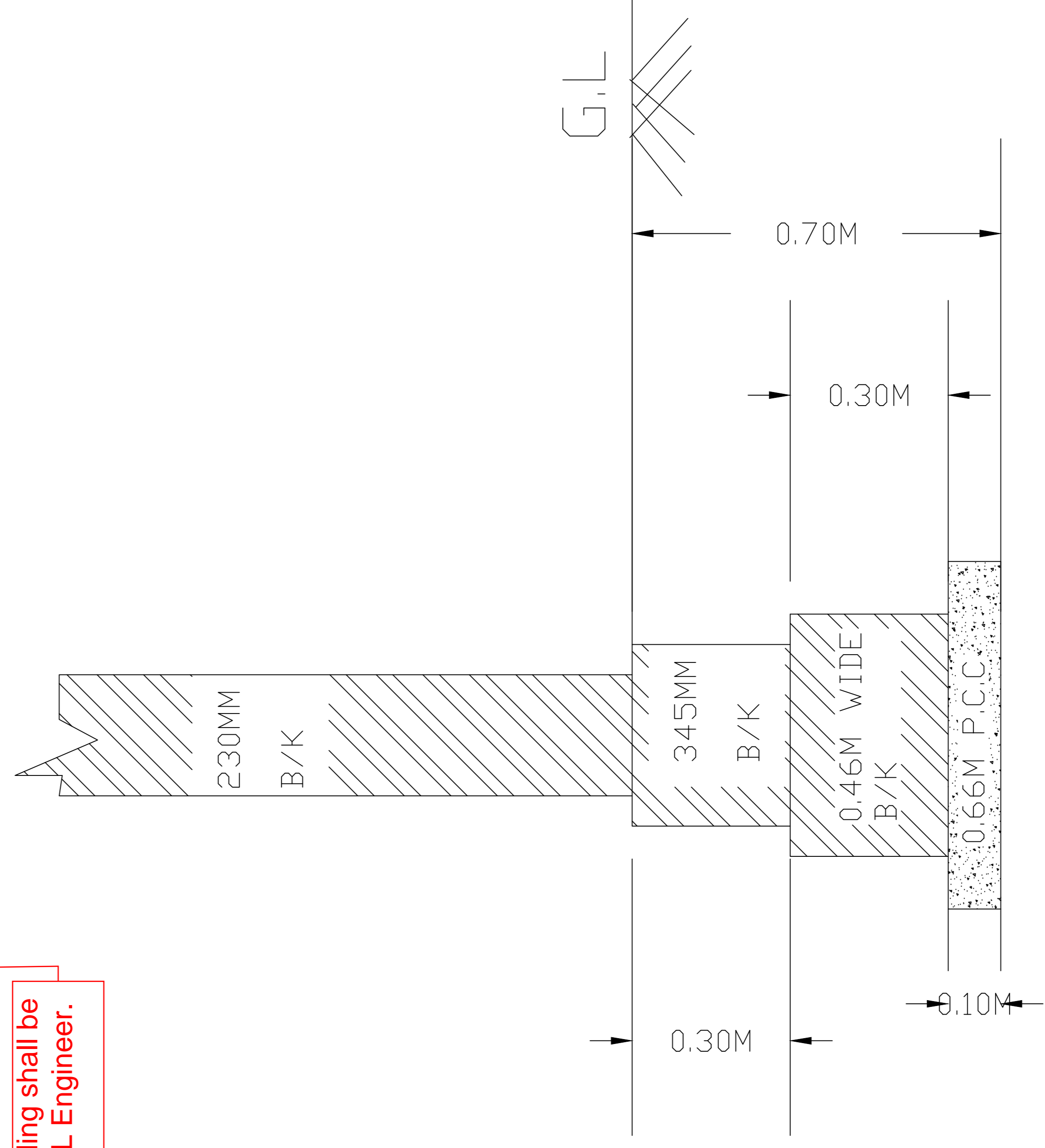
TIE BEAM AND BAFFLE BEAM

DRG NO. BHEL/PN/CS-05

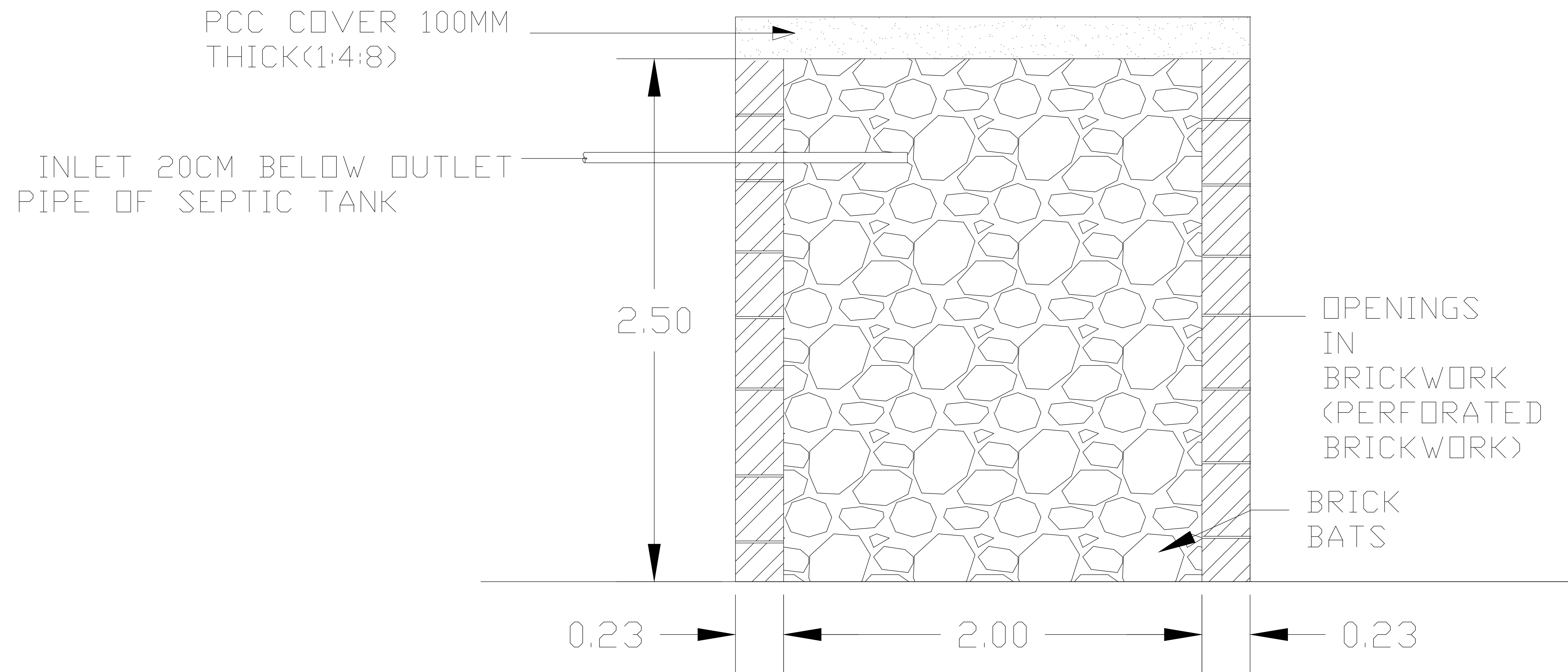


Internal wall Foundation details

Being a rocky stratum at site, Soling shall be provided as per direction of BHEL Engineer.

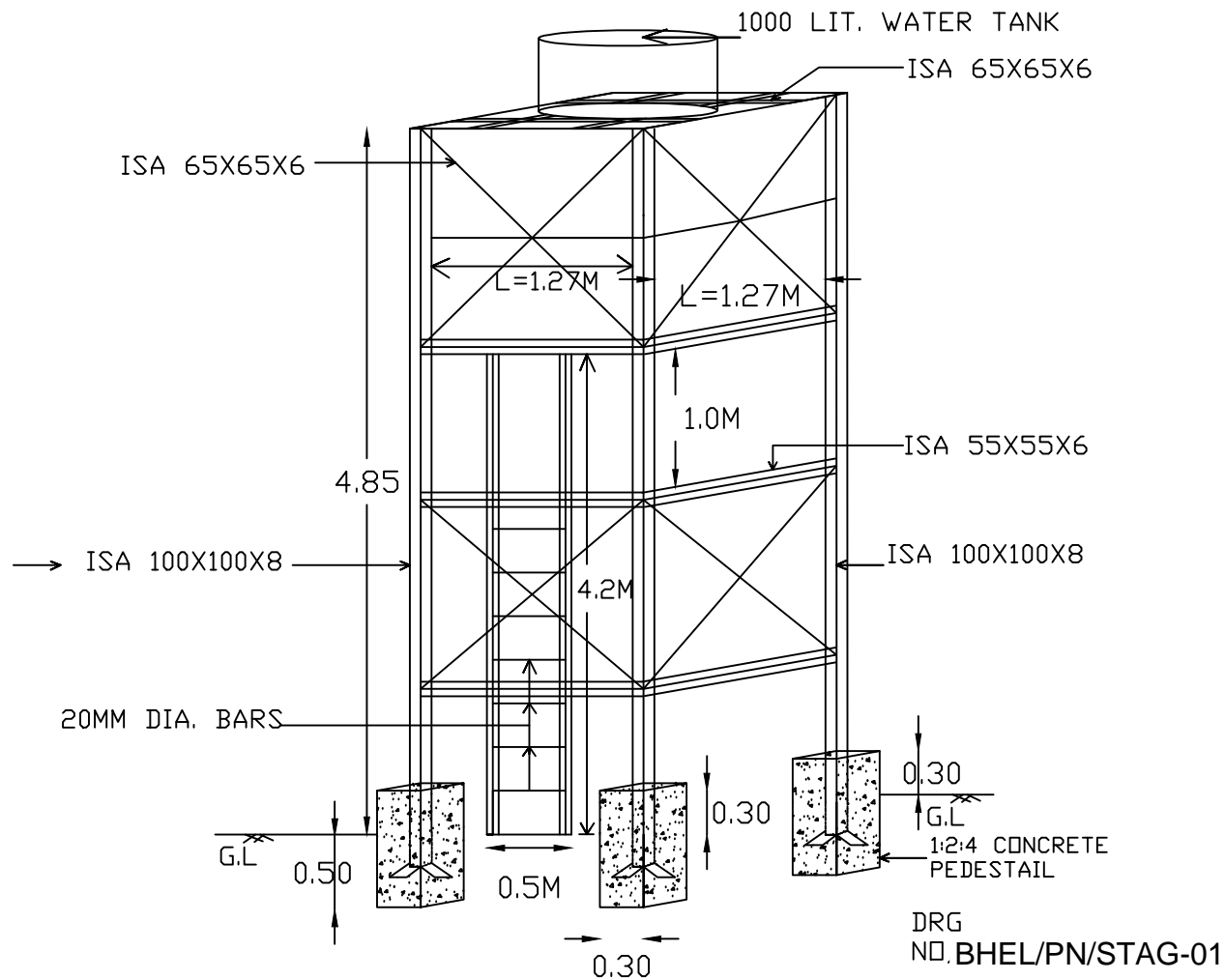


Partition wall Foundation details



DETAILS OF SOAK PIT

DRG. NO. **BHEL/PN/ST-SP-03**



STAGING OF OVER HEAD WATER TANK

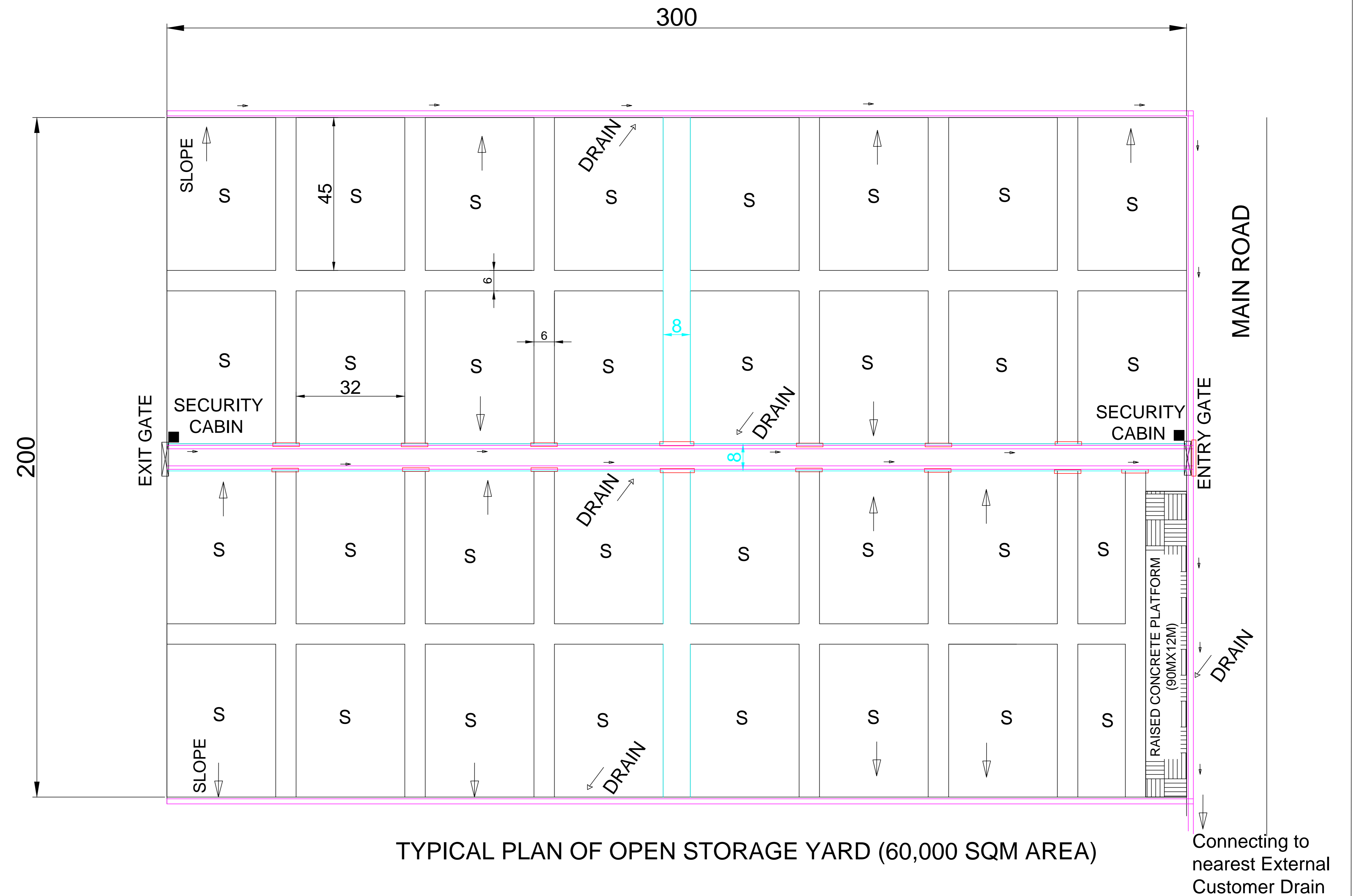
NOTE:

*CONCRETE 1:2:4 SHALL BE PAID UNDER RELAVENT ITEM IN BOQ

NOTE :---






- 1) WIDTH OF THE STORAGE YARD IS 32M
- 2) TWO 8M MAIN ROADS & SIX 6M BRANCH ROADS
- 3) DRAINS SHALL BE PROVIDED ALONG THE SIDE OF ONE 8M ROAD AND ALSO ALONG THE OUTER SIDES OF THE AREA AS SHOWN.
- 4) ROAD CROSSING CULVERT (RCC HUME PIPE OVER THE DRAIN)
- 5) SECURITY CABINS (3MX3M) - 2 NOS. TO BE LOCATED NEAR THE ENTRY AND EXIT GATES AS SHOWN.
- 6) RAISED CONCRETE PLATFORM (12M WIDE AND 90M LONG - APPROX. 1000 SQM.) TO BE CONSTRUCTED AT SUITABLE LOCATION.
- 7) FOR SECTIONAL DETAILS, REFER RESPECTIVE DRAWINGS.
- 8) 1000 CONCRETE SLEEPERS OF SIZE 1200MMX300MMX150MM.

THIS IS A TYPICAL DRAWING OF 60000 SQ. M. SIZE (300M X 200 M) OPEN YARD FOR REFERENCE ONLY. ACTUAL SHAPE SIZE AND NUMBERS MAY VARY AT SITE DEPENDING ON AREA PROVIDED. CONTRACTOR SHALL EXECUTE ALL THE WORKS AS INSTRUCTED BY BHEL ENGINEER FROM TIME TO TIME AS PER BOQ CUM RATE SCHEDULE AND AS PER TENDER SPECIFICATION.



LAYOUT OF OPEN STORAGE YARD (60,000 SQM.)

LEGEND :

-  DRAIN
-  8M WIDE ROAD
-  CULVERT
-  STORAGE BLOCK
-  SECURITY CABIN

PROJECT:- RAJASTHAN ATOMIC POWER PROJECT

TITLE :- TYPICAL LAYOUT FOR OPEN STORAGE YARD - 60,000 SQM

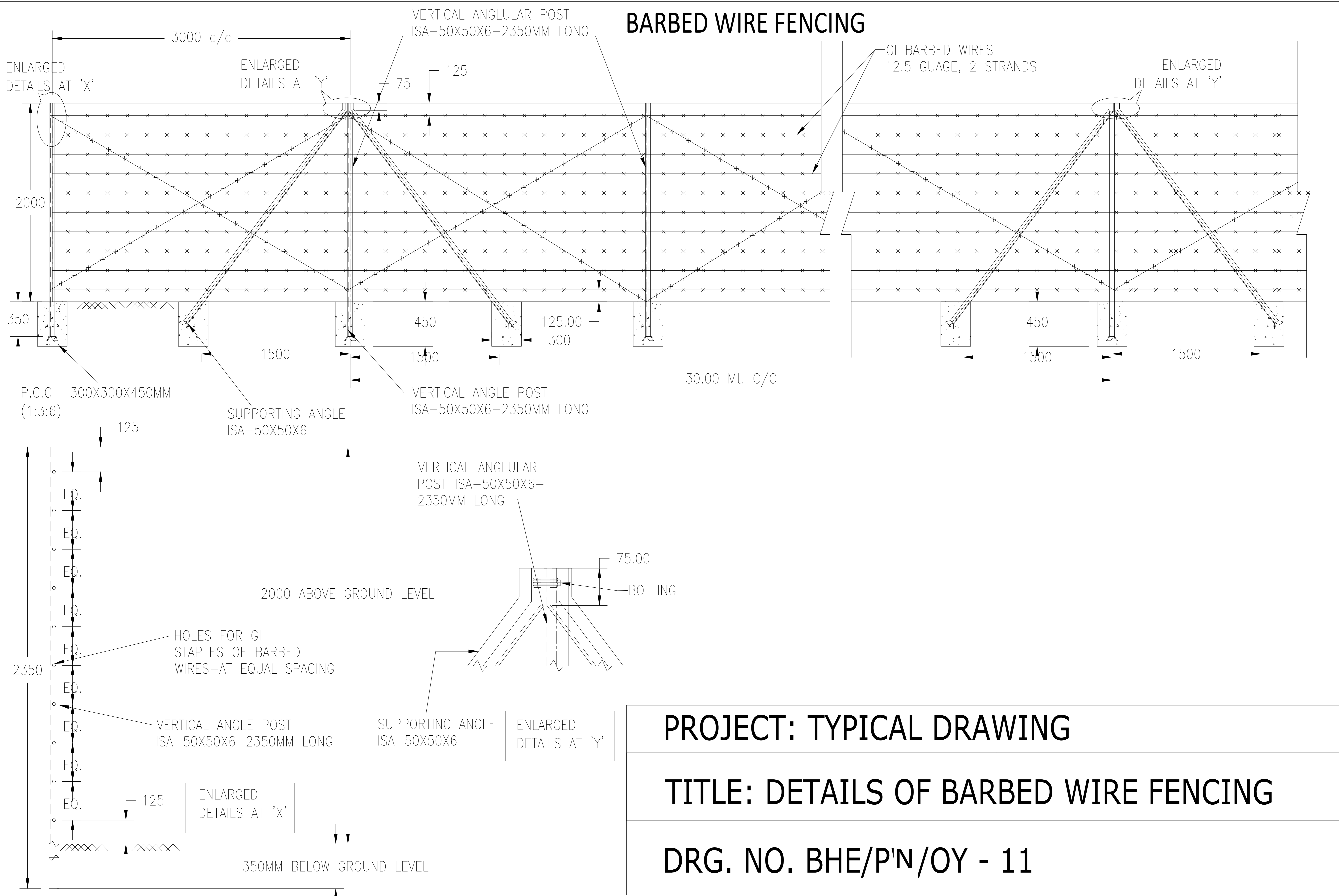
DRG NO. :- BHE/PN/OY-01

OWNER :-



BHEL PSNR NOIDA

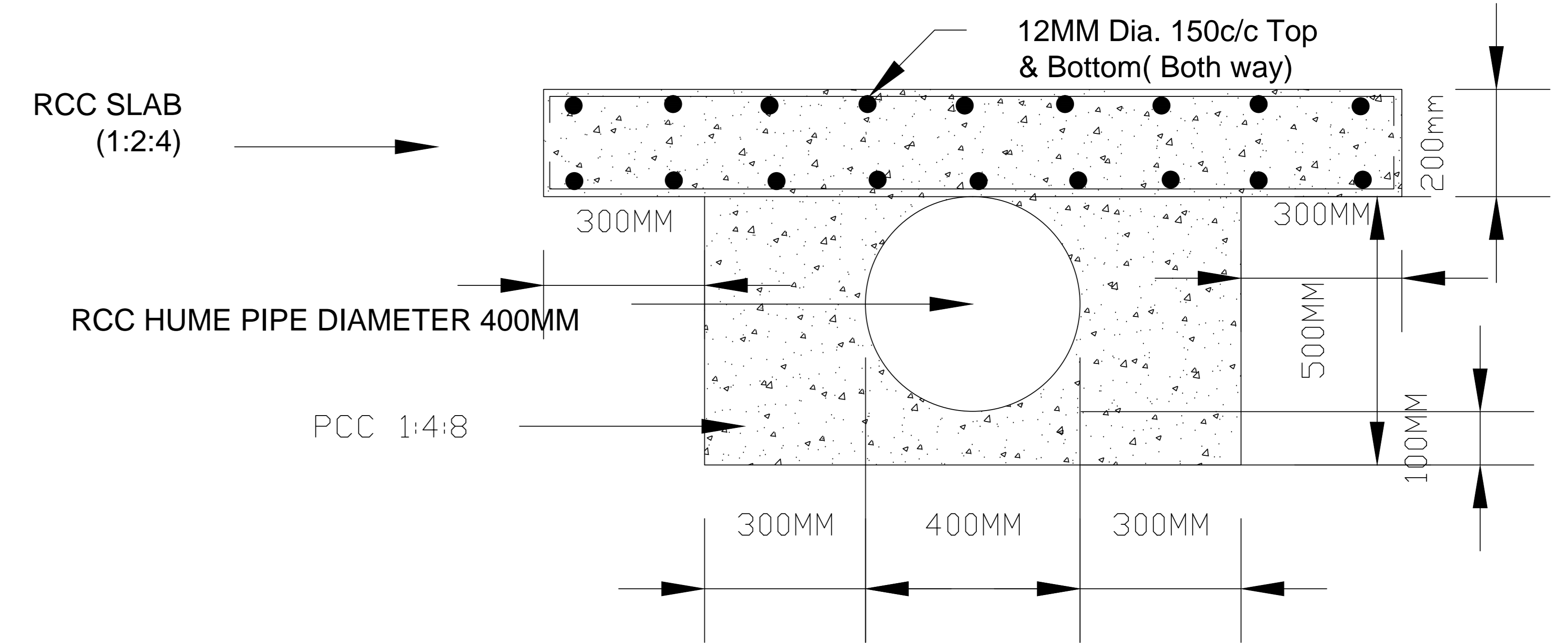
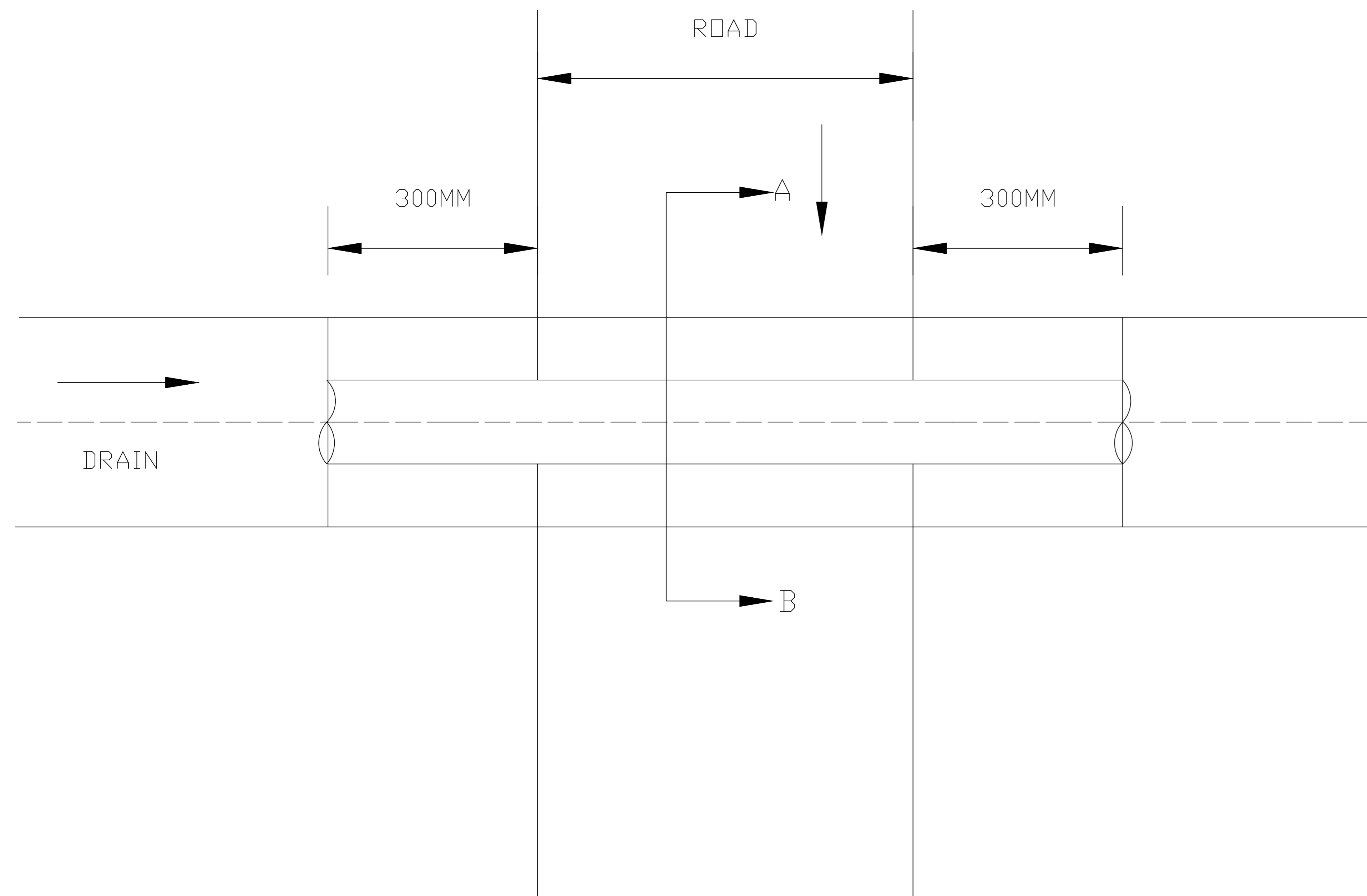
BARBED WIRE FENCING



PROJECT: TYPICAL DRAWING

TITLE: DETAILS OF BARBED WIRE FENCING

DRG. NO. BHE/P'N/OY - 11



CULVERT DETAILS ON SECTION A - B

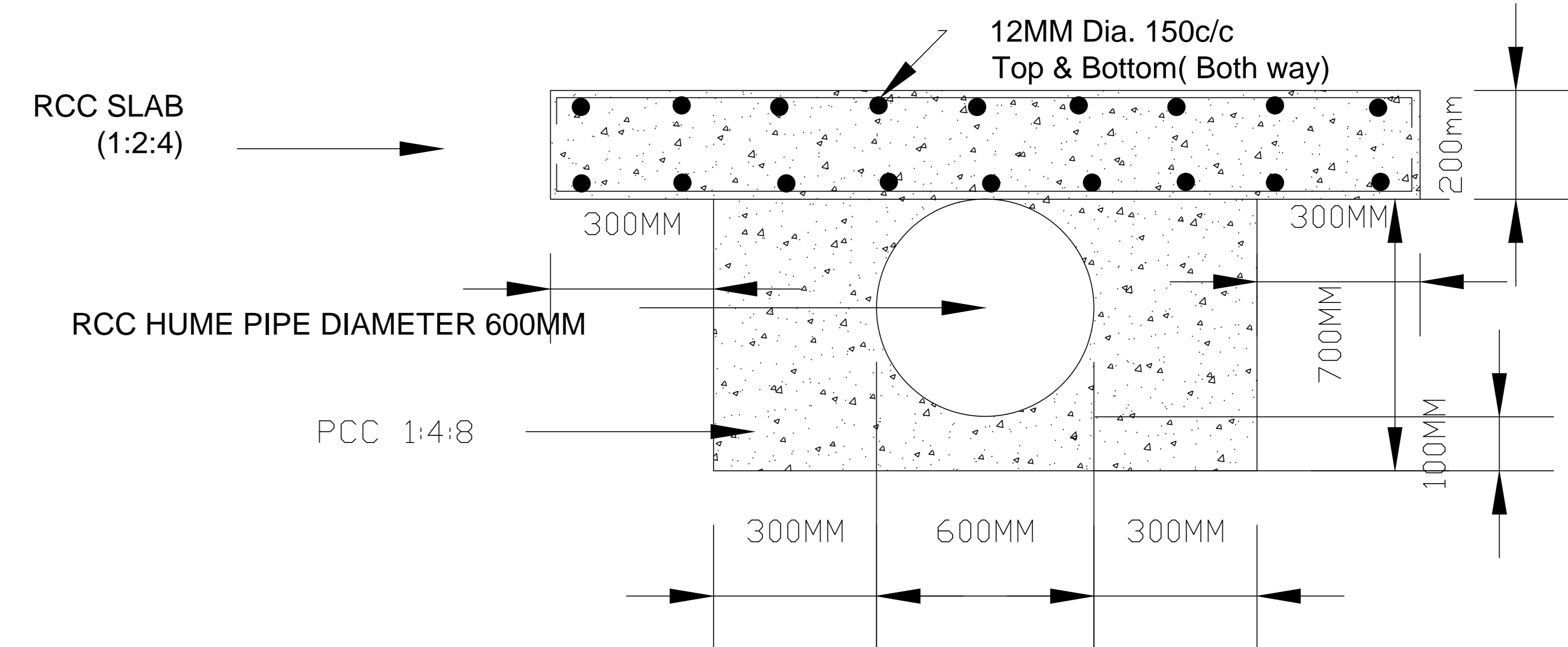
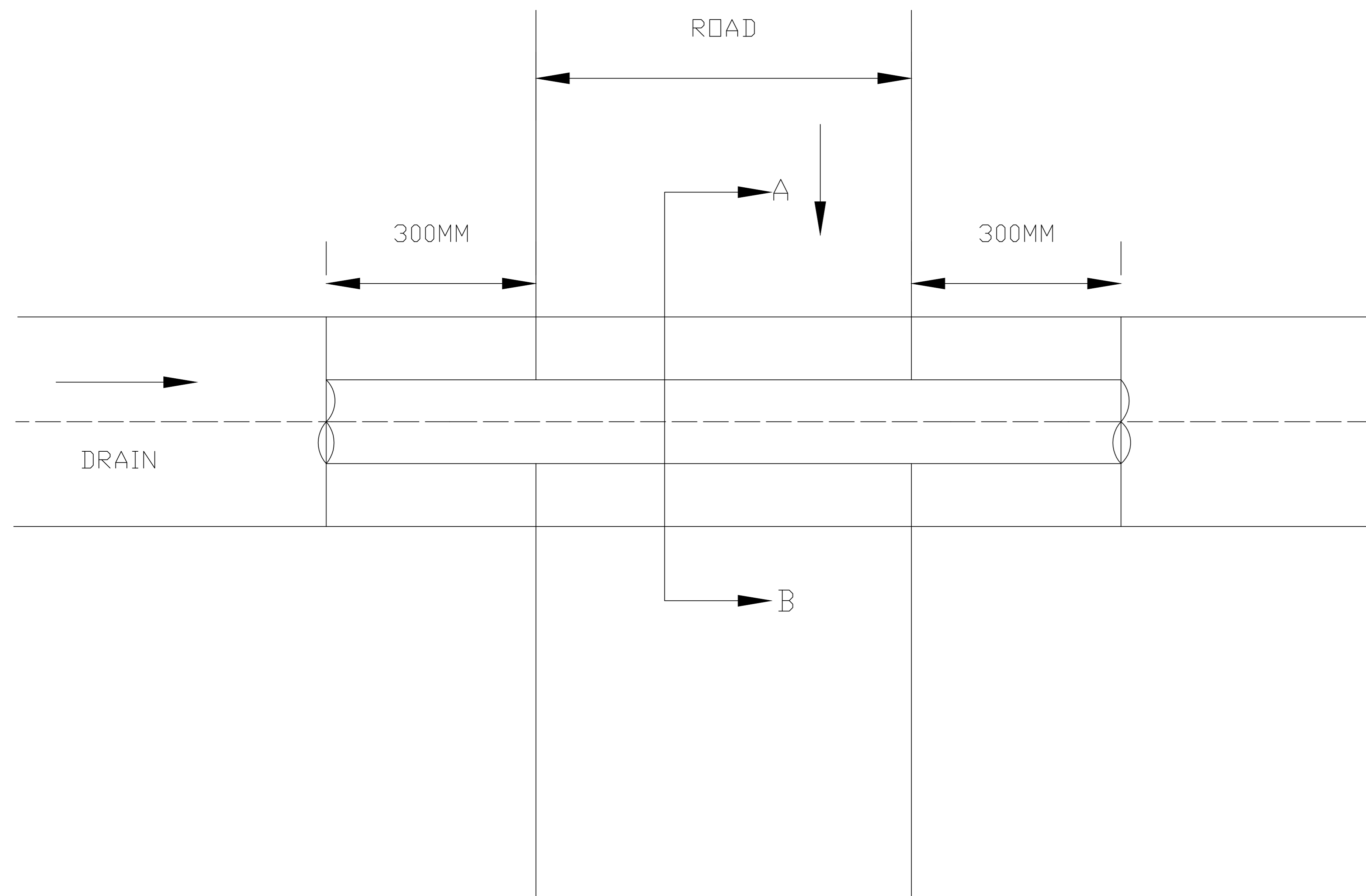
CULVERT DETAILS FOR 400 MM DIA RCC HUME PIPE

PROJECT:- TYPICAL DRAWING

TITLE :- CULVERT DETAILS FOR 400 MM DIA, RCC HUME PIPE

DRG NO. :- BHE/PN/OY-09

OWNER :-  BHEL PSNR - NOIDA



CULVERT DETAILS ON SECTION 'A - B'

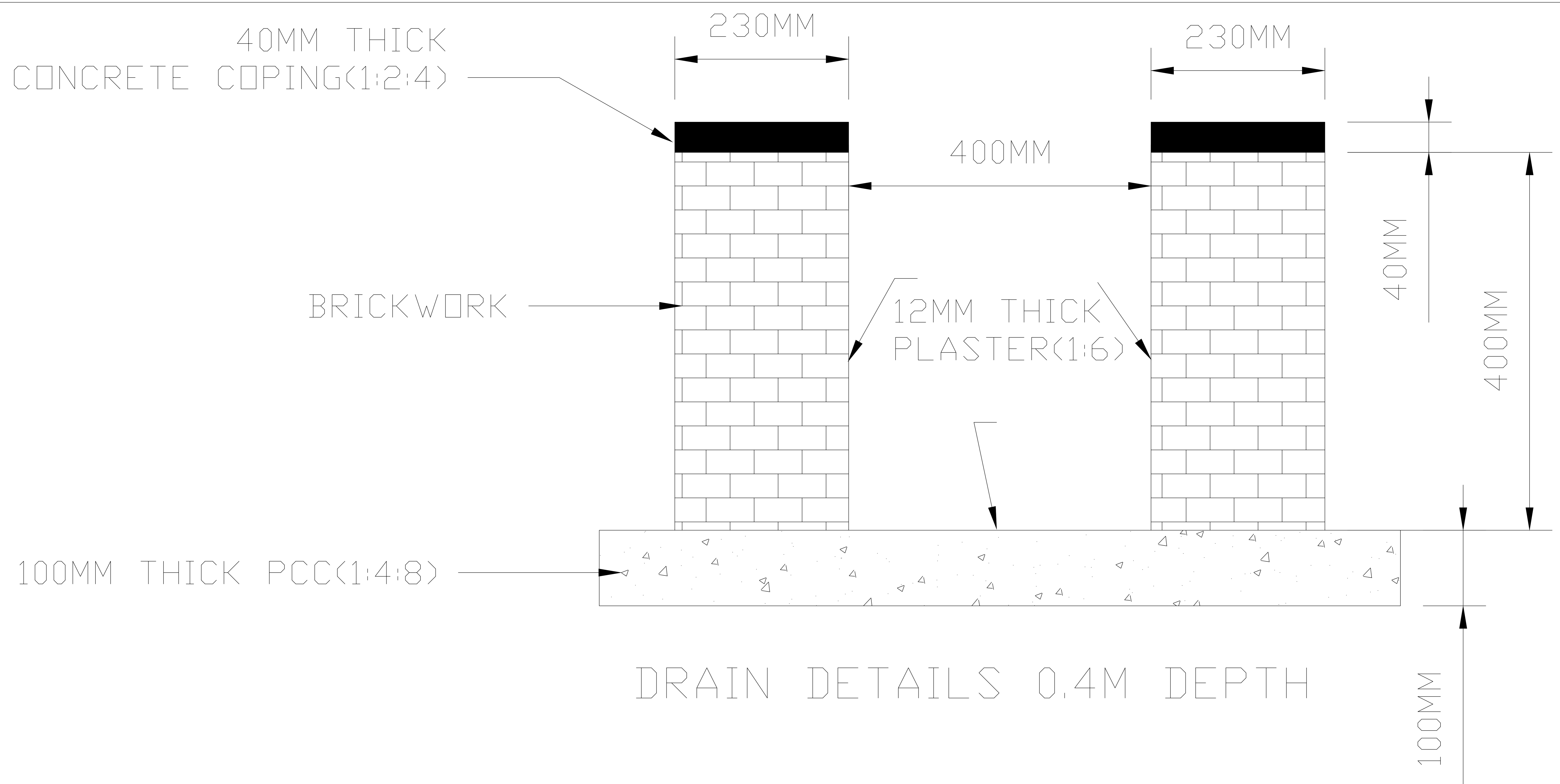
CULVERT DETAILS FOR 600 MM DIA RCC HUME PIPE

PROJECT:- TYPICAL DRAWING

TITLE :- CULVERT DETAILS FOR 600 MM DIA, RCC HUME PIPE

DRG NO. :- BHE/PN/OY-10

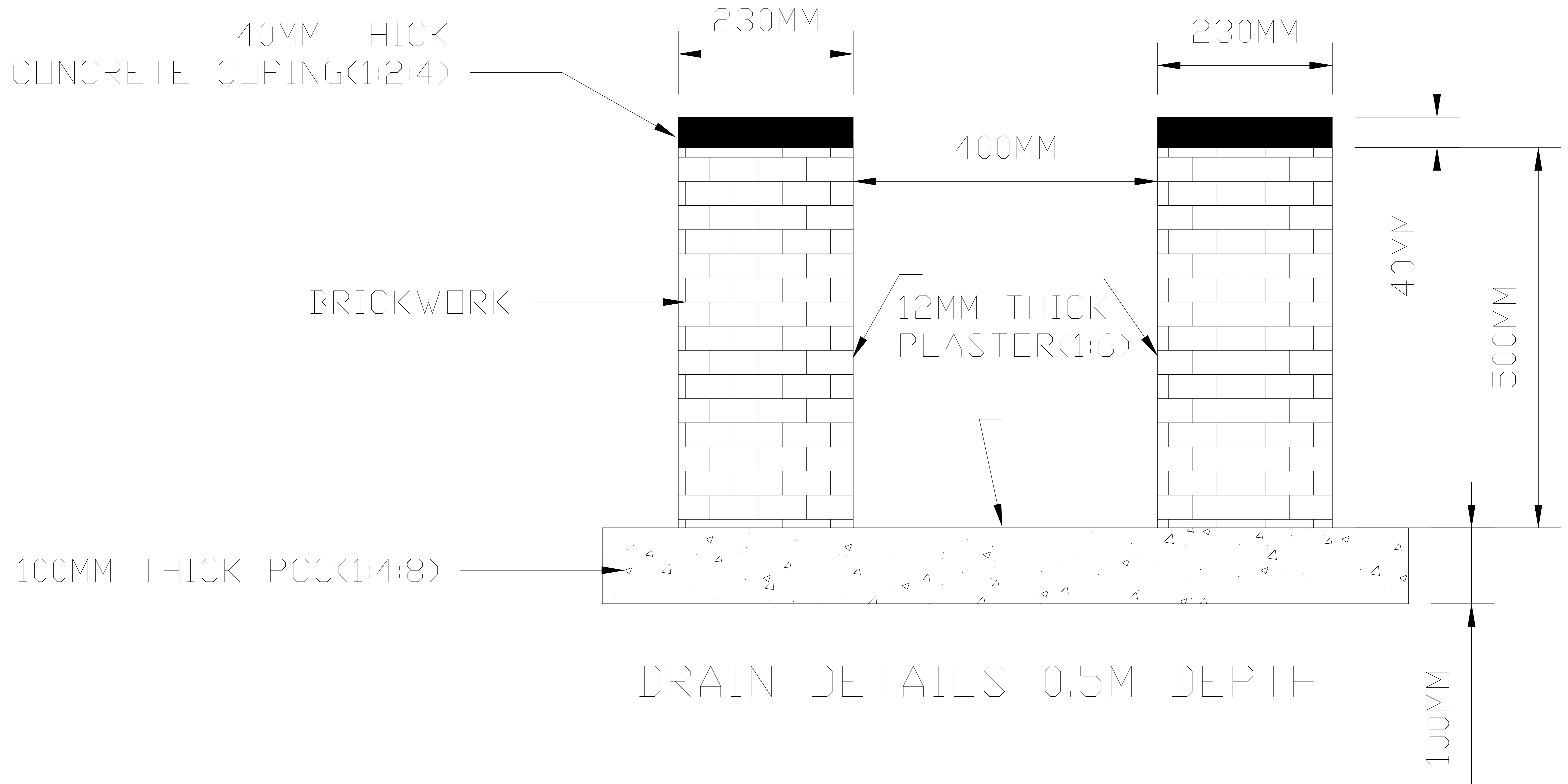
OWNER :-  BHEL PSNR - NOIDA



DRAIN DETAILS 0.4M DEPTH

DETAILS OF 0.4M DEPTH DRAIN

PROJECT: TYPICAL DRAWING
TITLE: DETAILS OF 0.4M DEPTH DRAIN
DRG. NO. BHE/PN/OY- 03

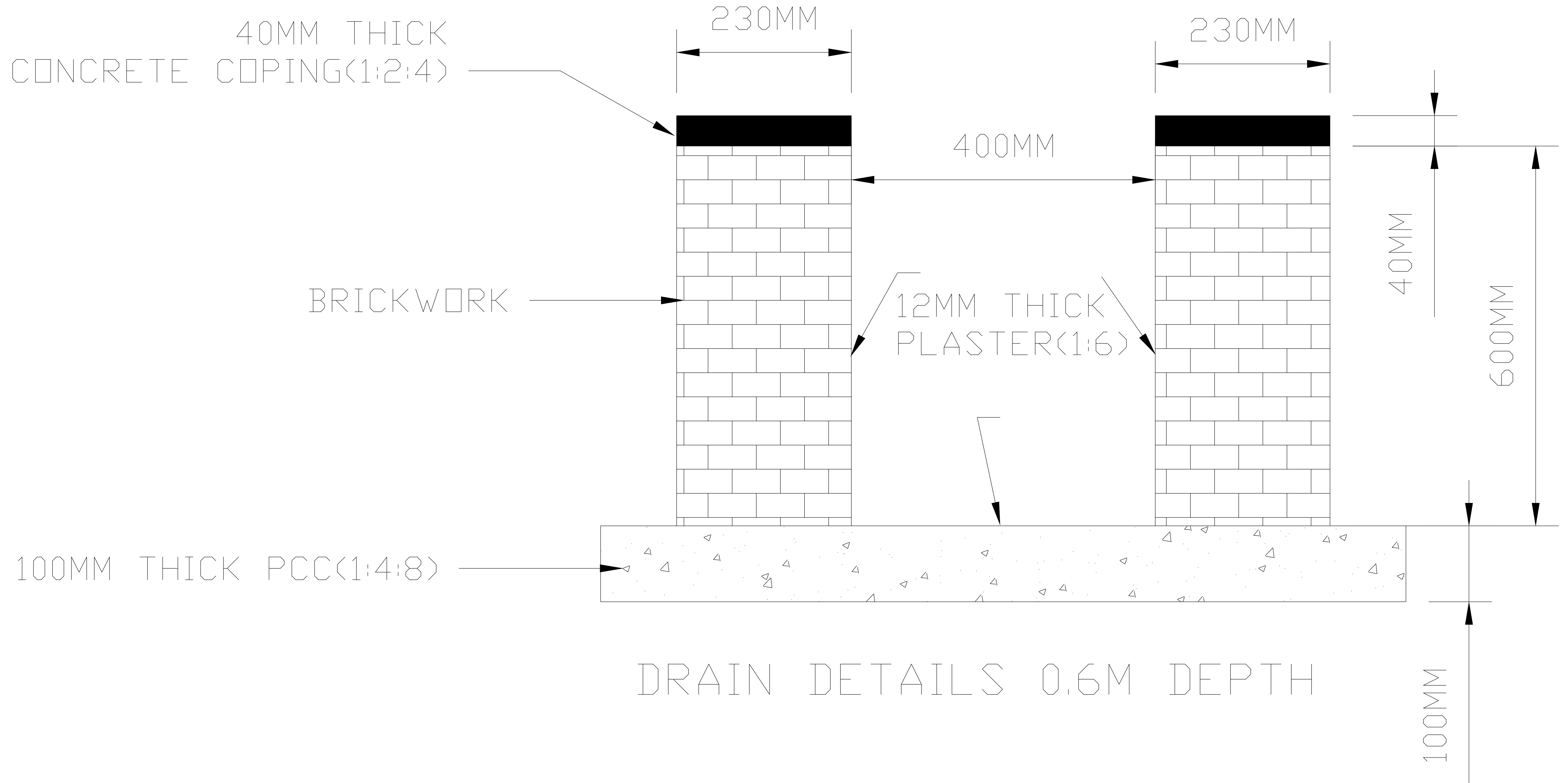


DETAILS OF 0.5M DEPTH DRAIN

PROJECT: TYPICAL DRAWING

TITLE: DETAILS OF 0.5M DEPTH DRAIN

DRG. NO. BHE/PN/OY- 04

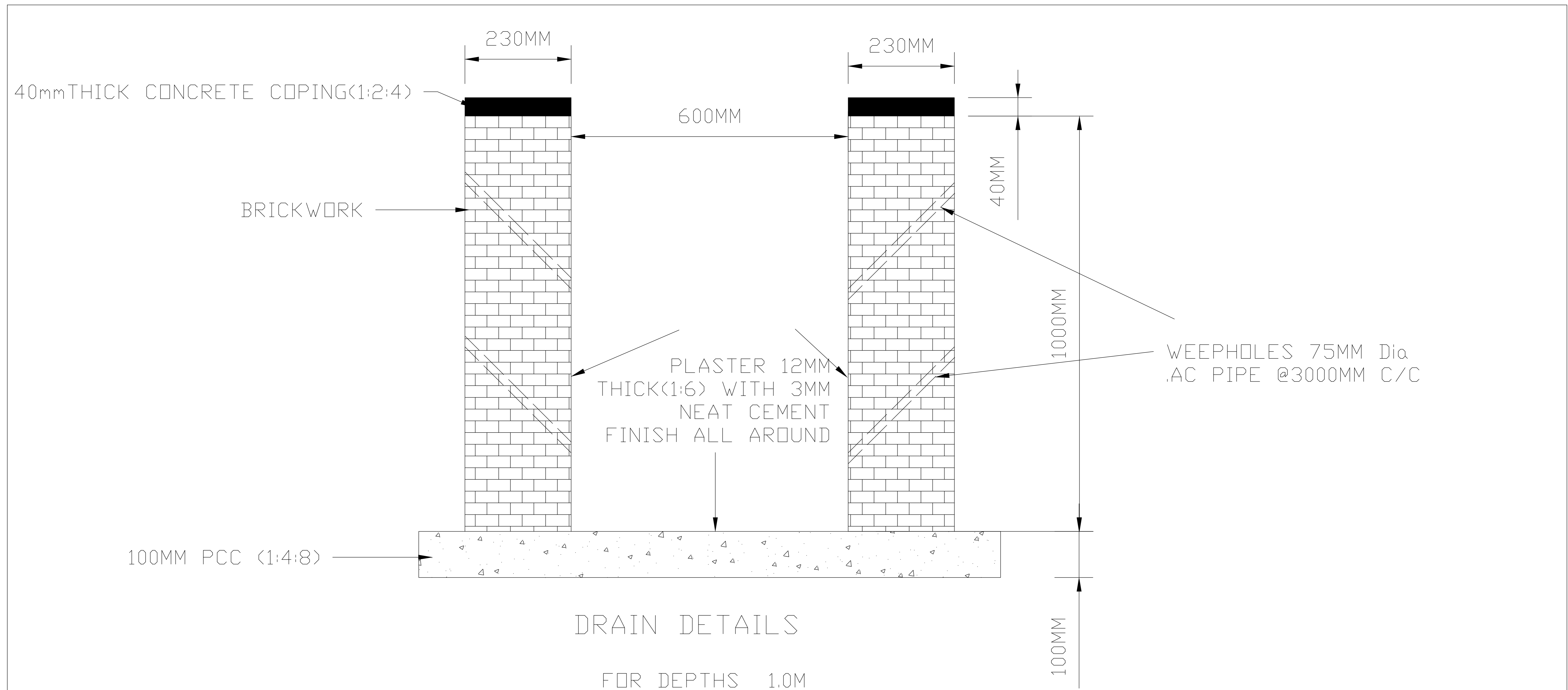


DETAILS OF 0.6M DEPTH DRAIN

PROJECT: TYPICAL DRAWING

TITLE: DETAILS OF 0.6M DEPTH DRAIN

DRG. NO. BHE/PN/OY- 05

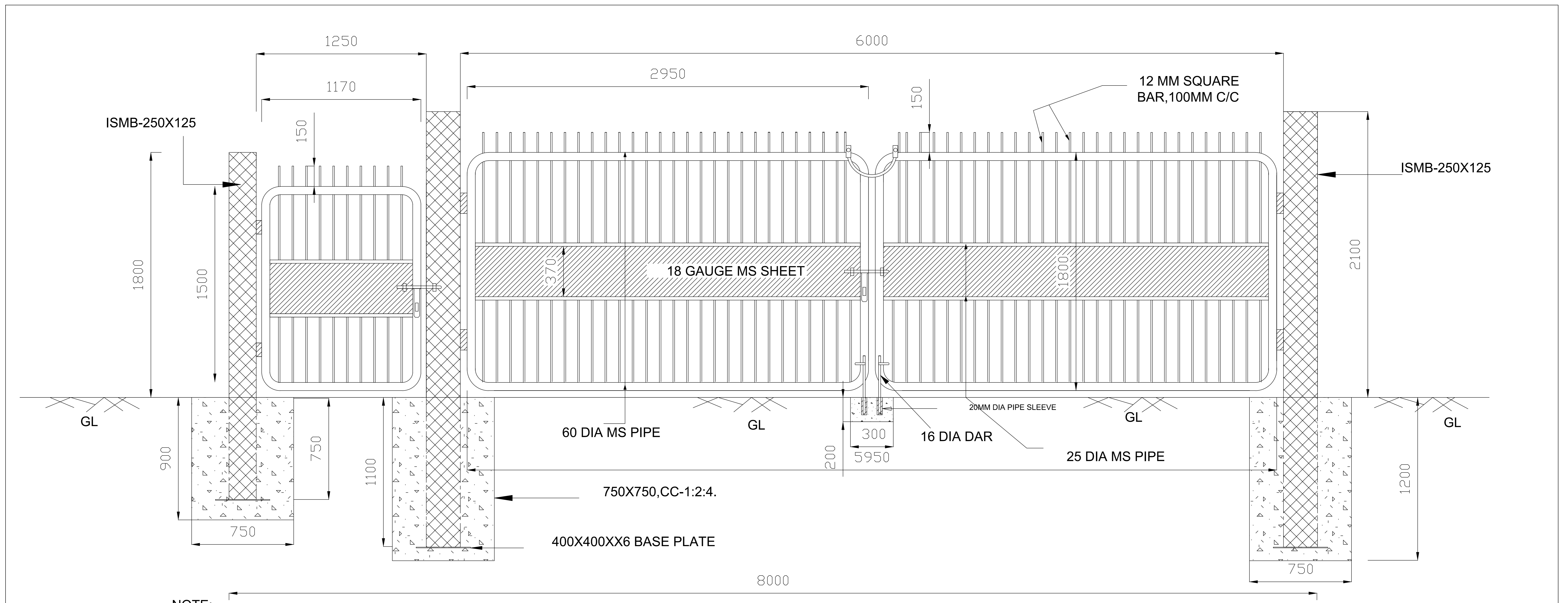


DETAILS OF 1.0M DEPTH WITH 600MM WIDE DRAIN

PROJECT: TYPICAL DRAWING


TITLE: 1.0 M DEPTH DRAIN

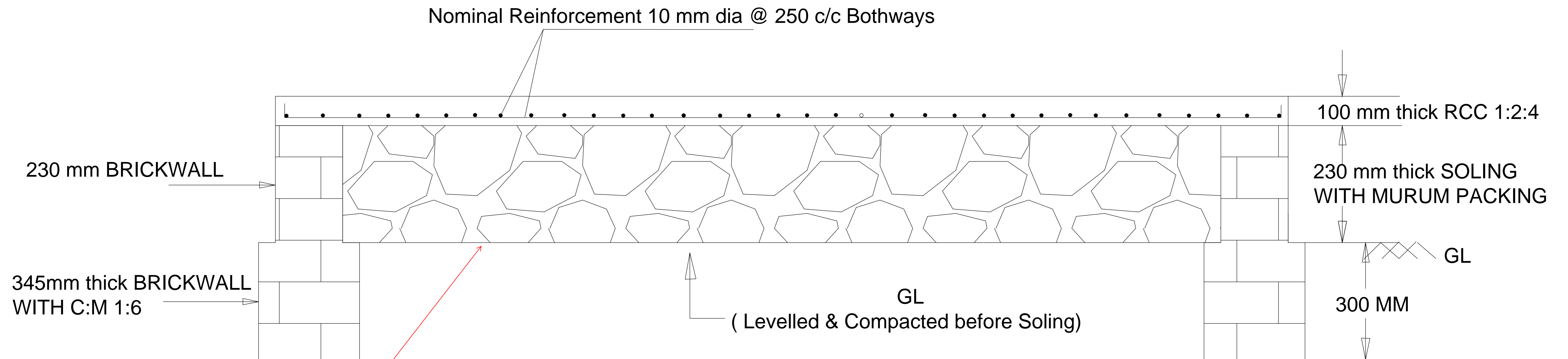
DRG. NO. : BHE/PN/OY-08



- 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

PROJECT:-	TYPICAL DRAWING
TITLE :-	MS PIPE GATE
DRG NO. :-	BHE/PN/GATE
OWNER :-	 BHEL PSNR - NOIDA



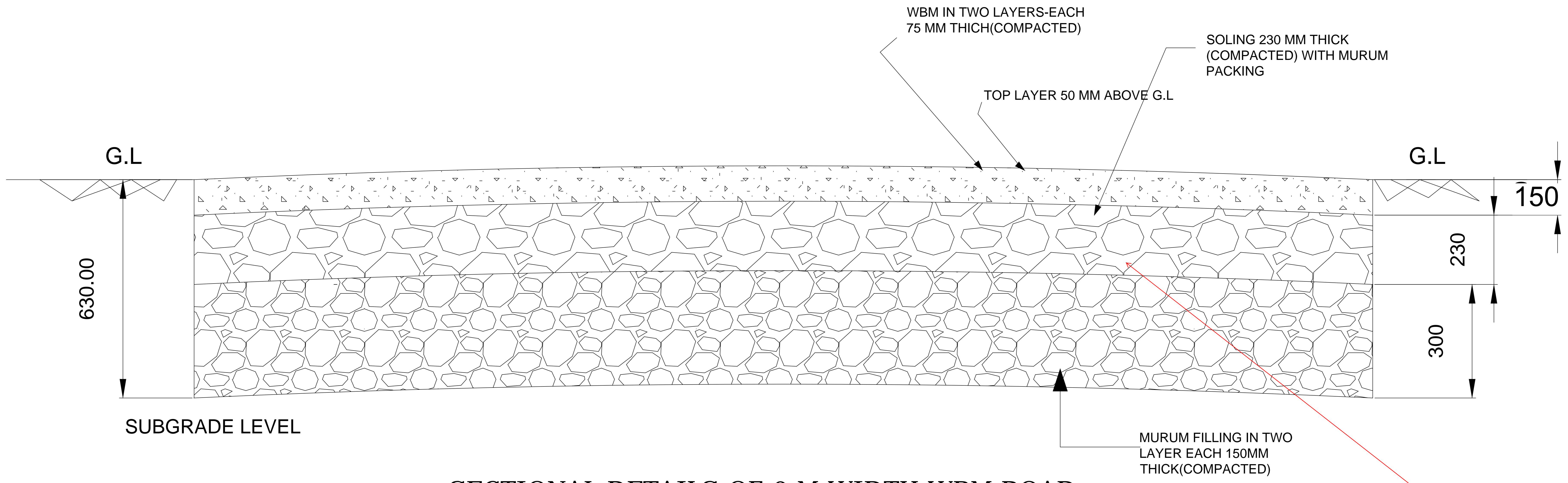
RAISED CONCRETE PLATFORM 12 M WIDE

Being a rocky stratum at site, Soling shall be as per direction of BHEL Engineer.

PROJECT: TYPICAL SECTION

TITLE: RAISED CONCRETE PLATFORM 12M WIDE

DRG. NO. : BHE/PN/OY- 02



SECTIONAL DETAILS OF 6 M WIDTH WBM ROAD

ALL DIMENSIONS ARE IN MM

NOTE:

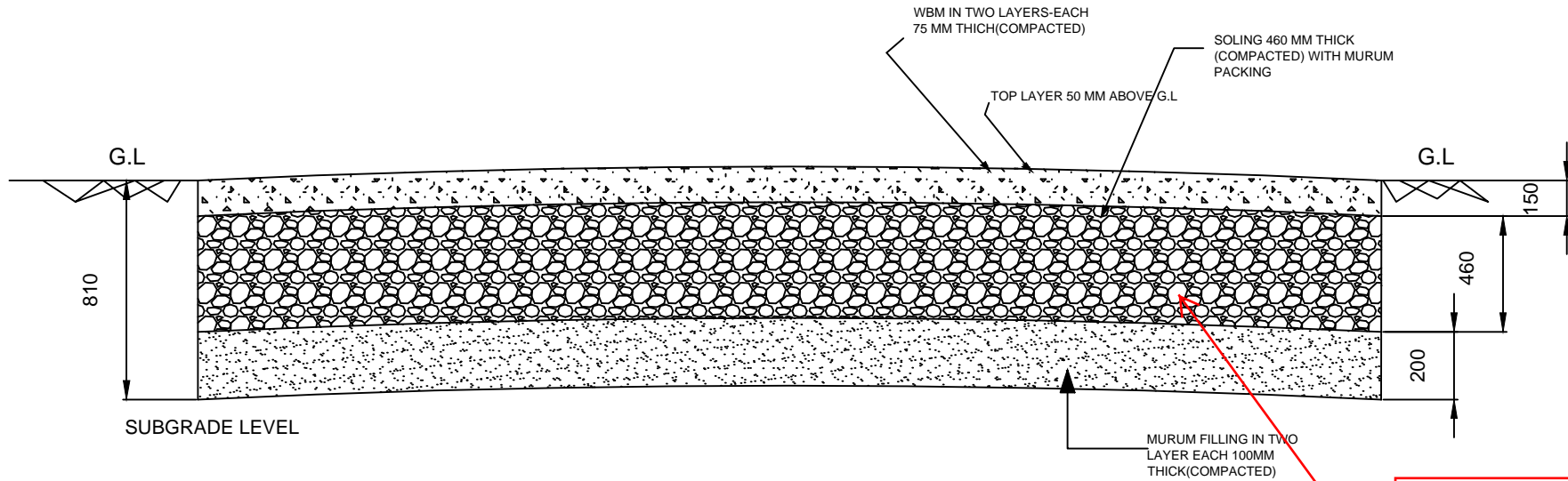
- 1)CAMBER SHALL BE MAINTAINED FROM THE SUBGRADE LEVEL
- 2)IN CASE SOFT/HARD ROCK MAT WITH SUBGRADE IS FOUND THEN 150MM THICK MURUM SHALL BE LAID IN PLACE OF 300 MM THICK MURUM FILLING.

Being a rocky stratum at site, Soling shall be provided as per direction of BHEL Engineer.

PROJECT: TYPICAL SECTION

TITLE: SECTION OF 6 M WIDTH WBM ROAD

DRG. NO. : BHE/PN/OY- 06



SECTIONAL DETAILS OF 8 M WIDTH WBM ROAD

ALL DIMENSIONS ARE IN MM

NOTE:

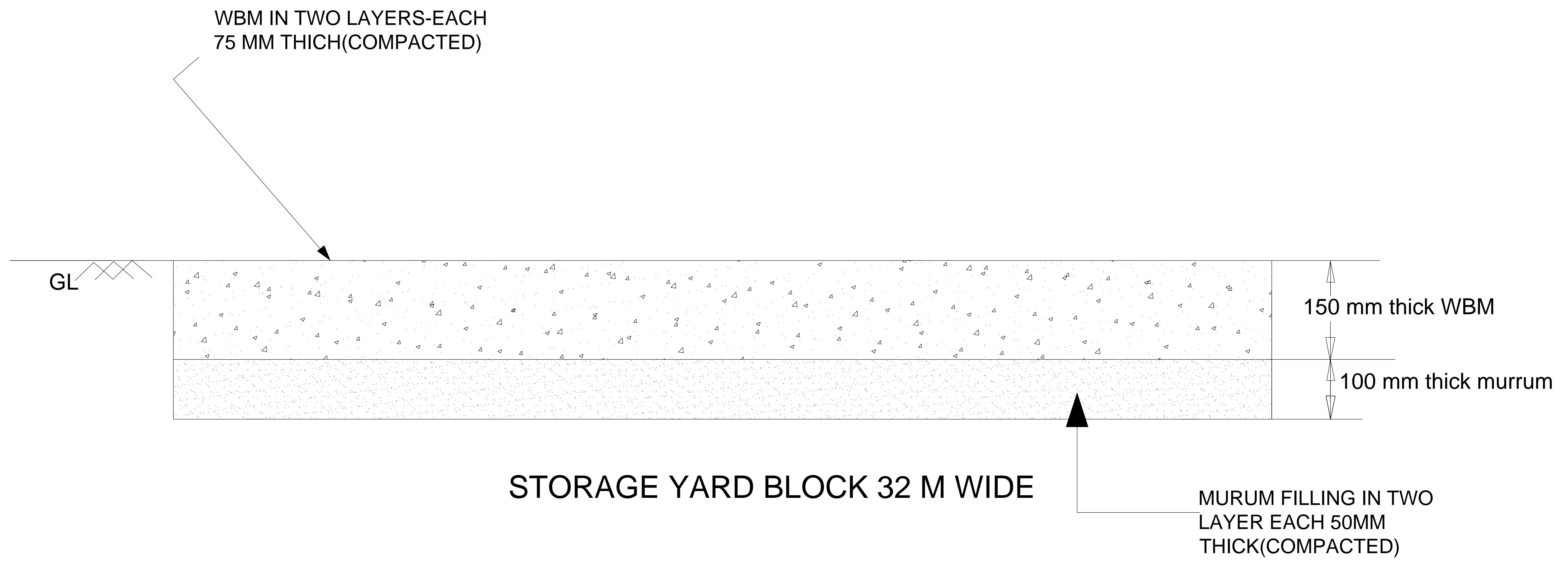
- 1) CAMBER SHALL BE MAINTAINED FROM THE SUBGRADE LEVEL
- 2) IN CASE SOFT/HARD ROCK MAT WITH SUBGRADE IS FOUND THEN 100MM THICK MURUM SHALL BE LAID IN PLACE OF 200 MM THICK MURUM FILLING.

Being a rocky stratum at site, Soling shall be provided as per direction of BHEL Engineer.

PROJECT: TYPICAL SECTION

TITLE: SECTION OF 8 M WIDTH WBM ROAD

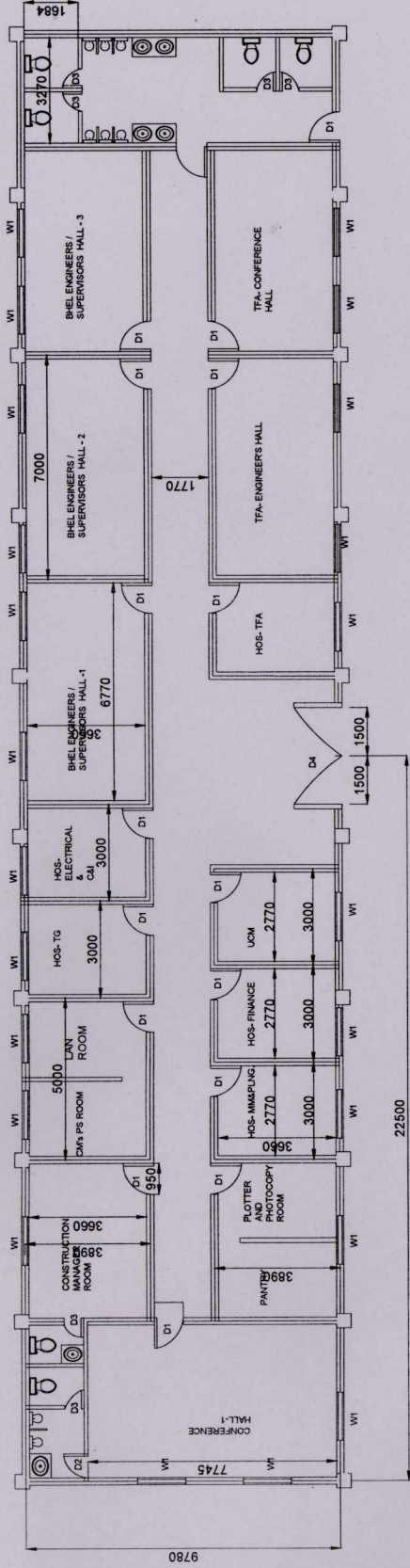
DRG. NO. : BHE/PN/OY- 07



PROJECT: TYPICAL SECTION

TITLE: SECTION OF STORAGE YARD BLOCK

DRG. NO. : BHE/PN/OY- 02



FINISHING													
Sl. No.	Description	Ceramic Tile Flooring	IPS	OBD	White / Colour Wash	12 mm 18 mm Plaster	False Ceiling	Glazed Tiles	Dado	Skirting			
1	CM CABIN	YES		YES		YES	YES			YES			
2	CONFERENCE HALL-1	YES		YES		YES	YES			YES			
3	ENGINEER'S HALL 1, 2 & 3	YES		YES		YES	YES			YES			
4	HOS-TG	YES		YES		YES	YES			YES			
5	HOS-ELECTRICAL AND C&I	YES		YES		YES	YES			YES			
6	HOS- MM& PLNG	YES		YES		YES	YES			YES			
7	HOS- FINANCE	YES		YES		YES	YES			YES			
8	UCM	YES		YES		YES	YES			YES			
9	HOS- TFA	YES		YES		YES	YES			YES			
10	CM'S PS ROOM / LAN ROOM	YES		YES		YES	YES			YES			
11	PANTRY / PLOTTER AND PHOTOCOPIER ROOM	YES		YES		YES	YES			YES			
12	ENGINEER'S HALL- TFA	YES		YES		YES	YES			YES			
13	CONFERENCE HALL -TFA	YES		YES		YES	YES			YES			
10	REST ROOM- CONFERENCE HALL			YES		YES	YES	YES	YES	YES	YES	YES	YES
11	TOILETS			YES		YES	YES	YES	YES	YES	YES	YES	YES
12	TOILET IN CM CABIN			YES		YES	YES	YES	YES	YES	YES	YES	YES
13	VERANDAH												
14	LOBBY	YES		YES									

DOOR (D), WINDOW (W) AND VENTILATOR (V) DETAILS			
SL. NO.	NOTATION	TYPE	SIZE (WIDTH X HEIGHT)
1	D1	WOODEN DOOR	900MM X 2100MM
2	D2	WOODEN DOOR	750MM X 2100MM
3	D3	PVC DOOR	600MM X 2100MM
4	D4	ALUMINIUM FRAME DOOR WITH GLASS GLAZING	3000MM X 2100MM
5	W1	STEEL GLAZED WINDOWS	1500MM X 1200MM
6	V1	STEEL LOUVERED VENTILATORS	800MM X 450MM
7			

NOTE: OFFSET BETWEEN THE BRICK COLUMN IN LONGER DIRECTION I.E. 45 M SIDE IS 5M C/C AND IN SHORTER SIDE IS 10 M C/C.

PROJECT: 2X700 MW RAPP KOTA		
TITLE	LAYOUT OF OFFICE BUILDING	
RDG. NO.	BHEL/PSNR/RAPP/OFFICE-01	
REV. NO.	0	

UNPRICED - RATE SCHEDULE

Tender No.-: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

Job:- "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"

ITEM NUM	DESCRIPTION OF WORK	TOTAL VALUE 'A' IN INR (IN FIGURES AND WORDS)
1.0	TOTAL LUMSUM PRICE FOR "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"	
Notes:-		
<p>1. The rates of individual item for the entire scope of work as define in BOQ shall be arrived as per Calulation defined in Annexure- 'D'</p> <p>2. The derived item rate will remain firm through out the contract period.</p>		

Name -:

Place -:

Date-:

Signature of the Bidder With
Stamp

BOQ CUM RATE SCHEDULE

SCOPE: "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"

Tender No.: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
(A) CIVIL WORKS						
EARTH WORK/ SITE CLEARANCE/ ROAD WORK						
1	C1	EARTH WORK EXCAVATION FORM 0 (ZERO) TO 2 M DEPTH IN HARD ROCK (REQUIRING BLASTING) BY MECHANICAL MEANS (HYDRAULIC EXCAVATOR/ MANUAL MEANS FOR FOUNDATIONS, SEPTIC TANK, DRAINS, SOAK PIT, RAMPS ETC. AS DIRECTED BY BHEL ENGINEER , INCLUDING DRESSING OF SIDES AND RAMMING OF BOTTOMS, GETTING OUT THE EXCAVATED MATERIAL AND DISPOSAL OF SURPLUS EXCAVATED MATERIAL AS DIRECTED, WITHIN A LEAD OF 50 M INCLUDING 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	1866.00	7.42	
2	C2	EARTH WORK 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 INCLUDING 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	297.00	4.25	
3	C3	EARTH WORK EXCAVATION FROM 0 (ZERO) TO 2 M DEPTH IN ALL KINDS OF SOIL (EXCEPT SOFT ROCK AND HARD ROCK) FOR FOUNDATIONS, SEPTIC TANK, DRAINS, SOAK PIT, RAMPS ETC., AS DIRECTED BY BHEL ENGINEER INCLUDING REMOVING THE EXCAVATED MATERIALS UP TO A DISTANCE OF 50M INCLUDING 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	172.00	2.57	
4	C4	EARTH WORK EXCAVATION FROM 2.0M TO 4.0 M DEPTH IN IN HARD ROCK (REQUIRING BLASTING) BY MECHANICAL MEANS (HYDRAULIC EXCAVATOR / MANUAL MEANS FOR FOUNDATIONS, SEPTIC TANK, DRAINS, SOAK PIT, RAMPS ETC. AS DIRECTED BY BHEL ENGINEER, INCLUDING DRESSING OF SIDES AND RAMMING OF BOTTOMS, GETTING OUT THE EXCAVATED MATERIAL AND DISPOSAL OF SURPLUS EXCAVATED MATERIAL AS DIRECTED, WITHIN A LEAD OF 50 M INCLUDING 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	100.00	10.01	
5	C5	EARTH WORK EXCAVATION FROM 2.0M 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 INCLUDING 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	55.00	3.47	
6	C6	EXCAVATION IN ALL KINDS OF SOIL INCLUDING SOFT & HARD ROCK (BY MANUAL CHISELING OR BY MECHANICAL MEANS BUT WITHOUT BLASTING) FROM 2 TO 4M DEPTH FOR SEPTIC TANK AND SOAK PIT, WHEREVER REQUIRED INCLUDING REMOVING THE EXCAVATED MATERIALS UP TO A DISTANCE OF 50M INCLUDING 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	75.00	8.94	
7	C7	EXCAVATION /CUTTING OF EARTH / ROCK BEYOND INITIAL 250 MM THICK WHICH IS COVERED UNDER (ITEM CODE NO C9) BELOW 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.	CUM	625.00	2.57	
8	C8	EXCAVATION FOR ROADWAY IN ALL TYPES OF SOILS, SAND AND GRAVEL, SOFT MURAM OR SOFT ROCK / HARD ROCK 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 - 12 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.	CUM	4771.00	2.57	
9	C9	SUB GRADE PREPARATION: CUTTING & DISPOSAL OF GRASS, VEGETATIONS, BUSHES, TREES (GIRTH LESS THAN 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 DRAINING OUT THE RAIN WATER WITH ALL T&P, LABOURS, MATERIALS, DEWATERING (IF REQUIRED) ETC. COMPLETE. FOR DEVELOPMENT OF OPEN STORAGE YARD / OFFICE INCLUDING DISPOSAL OF UNUSABLE MATERIAL UPTO THE LEAD OF 1 KM.	SQM	25750.00	1.27	
10	C10	SUB GRADE PREPARATION: CUTTING LEVELLING, FILLING WITH EXCAVATED EARTH / ROCK, WATERING AND CONSOLIDATION FOR PLINTH PROTECTION AREA AND WHEREVER REQUIRED BEFORE LAYING THE PCC WITH ALL T&P, LABOURS, MATERIALS ETC. COMPLETE.	SQM	361.00	1.27	
11	C11	REMOVAL OF WILD GROWTH, BUSHES VEGETATIONS AND DISPOSAL AS PER INSTRUCTION WITHIN THE PLANT BOUNDARY (SIZE OF STEM FROM 150MM TO 600MM DIA.)	NOS	17.00	3.08	
12	C12	DISPOSAL OF EXCAVATED EARTH / ROCK (NOT SUITABLE FOR BACK FILLING) 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	3134.00	1.99	

SCOPE: "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"

Tender No.-: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
13	C13	FILLING OF LOW LYING AREA WITH THE EXCAVATED EARTH / ROCK INCLUDING BREAKING OF ROCK TO REQUIRED SIZE AVAILABLE WITHIN 5 KM LEAD IN LAYERS NOT EXCEEDING 300 MM THICK AND FILLING OF VOIDS WITH MANUAL / MECHANICALLY BROKEN METAL / ROCK OF SIZE 40-60 MM AND STONE SCREENING. PACKING WITH MURRUM / DUST/GOOD EARTH ETC, SPREADING, ROLLING AND COMPACTION INCLUDING WATERING, WITH 8-10 MT CAPACITY ROAD ROLLER. THIS INCLUDES COST OF ALL MATERIALS , CARRAIGE OF MATERIALS, ALL LABOURS AND T&P WITH GOVT. TAXES & ROYALITES IF ANY COMPLETE AS DIRECTED BY BHEL ENGINEER.	CUM	15000.00	9.92	
14	C14	BACKFILLING OF FOUNDATION , THE SIDES OF DRAINS AND CULVERTS, FLOORS AND PLINTH IN LAYERS NOT EXCEEDING 150MM THICK. INCLUDING WATERING AND CONSOLIDATING ETC. COMPLETE AS PER STANDARD SPECIFICATION AND INSTRUCTED BY BHEL ENGINEER.				
A	(A)	WITH GOOD EXCAVATED SOIL/ ROCK AVAILABLE FROM THE EARTH WORK.	CUM	3812.00	1.76	
B	(B)	WITH GRANULAR MURUM IN LAYERS (THICKNESS OF EACH LAYER SHOULD NOT EXCEED 150MM) BELOW FOUNDATIONS, FLOORING, AND RAMP ETC 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	263.00	12.97	
C	(C)	WITH 300MM COMPACTED THICK GRANULAR MURUM IN LAYERS (THICKNESS OF EACH LAYER SHOULD NOT EXCEED 150MM) IN SUB-BASE OF ROAD BELOW SOLING, MONSOON YARD DEVELOPMENT ETC. COMPLETE INCLUDING WATERING AND COMPACTION WITH 10-12 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 AS PER STANDARD SPECIFICATION, RELEVANT DRAWINGS AND INSTRUCTED BY BHEL ENGINEER. CONTRACTOR HAS TO SUBMIT ROYALTY CERTIFICATE FROM CONCERNED STATE GOVT. MINING DEPARTMENT	CUM	739.00	21.19	
D	(D)	WITH GOOD EARTH BROUGHT FROM OUTSIDE FROM CONTRACTOR'S OWN SOURCE INCLUDING ROYALTY ETC.	CUM	462.00	7.10	
E	(E)	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	23.00	12.15	
F	(F)	PROVIDING STONE SOLING OF REQUIRED THICKNESS AS PER DRAWING BELOW FLOORING, RAMP, COLUMN FOUNDATIONS 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	316.00	25.51	
G	(G)	PROVIDING AND LAYING SOLING 230 MM COMPACTED THICK WITH 150 -200 MM THICK BOULDER SIZE AND FILLING OF VOIDS WITH HAND BROKEN METAL OF SIZE 40-60 MM , SPREADING & PACKING MURRUM , ROLLING AND COMPACTION INCLUDING WATERING, WITH 8-10 MT CAPACITY ROAD ROLLER.	CUM	694.00	25.51	
H	(H)	PROVIDING 150 MM 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, MATERIALS ETC. COMPLETE, ALL AS PER RELEVANT SPECIFICATIONS AND DIRECTIONS OF BHEL ENGINEER (RATE SHALL BE INCLUSIVE OF ALL LABOUR, MATERIALS ETC., COMPLETE).	CUM	524.00	29.14	
		PCC:				
15	C15	PROVIDING AND LAYING OF PLAIN CEMENT CONCRETE OF MIX 1:4:8 USING OPC GRADE 43/53 OR EQUIVALENT PPC, 20 MM DOWN SIZE HARD BROKEN GRANITE STONE JELLY FOR FOUNDATION, FLOORING, COLUMN ETC. INCLUDING SHUTTERING, FINISHING, CURING, CONSOLIDATION ETC. COMPLETE AS PER STANDARD SPECIFICATIONS AND AS DIRECTED BY BHEL ENGINEER.	CUM	469.00	67.96	
16	C16	PROVIDING AND LAYING OF 100 MM THICK PLAIN CEMENT CONCRETE OF MIX 1:3:6 USING OPC GRADE 43/53 OR EQUIVALENT PPC, 20 MM DOWN SIZE HARD BROKEN GRANITE STONE JELLY FOR PLINTH PROTECTION WITH TROWEL FINISH INCLUDING SHUTTERING, FINISHING, CURING, CONSOLIDATION ETC. COMPLETE AS PER STANDARD SPECIFICATIONS AND AS DIRECTED BY BHEL ENGINEER.	CUM	47.00	88.55	
17	C17	PROVIDING AND LAYING OF RCC MIX 1:2:4 USING OPC GRADE 43/53 OR EQUIVALENT PPC, 20MM DOWN SIZE HARD BROKEN GRANITE STONE AGGREGATE INCLUDING MECHANICAL MIXING, VIBRATION, CURING, FORM WORK & CENTERING AS PER DRAWING AND SPECIFICATION AND DIRECTED BY BHEL ENGINEER BUT EXCLUDING COST OF REINFORCEMENTS.	CUM	593.00	88.55	
18	C18	PROVIDING PRECAST REINFORCED CONCRETE SLEEPER OF SIZE 300MM WIDE X150MM DEPTH X 1200MM LENGTH USING 1:2:4 CONCRETE MIX INCLUDING MOULDING AND REINFORCEMENT (2-10 MM DIA T&B AND STIRRUPS 8 MM @ C/C 250MM), PROVIDING AND FIXING OF LIFTING / HANDLING HOOKS AS DIRECTED BY BHEL ENGINEER.	EACH	1125.00	12.22	
19	C19	40MM THICK COPING OVER THE DRAIN WALL TOP USING MIX - 1:2:4	CUM	11.00	88.55	
20	C20	PROVIDING AND LAYING DPC (DAMP PROOF COURSE) 50MM THICK IN 1:2:4 CEMENT CONCRET LAYER USING OPC GRADE 43/53 OR EQUIVALENT PPC AND WITH 6MM DOWN AGGREGATE, INCLUDING FORM WORK, BITUMEN FELT USING CEMENT WITH WATER PROOFING COMPOUND ETC. COMPLETE REINFORCEMENT:	SQM	237.00	5.71	
21	C21	PROVIDING, CUTTING, BENDING AND FIXING IN POSITION REINFORCEMENT OF VARIOUS DIA, USING HIGH TENSILE TOR 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	38.00	1152.77	
		BRICK WORK:				

SCOPE: "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"

Tender No.: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
22	C22	PROVIDING BRICK WORK IN CM 1:6 (1 CEMENT & 6 COARSE SAND) USING OPC GRADE 43/53 OR EQUIVALENT PPC AND LOCALLY AVAILABLE BURNT CLAY BRICKS (MIN STRENGTH 35 KG/CM ²) AS PER DRAWING AND SPECIFICATION FOR FOUNDATION, SUPER STRUCTURE, SEPTIC TANK, DRAIN, CULVERTS 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	837.00	92.31	
23	C23	PROVIDING BRICK WORK IN CM 1:6 (1 CEMENT & 6 COARSE SAND) USING OPC GRADE 43/53 OR EQUIVALENT PPC AND FLY ASH LIME BRICKS (FAL - MIN STRENGTH 35 KG/CM ²) AS PER DRAWING AND SPECIFICATION FOR FOUNDATION, WALL, SEPTIC TANK, DRAINS, CULVERTS 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	327.00	88.82	
24	C24	PROVIDING HALF BRICK WORK PARTITION WALL IN CM 1:4 (1 CEMENT & 4 COARSE SAND) USING OPC GRADE 43/53 OR EQUIVALENT PPC AND LOCALLY AVAILABLE BURNT CLAY BRICKS (MIN STRENGTH 35 KG/CM ²) 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	38.00	11.23	
25	C25	PROVIDING HALF BRICK WORK FOR PARTITION WALL IN CM 1:4 (1 CEMENT & 4 COARSE SAND) USING OPC GRADE 43/53 OR EQUIVALENT PPC AND FLY ASH LIME BRICKS (FAL - MIN STRENGTH 35 KG/CM ²) 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	17.00	11.23	
		STRUCTURAL STEEL WORK:				
26	C26	DESIGN, SUPPLY, FABRICATING AND ERECTION OF TUBULAR TRUSSES WITH TUBULAR POST & PURLINES (BY USING CLASS B, MEDIUM QUALITY PIPE) AS PER BHEL DRAWING WITH PPGI SHEETS AND WIND TIES (USING FLAT OF SIZE 40X5MM) TO BE PROVIDED ABOVE SHEETS AND PROVIDING & FIXING BASE PLATES WITH HOLDING DOWN BOLTS ON RCC COLUMNS, GUSSETS, RIBS, PINS, SPLICES ETC. AS REQUIRED INCLUDING TRANSPORT, LOADING, UNLOADING CHARGES FROM FABRICATION SHOP 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 FACTORY AND TWO COATS OF SYNTHETIC ENAMEL PAINTS (OVER PRIMER COAT OF RED OXIDE) OF APPROVED COLOUR AND QUALITY AT SITE. HOLLOW TRUSS (OUTER MAIN FRAME WITH CENTER POST EXCEPT OTHER VERTICAL & CROSS BRACING/TUBES/CROSS STUD) SHALL BE PROVIDED ON BOTH SIDE OF GABLE END TO FIX THE PURLINS AND ROOFING MATERIAL.	MT	58.00	1276.72	
27	C27	DESIGN, SUPPLY, FABRICATING AND ERECTION OF STRUCTURAL STEEL STAGING (APPROX. Ht. 4.0M) FOR INSTALLATION OF PVC OVER HEAD WATER TANK (OHT) OF CAPACITY- 1000 LITRES AS PER BHEL DRAWING. RATE IS INCLUSIVE OF ALL MATERIALS, LOADING & UNLOADING, FABRICATION, FIXING IN POSITION, LABOUR CHARGES , T&Ps AND COST OF RED OXIDE PRIMER AT FACTORY AND TWO COATS OF SYNTHETIC ENAMEL PAINTS (OVER PRIMER COAT OF RED OXIDE) OF APPROVED COLOUR AND QUALITY AT SITE.	MT	3.00	1276.72	
28	C28	PROVIDING , SUPPLYING AND FIXING OF 20 GAUGE MS ROLLING SHUTTERS OF SIZE 5 M X 5 M (APPROX.) 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 LOCKING ARRANGEMENT. RATE SHALL BE INCLUSIVE OF ALL THE ABOVE COMPLETE.	SQM	153.00	35.43	
		ROOFING:				
29	C29	PROVIDING AND FIXING 0.5MM THICK PERMANANTLY COLOUR COATED PROFILED GS SHEETS INCLUDING RIDGES AND HIPS OVER THE ROOF OF SHEDS / OFFICE AND SIDE CLADDING AS PER BHEL DRAWING INCLUDING GALVANISED IRON J OR L HOOK , BOLTS, BITUMINOUS WASHERS, GI CRAMP BOLTS, NUTS, SCAFFOLDING ETC. INCLUDING STEEL PRIMER AND 2 COATS OF APPROVED PAINT AT OVERLAPS AS PER TECHNICAL SPECIFICATIONS COMPLETE, ALL AS PER LATEST IS 459, 3307 AND 730.	SQM	3846.00	20.20	
30	C30	PROVIDING AND FIXING 0.5MM THICK PPGI SHEETS OVER THE LEAN TO ROOF OF TOILET/ PANTRY BLOCK AS PER BHEL DRAWING INCLUDING GALVANISED IRON J OR L HOOK , BOLTS, BITUMINOUS WASHERS, GI CRAMP BOLTS, NUTS SCAFFOLDING ETC. COMPLETE. ALL AS PER LATEST IS 459, 3307 AND 730.	SQM	150.00	10.84	
31	C31	PROVIDING AND FIXING OF TRANSLUCENT RMP/FRP (FIBRE GLASS REINFORCED PLASTIC) SHEETS - 2.00 MM THICK OF APPROVED MAKE INCLUDING COST OF GI J OR L HOOKS, BOLTS, NUTS, WASHERS, BITUMEN WASHERS,SCAFFOLDING ETC. COMPLETE SO AS TO MATCH WITH PPGI SHEETS FOR NATURAL LIGHTING.	SQM	201.00	11.63	
		CEILING:				
32	C32	PROVIDING AND FIXING OF FALSE CEILING OF 12.5 MM THICK TAPERED EDGE GYPSUM PLAIN BOARD CONFIRMING TO IS:2095 PART I WITH 4MM THICK OF APPROVED QUALITY AND DESIGN OF SIZE 600x600 MM PANELS 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	764.00	13.95	
		DOORS & WINDOWS:		0.00		
33	C33	PROVIDING AND FIXING OF BEST QUALITY COUNTRY WOOD DOORS COMPRISING OF FRAME 95 X 70MM AND 38/40MM THICK FLUSH SHUTTERS 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	59.00	41.37	

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Tender No.: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 100000
34	C34	PROVIDING AND FIXING OF BEST QUALITY PVC PANELLED DOORS OF THICKNESS 29MM, SINTEX/BAJAJ MAKE OR APPROVED EQUIVALENT FOR TOILETS INCLUDING ALL FITTINGS AND FIXTURES, MS ANGLE FRAME OF SIZE 40x40x6MM ETC. ALL COMPLETE AS PER DRAWINGS AND SPECIFICATIONS.	SQM	12.00	44.03	
35	C35	PROVIDING AND FIXING OF 18 GAUGE M.S. SHEET DOOR WITH FRAME WORK 40 X 40 X 6 MM M.S. ANGLE 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	9.00	51.00	
36	C36	PROVIDING AND FIXING ALUMINIUM WORK FOR DOORS, WINDOWS AND PARTITIONS WITH EXTRUDED BUILT UP STANDARD TUBULAR SECTIONS/ APPROPRIATE Z SECTIONS AND OTHER SECTIONS OF APPROVED MAKE CONFORMING TO IS: 733 AND IS: 1285, FIXING WITH DASH FASTENERS OF REQUIRED DIA AND SIZE, INCLUDING HOLD FASTS, WIND APPLIANCES, TOWER BOLTS AND ALDROPS, MORTISE OR SUITABLE LOCKS, NECESSARY FILLING UP THE GAPS AT JUNCTIONS, I.E. AT TOP, BOTTOM AND SIDES WITH REQUIRED EPDM RUBBER/ NEOPRENE GASKET ETC. ALUMINIUM SECTIONS SHALL BE SMOOTH, RUST FREE, STRAIGHT, MITRED AND JOINTED MECHANICALLY WHEREVER REQUIRED INCLUDING CLEAT ANGLE, ALUMINIUM SNAP BEADING FOR GLAZING / PANELING, C.P. BRASS / STAINLESS STEEL SCREWS, ALL COMPLETE AS PER ARCHITECTURAL DRAWINGS AND THE DIRECTIONS OF BHEL ENGINEER. (ARCHITECTURAL DRAWING IS TO BE PREPARED & SUBMITTED FOR APPROVAL TO BHEL BY CONTRACTOR) (GLAZING AND PANELING TO BE PAID FOR SEPARATELY) :				
	(i)	Powder coated aluminium (minimum thickness of powder coating 50 micron)	KG	20.00	6.73	
37	C37	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of BHEL Engineer				
	(i)	With stainless steel cover plate minimum 1.25 mm thickness	NOS	10.00	35.02	
38	C38	Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 2100 mm long with SS screws etc .complete as per direction of BHEL Engineer				
	(i)	Powder coated minimum thickness 50 micron aluminium tubular handle bar	NOS	4.00	8.80	
39	C39	Providing and fixing glazing in aluminium door, window and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in charge . (Cost of aluminium snap beading shall be paid in basic item)				
	(i)	With TOUGHENED float glass panes of 8 mm thickness	SQM	10.00	21.97	
40	C40	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	8.00	1276.72	
41	C41	SUPPLYING, MANUFACTURING AND FIXING IN POSITION OF STEEL WINDOWS AND VENTILATORS INCLUDING FRAMES & IRON BARRED (GUARD BAR OF SQUARE SECTION @ 100 MM C/C) AND GLAZED WITH 4MM PLAIN GLASS 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.			#DIV/0!	
A	A)	STEEL WINDOWS	SQM	53.00	14.58	
B	B)	STEEL LOUVERED VENTILATORS :-	SQM	37.00	14.58	
42	C42	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	65.00	16.49	
43	C43	PROVIDING & FIXING OF WOODEN FRAME OF BEST QUALITY COUNTRY WOOD (2.5"x3.0") FOR INSTALLING PORTABLE 1.5T AIR CONDITIONER ON THE WALL OPENING , SO AS TO MAKE A FRAME OF INSIDE CLEAR DIMENSION (36"x27") / SUITABLE 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 APPROVED BY BHEL ENGINEER.	NOS	32.00	18.82	
		FLOORING:				
44	C44	PROVIDING AND FIXING OF IPS FLOORING 40MM THICK USING OPC GRADE 43/53 OR EQUIVALENT PPC 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.	SQM	2686.00	6.08	
45	C45	PROVIDING AND LAYING OF 5.5 MM THICK CERAMIC TILES OF REQUIRED SIZE LAID OVER THE BED OF CM - 1:4 (1 CEMENT & 4 COARSE SAND) USING OPC GRADE 43/53 OR EQUIVALENT PPC.TILES FROM REPUTED MANUFACTURER LIKE JONSON OR EQUIVALENT INCLUDING ALL MATERIALS COMPLETE AS PER STANDARD PRACTICE AND SPECIFICATION.				
	A)	(I) FLOORING- 600MMX600MM	SQM	400.00	14.46	
	B)	(II) FLOORING - 300MM X 300MM	SQM	127.00	14.46	
	C)	(III) SKIRTING - 300MM X 150MM	SQM	57.00	14.46	
46	C46	SUPPLYING AND FIXING OF WHITE GLAZED TILES OF REQUIRED SIZES LAID OVER THE BED OF CM - 1:4 (1 CEMENT & 4 COARSE SAND) USING OPC GRADE 43/53 OR EQUIVALENT PPC . 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.				
	A)	(I) FLOORING (5.0MM TO 6.0MM THICK OF SIZE 300MM X 300MM)	SQM	103.00	14.25	
	B)	(II) DADO (5MM TO 6MM THICK OF SIZE 150MM X 150MM) - 1.5M HEIGHT FROM FINISHED FLOOR LEVEL	SQM	132.00	13.76	
		FINISHING:				
47	C47	PROVIDING PLASTERING WITH CEMENT MORTAR -1:6 (1 CEMENT & 6 COARSE SAND) USING OPC GRADE 43/53 OR EQUIVALENT PPC 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.				

SCOPE: "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"

Tender No-: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
	A)	(i) EXTERNAL PLASTERING - 18MM THICK	SQM	3115.00	3.43	
	B)	(ii) INTERNAL PLASTERING -12MM THICK	SQM	5642.00	2.32	
	C)	(iii) CEILING PLASTERING - 6MM THICK- 1:3 (1 CEMENT & 3 FINE SAND)	SQM	28.00	2.09	
48	C48	PROVIDING 2MM THICK NEAT CEMENT FINISH USING OPC GRADE 43/53 OR EQUIVALENT PPC OVER CONCRETE BASE FOR FLOORING, PAVING, PLASTERED SURFACE ETC. INCLUDING CURING & CLEANING AND SCAFFOLDING COMPLETE.	SQM	4007.00	0.63	
49	C49	PROVIDING & APPLYING COLOUR WASH -THREE COATS ON NEWLY PLASTERED EXTERNAL SURFACE OF WALLS 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.	SQM	2977.00	0.34	
50	C50	PROVIDING & APPLYING WHITE WASH - THREE COATS ON NEWLY PLASTERED INTERNAL SURFACE OF SHED (EXCLUDING INNER WALL OF OFFICE/C&I ROOM) AND SITE OFFICE 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.	SQM	2672.00	0.25	
51	C51	PROVIDING & APPLYING TO INTERIOR SURFACES OF OFFICE, 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 PARISH (POP) INCLUDING COST OF MATERIAL, LABOUR ETC. COMPLETE.	SQM	1864.00	1.38	
52	C52	PROVIDING AND FIXING OVER HEAD HYDRAULIC DOOR CLOSER (HEAVY DUTY) OF APPROVED BRAND AND SIZE ON NECESSARY DOORS AS DIRECTED BY BHEL ENGINEER.	NOS	25.00	10.23	
		FENCING:		0.00		
53	C53	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, TWO 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 / ROCK, 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	438.00	12.08	
		SANITARY/ SEWAGE				
54	S1	PROVIDING AND FIXING WHITE GLAZED VITREOUS CHINA WASH HAND 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. PRIOR APPROVAL OF SAMPLE AND BRAND BY BHEL ENGINEER IS NECESSARY BEFORE USE.	NOS	9.00	29.47	
55	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. PRIOR APPROVAL OF SAMPLE AND BRAND BY BHEL ENGINEER IS NECESSARY BEFORE USE.	NOS	7.00	55.29	
56	S3	PROVIDING AND FIXING IN POSITION OF WHITE GLAZED EARTHENWARE FLAT BACK/CORNER TYPE LIPPED FRONT URINALS OF 430MM X 260MM X 350MM / 340X460X265 MM OF APPROVED MAKE AND QUALITY WITHOUT FLUSHING CISTERN, 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.	NOS	12.00	55.02	
57	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 & 550MM 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.	NOS	9.00	13.22	
58	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 DIRECTION OF BHEL ENGINEER.	NOS	12.00	2.09	
59	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	NOS	14.00	7.95	
60	S7	PROVIDING AND FIXING IN POSITION OF 25 MM DIA GATE VALVE. INCLUDING ALL NECESSARY FITTING & FIXTURE ETC. COMPLETE AS PER STANDARD SPECIFICATION.	NOS	11.00	7.42	
61	S8	PROVIDING AND FIXING IN POSITION OF 40 MM DIA GATE VALVE. INCLUDING ALL NECESSARY FITTING & FIXTURE ETC. COMPLETE AS PER STANDARD SPECIFICATION.	NOS	7.00	10.13	
62	S9	PROVIDING AND FIXING IN POSITION OF 15 MM DIA NOMINAL SIZE SCREW DOWN TYPE CHROMIUM PLATES 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	NOS	15.00	5.96	

SCOPE: "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"

Tender No-: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
63	S10	PROVIDING AND FIXING IN POSITION OF 100MM X 50MM 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 INCLUSIVE.	NOS	18.00	0.50	
64	S11	PROVIDING AND FIXING IN POSITION OF 150MM SALT GLAZED STONE WARE GULLY TRAP WITH HCI GRATINGS AND CI COVER OF SIZE 300X300 MM OF APPROVED MAKE (WEIGHT NOT LESS THAN 2 KG) AND QUALITY AS PER STANDARD SPECIFICATIONS. RATE TO BE ALL INCLUSIVE.	NOS	9.00	26.84	
65	S12	PROVIDING AND LAYING WITH REQUIRED GRADING & LEVELING IN TRENCHES MEDIUM GRADE (TYPE) GALVANISED IRON (G I) 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, FIXING WITH CLAMPS, TESTING ETC. COMPLETE. (PRIOR APPROVAL OF SAMPLE AND BRAND BY BHEL ENGINEER IS NECESSARY BEFORE USE.) RATE TO INCLUDE EARTH WORK EXCAVATION IN ALL SOILS, INCLUDING 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.				
A	A)	40MM DIA	RM	242.00	5.67	
B	B)	25MM DIA	RM	163.00	4.89	
C	C)	20MM DIA	RM	125.00	3.84	
D	D)	15MM DIA	RM	120.00	3.14	
66	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 STONWARE 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.				
A	A)	100MM DIA STONWARE PIPELINE INCLUDING ALL SPECIALS COMPLETE.	RM	150.00	3.14	
67	S14	SUPPLYING & FIXING IN POSITION OF RCC HUME PIPE OF NP2 WHEREVER DRAIN CROSSES THE ROADS INCLUDING ALIGNING, LEVELLING ETC. COMPLETE AS PER THE DIRECTION OF ENGINEER. INCLUDING P.C. & INCLUDING COLLAR JOINTS, ENCASEMENT WITH CONCRETE 1:3:6 OF 300 MM DIA, ENCASING SHALL BE PAID EXTRA UNDER RESPECTIVE ITEMS OF CONCRETE..				
	A)	400mm dia	RM	45.00	11.94	
	B)	600mm dia	RM	27.00	23.57	
68	S15	PROVIDING & FIXING OF WEEP HOLES WITH 75MM DIA. AC / PVC PIPES AT 3M C/C ON BOTH SIDES OF DRAIN WALL WITH FILTER MEDIA USING 40MM SIZE STONE GRIT OF SIZE (300X300X300MM).	RM	140.00	1.33	
69	S16	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. SUPPORTING STEEL STRUCTURE FOR FIXING THE TANK SHELL BE PAID IN THE RELEVANT ITEM.	NOS	4.00	54.60	
70	S17	PROVIDING AND FIXING IN POSITION OF PVC OVERHEAD WATER TANK OF SYNTEX OR ANY APPROVED MAKE OF 1000 LITRE CAPACITY WITH PROVISION FOR OVERFLOW ARRANGEMENT VALVES, INLET AND OUTLET ETC. COMPLETE. SUPPORTING STEEL STRUCTURE FOR FIXING THE TANK SHELL BE PAID IN THE RELEVANT ITEM.	NOS	1.00	109.21	
71	S18	CONSTRUCTION OF 230MM THICK BURNT CLAY / FLY ASH LIME BRICK CHAMBER (USING OPC GRADE 43/53) 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 OVERSIZER SOLING WITH 80 MM METAETC. COMPLETE.		0.00		
A	A)	600X450X450 WITH C.I COVER	NOS	6.00	73.29	
B	B)	900X600X450 WITH C.I COVER	NOS	5.00	94.84	
72	S18	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.				
A	A)	750MM x 600MM	NOS	6.00	12.13	
B	B)	1050MM x 750MM	NOS	5.00	18.20	
73	S19	PROVIDING AND FIXING CHROMIUM PLATED TOWEL ROD 16 MM DIA. AND 75CM. IN LENGTH INCLUDING ALL ACCESSORIES COMPLETE. (PRIOR APPROVAL OF SAMPLE AND BRAND BY BHEL ENGINEER IS NECESSARY BEFORE USE).	NOS	9.00	7.77	
74	S20	PROVIDING & FIXING OF LIQUID SOAP DISPENSER AT ALL WASH BASIN LOCATION.	NOS	9.00	3.15	
75	S21	PROVIDING AND FIXING OF AQUA-GUARD / KENT R.O. OR EQUIVALENT WATER PURIFIER (15L) ALONG WITH ALL FITTINGS. RATE TO INCLUDE ALL NECESSARY FITTINGS & FIXTURES, LABOUR ETC. AS APPROVED & DIRECTED BY BHEL ENGINEER.	NOS	3.00	377.25	
76	S22	PROVIDING AND FIXING OF 1 No. 18"X24" SIZE STAINLESS STEEL SINK WITH ALL FITTINGS LIKE DRAIN PIPE, STOP VALVE ETC. RATE TO INCLUDE ALL NECESSARY FITTING & FIXTURE, LABOUR ETC. AS APPROVED & DIRECTED BY BHEL ENGINEER.	NOS	2.00	76.92	
77	S23	PROVIDING AND FIXING 40MM THICK BEST QUALITY 18 MM THICK GANG SAW CUT, MIRROR POLISHED, PREMOULDED AND PREPOLISHED, MACHINE CUT GRANITE SLAB FOR KITCHEN PLATFORMS / WASH BASIN PLATFORMS OF REQUIRED SIZE, APPROVED SHADE, COLOUR AND TEXTURE LAID OVER 20 MM THICK BASE CM 1:4 (1 CEMENT : 4 COARSE SAND), JOINTS TREATED WITH WHITE CEMENT, MIXED WITH MATCHING PIGMENT, EPOXY TOUCHUPS, INCLUDING RUBBING, CURING, MOULDING AND POLISHING TO EDGES TO GIVE HIGH GLOSS FINISH etc.. COMPLETE OF REQUIRED SHAPE FOR FIXING SS SINK FOR KITCHEN COUNTER AND RACKS FOR KITCHEN STORE AREA ETC. COST INCLUSIVE OF MAKING OPENING AND FINISHING COMPLETE.	SQM	136.00	64.57	
78	S24	PROVIDING & FIXING IN POSITION OF CI VENT PIPE OF DIA. 100MM (APPROX. HT. 3M) IN SEPTIC TANK. RATE TO INCLUDE ALL NECESSARY FITTING & FIXTURE, LABOUR ETC.	RM	22.00	18.60	

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Tender No.-: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
79	S25	GRASSING WITH SELECTION NO. 1 GRASS INCLUDING WATERING AND MAINTENANCE OF THE LAWN FOR 30 DAYS OR MORE TILL THE GRASS FORMS A THICK LAWN, FREE FROM WEEDS AND FIT FOR MOWING INCLUDING SUPPLYING GOOD EARTH IF NEEDED (THE GOOD EARTH SHALL BE PAID SEPARATELY)				
	A)	WITH GRASS TURF	SQM	1200.00	0.11	
80	S26	PROVIDING AND LAYING BRICK ON EDGE FLOORING WITH BRICKS OF CLASS DESIGNATION 7.5 ON A BED OF 12MM CEMENT MORTAR, INCLUDING FILLING THE JOINTS WITH SAME MORTAR WITH COMMON BURNT CLAY NON MODULAR BRICKS:				
	A)	1:4 (1 CEMENT:4 COARSE SAND)	SQM	140.00	11.27	
		FURNITURE & FURNISHING				
		PREPARATION OF SITTING LAYOUT, PROVIDING AND ERECTING IN POSITION STANDARD AND MODULAR FURNITURE OF GODREJ / DELITE /DURIAN OR EQUIVALENT MAKE (PREFERABLY COMPLETE FURNITURE ITEMS SHALL BE OF A SINGLE MANUFACTURER TO MAINTAIN THE AESTHETIC LOOKS OF OFFICE). BEECHWOOD/TEAKWOOD/MALNUT/MAHOGANY/OAK/MAPLE WOOD, METAL SHADES AND APPROVED UPHOLSTRY SHADES FOR OFFICE SETUP (SEATING LAYOUT SHALL BE PREAPRED BY THE CONTRACTOR AND GET APPROVED FROM BHEL BEFORE INSTALLATION) AS FOLLOWS:				
	A)	OFFICE DESKS				
81	A1	CONFERENCE ROOM TABLE WITH CHAIRS - 30 SEATER - ENCARTA+ REGALE CH 1512 XC (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER.	SET	1.00	3576.07	
82	A2	SUPER EXECUTIVE SUITS INCLUDING 1800X900X750 EXECUTIVE DESK WITH DRAWERS, 1200X600X780 LH/RH SIDE UNIT, 2200X790X400 BOOK CASE UNIT, 400X550X550 MOBILE PEDESTAL, 1400X500X750 CREDENZA AND 1050X1200 CURVED JOINTING TOP- MAESTRO PREMIUM SUITE (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER.	NOS	2.00	2544.04	
83	A3	SENIOR EXECUTIVE SUITES INCLUDING 1500X750X750 EXECUTIVE DESKS WITH DRAWERS/PEDESTALS, 1000X500X780 SIDE UNIT & CREDENZA 1200X500X750- FINESSE EXECUTIVE SERIES (GODREJ) OR EQUIVALENT, AS APPROVED BY BHEL ENGINEER.		8.00	924.18	
84	A4	EXECUTIVE TABLES:- INCLUDING 1350X700X750 EXECUTIVE DESK WITH DRAWERS/PEDESTALS- ENZO/ WT SERIES (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER.	Sqm	25.00	170.13	
85	A5	RECEPTION DESK WITH CHAIR-SINGLE ARC CURVILINEAR RUBBER WOOD TOPS 950 MM HIGH APPROX 1200 MM WIDE 700 MM DEPTH, PERFORATED MODESTY PANELS OF APPROVED METAL COLOUR WITH SWIVEL CHAIR WITH ADEQUATE SINGLE OR TWIN WHEEL CASTORS AND WITH TWO ARMS AND PNEUMATIC HEIGHT ADJUSTMENT- AS APPROVED BY BHEL ENGINEER.	Sqm	1.00	1150.42	
86	A6	NORMAL DESKS- 1220X600 AND 750 MM HIGH WITH ATLEAST TWO DRAWERS AND 1 FILE CABINET AS APPROVED BY BHEL ENGINEER.	Sqm	8.00	141.18	
	B	OFFICE CHAIRS:	Sqm			
87	B1	SUPER EXECUTIVE CHAIRS: CUSHIONED BLACK LEATHER MOBILE SWIVEL CHAIRS WITH ADEQUATE SINGLE OR TWIN WHEEL CASTORS, WITH CENTRE TILT MECHNISM AND TILT LOCKING ARRANGEMENT. THE SEAT AND THE HIGH BACKREST ARE MADE UP OF MOULDED POLYURETHANE FOAM WITH TWO CHROME POLISHED ARMS AND PNEUMATIC HEIGHT ADJUSTMENT- HALO/MONARCH (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER.	NOS	3.00	338.24	
88	B2	PREMIUM EXECUTIVE SWIVEL CHAIRS WITH ADEQUATE SINGLE OR TWIN WHEEL CASTORS WITH CENTRE TILT MECHANISM AND TILT LOCKING ARRANGEMENT. THE SEAT AND BACKREST ARE MADEUP OF MOULDED POLYURETHANE FOAM WITH FABRIC UPHOLSTRY, TWO ARMS AND PNEUMATIC HEIGHT ADJUSTMENT- REGENCY / PREMIUM EXECUTIVE (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER.	NOS	8.00	214.99	
89	B3	VISITOR SWIVEL CHAIRS WITH ADEQUATE SINGLE WHEEL CASTORS, WITH CENTRE TILT MECHANISM AND TILT LOCKING ARRANGEMENT. THE SEAT AND BACKREST ARE MADEUP OF MOULDED POLYURETHANE FOAM WITH FABRIC UPHOLSTRY TWO ARMS AND PNEUMATIC HEIGHT ADJUSTMENT- EII 500IT (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER	NOS	30.00	118.67	
90	B4	VISITOR SWIVEL CHAIRS WITH ADEQUATE SINGLE WHEEL CASTORS, WITH CENTRE TILT MECHANISM AND TILT LOCKING ARRANGEMENT. THE SEAT AND BACKREST ARE MADEUP OF MOULDED POLYURETAHNE FOAM WITH FABRIC UPHOLSTRY, TWO ARMS AND PNEUMATIC HEIGHT ADJUSTMENT- 7031 (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER.		40.00	84.85	
91	B5	TASK/ MULTIPURPOSE CHAIRS- OFFICE 1018 (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER		5.00	68.08	
	C	LONGUE FURNITURE:				
92	C1	SOOFA SETS (3+2+2)-RIVIERA F2324/5 OR EQUIVALENT AS APPROVED BY BHEL ENGINEER	SET	2.00	1085.84	
93	C2	CENTRE TABLES- C538 EX (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER.	SET	2.00	633.47	
	D	STORAGE UNITS				
94	D1	PLAIN CUPBOARDS- 1800 MM STOREWELL PLAIN, AS APPROVED BY BHEL ENGINEER	NOS	10.00	384.41	
95	D2	VERTICAL FILING CABINETS- 4 DRAWERS, AS APPROVED BY BHEL ENGINEER	NOS	10.00	397.49	
96	D3	LOCKER UNITS- 2 2 DOOR PLU, AS APPROVED BY BHEL ENGINEER	NOS	10.00	221.44	
97	D4	1200 MM HIGH GLASS HINGED DOOR UNITS, AS APPROVED BY BHEL ENGINEER	NOS	10.00	311.74	
98	D5	COMPUTER TABLES- COMPANION C10 (GODREJ) OR EQUIVALENT AS APPROVED BY BHEL ENGINEER	NOS	25.00	65.29	
	E	PROVIDING AND FIXING FOLLOWING TYPES OF WINDOW CURTAINS COMPLETE WITH ALL HOOKS GUIDES RODS & OTHER OPERATING ACCESSORIES				
99	E1	VERTICAL BLINDS OF APPROVED SHADE, MAKE AND PROFILE	NOS	15.00	39.13	
100	E2	ROLLER BLINDS OF APPROVED SHADE, MAKE AND PROFILE		15.00	31.10	
101	E3	CLOTH CURTAINS OF APPROVED TEXTURE, MATERIAL, PATTERN AND SHADE (ONLY REPUTED BRANDS)- AS DIRECTED BY BHEL ENGINEER.	SET	40.00	21.11	

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Tender No-: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
	F	PROVIDING AND INSTALLING AIR CONDITIONERS OF LG, SAMSUNG, GODREJ, VOLTAS MAKE WITH VOLTAGE STABILIZER OF FOLLOWING TYPES				
102	F1	SPLIT TYPE- 2 T		7.00	736.71	
103	F2	WINDOW TYPE- 1.5 T	NOS	13.00	453.64	
104	F3	4' DESERT COOLERS WITH MS STAND (ONLY STANDARD BRANDS)- AS DIRECTED BY BHEL ENGINEER	NOS	10.00	179.35	
SECTION- B- ELECTRICAL WORKS FOR CONVENTIONAL CLOSED SHEDS, OPEN STORAGE YARD AND						
CONVENTIONAL OFFICE						
105	E1	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 THICKNESS 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.	NOS	1.00	1974.01	
106	E2	PROVIDING SUITABLE FOUNDATION FOR MOUNTING AC DISTRIBUTION BOARD , INSTALLATION & COMMISSIONING OF PANEL	NOS	1.00	92.57	
107	E3	SUPPLYING & INSTALLING POWER DISTRIBUTION BOARD FOR COVERED STORAGE SHEDS COMPLETE WITH: COMMON BOARD FOR ALL SHEDS. 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	3.00	773.57	
108	E4	SUPPLYING, PROVIDING SUITABLE FOUNDATION FOR MOUNTING 415 VOLT AC POWER FEEDER PILLAR BOARD AS SPECIFIED IN SL. NO.12, INSTALLATION & COMMISSIONING OF PANEL	NOS	3.00	63.62	
109	E5	SUPPLY OF 415 VOLT AC , 3 PHASE /FOUR WIRE POWER FEEDER PILLAR BOARD , BOARD SHALL BE COMPRISES OF THREE NUMBER AND ONE NUMBER ALUMINIUM BUS BAR FOR PHASE & NEUTRAL RESPECTIVELY. BUS BAR RATING SHALL BE 200 AMPS AND SHALL BE MOUNTED ON EPOXY INSULATOR OF 1.1 KV GRADE, EACH BUS BAR SHALL HAVE DRILLED HOLE FOR CONNECTING INCOMING / OUT GOING CABLES, PROVISION FOR EARTHING THE PANEL ENCLOSURE. PANEL ENCLOSURE SHALL BE MADE OF SHEET METAL THICKNESS NOT LESS THAN 1.6 MM AND SUITABLE FOR OUT DOOR INSTALLATION, HINGED DOOR WITH LOCKING ARRANGEMENT , BASE FRAME , SHOULD HAVE SLOPPED CANOPY, DULY PAINTED WITH FIRST COAT WITH PRIMER AND TWO COATS OF SYNTHETIC ENAMEL PAINT (INTERIOR WITH WHITE PAINT AND EXTERIOR WITH SMOKE GREY AS PER IS), SUITABLE STOOL MADE OUT OF MS STRUCTURE OF 1.2 METER HIGH FOR MOUNTING OF PANEL WITH ANCHORING ARRANGEMENT AT FOUNDATION .	NOS	2.00	342.80	
110	E6	PROVIDING SUITABLE FOUNDATION FOR MOUNTING 415 VOLT AC POWER FEEDER PILLAR BOARD AS SPECIFIED IN SL. NO.12 , INSTALLATION & COMMISSIONING OF PANEL	NOS	2.00	63.62	
111	E7	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.	NOS	5.00	429.47	
112	E8	SUPPLYING, PROVIDING AND INSTALLING WIRING USING 2.5 SQ.MM COPPER CONDUCTOR THROUGH PVC CONDUIT OF REQUIRED SIZE WITH ACCESSORIES AND FIXTURES. WIRING SHALL BE CONCEALED TYPE FOR MAIN OFFICE, COMPUTER ROOM, OFFICE SHED & FOR REST OF SHEDS OPEN AND WHRERVER REQUIRED IN PVC CONDUIT OF REQUIRED SIZE. THE MAKE OF THE WIRE SHALL BE ONLY FROM KEI/ POLY CAP/ HAVELLS/ FINALEX/ L & T / STANDARD	RM	368.00	2.43	
113	E9	SUPPLYING, PROVIDING AND INSTALLING WIRING FOR USING 4.0 SQ.MM. COPPER CONDUCTOR THROUGH PVC CONDUIT OF REQUIRED SIZE WITH ACCESSORIES AND FIXTURES. WIRING SHALL BE CONCEALED TYPE FOR MAIN OFFICE, COMPUTER ROOM, OFFICE SHED & FOR REST OF SHEDS OPEN AND WHRERVER REQUIRED IN PVC CONDUIT OF REQUIRED SIZE. THE MAKE OF THE WIRE SHALL BE ONLY FROM KEI/ POLY CAP/ HAVELLS/ FINOLEX/L&T/STANDARD.	RM	148.00	2.96	

SCOPE: "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"

Tender No.: BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
114	E10	SUPPLYING, PROVIDING AND INSTALLING WIRING FOR USING 6.00 SQ.MM COPPER CONDUCTOR THROUGH PVC CONDUIT OF REQUIRED SIZE WITH ACCESSORIES AND FIXTURES OF ISI MAKE. WIRING SHALL BE CONCEALED TYPE FOR WHEREVER REQUIRED AS PER INSTRUCTION OF BHEL ENGINEER IN PVC CONDUIT OF REQUIRED SIZE. THE MAKE OF THE WIRE SHALL BE ONLY FROM KEI / POLY CAP/ HAVELLS/ FINOLEX/L&T/STANDARD.	RM	168.00	3.74	
115	E11	SUPPLYING, PROVIDING AND INSTALLING WIRING FOR USING 16.00 SQ.MM COPPER CONDUCTOR THROUGH PVC CONDUIT OF REQUIRED SIZE WITH ACCESSORIES AND FIXTURES OF ISI MARK WIRING SHALL BE CONCEALED TYPE FOR WHEREVER REQUIRED AS PER INSTRUCTION OF BHEL ENGINEER IN PVC CONDUIT OF REQUIRED SIZE. THE MAKE OF THE WIRE SHALL BE ONLY FROM KEI / POLY CAP/ HAVELLS/ FINOLEX/L&T/STANDARD.	RM	128.00	7.64	
116	E12	SUPPLYING, PROVIDING AND INSTALLATION OF WIRING FOR FANS/COOLERS USING 2.5SQ.MM COPPER CONDUCTOR OF ISI MARK THROUGH PVC CONDUITS WITH ACCESSORIES AND FIXTURES. THIS INCLUDES ALL MODULAR FITTINGS ETC. COMPLETE.	RM	48.00	12.60	
117	E13	SUPPLYING, PROVIDING AND INSTALLATION OF PLUG POINT OF 5A SOCKET (ANCHOR OR EQUIV.) OUTLET INCLUDING WIRING TERMINATION. THIS INCLUDES TUBE LIGHT FITTINGS ETC. COMPLETE.	NOS	77.00	5.55	
118	E14	SUPPLYING, PROVIDING AND INSTALLATION OF PLUG POINT OF 15A SOCKET (ANCHOR OR EQUIV.) OUTLET INCLUDING WIRING TERMINATION. THIS INCLUDES TUBE LIGHT FITTINGS ETC. COMPLETE.	NOS	53.00	7.12	
119	E15	SUPPLYING 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.	NOS	155.00	6.32	
120	E16	SUPPLYING AND FIXING EXHAUST FANS 12" DIAMETER WITH FRAME OF STANDARD MANUFACTURER LIKE CROMPTAN GREEVES OR EQUIVALENT AS APPROVED BY BHEL.	NOS	11.00	39.35	
121	E17	SUPPLYING & FIXING HEAVY DUTY PLUG POINT 15 AMPS (ANCHOR MAKE OR EQUIV.) WITH ONE SWITCH FOR COMPUTER ,ONE FOR AC CONNECTION WITH BOARD ETC COMPLETE.	NOS	32.00	8.32	
122	E18	SUPPLYING AND FIXING METAL CLAD PLUG AND MCB OF 30AMPS. (CROMPTON/MDS MAKE) FOR AIR CONDITIONER WITH BOARD ETC COMPLETE.	NOS	28.00	13.59	
123	E19	SUPPLYING AND FIXING CEILING FAN 48" DIAMETER OF APPROVED COMPANY SUCH AS CROMPTAN GREEVES OR ANY OTHER STANDARD MANUFACTURER AS DIRECTED BY BHEL. THIS INCLUDES ELECTRICAL FITTINGS ETC. COMPLETE.	NOS	30.00	26.62	
124	E20	PROVIDING AND FIXING WALL MOUNTED FAN 48" DIAMETER OF APPROVED COMPANY SUCH AS CROMPTAN GREEVES OR ANY OTHER STANDARD MANUFACTURER AS DIRECTED BY BHEL. THIS INCLUDES ELECTRICAL FITTINGS ETC. COMPLETE.	NOS	4.00	46.28	
125	E21	PROVIDING AND FIXING CALLING BELLS (WITH INDICATOR LIGHT) OF STANDARD MANUFACTURER OR EQUIVALENT AS APPROVED BY BHEL INCLUDING ALL FITTINGS.	NOS	4.00	1.04	
126	E22	SUPPLYING, INSTALLATION & COMMISSIONING OF WEATHER PROOF FLOOD LIGHT LUMINIARIES . (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)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. CONTROL GEAR BOX, CABLING & TERMINATION.	NOS	5.00	105.57	
127	E23	SUPPLY, INSTALLATION & COMMISSIONING OF SODIUM VAPOUR LAMP STREET LIGHT FITTING 150 WATT SSG-2315 IH OF CROMPTON OR SIMILAR PHILIPS MAKE. COMPLETE WITH ONE PIECE CANOPY, INTEGRAL CONTROLGEAR COMPRISING OF COPPER WOUND CHOKE , IGNITOR , HPF CAPACITOR, HPSV LAMP AND SUITABLE FOR DIRECTLY SLIPPING OVER LIGHT MOUNTING BRACKET MADE OUT OF 40 MM OD PIPE AND SUITABLE FOR LAMPS, CONTROL GEAR BOX CABLING & TERMINATION OF ITEMS SUPPLIED (TO BE MOUNTED ON 9 MTR POLE - ITEM CODE NO. E24).	NOS	38.00	91.83	
128	E24	SUPPLYING 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 (PART-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 FROM GROUND LEVEL AND WELDING 12 MM NUTS FOR USING A 12 MM G.I BOLT FOR FASTENING EARTH CONDUCTORS. III) WELDING REQUIRED HOLES FOR FIXING POLE CAP OF STREET LIGHT BRACKET. IV) WELDING DIAMETRICALLY 10 MM M.S. ROUND 30 MM BELOW POLE TOP EDGE FOR CLIPPING WIRE LEADS.	NOS	43.00	183.75	
129	E25	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.	NOS	7.00	21.43	
130	E26	SUPPLY AND 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	105.00	40.30	
131	E27	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	115.00	19.42	
132	E28	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	950.00	12.39	
133	E29	INSTALLATION OF CABLES 3 -1/2 COREX 185 SQMM ALUMINIUM ARMoured PVC INSULATED RM 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	950.00	3.38	

SCOPE: "Construction and Development of BHEL Closed Storage Sheds-03 Nos (900 Sq.m. each), Open Storage Yard with Interconnecting Roads and Drains (25,000 Sq.m.) and conventional office (450 Sq.m.) for 2X700 MW RAPP-KOTA"

Tender No:- BHEL/NR/SCT/ RAPP KOTA/ENABLING WORKS/955

SL. NO	ITEM CODE	DESCRIPTION OF WORK	UNIT	Quantity	Factor (F)	Per Unit RATE (R) in INR = (A X F) / 1000000
134	E30	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	1010.00	45.76	
135	E31	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 , FEEDER PILLAR BOARD TO LIGHTING MAST / TOWER.	RM	1010.00	3.26	
136	E32	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	580.00	3.72	
137	E33	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 FEDDER PILLER TO HIGH MAST TOWER	RM	580.00	3.14	
138	E34	SUPPLY OF CABLES 2 CORE X 10 SQMM ALUMINIUM ARMoured PVC INSULATED CABLE CONFIRMING TO IS 1554 (PART -I)	RM	1800.00	1.86	
139	E35	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	1800.00	3.14	
140	E36	SUPPLY AND INSTALLATION OF 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. GURRANTY/WARRANTY CARD TO BE SUBMITTED TO BHEL. SUCTION, DISCHARGE GI PIPES SHALL BE PAID SEPERATLY UNDER RELEVANT ITEMS.	NOS	1.00	368.80	

Note:- (1) Contractor shall fully understand the description & specification of items mentioned in BOQ.

(2) Conditional price bids or price bids with any deviation/ clarification etc are liable to be rejected . No cutting / erasing / over writer shall be done.

(3) . Quantities mentioned in the rate schedules are approximate only and liable for variation on either side depending upon site requirement.

(4). Item rate calculated based on %age mentioned above shall be the final rate for that item for execution of work. These rates shall remain firm irrespective of throughout the contract period / extnded contract