

Tender Notification for

NEW FEEDER LAYING FROM A-43 MAYAPURI GRID IN BRPL

NIT NO: CMC/BR/19-20/SV/AR/841

Dated 25.02.2020

Due Date for Submission of Tender: 16.03.2019

**BSES RAJDHANI POWER LIMITED,
BSES Bhawan, Nehru Place, New Delhi-110019
Corporate Identification Number: U40109DL2001PLC111527
Telephone Number: +91 11 3009 9999
Fax Number: +91 11 2641 9833
Website: www.bsesdelhi.com**

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REQUEST FOR QUOTATION

1.1 GENERAL

BSES Rajdhani Power Limited invites sealed tenders in 2 envelopes for **“NEW FEEDER LAYING FROM A-43 MAYAPURI GRID IN BRPL”**

- 1.01 The bidder must qualify the requirements as specified in clause 1.3 stated below. **The sealed envelopes shall be duly superscribed as-**

“NEW FEEDER LAYING FROM A-43 MAYAPURI GRID IN BRPL”

“NIT NO: CMC/BR/19-20/SV/AR/841”.

- 1.02 BRPL invites sealed tenderers from eligible tenders for the above-mentioned work (clause 1.01).

ESTIMATED COST OF WORK	Rs. 232,86,050,-
EARNEST MONEY DEPOSIT	Rs. 4,65,721/-
COST OF TENDER FORM (NON- REFUNDABLE)	Rs.1180/- (Including GST)
COMPLETION PERIOD OF THE WORK	As indicated in section-III
TENDER DOCUMENTS ON SALE	25/02/2020 (working days)
DATE & TIME OF SUBMISSION OF TENDER	16/03/2020 1530 HRS
DATE & TIME OF OPENING OF TECHNICAL BID (PART-A)	16/03/2020 1545 HRS

The tender document can be obtained from address given below against submission of non-refundable demand draft of **Rs.1180/-** drawn in favour of BSES Rajdhani Power Ltd, payable at Delhi:

Head of Department
Contracts & Material Deptt.
BSES Rajdhani Power Limited
I Floor, 'C' Block
BSES Bhawan
Nehru Place

The tender papers will be issued on all working days upto the date mentioned in clause 1.01. The tender documents & detail terms and conditions can also be downloaded from the website www.bsesdelhi.com. In case tender papers are downloaded from the above website, then the bidder has to enclose a separate demand draft covering the cost of bid documents.

1.2 POINTS TO BE NOTED

- 1.2.1 Works envisaged under this contract are required to be executed in all respects up to the period of completion mentioned above.
- 1.2.2 Only those agencies, who fulfill the qualifying criteria as mentioned in clause 1.3 should submit the tender documents.
- 1.2.3 Tender document consists of the following:
Request for Quotation
Instructions to Bidder
- a. Commercial Terms and Conditions
 - b. Estimated Tender Cost
 - c. Scope of Work
 - d. Price Format
 - e. Bid Form
 - f. Performa of Contract Performance Bank Guarantee
 - g. Format for EMD Bank Guarantee
 - h. Terms & Conditions for Reverse Auction
- 1.2.4 The Contract shall be governed by the documents listed in para 1.2.3 above.
- 1.2.5 BSES Rajdhani Power Ltd reserves the right to accept/reject any or all Tenders without assigning any reason thereof and alter the quantity of materials mentioned in the Tender documents at the time of placing purchase/ work orders. Tender will be summarily rejected if:
- (i) If **Earnest Money Deposit (EMD)** of requisite amount is not deposited in shape of Bank Draft/Pay Order/BG drawn in favour of BSES Rajdhani Power Ltd, payable at Delhi.
 - (ii) Tender is received after due date and time.
- 1.2.6 Please note that abnormally higher or abnormally lower bids shall not be considered with respect to estimated cost. The criteria decided by BRPL on this shall be final. Further formation of cartel and indulging in any unfair business practice shall be a negative for the bidders and be liable for rejection of the bid.

1.3 Qualifying Criteria:-

The prospective bidder must qualify all of the following requirements to be eligible to participate in the bidding.

(A) TECHNICAL REQUIREMENT:

- Bidder must have executed the works of like nature and having extensive experience of carrying out similar types of work. They should have successfully completed in preceding three years(FY 16-17, 17-18 & 18-19):

Three similar completed works value not less than amount equal to 35 Lacs each.

OR

Two similar completed works value not less than amount equal to 50 Lacs each.

OR

One similar completed work value not less than amount equal to 1cr each.

- The bidder must enclose order copies along with performance certificates in support of relevant experience. Experience credential as a joint venture / subcontract/ consortium will not be considered.
- For Existing vendors of BRPL, performance shall be measured on earlier executed similar works/ other works and will be taken into account in technical evaluation for qualification of bids.

(B) COMMERCIAL REQUIREMENT:

- Bidder must provide proof of having solvency of an amount equal to Rs. 1 Cr from any nationalized/ scheduled commercial bank. (Not older than 1st April 2019)
- Bidder must provide proof of having average annual turnover of Rs. 2.50 Crore during the last three financial years.(FY 16-17, 17-18 & 18-19)
- Bidder should have valid Registration No. of GST
- Bidder should have PAN No & should fulfill all statutory compliances like PF, ESI registration
- Bidder should have a valid Electrical License issued by Delhi Govt. for doing electrical works in Delhi region.
- Entities that have been debarred/ blacklisted in other utilities in India will not be considered; in this regard a written statement has to be provided on bidder's letter head along with other documents.
- The bidder should give an undertaking on the company's letter head that all the documents/certificates/information submitted by them against the tender are genuine.

The bidder shall submit all necessary documentary evidence to establish that the Bidder meets the above qualifying requirements.

Please note that BRPL will verify the bidder's credentials like work order copies, performance certificates etc. submitted by the bidder from the respective issuing client, in case any of the documents/certificates/information submitted by the bidder is found to be false or forged, action as deemed fit, including forfeiture of EMD & blacklisting may be initiated by BRPL. If required, BRPL may direct the bidder to provide the required contact details of the client who can confirm the authenticity of the documents submitted to facilitate the verification process within the timelines provided by BRPL

Please Note:

- a) Firms who are debarred/ blacklisted in other utilities in India will not be considered.
- b) Company reserves the right to carry out technical capability/ infrastructure assessment of the Bidders by factory/office inspection or by any other means and company's decision shall be final in this regard.
- c) No joint ventures/ consortiums are allowed

Also, the Bidder shall furnish the following commercial & technical information along with the tender:

- a) Last three Financial Years (FY 16-17, 17-18 & FY 18-19) financial statement.
- b) Detail of Banker & Cash Credit limit
- c) Details of constitution of the company (Proprietary/ Limited/ Pvt. Ltd. Along with details)
- d) Memorandum & Articles of Association of the Company
- e) Organization Chart of the company
- f) Experience details with credentials
- g) Turnover certificate issued by auditors for the last three Financial Years.

BRPL reserves the right to disqualify any bidder in spite of the bidders meeting the above Qualifying requirements. The decision of BRPL shall be final & binding on the bidder.

BRPL may ask for any other document as may be required to substantiate/ justify the submissions made by bidders.

1.4 Bidding and Award Process:-

Bidders are requested to submit their offer strictly in line with this tender document. NO DEVIATION IS ACCEPTABLE. The bidder should submit complete tender documents signed and stamped with bidder's seal as an acceptance to all terms & conditions of the Tender.

BRPL shall respond to the clarifications raised by various bidders and the same will be distributed to all participating bidders through website.

1.4.1 BID SUBMISSION:

The bidders are required to submit the bid in 2 (two) parts and submit in original + one copy to the following address

Head of Department
Contracts & Material Deptt.
BSES Rajdhani Power Ltd
1st Floor, C Block
BSES Bhawan, Nehru Place
New Delhi 110019

PART A: **TECHNICAL BID** comprising of following:

- EMD of requisite amount
- Non-refundable separate demand draft for Rs. 1180/- In case the forms are downloaded from the website
- Documentary evidence in support of qualifying criteria
- Technical Literature if any.
- Any other relevant document
- Acceptance to Commercial Terms and Conditions viz Delivery schedule/period ,Payment terms, BG etc
- Acceptance to Technical Specifications
- Complete tender documents signed and stamped with bidder's seal as an acceptance to all terms & conditions of the Tender.

PART B: **FINANCIAL BID** comprising of

* Prices strictly in the Format enclosed in SECTION IV

TABLE 1 BID PROCESS TIMELINES

S. No.	Steps	Comprising of	Due date
1	Technical Queries, if any	All Queries related to RFQ	09.03.2020
2	PART A - Technical Bid	EMD of requisite amount Non-refundable demand draft for Rs. 1180/- In case the forms are downloaded from the website Documentary evidence in support of qualifying criteria Technical Literature/ list of makes etc Any other relevant document Acceptance to Commercial Terms and Conditions viz Delivery schedule/period, Payment terms, BG etc.	16.03.2020
3	PART B - Financial Bid	Price strictly in the Format enclosed (Section IV) indicating Break up regarding basic price, taxes & duties etc.	Successful bidders will be intimated through website

This is a two part bid process. Bidders are to submit the bids in 2(two) parts.

Both these parts should be furnished in separate sealed covers super scribing NIT no. DUE DATE OF SUBMISSION, with particulars as PART-A TECHNICAL BID & COMMERCIAL TERMS & CONDITIONS and Part-B FINANCIAL BID and these sealed envelopes should again be placed in another sealed envelope which should be super scribed with — “Tender Notice No. & Due date of opening”. The same shall be submitted before the due date & time specified.

Part – A: Technical Bid should not contain any cost information whatsoever and shall be submitted within the due date. After technical evaluation, the list of qualified bidders will be posted immediately on BSES website.

PART B: This envelope will be opened after technical evaluation and only of the qualified bidders.

FINANCIAL BID EVALUATION THROUGH REVERSE AUCTION:

Reverse auction shall be conducted for finalization of contract and the details of the price bid shall not be shared with bidders.

The qualified bidders will participate in reverse auction through SAP-SRM tool. The reverse auction process shall be governed by the terms and conditions enclosed as APEENDIX-I in this tender document. Training/details shall be provided to bidders before participation in auction.

Notwithstanding anything stated above, the Company reserves the right to assess bidders' capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the Company. In this regard the decision of the Company is final.

In case RA is not concluded/conducted for any reasons, a "final no regret" financial bid in a sealed envelope will be called for from all qualified bidders



BSES RAJDHANI POWER LTD.

1.4.2 Award Decision

- a) Company intends to award the business on a lowest bid basis, so contractors are encouraged to submit the bid competitively. The decision to place order/LOI solely depends on Company on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that Company may deem relevant.
- b) The Company reserves all the rights to award the contract to one or more bidders so as to meet the delivery requirement or nullify the award decision without any reason.
- c) Please note that abnormally higher or abnormally lower bids shall not be considered with respect to estimated cost. The criteria decided by BRPL on this shall be final and binding on the bidders.
- d) In case any contractor is found unsatisfactory during the execution process, the award will be cancelled and BRPL reserves the right to award other contractors who are found fit.
- e) "Nil/Zero" Margin or Administrative Service Charges of Bidders will be considered as "Unresponsive". Abnormally higher or abnormally lower bids shall not be considered with respect to estimated cost. The criteria decided by BRPL on this shall be final and binding on the bidders and will not be open for discussion under any circumstances. Therefore, the bidding firms are advised to quote their Margin / Administrative Service Charges accordingly. BRPL reserves the right to reject the bids quoted with abnormally higher or abnormally lower individual activity rates. The criteria decided by BRPL on this shall be final and binding on the bidders.
- f) BSES reserves the right to split the tender quantity amongst techno-commercially qualified bidders on account of delivery requirement in tender, quantity under procurement etc.

BRPL reserves the right to reject the bids quoted with abnormally higher or abnormally lower individual activity rates. The criteria decided by BRPL on this shall be final and binding on the bidders.

1.4.3 Market Integrity

We have a fair and competitive marketplace. The rules for bidders are outlined in the Terms & Conditions. Bidders must agree to these rules prior to participating. In addition to other remedies available, we reserves the right to exclude a bidder from participating in future markets due to the bidder's violation of any of the rules or obligations contained in the Terms & Condition. Bidders who violate the marketplace rules or engage in behavior that disrupts the fair execution of the marketplace restricts a bidder to length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:

- Failure to honor prices submitted to the market place.
- Breach of the terms of the published in Request for Quotation/NIT.

1.4.4 Confidentiality

All information contained in this RFQ is confidential and may not be disclosed, published or advertised in any manner without written authorization from BRPL. This includes all bidding information submitted.

All RFQ documents remain the property of BRPL and all bidders are required to return these documents to BRPL upon request.

Bidders who do not honor these confidentiality provisions will be excluded from participating in future bidding events.



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1.5 Contact Information

Technical clarification, if any, as regards this RFQ shall be sought in writing and sent by post/courier to following address

	Technical	Commercial
Contact Person	Head (O&M), BRPL Copy to :Head (C&M)	Head (C&M)
Address	BSES Rajdhani Power Ltd , BSES Bhawan. Nehru Place, New Delhi - 110019	C&M Deptt. 1 st Floor , C-Block, BSES Rajdhani Power Ltd BSES Bhawan, Nehru Place, New Delhi 110019

SECTION – II: INSTRUCTION TO BIDDERS

1.0 GENERAL

BSES Rajdhani Power Ltd, hereinafter referred to as "The Company "are desirous of awarding work for "

Scheme No/ Name

1. Scheme No: **JP18NF4249** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO Q BLK RAJOURI GARDEN)
2. Scheme No: **JP18NF4250** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO GILL HOUSE RAJOURI GARDEN)
3. Scheme No. **JP18NF4267** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO LIG 149 HARI NAGAR:ID)
4. Scheme No. **JP18NF4269** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO RAMPURA S/S HARI NAGAR P/M)
5. Scheme No. **JP18NF4271** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO MOHAN MANDIR HARI NAGAR:K)

1.1 All the Bids shall be prepared and submitted in accordance with these instructions.

1.2 Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Company will in no case shall be responsible or liable for these costs.

1.3 The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred /sold to the other party.

1.4 The Company reserves the right to request for any additional information and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Company, the data in support of RFQ requirement is incomplete.

1.5 The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result in rejection of the Bid. However, the Company's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Company.

1.6 The company reserves the right to split the order among various successful bidders in any manner he chooses without assigning any reason whatsoever

2.0 SCOPE OF WORK

The scope shall include material transportation, digging of trench, cable laying, supply of HDPE pipe, cable cover etc.

3.0 DISCLAIMER

- 3.01 This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder/Bidding Consortium should conduct its own estimation and analysis and should check the accuracy, reliability and completeness of the information in this Document and obtain independent advice from

appropriate sources in their own interest.

- 3.02 Neither Company nor its employees will have any liability whatsoever to any Bidder or any other person under the law or contract, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage whatsoever which may arise from or be incurred or suffered in connection with anything contained in this Document, any matter deemed to form part of this Document, provision of Services and any other information supplied by or on behalf of Company or its employees, or otherwise arising in anyway from the selection process for the work.
- 3.03 Though adequate care has been taken while issuing the Bid document, the Bidder should satisfy itself that Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.
- 3.04 This Document and the information contained herein are Strictly Confidential and are for the use of only the person(s) to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors).

4.0 COST OF BIDDING

The Bidder shall bear all cost associated with the preparation and submission of its Bid and the company will in no case be responsible or liable for those costs.

5.0 BIDDING DOCUMENTS

- 5.01 The Scope of Work, Bidding Procedures and Contract Terms are described in the Bidding Documents. In addition to the covering letter accompanying Bidding Documents, the Bidding Documents include:

SECTION I	Request For Quotation
SECTION II	Instructions to Bidder
SECTION III	Commercial Terms & Conditions
SECTION IV	Division Wise Estimated Cost
SECTION V	Scope of Work
SECTION VI	Price Format

- 5.02 The Bidder is expected to examine the Bidding Documents, including all Instructions, Forms, Terms and Specifications. Failure to furnish all information required by the Bidding Documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect will may result in the rejection of the Bid.

6.0 AMENDMENT OF BIDDING DOCUMENTS

- 6.01 At any time prior to the deadline for submission of Bids, the Company may for any reasons, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by Amendment.
- 6.02 The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.01, and it will be notified in writing by Fax/e-mail to all the Bidders who have received the Bidding Documents and confirmed their participation to Bid, and will be binding on them.
- 6.03 In order to afford prospective Bidders reasonable time in which to take the Amendment into account in preparing their Bids, the Company may, at its discretion, extend the deadline for the submission of Bids.

7.0 PREPARATION OF BIDS**7.1 LANGUAGE OF BID**

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and the Company, shall be written in the English Language. Any printed literature furnished by the Bidder may be written in another Language, provided that this literature is accompanied by an English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

8.0 DOCUMENTS COMPRISING THE BID

The Bid prepared and submitted by the Bidder shall comprise the following components:

- (a) Bid Form ,Price & other Schedules (STRICTLY AS PER FORMAT) and Technical Data Sheets completed in accordance with Technical Specification.
- (b) All the Bids must be accompanied with the required EMD as mentioned in the Section-I against each tender.

9.0 BID FORM

- 9.1 The Bidder shall submit "Original" Bid Form and the appropriate Price Schedules and technical specifications enclosed with the Bidding Documents.

10.0 EMD (EARNEST MONEY DEPOSIT)

The bidder shall furnish, as part of its bid, an EMD of requisite amount as already specified in the Section-I. The EMD is required to protect the Company against the risk of Bidder's conduct which would warrant forfeiture. The EMD shall be denominated in any of the following form:

- (a) Demand Draft/Pay Order drawn in favour of BSES Rajdhani Power Ltd, payable at Delhi.
- (b) BG from nationalized / Scheduled bank in favour of BSES Rajdhani Power Limited valid for 6(six) months after last date of receipt of tenders

The bidders who are not technically qualified, EMD shall be refunded after price bid opening. Earnest money given by all the bidders who are techno commercially qualified except the lower bidder shall be refunded within 8 (Eight) weeks after award of the work.

The amount of EMD by the successful bidder shall be returned on submission of CPBG as per tender terms.

The EMD may be forfeited in case of:

- (a) if the Bidder withdraws its bid during the period of bid validity specified by the Bidder in the Bid Form or
- (b) in the case of a successful Bidder, if the Bidder does not
 - (i) Accept the Purchase Order/Work Order, or
 - (ii) Furnish the required performance security BG.
- (c) If the bidder is found to have submitted false or forged any of the documents/certificates/information.

11.0 BID PRICES

- 11.01 Bidders shall quote for the entire Scope of work with prices for individual items. The tenderer is required, at his expense, to obtain all the information he may require to enable him to submit his tender including necessary visits to the site to ascertain the local conditions, procurement of necessary materials, labour, etc., requirements of the local/government/public authorities in such matters.

Prices quoted by the Bidder shall be "Firm" and not subject to any price adjustment during the performance of the Contract. **A Bid submitted with an adjustable price/PVC will be treated as non -responsive and rejected.**

12.0 BID CURRENCIES

Prices shall be quoted in Indian Rupees Only.

13.0 PERIOD OF VALIDITY OF BIDS

- 13.01 Bids shall remain valid & open for acceptance for a period of 120 days from the date of opening of the Bid.
- 13.02 Notwithstanding Clause 12.01 above, the Company may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and the responses thereto shall be made in writing and sent by Fax/post/courier

14.0 ALTERNATIVE BIDS

Bidders shall submit Bids, which comply with the Bidding Documents. Alternative Bids will not be considered. The attention of Bidders is drawn to the provisions regarding the rejection of Bids in the terms and conditions, which are not substantially responsive to the requirements of the Bidding Documents.

15.0 FORMAT AND SIGNING OF BID

- 15.01 The original Bid Form and accompanying documents(as specified in Clause 9.0),clearly marked "Original Bid", must be received by the Company at the date, time and place specified pursuant to Clauses15.0 and16.0.
- 15.02 The original copy of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to sign on behalf of the Bidder. Such authorization shall be indicated by written Power-of-Authority accompanying the Bid.
- 15.03 The Bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.
- 15.04 Bid shall be signed with stamp by the bidder on all the pages.

D. SUBMISSION OF BIDS**16.0 SEALING AND MARKING OF BIDS**

- 16.01 Bid submission: One original (hard copies) of all the Bid Documents shall be sealed and submitted to the Company before the closing time for submission of the bid.
- 16.02 The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be superscribed with — Technical Bid & Commercial Terms & Conditions “. The price bid shall be inside another sealed envelope with superscribed —“Financial Bid “. Both these envelopes shall be sealed inside another big envelope. All the envelopes should bear the Name and Address of the Bidder and marking for the Original. The envelopes should be superscribed with —“Tender Notice No. & Due date of opening“.
- 16.03 The Bidder has the option of sending the Bids in person. Bids submitted by Email/Telex/Telegram /Fax will be rejected. No request from any Bidder to the Company to collect the proposals from Courier/Airlines/Cargo Agents etc shall be entertained by the Company.

17.0 DEADLINE FOR SUBMISSION OF BIDS

- 17.01 The original Bid must be timely received by the Company at the address specified in Section-I
- 17.02 The Company may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents in accordance with Clause 9.0, in which case all rights and obligations of the Company and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

18.0 ONE BID PER BIDDER

Each Bidder shall submit only one Bid by itself. No Joint Venture/Consortium is acceptable. A Bidder who submits or participates in more than one Bid will cause all those Bids to be rejected.

19.0 LATE BIDS

Any Bid received by the Company after the deadline for submission of Bids prescribed by the Company, pursuant to Clause 16.0, will be declared "Late" and rejected and returned unopened to the Bidder.

20.0 MODIFICATIONS AND WITHDRAWAL OF BIDS

- 20.01 The Bidder is not allowed to modify or withdraw its Bid after the Bid's submission.

E. EVALUATION OF BID**21.0 PROCESS TO BE CONFIDENTIAL**

Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence the Company's processing of Bids or award decisions may result in the rejection of the Bidder's Bid.

22.0 CLARIFICATION OF BIDS

To assist in the examination, evaluation and comparison of Bids, the Company may, at its discretion, ask the Bidder for a clarification of its Bid. All responses to requests for clarification shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.

23.0 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS

- 23.01 Company will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.
- 23.02 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price per item that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price per item will be corrected. If there is a discrepancy between the Total Amount and the sum of the total price per item, the sum of the total price per item shall prevail and the Total Amount will be corrected.
- 23.03 Prior to the detailed evaluation, Company will determine the substantial responsiveness of each Bid to the Bidding Documents including production capability and acceptable quality of the Goods offered. A substantially responsive Bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviation.
- 23.04 Bid determined as not substantially responsive will be rejected by the Company and/or the Company and may not subsequently be made responsive by the Bidder by correction of the non -conformity.

24.0 EVALUATION AND COMPARISON OF BIDS

- 24.01 The evaluation of Bids shall be done based on the delivered cost competitiveness basis.
- 24.02 The evaluation of the Bids shall be a stage-wise procedure. The following stages are identified for evaluation purposes: In the first stage, the Bids would be subjected to a responsiveness check. The Technical Proposals and the Conditional ties of the Bidders would be evaluated.

Subsequently, the Financial Proposals along with Supplementary Financial Proposals, if any, of Bidders with Techno-commercially Acceptable Bids shall be considered for final evaluation.

- 24.03 The Company's evaluation of a Bid will take into account, in addition to the Bid price, the following factors, in the manner and to the extent indicated in this Clause:
 - a) Work completion schedule
 - b) Conformance to Qualifying Criteria
 - c) Deviations from Bidding DocumentsBidders shall base their Bid price on the terms and conditions specified in the Bidding Documents. No deviation to the bid terms and conditions shall be acceptable.
- 24.04 Any adjustments in price, which result from the above procedures, shall be added for the purposes of comparative evaluation only to arrive at an "Evaluated Bid Price". Bid Prices quoted by Bidders shall remain unaltered.

F. AWARD OF CONTRACT**25.0 CONTACTING THE COMPANY**

- 25.01 From the time of Bid opening to the time of contract award, if any Bidder wishes to contact the Company on any matter related to the Bid, it should do so in writing.
- 25.02 Any effort by a Bidder to influence the Company and/or in the Company's decisions in respect of Bid evaluation, Bid comparison or Contract Award, will result in the rejection of the Bidder's Bid.

26.0 THE COMPANY 'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Company reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Company's action.

27.0 AWARD OF CONTRACT

The Company will award the Contract to the successful Bidder whose Bid has been Determined to be the lowest-evaluated responsive Bid, provided further that the Bidder has been determined to be qualified to satisfactorily perform the Contract. Company reserves the right to award order other bidders in the tender.

28.0 THE COMPANY'S RIGHT TO VARY QUANTITIES

The Company reserves the right to vary the quantity i.e. increase or decrease the numbers/quantities to any extent without any change in rates terms and conditions during the validity of the contract.

29.0 LETTER OF INTENT/ NOTIFICATION OF AWARD

The letter of intent/ Notification of Award shall be issued to the successful Bidder whose bids have been considered responsive, techno-commercially acceptable and evaluated to be the lowest (L1). The successful Bidder shall be required to furnish a letter of acceptance within 7 days of issue of the letter of intent /Notification of Award by Company.

30.0 CORRUPT OR FRADULENT PRACTICES

- 30.01 The Company requires that the Bidders observe the highest standard of ethics during the procurement and execution of the Project. In pursuance of this policy, the Company:

- (a) Defines, for the purposes of this provision, the terms set forth below as follows:

"Corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and

"Fraudulent practice" means a misrepresentation of facts in order to influence a award process or the execution of a contract to the detriment of the Company, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non -competitive levels and to deprive the Company of the benefits of free and open competition.

- (b) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question ;
- (c) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

30.02 Furthermore, Bidders shall be aware of the provision stated in the Terms and Conditions of Contract.

SECTION – III: TERMS AND CONDITIONS**1.0 General Instructions:**

- 1.01** All the Bids shall be prepared and submitted in accordance with these instructions.
- 1.02** Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Company will in no case shall be responsible or liable for these costs.
- 1.03** The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred/ sold to the other party.
- 1.04** The Company reserves the right to request for any additional information and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Company, the data in support of RFQ requirement is incomplete.
- 1.05** The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result in rejection of the Bid. However, the Company's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Company.
- 1.06** Quantity mentioned in SECTION-IV is the total quantity. The company reserves the right to split the order among various successful tenderers in any manner he chooses without assigning any reason whatsoever

2.0 COMMERCIAL TERMS & CONDITIONS:**1. Definition:**

The following terms & expressions as used in this work order shall have the meaning defined and interpreted here under:

1.1. Company: The terms "Company" shall mean BSES Rajdhani Power Limited

Corporate Identification Number: U40109DL2001PLC111527

Telephone Number: +91 11 3009 9999

Fax Number: +91 11 2641 9833

Website: www.bsesdelhi.com

Having its office at BSES Bhawan, Nehru Place, New Delhi-110019 and shall include its authorized representatives, agents, successors and assigns.

1.2 Contractor: contractor shall mean the successful Tender / vendor to whom the contract will be awarded and shall include its authorized representative, agents, successors, and assigns.

1.3 Contract Specification: The terms "CONTRACT Specification" shall mean the Technical specification of the work as agreed by contractor and description of work as detailed and all such particulars mentioned directly/referred to or implied as such in the contract.

1.4 Rate: The unit rates for the work to be carried out at site shall be as per finalized unit rates through tender and payable by the Company to the Contractor for the due, complete and proper performance of the jobs covered under this contract.

1.5 Work Order Specification: The terms "work order Specification" shall mean the Technical specification of the work as agreed by you and description of work as detailed in ANNEXURE enclosed and all such particulars mentioned directly/referred to or implied as such in the work order.

1.6 Site: The terms "Site" shall mean the working location mentioned in the work order.

1.7 Good Industry Practice: means the exercise of that degree of skill, diligence and prudence which is expected from a skilled, experienced and recognized contractor engaged in the same type of undertaking similar to the one undertaken by the Contractor and acting generally in accordance with the prevailing laws, rules, regulations, codes and industry standards.

2. ENGINEER IN-CHARGE:

The term "Engineer In-Charge" shall mean the Company's nominated representative for the purpose of carrying out the work.

3. EXAMINATION OF SITE AND LOCAL CONDITIONS:

The contractor is deemed to have visited all the sites comes under BRPL licensed area under the work order and ascertained therefore all site conditions and information pertaining to his work. The company shall not accept any claim whatsoever arising out of the difficulties at site/terrain/local conditions, if any.

4. LANGUAGE AND MEASUREMENT:

The work order issued to the contractor by the company and all correspondence and documents relating to the work order placed on the Contractor shall be written in English language. Metric System shall be followed for all dimension, units etc.

5. SCOPE OF WORK:

The scheme for this project has been framed based on the site conditions as indicated below

1. Scheme No: **JP18NF4249** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO Q BLK RAJOURI GARDEN)
2. Scheme No: **JP18NF4250** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO GILL HOUSE RAJOURI GARDEN)
3. Scheme No. **JP18NF4267** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO LIG 149 HARI NAGAR:ID)
4. Scheme No. **JP18NF4269** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO RAMPURA S/S HARI NAGAR P/M)
5. Scheme No. **JP18NF4271** / (NEW FEEDER LAYING FROM A-43 MAYAPURI TO MOHAN MANDIR HARI NAGAR:K)

Note:

While carrying out trenchless / open digging works the existing underground cables are liable to get damaged leading to High Risk Safety Hazard to the working people.

To arrest above problem to the best degree possible, there are technology support available, like Cable Route Tracer which is an important tool to detect the live / dead cables underground to the depth upto 3 meters, comfortably. The vendor must employ Cable Route Tracer before start of excavation / trenchless job and submit reports to the Engineer-in-charge for clearance to start the job. The above will minimize the risk of cable damage and improve safety of the working people.

It may please be noted that in case bidders have no "Cable Route Tracers" with him, as a basic necessity tool. Heavy penalty will be imposed on the vendors, if the vendor damages the cables. The preferable make for the Cable route tracer shall be 3M or equivalent make.

All the labour, cranes, power, tool and tackles, technical supervision etc. are including in your scope of work. Adequate number of engineers, supervisors and labours shall be posted at site and the list of the same along with certificate of Qualification of technical staff should be submitted by the Contractor to the Company for checking the adequacy immediately (within seven days) after award of contract.

However, Engineer In-Charge shall arrange any permission like Road cutting clearance etc. from the Delhi Civic authorities like MCD, DDA, PWD, DJB and Traffic Police. However, the contractor shall make follow up with local authorities and other connected persons that may be required to carry out the job under this order.



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All loading/ unloading of materials at work-site shall be your responsibility. Involvement of Crane/Hydra/Tractor/Trailer for this type of work shall be in your scope. Adequate weather protection shall be provided by the contractor to keep the materials safe from sun & rain by providing covered storage space as well as using tarpaulins.

6. ADDITIONAL SCOPE / WORK:

Any additional work beyond the scope enumerated in the work order above shall be carried out as per the instructions of Engineer-In Charge. The company shall not entertain any claim or increase in the Work Order value due to execution of such additional work if the same is not approved by Engineer In Charge.

7. VALUE OF THE WORK ORDER:

Value of work order will be worked out on the basis of finalized rates

The cost of insurance during loading/unloading of materials/ equipments during its storage and handling/erection at site for installation is included in the contractor's scope and value will be included in the work order value. The unit rates are also inclusive of barricading charges and watch & ward charges during execution and no separate charges shall be paid for the same. The rates for defined Scope of work shall be as finalized through this tender. These rates shall be firm for the entire duration of work carried out by the Contractor under the order and are not subject to escalation for any reason whatsoever.

8.0 TAX & DUTIES:

All taxes and duties including labour cess (except GST) leviable by State or Central Governments or local bodies shall be to the CONTRACTOR 's account including any taxes and duties which may be levied fresh by the Governments during currency of this Agreement. Income tax will be deducted from your bills as Tax Deduction at Source (TDS).

GST shall be paid extra at actual on submission of GST Registration and self declaration on your letter head stating that you have deposited/or will deposit the Tax as per the applicable GST laws.

9.0 PERFORMANCE SECURITY BANK GUARANTEE:

9.1 CONTRACTOR shall furnish the Security Performance Bank Guarantee in the prescribed format (Appendix I) within 15 days from the date of issue of Order for due performance of the provisions of Work Order.

9.2 The Security Performance Bank Guarantee shall be of 5% of the total value of order and shall be valid till completion, plus three (3) months towards claim period

9.3 The Security Performance Bank Guarantee shall be issued from any Scheduled /nationalized bank as per company format.

9.4 The Company shall reserve the right to invoke the bank guarantee unconditionally and without recourse to the Contractor, if there is failure to perform any part of the Contract for whatsoever reason. This clause is pertaining to performance of contractual obligations and the decision of Company shall be final in this regard.



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9.5 In the event, in Company sole judgment, the Contractor has fulfilled all its obligations under this Contract, Company shall release the security performance bank guarantee without interest, within seven (7) days from the last date up to which the performance bank guarantee is to be kept valid or if it is assessed by the Company that Contractor has not fulfilled its obligation then the performance bank guarantee shall be extended by the Contractor till that period as requested by the Company.

10. TERMS OF PAYMENT:

Payment shall be made to you as under:

i) 80% payment shall be released on submission of bill and certification of work completion by Engineer-In-charge.

The bill shall be paid within 30 days on receipt of such bills at our office.

ii) 10% against submission of Electrical Inspectorate's & QC clearance certificate.

iii) Balance 10% shall be paid on testing and commissioning of entire scheme, work completion certificate issued by our Engineer In charge and on submission of performance Bank Guarantee of equivalent amount, in our format valid up to a defect liability period for 12 months from the date of handing over of the scheme. If any defect noticed and system cannot be used by reason of any defect, the defect liability period shall be extended by the period equal to the period during which the system is not in operation.

The contractor shall submit the invoice along with the checklist duly filled in Invoice shall be processed and payment shall be made to contractor on certification of Engineer-In Charge for compliance to check point's given in check list.

11. COMPLETION PERIOD:

You are required to mobilize your manpower within 7 days of receipt of WO and commence the activity as per instructions of Engineer In-charge. The entire work should be completed within 75 Days for Scheme No JP18NF4249, JP18NF4250, JP18NF4267, JP18NF4269 and JP18NF4271 from the date of issue of order

The detailed schedule and milestone completion dates would be as per the contract schedules given from time to time by Engineer In-charge at site. Formal road cutting clearance from MCD is made available to you. You shall submit a weekly progress report to Engineer In charge.

12. STAFF AND WORKMAN:

(I) it shall be responsibility of contractor.

(a) To obtain Contract Labour License from the concerned authorities and maintain proper liaison with them. Necessary Forms for obtaining Labour License would be issued by the company. However you will bear all expenses for obtaining Labour license and registration in PF Department for your scope of work. You will deposit PF of your staff/laborer each month and all related documents should be furnished to us.

b) To obtain workman insurance cover against deployment of workers etc.

(II) To maintain, proper records relating to workmen employed, in the form of various Registers, namely,



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- a) Register of workmen.
- b) Register of muster roll.
- c) Register of overtime.
- d) Register of wages.
- e) Any other register as per latest amendment Labour Act.

The records shall be in the prescribed formats only.

(III) To disburse monthly wages to your workers/ supervisors in time and in the presence of Company representatives or as directed by the Labour authorities.

(IV) To maintain proper liaison with the Project authorities, local police and all other government and local bodies.

(V) To pay your workmen at least not less than the minimum prescribed wages as per state/Central Labour laws as may be, applicable. The contractor shall, be responsible for compliance of all the provisions of minimum Wages Act, PF, ESIC Act workmen Compensation Act and Contract Labour Regulation & Abolition Act the rules made there under. In case of non- compliance of the statutory requirements. The company would take necessary action at the risk and cost of the Contractor.

(VI) To employ required number of skilled/semi-skilled and unskilled workmen as per site requirement to complete the entire project as per schedule. To provide safety shoes, safety helmets, safety belts, gloves etc. to your worker/staff as per requirement during erection work.

(VII) To employ necessary engineering and supervisory staff for completion of the Project in time. While day-to-day management of the site and supervision of the works shall be the responsibility of your Engineer - In charge, he will report to the Engineer in charge to assist him to discharge the overall responsibility of the execution of the project.

(VIII) No contractor will issue any ID cards to their staff on their own .All ID Cards for the workforce will be issued by BRPL Security ID Card Cell only. Contractors should maintain the records of Identity Cards of their employees and whenever any employee quits / is removed then his/her Identity card should be collected & submitted to BRPL Security ID Card Cell. Penalty will be imposed on the vendor in case of violation of the above rule. Contractors shall submit the detail list of the employees that they are going to be hire to BRPL Security before start of the contract.

13.0 ENVIRONMENTAL, HEALTH & SAFETY PLAN

Contractor will make ensure that the Environment, Health & Safety (EHS) requirements are clearly understood and faithfully implemented at all levels at site as per instruction of Company.

Contractors must comply with these requirements:

- a) Comply with all of the elements of the EHS Plan and any regulations applicable to the work
- b) Comply with the procedures provided in the interests of Environment, Health and Safety
- c) Ensure that all of their employees designated to work are properly trained and competent
- d) Ensure that all plant and equipment they bring on to site has been inspected and serviced in accordance with legal requirement and manufacturer's or suppliers' instructions
- e) Make arrangements to ensure that all employees designated to work on or visit the site present themselves for site induction prior to commencement of work

- f) Provide details of any hazardous substances to be brought onsite
- g) Ensure that a responsible person accompanies any of their visitors to site

All contractors' staff is accountable for the following:

1. Use the correct tools and equipment for the job and use safety equipment and protective clothing supplied, e.g. helmets, goggles, ear protection, etc. as instructed
2. Keep tools in good condition
3. Report to the Supervisor any unsafe or unhealthy condition or any defects in plant or equipment
4. Develop a concern for safety for themselves and for others
5. Prohibit horseplay
6. Not to operate any item of plant unless they have been specifically trained and are authorized to do so.

14. A) CLEANLINESS & PRECAUTIONS TO BE TAKEN WHILE DOING WORK AT SITE TO PREVENT DUST POLLUTION:

All debris shall be removed and disposed of at assigned areas on daily basis. Surplus excavated earth shall be disposed of in an approved manner. In short, the contractor shall be fully responsible for keeping the work site clean at all times. In case of non-compliance, company shall get the same done at Contractor's risk and costs.

While carrying out any civil work including road/ pit digging, plinth/ fence making, road restoration etc contractor shall adhere to below mentioned guidelines.

1. No construction material/ debris shall be stored on metalled road.
2. Wind breakers of appropriate height on all sides of ear marked area using CGI sheets shall be raised to ensure that no construction material dust fly outside ear marked area.
3. The construction material i.e. coarse sand, stone aggregates, excavated earth, cement and any other material to and from the site shall be transported under wet and covered condition to ensure their non-slippage en-route to avoid air contamination.
4. The contractor shall provide mask and helmet to every worker working on the construction site and involved in loading/unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
5. Over loading of vehicles shall be strictly prohibited
6. The construction material at site shall be stored under wet and covered condition.
7. The dumping sites for temporarily storing the excavated earth shall be properly levelled, watered and rehabilitated by plantation to avoid flying of dust.
8. The worker at the site shall be sensitized to adopt / observe the dust controlled measures in true spirit.
9. If any C&D waste is generated at site the same will be transported to the C&D waste site only and the record for the same will be maintained by the agency.
10. Wet jet in grinding and stone cutting is being permitted at site.
11. The necessary record for dust control is being maintained by the department on day to day basis and being monitored regularly.



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The Execution vendors shall be responsible for all the preventive and protective environmental steps as per guidelines. Any violations from the above guidelines have been viewed very seriously by the authorities. Concerned agency is liable for the penalties / other action by the authorities, The Agency shall indemnify BRPL from all liabilities on this account.

14 B) GUIDELINES REGARDING INSPECTION & MAINTENANCE OF PITS/ DUG AREA WHILE DOING WORK AT SITE IN BRPL AREA:

The contractor shall ensure strict compliance of the following directions:

- a) The sites of all manholes, pits, holes, tanks or any other opening in the ground of any kinds shall be regularly inspected and maintained.
- b) Schedule and protocols of inspections and maintenance shall be drawn up and notified to BRPL.
- c) These sites shall be cordoned off to render them inaccessible to the public.
- d) The existence of these sites shall be clearly & visibly marked by the display of signboards/signages.
- e) If they are required to be covered, it shall be ensured that the covers are in place.

The Execution vendors shall be responsible for all the preventive and protective environmental steps as per guidelines. Any violations from the above guidelines have been viewed very seriously by the authorities. Concerned agency is liable for the penalties / other action by the authorities, The Agency shall indemnify BRPL from all liabilities on this account.

15.0) WORK COMPLETION CERTIFICATION, HANDING OVER AND MATERIAL RECONCILIATION:

The work carried out by the Contractor under this order has to be certified by Engineer In-charge for satisfactory completion of work allotted to the contractor with respect to specifications / Field Quality Procedures as per applicable standards. In case of modification/correction to be carried out, contractor shall carry out the said modifications/correction without additional cost. The Contractor shall remain in close contact with Engineer In-Charge at site to report the general findings of the fieldwork during the initial as well as later stage of the work at site.

The contractor shall be solely responsible for any shortage or damage of materials issued to them handling of and / or in storage and erection at site and cost of the same will be recovered from the contractor as certified by Engineer In-Charge. Contractor must submit a material reconciliation statement in the approval format with Bill raise by him. The contractor shall maintain an accurate and exhaustive record detailing out the list of all items received by him for the purpose of erection and keep such record open for the inspection of the company.

16.0 PENALTY AND LIQUIDATED DAMAGES:

16.1 Penalty: A penalty of 2.5% of bill amount shall be levied in each case of non-compliance of safety practices and site cleanliness.

16.2 Liquidated Damages: In the event of any delay in completion of the work beyond the stipulated time given by in order due to reasons solely attributable to the Contractor, the Contractor shall pay to the Company liquidated damages.

If the Contractor failed perform the services within the time period specified in the order, the Company shall, without prejudice to its other remedies under the contract, deduct liquidated damages a sum equivalent to 2.0% of the billed amount of final work executed for each week or part there of delay until the actual date of completion up to a maximum deduction of 20% of billed amount of final work executed. Once the maximum is reached to Company may consider termination of contract without any liabilities to Company.

In case the contractor has not mobilized / taking up the job as per the direction of Engineer In-charge, the company have all rights to cancel / re-allocate the work allotted to the contractor.

Engineer In charge should specifically mention the amount of LD levied on the bill of contractor for this job.

17.0 WARRANTY / DEFECT LIABILITY PERIOD

The Contractor shall be liable to rectify all defects in the materials or works done by the Contractor under this Contract, or from any act or omission of the contractors for a period of Twelve (12) months from date of final work completion certification by the Engineer in-charge.

In respect of any warranty work performed by the Contractor, the period during which a claim may be made for such warranty work shall be extended by an additional period of twelve (12) months from the completion of such portion of warranty work.

18.0 LABOUR, POWER AND WATER:

During the tenure of this work order all tools, tackles, camp facilities shall be arranged by the Contractor at his cost without any liabilities to the Company.

The company shall provide Electricity power free of cost at work site if possible.

19.0 SECURITY:

Adequate number of trained Security Guards shall be deployed both at the storage yard and stores as well as places of work to prevent theft and pilferage of material and accessories and various other materials. All security rules and safety rules enforced at site by company shall be strictly observed.

20.0 QUALITY:

Contractor shall ensure that strict quality is maintained in the Performa and execution of works under this Work Order and Works are executed in conformity with the Specification.

All tools, tackles, instruments and other equipments used in the execution of the Works shall be duly calibrated as required and Contractor shall maintain proper records of such tools, tackles, instruments and / or equipment.

Contractor shall prepare the quality plan as per the specifications and shall strictly monitor compliance with the approved quality plan during the entire period of this Work Order.

21.0 SAFETY CODE:

The Contractor shall ensure adequate safety precautions at site as required under the law of the land to facilitate safe working during the execution of work and shall be entirely responsible for the complete safety of their workmen as well as other workers at site and premises during execution of contract.

The contractor shall observe the safety requirements as laid down in the contract and in case of sub-contract (only after written approval of company), it shall be the responsibility of main contractor that all safety requirements are followed by the employees and staff of the sub-contractor.

The contractor employing two hundred employees or more, including contract workers, shall have a safety co-ordinator in order to ensure the implementation of safety requirements of the contract and a contractor with lesser number of employees, including contract workers, shall nominate one of his employees to act as safety co-ordinator who shall liaise with the safety officer on matters relating to safety and his name shall be displayed on the notice board at a prominent place at the work site.

The contractor shall be responsible for non-compliance of the safety measures, implications, injuries, fatalities and compensation arising out of such situations or incidents.

In case of any accident, the contractor shall immediately submit a statement of the same to the owner and the safety officer, containing the details of the accident, any injury or casualties, extent of property damage and remedial action taken to prevent recurrence and in addition, the contractor shall submit a monthly statement of the accidents to the owner at the end of each month..

22.0 STATUTORY OBLIGATIONS:

The Contractor shall take all steps as may be necessary to comply with the various applicable laws/rules including the provisions of contract labour (Regulation & Abolition Act) 1970 as amended, Minimum wages Act, 1984, Workman Compensation Act, ESI Act, PF Act, Bonus Act and all other applicable laws and rules framed there under including any statutory approval required from the Central/State Governments, Ministry of Labour. Broadly, the compliance shall be as detailed in ANNEXURE I enclosed.

Before commencing the work it would be mandatory for the Contractor to furnish the company the permanent PF code no and ESI of the employees.

23.0 TECHNICAL INFORMATION/DATA:

The COMPANY and the CONTRACTOR, to the extent of their respective rights permitting to do so, shall exchange such technical information and data as is reasonably required by each party to perform its obligations and responsibilities. The COMPANY and the CONTRACTOR will keep each other in confidence and to use the same degree of care as it uses with respect to its own proprietary data to prevent its disclosure to third parties of all technical and confidential information. The technical information, drawings, records and other document shall not be copied, transferred, traced or divulged and / or disclosed to third party in full / part not misused in any other form. These technical information, drawing etc. shall be returned to the COMPANY with all approved copies and duplicates. In the event of any breach, the CONTRACTOR shall indemnify the COMPANY against any loss, cost of damages or claim by any party in respect of such breach.

24.0 CONFIDENTIAL INFORMATION:

That any information concerning the COMPANY which is designated in writing as proprietary and confidential, the CONTRACTOR shall not publish or otherwise disclose it to others.

The CONTRACTOR shall, at all times use their best endeavor to keep confidential all information. Accordingly, the CONTRACTOR shall not disclose the same to any other person, provided that the provisions of this section shall not apply to information which:

was furnished prior to the signing of Agreement / issuance of this tender document, without restriction;

is or becomes knowledge available within the public domain (other than by breach of the foregoing obligation of confidentiality) ;

is received by either the COMPANY or the CONTRACTOR from a third party without restriction

is independently developed by either the COMPANY or the CONTRACTOR provided that (i) nothing herein shall limit the right of the COMPANY to provide any information regarding the CONTRACTOR or any other person who has executed a confidentiality undertaking to the COMPANY covering the CONTRACTOR confidential information that is substantially similar to the provision of this section or otherwise with the CONTRACTOR's consent; and (ii) the CONTRACTOR may provide to their employee any information necessary to carry out the services.

25.0 ASSIGNMENT:

Notwithstanding anything contained here to the contrary, the CONTRACTOR shall not assign or sublet or transfer all or any of its rights or obligations under this Agreement to any other party. The CONTRACTOR shall perform its obligations in a manner consistent with the job requirements to the satisfaction of the COMPANY.

26.0 WORKMEN COMPENSATION:

The Contractor shall take insurance policy at his own cost under the Workman Compensation Act to cover such workers who are not covered under ESI and PF by the CONTRACTOR however engaged to undertake the jobs covered under this order and a copy of this insurance policy will be given to Company for reference and records. This insurance policy shall be kept valid at all times. In case there are no worker involve other than those who are covered under ESI and PF by the CONTRACTOR, the CONTRACTOR shall certify for the same.

The CONTRACTOR shall keep the COMPANY indemnified at all times, against all claims of compensation under the provisions of Workmen Compensation Act 1923 as amended from time to time or any compensation payable under any other law for the time being involving workmen engaged by the CONTRACTOR in carrying out the job involved and against costs and expenses, if any, incurred by the COMPANY in connection therewith and without prejudice to make any recovery.

The COMPANY shall be entitled to deduct from any money due to or to become due to the CONTRACTOR, moneys paid or payable by way of compensation as aforesaid or cost or expenses in connection with any claims thereto and the CONTRACTOR shall abide by the decision of the COMPANY as to the sum payable by the CONTRACTOR under the provisions of this clause.

27.0 THIRD PARTY INSURANCE:

The Contractor shall, before the commencement of work, take a Third Party Insurance of an adequate value, at his own cost and expenses, securing all the risks/losses/damages which may be caused to any third party and/or BRPL and/or its employees/associates, because of the omission/performance of tasks by the contractor under this agreement. The full and final settlement of claims raised by third parties shall be the sole responsibility of the contractor without any liability to BRPL.

It is further agreed by the contractor that in case of defect/damage to the system because of default on the part of the contractor, the contractor shall, at its own cost, be liable to replace/rectify the same at the earliest or make good the loss suffered by BRPL.

28.0 ACCIDENTAL INSURANCE POLICY FOR LIFE COVER:

Before commencing the execution of the work the CONTRACTOR shall take Accidental insurance policy for the staff engaged by him for this work to insure against any loss of life which may occur during the contract for the work of the COMPANY. The policy shall have coverage of Rs. 10 Lacs (Table C- Death + Permanent Total Disability + Partial permanent Disability due to external accidents). The Contractor shall be responsible for on the spot same day claim settlement with the victim's legal heirs without waiting for settlement by insurance claim without any liability on BRPL. The premium amount for such life cover policy shall be borne by the contractor. The contractor shall furnish copy of policy when demanded by BRPL.

29.0 SUB-CONTRACTING / SUBLETTING:

CONTRACTOR shall not assign or transfer the whole or any part of this Work Order or any other benefits accruing there from nor shall it subcontract / sublet the whole or any part of the Works.

30.0 INDEMNIFICATION:

Contractor shall indemnify and save harmless COMPANY against and from any and all liabilities, claims, damages, losses or expenses arising due to or resulting from:

- a) Any breach non-observance or non-performance by contractor or its employees or agents of any of the provisions of this Work Order.
- b) Any act or omission of contractor or its employees or agents.
- c) Any negligence or breach of duty on the part of contractor, its employees or agents including any wrongful use by it or them of any property or goods belonging to or by COMPANY.

Contractor shall at all times indemnify COMPANY against all liabilities to other persons, including the employees or agents of COMPANY or contractor for bodily injury, damage to property or other loss which may arise out of or in consequence of the execution or completion of Works and against all costs charges and expenses that may be occasioned to COMPANY by the claims of such person.

31.0 EVENTS OF DEFAULTS:

COMPANY may, without prejudice to any of its other rights or remedies under the Work Order or in law, terminate the whole or any part of this Work Order by giving written notice to the Contractor, if in the opinion of COMPANY,



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contractor has neglected to proceed with the works with due diligence or commits a breach of any of the provisions of this work order including but not limited to any of the following cases:

- a) Failing to complete execution of work within the terms specified in this work order.
- b) Failing to complete works in accordance with the approved schedule of works.
- c) Failing to meet requirements of specifications, drawings, and designs as approved by COMPANY.
- d) Failing to comply with any reasonable instructions or orders issued by COMPANY in connection with the works.
- e) Failing to comply with any of the terms or conditions of this work order.

In the event COMPANY terminates this work order, in whole or in part, on the occurrence of any event of default, COMPANY reserves the right to engage any other subcontractor or agency to complete the work or any part thereof, and in addition to any other right COMPANY may have under this work order or in law including without limitation the right to penalize for delay under clause 15.0 of this work order, the contractor shall be liable to COMPANY for any additional costs that may be incurred by COMPANY for the execution of the Work.

32.0 RISK & COST:

If the Contractor fails to execute the work as per specification / as per the direction of Engineer's In-charge within the scheduled period and even after the extended period, the contract shall get cancel and company reserves the right to get the work executed from any other source at the Risk & Cost of the Contractor. The Extra Expenditure so incurred shall be debited to the Contractor.

33.0 ARBITRATION:

To the best of their ability, the parties hereto shall endeavor to resolve amicably between themselves all disputes arising in connection with the proposed Agreement. If the same remain unresolved, within fifteen (15) days of the matter being raised by either party, either party may refer the dispute for settlement by arbitration. The arbitration to be undertaken by a sole arbitrator to be appointed by the company. the decision of the arbitrator is final and binding upon both the parties. The arbitration proceeding shall be conducted in accordance with the provisions of the Indian Arbitration & Conciliation Act, 1996 and the venue of such arbitration shall be New Delhi only.

34.0 FORCE MAJEURE:

34.1 General:

An "Event of Force Majeure" shall mean any event or circumstance not within the reasonable control, of the Party affected, but only if and to the extent that:

Such event or circumstance, despite the exercise of reasonable diligence, could not have been prevented, avoided or reasonably foreseen by such Party;

Such event or circumstance materially and adversely affects the ability of the affected Party to perform its obligations under this Contract, and the affected Party has taken all reasonable precautions, due care and reasonable alternative measures in order to prevent or avoid the effect of such event on the affected party's ability to perform its obligations under this Contract and to mitigate the consequences thereof. For the avoidance of doubt, if such event or

circumstance would not have materially and adversely affected the performance of the affected party had such affected party followed good industry practice, such event or circumstance shall not constitute force majeure.

Such event is not the direct or indirect result of the failure of such Party to perform any of its obligations under this Contract; and

Such Party has given the other Party prompt notice describing such events, the effect thereof and the actions being taken in order to comply with Article 16.1

34.2 Specific Events of Force Majeure:

Subject to the provisions of Article 16.1, Events of Force Majeure shall include only the following to the extent that they or their consequences satisfy the above requirements:

The following events and circumstances:

Effect of any natural element or other acts of God, including but not limited to storm, flood, earthquake, lightning, cyclone, landslides or other natural disasters, and Explosions or fires

Public disorder, insurrection, rebellion, sabotage, riots or violent demonstrations of a local character;

Declaration of the Site as war zone.

Any order, regulation, directive, requirement from any Governmental, legislative, executive or judicial authority.

34.3 Notice of Events of Force Majeure:

If a force majeure event prevents a party from performing any obligations under the Contract in part or in full, that party shall:

Immediately notify the other party in writing of the force majeure events within 2 working days of the occurrence of the force majeure event

Be entitled to suspend performance of the obligation under the Contract which is affected by force majeure event for the duration of the force majeure event

Use all reasonable efforts to resume full performance of the obligation as soon as practicable

Keep the other party informed of all such efforts to resume full performance of the obligation on a regular basis

Provide prompt notice of the resumption of full performance or obligation to the other party.

34.4 Mitigation of events of force majeure:

The Contractor shall:

- (i) Make all reasonable efforts to prevent and reduce to a minimum and mitigate the effect of any delay occasioned by an Event of Force Majeure, including applying other ways in which to perform the Contract;
- (ii) Use its best efforts to ensure resumption of normal performance after the termination of any Event of Force Majeure and shall perform its obligations to the maximum extent practicable as agreed between the Parties; and
- (iii) Keep the Company informed at regular intervals of the circumstances concerning the event of Force Majeure, with best estimates as to its likely continuation and what measures or contingency planning it is taking to mitigate and or terminate the Event of Force Majeure.

34.4 Burden of proof:

In the event that the Parties are unable in good faith to agree that a Force Majeure event has occurred to an affected party, the parties shall resolve their dispute in accordance with the provisions of this Contract. The burden of proof as to whether or not a force majeure event has occurred shall be upon the party claiming that the force majeure event has occurred and that it is the affected party.

34.5 Terminations for certain events of force majeure:

If any obligation of any Party under the Contract is or is reasonably expected to be delayed or prevented by a Force Majeure event for a continuous period of more than 1 (one) month during the Term of the Contract the Contract shall be terminated at the discretion of the Company and neither Party shall be liable to the other for any consequences arising on account of such termination.

35.0 SECRECY CLAUSE:

The technical information, drawing and other related documents forming part of order and the information obtained during the course of investigation under this order shall be the COMPANY's exclusive property and shall not be used for any other purpose except for the execution of the order. The technical information drawing, records and other document shall not be copied, transferred, or divulged and/or disclosed to third party in full/part, not misused in any form whatsoever except to the extent for the execution of this order. These technical information, drawing and other related documents shall be returned to the COMPANY with all approved copies and duplicates including drawing/plans as are prepared by the Contactor during the executions of this order, if any, immediately after they have been used for agreed purpose.

In the event of any breach of this provision, the contractor shall indemnify the COMPANY against any loss, cost or damage or claim by any party in respect of such breach.

36.0 TERMINATION:

Without prejudice to the rights and remedies available to BRPL under this order BRPL reserves the absolute right to terminate this agreement giving one month notice to the contractor without assigning any reason whatsoever. Also, the contractor shall give one month notice in case it wants to terminate the order.

37.0 GOVERNING LAWS AND JURISDICTION:

This proposed Agreement shall be construed in accordance with and governed by Laws of India. The courts of Delhi shall have the exclusive jurisdiction in all matters arising under this Agreement.

38.0 NOTICE:

All notices required or provided for in this Agreement shall be in writing and shall be deemed to have been duly and properly served upon the parties hereto if delivered against acknowledgement or by registered mail with acknowledgement due at the address mentioned herein:

BSES Rajdhani Power Ltd.
BSES Bhawan, Nehru Place,
New Delhi-110 019

39.0 PERFORMANCE:

The performance of the CONTRACTOR shall be reviewed by the company for the work done by the CONTRACTOR. If the performance of CONTRACTOR not found to be satisfactory, the contract shall be terminated and communicated to all concerned.

40.0 ENTIRE AGREEMENT:

This Agreement including all Schedules attached hereto contains the complete understanding between the COMPANY and the CONTRACTOR with respect to the matters contained herein and supersedes all other agreements, whether written or oral with respect to the matters contained herein.

41.0 AMENDMENT:

Any modification, amendment or other change to this Agreement shall be affected only by a written instrument signed by the authorized representatives of both the COMPANY and the CONTRACTOR.

42.0 VENDOR CODE OF CONDUCT

Contractor confirms to have gone through the Policy of BRPL on legal and ethical code required to be followed by contractors encapsulated in the "Vendor Code of Conduct" displayed on the official website of BRPL (www.bsesdelhi.com) also, which shall be treated as a part of the contract

Contractor undertakes that he shall adhere to the Vendor code of Conduct and also agrees that any violation of the Vendor Code of Conduct shall be treated as breach of the contract.

In event of any such breach, irrespective of whether it causes any loss/damage, Company (BRPL) shall have the right to recover loss/damage from contractor.

The Contractor hereby indemnifies and agrees to keep indemnified the Company (BRPL) against any claim/litigation arising out of any violation of Vendor Code of Conduct by the Contractor/Vendor or its officers, agents & representatives etc.

43.0 ACCEPTANCE:

Acceptance of the CONTRACT implies and includes acceptance of all terms and conditions enumerated in the CONTRACT in the technical specification and drawings made available to Contractor consisting of general conditions, detailed scope of work, detailed technical specification & detailed equipment, drawing. Complete scope of work and the Contractors and Company contractual obligation are strictly limited to the terms set out in the CONTRACT. No amendments to the concluded CONTRACT shall be binding unless agreed to in writing for such amendment by both the parties.

ANNEXURE-I**STATUTORY REQUIREMENT**

The Contractor should obtain and submit the following details before commencement of work.

- Certificate of registration under Contract labour (R & A) Act 1970.

- PF Code No. and all employees to have PF A/c No. under PF Act, 1952
- All employees to have a temporary or permanent ESI Card as per ESI Act.
- ESI Registration No.
- To follow Minimum Wages Act prevailing in the state.
- Salary/ Wages to be distributed not later than 7th of each month in presence of Division in Charge. A certificate to this effect should be certified & enclosed with the bill.
- To maintain Wage cum Attendance Register.
- To maintain First Aid Box at Site.
- GST registration number.
- Electrical License.
- Workmen compensation policy.
- Third party Insurance Policy.
- PAN number.
- Accidental Insurance Policy
- Registration of Contractors & Contractual Employees under Building & other Construction Worker Welfare Cess Act 1996 & The Building & other Construction Workers (Regulation of Employment & Conditions of services) Act 1996.
- Registration under "The Delhi Building and other Construction Worker (Regulation of Employment and Conditions of Services) Rules 2002(B.O.C.W.)".
- The CONTRACTOR shall give a written declaration / undertaking on or before 15th of the following month that he has complied with the following:
 - (I) Has paid minimum wages to his manpower.
 - (II) Deduct and deposited ESI/PF contribution. Copy of the same shall be submitted.

SECTION-IV: BILL OF QUANTITY/ PRICE FORMAT

Sr No	SERVICE CODE	DESCRIPTION	UNIT	QTY JP18NF4249	QTY JP18NF4250	QTY JP18NF4267	QTY JP18NF4269	QTY JP18NF4271	TOTAL QTY.	RATE	TOTAL AMOUNT
1	3006690	RMU installation 4- Function.	EA	1	0.00	1.00	0.00	0.00	2.00		
2	3006691	Testing and commissioning comprising of Hi-pot test, primary injection, IR & mV Drop test for 4-Function RMU.	EA	1	0.00	1.00	0.00	0.00	2.00		
3	3006702	Casting of civil foundation for each 4-way RMU. It includes cement, sand, ballast (rodi)and labour.	EA	1	0.00	1.00	0.00	0.00	2.00		
4	3006703	Supply & Erection of MS Frame for 4-Way RMUs.	EA	1	0.00	1.00	0.00	0.00	2.00		
5	3008660	Extra civil work for step-making (required for smooth operation/maintenance of RMU's)if the RMU is to be installed more than 300mm height from Ground Level.	EA	4	4.00	4.00	4.00	4.00	20.00		
6	3003271	Enlargement of holes in the bottom plate of the H.T. switch gear for cable entry (Reqd.for jointing purposes).	EA	3	3.00	3.00	3.00	3.00	15.00		
7	3007039	Disconnection or Connection of 11KV XLPE Cable of following sizes: 3cX 300 sq.mm./400 sq.mm	EA	5	4.00	5.00	4.00	4.00	22.00		
8	3003224	Mounting of following accessories on the existing structure of P/M S/Stn/HT Line/HT Panels/where ever required . By means of suitable nut, bolts & clamps etc. including mounting on necessary frames electrically interconnecting with each other after Crimping the sockets. Erection of 11kv O/D or I/D Cable end box	EA	9	8.00	6.00	5.00	5.00	33.00		
9	3003706	Making Cable End termination. Note: End Termination kit will be provided by BSES as free supply.	EA	9	8.00	6.00	5.00	5.00	33.00		

10	3007373	Digging of Test pit of the required size at site for identification of the cable alongwith refilling with loose earth and ramming the surface including removal of Malba. The volume of this shall be deducted from Item Labour charges for digging of this schedule(Only for those test pit which are lying on the cable digging route).For Dense Carpet/CC Portion/Asphaltic Road Portion.	CUM	84	84.00	84.00	54.00	24.00	330.00		
11	3003168	Fixing of route / joint marker on cable routes by grouting with stone blast and coarse sand including supply of cement, stone ballast and sand.	EA	30	26.00	36.00	22.00	11.00	125.00		
12	3003169	Laying of HT/LT cable of following size in S/ Stn. Trench.above 150 sq.mm.	M	230	180.00	100.00	100.00	100.00	710.00		
13	3005496	Crossing of roads by trench-less technology by laying of HDPE pipe excluding supply of pipe .Laying by HDD Machine Moling. Drilling and laying. 200mm dia.	M	2750	2430.00	3500.00	2100.00	1000.00	11780.00		
14	3005517	Supply of Route/Joint marker	EA	30	26.00	36.00	22.00	11.00	125.00		
15	3005534	Supply of HDPE pipes as per IS 4984,PN 4 class PE 63 - 200mm dia	M	2750	2430.00	3500.00	2100.00	1000.00	11780.00		
16	3003174	Laying of HT/LT cables through GI Pipe /RCC hume pipe. above 150 sqmm upto 400 sqmm.	M	2750	2430.00	3500.00	2100.00	1000.00	11780.00		
17	4060598	Laying & connecting of 2.5MM2, 10C, 1.1KV Control cable from TRF to relay of RMU , to provide protection for any 11/0.433 TRF.	EA	6	6.00	6.00	6.00	6.00	30.00		
18	3004932	Cleaning and clearing of malba after completion of work at site or removal of malba to carry out the work at site (This item is not applicable for removal of malba in digging and cable laying and Pole erection work)	CUM	40	35.32	47.20	30.40	17.20	169.88		

19	3005515	High Voltage test of 11KV 3x300/ 400 sq.mm cable - Testing Equipment to be provided by the contractor.	EA	12	10.00	14.00	9.00	4.00	49.00		
20	3005528	Optional price for Continuous Steel Barricading of 1.2 M High including cost of all materials.40% quantity for selected location per meter Trench	M	30	26.10	36.00	22.00	11.00	124.90		
21	4060000	Charges for carrying out Route survey and identification of underground utilities of various civic agencies before/ during execution of scheme involving cable laying work. Route length will be considered for payment. Route length will be specifically verified by DGM.	M	2950	2550.00	3600.00	2200.00	1100.00	12400.00		
22	3003257	Drilling of cables holes in S/Stn. walls as required.	EA	28	28.00	28.00	18.00	8.00	110.00		
23	3003674	Making Straight through joint. Note: St.Th.joint kit will be provided by BSES as free supply.	EA	14	14.00	14.00	9.00	4.00	55.00		
24	3003157	Digging of joints pits as required, docketing with bricks and sand of the joint & refilling with loose earth and ramming the surface including removal malba. Brick and sand shall be supplied by the contractor	EA	14	14.00	14.00	9.00	4.00	55.00		
25	3007224	Supply and making connections at where ever required (feeder pillars/service pillars/ LT panel etc.) with following size of socket including crimping of socket and complete armouring AL 95 sqmm sockets	EA	4	4.00	2.00	2.00	2.00	14.00		
26	3007229	Making connections at where ever required (feeder pillars/service pillars/ LT panel etc.) with following size of socket including crimping of socket and complete armouring: AL 95 sqmm sockets .(Sockets will be supplied by BSES)	EA	4	4.00	2.00	2.00	2.00	14.00		

27	3002904	Fabrication work using MS steel (for any type & as per drawing, specification provided by BSES) including all consumables i.e. welding rods, supplying and providing 2 coats of red oxide primer and one coat of aluminum paint, nuts, bolts and washers. All type frames,structure,clamps etc.Steel shall be provided by Contactor.	KG	150	450.00	300.00	300.00	300.00	1500.00		
28	3004882	Mounting of following accessories on the existing structure of P/M S/Stn.or any s/stn.by means of suitable nut, bolts & clamps etc.i/c.connections after Crimping the sockets.Laying of LT U/G PVC/XLPE cables of various sizes upto ICTP switches on 2/4 pole strcutures/where ever required.	M	2750	2430.00	3500.00	2100.00	1000.00	11780.00		
29	3007420	Fixing of following sizes of G.I.pipes for cable entry. The work shall include excavation/back filling of soil, breaking/repairing of wall/plinth, grouting, fixing of clamps etc. - Upto 50 mm dia.	M	72	72.00	66.00	66.00	66.00	342.00		
30	3007034	Making Connections/Joints between conductors, wires etc. for proper earthing connection with use of clamps/connectors/lugs/wires. Clamps, connectors, lugs shall be free issue items.Connection between 6/8 swg wire and bare conductor of 35-70 Sq.mm. Or equivalent	EA	8	8.00	4.00	4.00	4.00	28.00		
31	3003725	Providing & Fixing of G.I. earth clamp on cable including socketing & connecting the same.	EA	8	8.00	4.00	4.00	4.00	28.00		
32	3003201	Supply and laying of 50 x 6 mm G I strip to connect all earth electrode in parallel with double connection to the tansformer / any switch gear as per site requirement	M	63	63.33	31.67	31.67	31.67	221.67		
33	3007064	Laying of G.I strip from the main earth electrode upto the transformer body, neutral point, RMU, LT/HT Panel etc. including passing through suitable GI pipe clamping etc. wherever required and the proper end connections (supply of nuts, bolts, washers in the contractor scope) G.I strip of 50x6 sq.mm.	M	63	63.33	31.67	31.67	31.67	221.67		

34	3004907	Earthing with 40mmX2.5mt.,GI pipe of B class with Masonary earth pit enclosure on top covered having locking watering arrangement with funnel I/C provision of salt charcoal as per IS 3043. (Resistance should be less than 1 ohm) Salt,charcoal, masonary material and top enclosure cover shall be provided by contractor and all earthing material shall be provided by BSES.	EA	4	4.00	2.00	2.00	2.00	14.00		
35	3009072	Earthing with 40mmX2.5mt.,GI pipe of B class with Masonary earth pit enclosure on top covered having locking watering arrangement with funnel I/C provision of salt charcoal as per IS 3043. (Resistance should be less than 1 ohm) Salt,charcoal, masonary material and top enclosure cover and all the earthing material shall be provided by contractor.	EA	4	4.00	2.00	2.00	2.00	14.00		
36	3002900	Passing GI stay wire 7/8 or 7/9 or 7/10 SWG, through suitable size of G.I.Pipe fixing the pipe & stay wire on the pole with clamps & terminating the earth wire at cross arm & connecting the same with all the metal portions with proper binding wire (excluding fab, GI pipe and Stay wire supply).	EA	14	14.00	12.00	12.00	12.00	64.00		
37	3007036	Making Connections/Joints between conductors, wires etc. for proper earthing connection with use of clamps/connectors/lugs/wires. Clamps, connectors, lugs shall be free issue items.Connection between Earth conductor 10 to 35sq.mm. and panels/ equipments	EA	6	6.00	3.00	3.00	3.00	21.00		
38	3002902	Providing and Fixing of Danger plate with clamps.	EA	2	2.00	2.00	2.00	2.00	10.00		
39	3003326	Supply of MS Steel (Angle, Channel, Flat)	KG	48	48.00	44.00	44.00	44.00	228.00		
40	3003308	Painting of nomenclature of size(s) as reqd. on FP/Service Pillar / LT Panel / HT Panel and LT ACBs etc. including supply of paint.rates are per alphabat	EA	800	800.00	800.00	800.00	800.00	4000.00		

41	3004902	Supply & Installation of fire buckets filled with sand, including fabrication of frame/stand of suitable size, canopy, grouting on surface or wall, painting of frame including necessary hardware and consumables. 2 bucket stand	SET	2	2.00	2.00	2.00	2.00	10.00		
42	3003202	Fixing of fire extinguishers/ bucket by means of proper hooks clamps etc. as required including grouting and painting of hooks/clamps.	EA	4	4.00	4.00	4.00	4.00	20.00		
43	3004899	Transportation of Electrical equipments or any any kind of materials from store to site or from site to site including loading and unloading at both ends by manually -> By Full body truck load (9T capacity). Note:- Above item will be selected ensuring optimum utilization of the approved rates.	TRP	2	2.00	8.00	8.00	8.00	28.00		
44	3004900	Transportation of Electrical equipments or any any kind of materials from store to site or from site to site including loading and unloading at both ends by manually -> By Half body Truck. Note:- Above item will be selected ensuring optimum utilization of the approved rates.	TRP	4	5.00	3.00	3.00	3.00	18.00		
45	3007416	Transportation of Electrical equipments or any any kind of materials from store to site or from site to site including loading and unloading at both ends by using T & P such as Tripod/cranes -> By Full body truck load (9T capacity). Note:- Above item will be selected ensuring optimum utilization of the approved rates.	TRP	10	8.00	12.00	8.00	8.00	46.00		
46	3007417	Transportation of Electrical equipments or any any kind of materials from store to site or from site to site including loading and unloading at both ends by using T & P such as Tripod/cranes -> By Half body Truck. Note:- Above item will be selected ensuring optimum utilization of the approved rates.	TRP	10	10.00	3.00	3.00	3.00	29.00		
47	3003752	Transportation of material by hand-cart	TRP	45	40.00	30.00	30.00	30.00	175.00		
48	3005542	Transportation of empty cable drum from site to designated store anywhere in Delhi. For Steel Drum	EA	10	8.00	12.00	8.00	8.00	46.00		

49	3006646	Transportation of RMU's and other materials from Main Store to Distt.Store or from Distt.Store to site, i/c.loading & unloading at both ends safely (a) One transport will be paid per site for New RMU along with other materials. (b) In case of transshipment of RMU from main store to district store and then from district store to site, two transport will be allowed.	TRP	2	2.00	2.00	2.00	2.00	10.00		
50	3005327	Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in cement mortar 1:6 (1 cement : 6 coarse sand)	CUM	6	6.00	3.00	3.00	3.00	21.00		
51	3005328	15mm cement plaster on rough side of single or half brick wall of mix 1:4 (1 cement : 4 fine sand)	SQM	32	47.00	27.00	27.00	27.00	160.00		
52	3003711	Repairing and strengthing of existing fencing structure.	EA	5	5.00	5.00	5.00	5.00	25.00		
53	3005325	Supply and fixing of wire mesh fencing 2.5 mtr height with gate frame of 3 mtr x 2.5 mtr with complete material including painting eg angle,chain link,wire mesh and civil material etc complete as per specification & drawing of BSES.Angle iron size 50x50x6 mm & MS strip 50 x 3 mm,Wire mesh 1"x3" of 8 SWG wire to be used for wire-mesh with providing support at 1.25m distance.	SQM	15	45.00	30.00	30.00	30.00	150.00		
54	3007921	Concreting with 1:2:4 mix complete in all respect.	CUM	2	2.00	2.00	2.00	2.00	10.00		
55	3003709	Dismantling and demolishing concrete work for all types of structure at all levels including stacking of structure at all levels including stacking of serviceable material, cutting reinforcement, labour, equipment, safety precautions, all complete as per specification, drawing and instruction of engineer. - Reinforced Cement concrete of all grades	CUM	5	4.80	4.80	4.80	4.80	24.00		
56	3006640	RMU installation 3- Function	EA	0	1.00	0.00	1.00	1.00	3.00		



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57	3006642	Testing and commissioning comprising of Hi-pot test, primary injection, IR & mV Drop test for 3-Function RMU.	EA	0	1.00	0.00	1.00	1.00	3.00		
58	3006644	Casting of civil foundation for each 3 Way-RMU. It includes cement, sand, ballast (rodi)and labour.	EA	0	1.00	0.00	1.00	1.00	3.00		
59	3006701	Supply & Erection of MS Frame for 3-Way RMUs.	EA	0	1.00	0.00	1.00	1.00	3.00		
		Total									
		GST 18%									
		Net Total									

ANNEXURE-A**TERMS & CONDITIONS FOR REVERSE AUCTION**

In a bid to make our entire procurement process more fair and transparent, BRPL intends to use the reverse auctions through SAP-SRM tool as an integral part of the entire tendering process. All the bidders who are found as techno Commercially qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

Reverse auction shall be governed by following terms and conditions:

- 1) BRPL shall provide the user id and password to the authorized representative of the bidder. (Duly signed Authorization Letter in lieu of the same shall be submitted along with the bid).
- 2) BRPL will make every effort to make the bid process transparent. However, the award decision by BRPL would be final and binding on the bidder.
- 3) The bidder agrees to non-disclosure of trade information regarding the purchase, identity of BRPL, bid process, bid technology, bid documentation and bid details.
- 4) The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
- 5) Bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitch, Internet response issues, software or hardware hangs; power failure or any other reason shall not be the responsibility of BRPL.
- 6) In case the bidder fails to participate in the auction event due any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be out rightly rejected by BRPL.
- 7) The bidder shall be prepared with competitive price quotes on the day of the bidding event.
- 8) The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR at BRPL site/ store
- 9) The prices submitted by a bidder during the auction event shall be binding on the bidder.
- 10) No requests for time extension of the auction event shall be considered by BRPL.
- 11) The discount received after the RA and final negotiation, w.r.t. the initial financial bid shall be applied on all the items on a pro rata basis.
- 12) In case RA is not conducted /concluded for any reasons, a "final no regret" financial bid in a sealed envelope will be called for from all qualified bidders.

BID FORM

To

Head of Department
Contracts & Material Deptt.
BSES Rajdhani Power Ltd
I Floor, "C" Block, BSES Bhawan
Nehru Place, New Delhi-110019
Sir,

- 1 We understand that BRPL is desirous of carrying out in it's licensed distribution network area in Delhi
- 2 Having examined the Bidding Documents for the above named works, we the undersigned, offer to provide our services in full conformity with the Terms and Conditions and technical specifications of the contract
- 3 If our Bid is accepted, we under take to provide our services as per completion schedule mentioned in the tender document from the date of award of work order/letter of intent.
- 4 If our Bid is accepted, we will furnish a performance bank guarantee as mentioned in the RFQ for due performance of the Contract in accordance with the Terms and Conditions.
- 5 We agree to abide by this Bid for a period of 120 days from the due date of bid submission and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- 6 Unless and until Letter of Intent is issued, this Bid, together with your written acceptance there of, shall constitute a binding contract between us.
- 7 We understand that you are not bound to accept the lowest, or any bid you may receive.
- 8 There is provision for Resolution of Disputes under this Contract, in accordance with the Laws and Jurisdiction of Contract.

Dated this..... day of..... 2020

Signature..... In the capacity of

.....duly authorized to sign for and on behalf of

(IN BLOCK CAPITALS)

APPENDIX-I

PROFORMA OF CONTRACT PERFORMANCE BANK GUARANTEE

(TO BE ISSUED ON RS 100/- STAMP PAPER)

Bank Guarantee No.

Place:

Date:

To

BSES Rajdhani Power Limited

Whereas BSES RAJDHANI POWER LTD (hereinafter referred to as the "Purchaser", which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) has awarded to M/s.. with its Registered/ Head Office at

(hereinafter referred to as the "Supplier" which expression shall unless repugnant to the context or meaning thereof, include its successors administrators, executors and assigns), a contract no. dated (the Contract);

And whereas the value of the Contract is Rs. (The Contract Value).

And whereas it is a condition of the Contract that the Supplier shall provide a Performance Bank Guarantee for the due and faithful performance of the entire Contract for a sum equivalent to - % of the Contract Value to the Purchaser on or before

And whereas the Bank under instructions from the Supplier has agreed to guarantee the due performance of the Contract.

Now it is agreed as follows:

1. we (Name of the Bank) having its Head Office at

(hereinafter referred to as the Bank, which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) shall indemnify and keep indemnified the Purchaser for, and guarantee and undertake to pay to the Purchaser immediately on written demand, a sum equivalent to % of the Contract Value

as aforesaid at any time upto (day/month/year) without any demur, reservation,

contest, recourse or protest and/or without any reference to the Supplier, against all losses, damages, costs and expenses that may be caused to or suffered by the Purchaser by reason of any default on the part of the Supplier in performing and observing any and all the terms and conditions of the Contract or breach on the part of the Supplier of terms or conditions of the Contract.

2. The demand shall consist only of an original letter issued by Purchaser stating that the Supplier has failed to fulfill its obligations under the Contract. Such demand made by the Purchaser on the Bank shall be conclusive and



BSES RAJDHANI POWER LTD.

binding notwithstanding any difference or dispute between the Purchaser and the Supplier or any difference or dispute pending before any Court, Tribunal, Arbitrator or any other authority.

3. The Bank undertakes not to revoke this guarantee during its currency without previous written consent of the Purchaser and further agrees that the guarantee herein contained shall continue to be enforceable during the period that would be taken for satisfactory performance and fulfillment in all respects of the Contract or in the event of any dispute between the Purchaser and Supplier until the dispute is settled (provided that the claim/demand under this guarantee is lodged/referred during the currency of this guarantee) or till the Purchaser discharges this guarantee whichever is earlier.

4. The Purchaser shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee from time to time to extend the time for performance of the Contract by the Supplier. The Purchaser shall have the fullest liberty, without affecting the liability of the Bank under this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Supplier, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract or any other course or remedy or security available to the Purchaser. The Bank shall not be released of its obligations under these presents by any exercise by the Purchaser of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Purchaser or any other indulgence shown by the Purchaser or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the Bank.

5. The Bank agrees that the Purchaser and its option shall be entitled to enforce this guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Supplier and notwithstanding any security or other guarantee that the Purchaser may have in relation to the Supplier's liabilities.

6. Notwithstanding anything contained hereinabove the liability of the Bank under this guarantee is restricted to a sum equivalent to % of the Contract Value i.e. Rs. (Rupees) and it shall remain in force upto and including . Unless a demand to enforce a claim under this guarantee is made against the Bank within 3 months from the above date of expiry i.e. up to all the rights of the Purchaser under the said guarantee shall be forfeited and the Bank shall be released and discharged from all liabilities thereafter.

7. This Performance Bank Guarantee shall be governed by the laws of India.

Dated this Witness

day of 2020 at

1. For Bank

2. Signature Name Power of Attorney No:

Banker's Seal

FORMAT FOR EMD BANK GUARANTEE

(To be issued in a Non Judicial Stamp Paper of Rs.50/-purchased in the name of the bank)

Whereas [*name of the Bidder*] (herein after called the "Bidder") has submitted its bid dated [*date of submission of bid*] for the supply of [*name and/or description of the goods*] (here after called the "Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] at [*Branch Name and address*], having our registered office at [*address of the registered office of the bank*] (herein after called the "Bank"), are bound unto BSES Rajdhani Power Ltd., with it's Corporate Office at BSES Bhawan, Nehru Place, New Delhi-110019, (herein after called —the "Purchaser") in the sum of Rs..... (Rupees..... only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this _____ day of _____ 2020 _____.

THE CONDITIONS of this obligation are:

- 1 If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form ; or
2. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:
 - (a) fails or refuses to execute the Contract Form ,if required; or
 - (b) fails or refuses to furnish the performance security, In accordance with the Instructions to Bidders/ Terms and Conditions;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that is its demand the purchaser will note that amount claimed by it is due to it, owing to the occurrence of one or both of the two condition(s), specifying the occurred condition or condition(s).

This guarantee will remain valid for 6(six) months after last date of receipt of tenders, and any demand in respect thereof should reach the Bank not later than the above date.

(Stamp & signature of the bank)

Signature of the witness

Communication Details

Bidder should furnish the below details for future communication:-

<u>GENERAL INFORMATION</u>	
NAME OF COMPANY	
POSTAL ADDRESS	

FOR TECHNICAL QUERY:		
CONTACT PERSON and DESIGNATION	NAME	DESIGNATION
E-MAIL	MOBILE NO	TELEPHONE NO

FOR COMMERCIAL QUERY:		
CONTACT PERSON and DESIGNATION	NAME	DESIGNATION
E-MAIL	MOBILE NO	TELEPHONE NO

SECTION-V

TECHNICAL SPECIFICATIONS



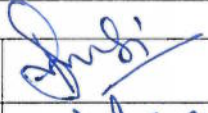
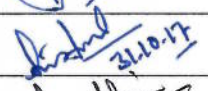

TECHNICAL SPECIFICATION

FOR

LAYING OF 66 kV / 33 kV / 11 kV / 1.1 KV GRADE
PVC / XLPE CABLES

Specification no: GN101-03-SP-06-03

BSES RAJDHANI POWER LTD

Prepared by	Pronab Bairagi		Rev : 03
Reviewed by	Amit Tomar	 31.10.17	Date : 31.10.2017
Approved by	Vijay Panpalia		Pages : 44

Registered Office: BSES Bhavan, Nehru Place, Delhi - 110019

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General Specification**1.0 Codes & standards**

Materials, equipment and methods used in the Laying of 11/33/66KV Cable shall conform to the latest edition of following –

S. No.	Reference No.	Name of Standard
1		Indian Electricity Rules, 1956
2		Indian Electricity Act, 1910
3		Indian Electricity Supply Act, 1948
4		Electricity Laws Act, 1991
5		National Electrical Code (Indian standards Institution)
6	IS 1255	Code of practice for installation and maintenance of Power Cable upto and Including 33KV rating.
7	IS 1554	PVC Insulated Electrical Cables upto 11KV
8	IS 2274	Code of Practice for electrical wiring installation – system voltage exceeding 650V
9	IS 7098 Part II	Crosslinked Polyethylene Insulated PVC sheathed cables for working voltages from 3.3KV upto and including 33KV
10	IS 7098 Part III	Crosslinked Polyethylene Insulated PVC sheathed cables for working voltages from 66KV upto and including 220KV
11	IS 5820	Specification of precast concrete Cable cover.

2.0 Design guidelines and Parameter for cable laying-

S. No.	Parameter	Details
2.1	Selection of Cable Route	<p>The cable route selection shall be done by the concerned supervising engineer by first conducting route survey and selecting a route along with contractor keeping followings in mind:</p> <ul style="list-style-type: none">-The side of road which presents the least obstacles and the fewest roadways crossings.-The future consumers and existing cables in the route may influence the cable route.-Railway, road crossings, MCD and other government agencies may also influence in selection of cable route.-Plans for future building projects should be considered.-The route shall be as far as possible away from parallel running gas, water pipes and telephone/telecommunication cables.
2.2	Site Preparation	<ul style="list-style-type: none">a) Barricading:<ul style="list-style-type: none">• The identified cable route shall be barricaded continually before excavation.• Barricading shall be as drawing laid• Open Trench method shall be adopted as far as possible for trench preparation.b) Excavated Earth:

		<ul style="list-style-type: none"> The excavated earth shall be so stored at site, that it shall not cause trouble to running traffic All excavated earth shall be stored within the barricaded area. <p>c) Full height fence, barriers, barricades etc. shall be erected around the site in order to prevent the working area from the risk of accidents due to speedy vehicular movement. Same the way barricades protect the road users from the danger due to construction equipment and temporary structures.</p> <p>d) The structure dimensions of the barricades , material and composition, its colour scheme, BSES logo and details shall be in accordance with specification and drawing laid down in the tender documents.</p> <p>e) All the barricades shall be erected as per the design requirements of employer, numbered painted and maintained in good condition and also barricade in charge maintain a barricade register at site.</p> <p>f) All barricades shall be conspicuously seen in the dark/night time by the road users so that no vehicle hits the barricades. Conspicuity shall be ensured by affixing retro reflective strips of required size and shape at appropriate angle at bottom and middle portion of the barricades at a minimum gap of 1000 mm. In addition minimum one red light /red blinker and red beacon light should be placed at the top of each barricade.</p> <p>g) PPP to be provided by vendor to all workers and engineers.</p> <p>h) Also refer Annexure- 7: Barricading and Safety</p>
2.3	Clearance	<p>The desired minimum clearances are as follows –</p> <ul style="list-style-type: none"> - Power cable to power cable – A minimum clearance equal to diameter shall be maintained. Trench drawings shall be referred to for guidance. - Power Cable to control cables – 0.2 M - Power cable to communication cable – 0.3M - Power cable to gas/water main – 0.3 M
2.4	Depth of Cable Laying	<p>The desired minimum depth of laying from ground surface to the top of cable shall be:</p> <p>650 / 1100V grade XLPE Cables – 75 cm</p> <p>6.35 / 11KV grade XLPE Cables – 90 cm</p> <p>Low voltage and Control cable - 75 cm</p> <p>19 / 33KV grade XLPE Cables - 1.2 M</p> <p>38 / 66KV grade XLPE Cables - 1.5 M</p> <p>Cables at Road crossing - 1.0 M (min.)</p> <p>Cables at railways level crossings (measured from bottom of sleepers to the top of Pipe) - 1.0 M (min.)</p> <p>Whenever there is any obstacle at the laying depth, the cable should be lowered/ raised to cross the obstacle. However variation in the depth is to be approved by BSES. The Contractor shall provide the same in deviation report.</p>
2.5	Width of Cable	The width and depth of Cable Trenches shall depend upon number of

	trenches	circuits and Voltage Grade. Annexure # 3 and drawings of this specification shall be followed.
2.6	Bending Radius of Cables	<p>While pulling of the Cable from the drum or during laying following minimum bending radius shall be maintained so that the cable, in particular the insulation does not get damaged –</p> <p>A) Single Core Cables (PVC & XLPE) Upto 1.1KV grade – 15 X D Above 11KV grade - 20 X D</p> <p>B) Multi Core Cables (PVC & XLPE) Upto 1.1KV grade - 12 X D Above 1.1KV grade – 15 X D</p> <p>Where 'D' is overall diameter of the cable.</p>
2.7	Maximum permissible Tensile Strength for Cables	<p>For cables pulled with Stocking PVC and XLPE SWA Armoured cables $P = 30 \times D$ PVC and XLPE AWA Armoured cables $P = 20 \times D$ Where P= pulling force in Kgrm, D= Diameter of Cable in mm</p> <p>For Cables pulled by Cable eyes Aluminium conductor – $30 \text{ N/mm}^2 = 3 \text{ Kg/sq. mm}$ Copper conductors - $50 \text{ N/mm}^2 = 5 \text{ Kg/sq. mm}$</p> <p>Permissible force is calculated by multiplying the above values by cross sectional area (CSA) of conductor of each core and then number of cores.</p>
2.8	Methods of Laying	<p>a) Cables shall be laid in direct in ground, in trenches excavated therein and shall be protected with covers as given in the drawing. Cables shall also be drawn into pipes of ducts or laid in the formed trenches or troughs or on racks or supported in trays or cleats as required by the site exigencies. Where the cables are laid in the formed trenches, the installation shall include removal and replacement of the trench covers and the provision of temporary protective covers on the trenches where they cross the access ways.</p> <p>b) HDPE (PN6,PE80) or RCC ducts shall be used where cable cross roads and railways tracks. Spare ducts for future extensions should be provided. Spare duct should be sealed off. Buried ducts or ducting blocks shall project into footpath or upto the edge of road, where there is no footpath, to permit smooth entry of cable without undue bending. The diameter of the cable conduit or pipe or duct should be at least 1.5 times the outer diameter of the cable. Angular alignment of the duct across road crossings shall be predetermined to maintain safe bending radius when direction of cable trench changes before or after the road.</p> <p>c) The contractor shall lay cable by Horizontal direct drilling (HDD) in main roads and highway with heavy traffic, passage to public property where excavation is not possible. Contractor shall take approval for laying of cable by means of HDD wherever required from the supervising engineer. The cable laid by HDD shall be</p>

		<p>minimized so that it doesn't exceed by 12% of total route length. This is to avoid De-rating of Cables.</p> <p>d) Unless approved by BSES, the contractor shall lay the cables, direct in ground, in single layer. The cables shall be laid with the pre-determined and approved cable route.</p> <p>e) Spacing shall be maintained uniformly between the cables all along the length including the bends, as approved by BSES. To maintain the spacing, suitable non-metallic formers shall be placed uniformly with spacing not exceeding 5 meters. Every bend shall have at least one spacer.</p> <p>f) 75 mm of the sand bed shall be placed at the bottom of cable trench.</p> <p>g) After the cables have been laid the trench shall be filled with the sand and shall be well rammed to a level not less than 75 mm above the top of the cables all throughout the route.</p> <p>h) To protect the cables against external mechanical damage, which may be caused by other agencies, the cable shall be protected by suitable cover. (for drawing of RCC cable cover refer annexure VI).</p> <p>i) The type of the covers shall be as under</p> <ul style="list-style-type: none"> - 1.1KV Cables – Single layer of brick thickness not less than 75 mm (3 inch) - 11KV Cables – sand stone of thickness not less than 75mm (3 inch). - 33KV Cables shall be protected by reinforced concrete cover of width 300 mm as per attached drawing with thickness not less than 50mm. - 66KV Cables shall be protected by reinforced concrete cover as per attached drawing with thickness not less than 50mm. <p>The RCC cable cover shall be embossed as "BSES EHV CABLE".</p> <p>j) Back fill to be filled up to 75mm and the warning tape shall be installed continuously. The tape shall be yellow in colour with Black / Red lettering of minimum 20mm height. The approved warning message shall be written in English and Hindi/ local language. The minimum thickness and width of the tape should be 300 microns and 150 mm respectively.</p> <p>k) The trench shall be filled-up by loose soft soil (300mm) and Excavated soil as indicated in drawings.</p>
2.9	Cable over	On Bridges the cables are generally supported on wooden cleats and

	Bridges	clamped on steel supports at regular intervals. The cables laid on bridges shall be provided with Sun shield. Approval from appropriate authorities (PWD/railways) as applicable shall be taken by contractor.
2.10	Laying of Single Core Cables	<ul style="list-style-type: none"> a) The single core cables shall be laid in trefoil formation. Single core cables can be laid individually in HDPE pipe in case of HDD only. (Details of HDPE Pipe as per Annexure-9) b) For single core cables laid in trefoil formation, plastic cable ties shall be used at interval of 1.0 (one) meter throughout the cable length to maintain the trefoil arrangement. c) To balance the inductance, the phase sequence in trefoil format shall be maintained by vendor (for double circuit) d) To prevent magnetic losses (eddy current and hysteresis losses), the base plate of the panels or the terminal box of the equipments, shall have aluminium plate. In case the entry into the building is through GI pipe, a "slit" in the GI pipe shall be necessary. Alternatively GI pipes may altogether be avoided and non-metallic pipes such as PVC or HDPE pipe shall be used. Concrete pipes having steel reinforcement (RCC pipe) are not to be used.
2.11	Earthing of Single Core Cables	<ul style="list-style-type: none"> a) Single point bonded earthing shall be employed to prevent flow of induced circulating current in the armour and screen and consequential de-rating of cables for feeder less than 2.0 KM. b) For feeder length more than 2 KM, mid point earthing shall be provided.
2.12	Violation of barricading guideline and safety norms	On violation of barricading guideline and safety norms, a fine of Rs.5000 /day shall be imposed. BRPL inspector/engineer in-charge shall be empowered to impose the above penalty.

3.0 General guidelines for Laying Cables

S. No.	Parameter	Details
3.1	General	<ul style="list-style-type: none"> a) Laying of the cables and handling of the same shall be undertaken, at all times, by adequate staff suitably trained and supplied with all the necessary plant, equipment and tools. b) The contractor shall be responsible for all the route survey, establishment of the position of the joints as per the site exigencies and the drum lengths of cables to be laid. While carrying out the route survey the contractor shall take into account the obstacles on the route whether above or below ground. The cable shall be planned to be laid in an orderly formation, free from unnecessary bends and crossings c) The contractor shall submit a drawing for the complete scheme

		<p>showing the entire route, road crossings, location of joints and also the arrangement of cables to be laid. In case due to site exigencies, cables have to cross over within the trench, the same shall be shown in the drawing. For each and every job, these drawings shall be approved by BSES, prior to commencement of work.</p> <p>d) BSES shall arrange for all the material and manpower required for jointing and end termination. The Contractor shall provide pit, carry out excavation for creation of working space required for jointing by the jointer. All civil works, structural work, clamping and earthing shall be carried out by the contractor, so that the cables and accessories perform satisfactorily during the entire life time.</p> <p>e) The entry and exit of the cables into the building shall be through RCC or GI pipe except for single core cables, which shall be properly sealed and shall be duly supported as per the method and technique approved by BSES, so that the outer sheath of the cable does not get damaged at the entry and exit points. The sealing should be of adequate length so that it minimizes the risk of spreading of fire or ingress of water.</p>
3.2	Handling and Storage of Cable drums (All empty drums are returnable)	<p>a) The cable drums shall be transported upright, so that the weight is distributed on both the flanges. Under no circumstances the cable drum may be laid on its side. During transportation the drums must be properly secured. The cable drums should never be dropped from Lorry or a trailer, so as to prevent damage to the cable drum and also to the cable. Ramp may be used for unloading. The drums may be rolled over short distance, provided the correct direction of rolling as provided on the drum is observed. Alternatively, a mobile crane should be used for lifting and lowering the drum. A chain-pulley arrangement may also be used to lift the drums and deposit the same on ground if required.</p> <p>b) In case the drums are to be stored prior to cable laying, they should be arranged in such a way to leave some space between them for air circulation. It is desirable that the drums stand on battens placed directly under the flanges. Overhead covering is not essential except in heavy rainfall areas or during monsoon. Cable should however be protected from direct rays of sun by leaving the battens on or by providing some form of sunshade. In no case the drums shall be stored in a flat position with flanges horizontal.</p> <p>c) For transportation of the cable drums from storage site to work site, the drum should be mounted on a trailer or an open lorry and unloaded by mobile cranes.</p> <p>d) After cable laying, empty cable drums shall be taken return back by vendor from site at their own risk and cost. Cost of empty drums shall be deducted from vendor account during final settlement.</p>
3.3	Cable Laying	<p>a) The ground over which the drum is positioned at site should be</p>

		<p>properly consolidated and jacks placed on both sides of the drum to make the pay-off arrangement stable. Suitable arrangement be made to stop the drum rotation, during cable laying preferably by square wooden poles kept temporarily pivoted over cable roller under the flanges which when required can be applied on the flange as a brake by personnel manning the drum.</p> <p>b) The cable should always be paved off from the top of the drum. The drum must be positioned in such a way that the arrow on the drum points opposite to the direction of rotation marked on the drum.</p> <p>c) It must be ensured that the cable is not dragged over sharp object or on the road surface, so as to avoid damage to the outer sheath of the cable.</p> <p>d) The pulling method to be used shall be approved by BSES. Cable supplier's recommended maximum pulling tension shall not be exceeded.</p> <p>e) Rollers shall be placed at intervals and the cable shall be pulled over the rollers. The rollers shall be kept lubricated so that they rotate freely, minimize friction to the cable in motion. Rollers shall be positioned at the bends to minimize side wall friction. The contractor shall ensure that PVC/HDPE sheath of cable is free from damage due to abrasion.</p> <p>f) The cable should not be pulled out from the drum by lifting of the coil while the drum is lying flat on the flange. This leads to twisting of the armour and cores resulting in permanent damage to the cable.</p> <p>g) To avoid ingress of moisture, it must be observed that the end capping of the cables is not damaged. Cut pieces of the cables must be capped immediately, before laying of the same is taken-up.</p>
3.4	Excavation of the Trenches	<p>a) The excavation of the trenches shall be commenced, with proper co-ordination with BSES, so that all the necessary clearances for the route are already obtained from the competent authorities, well in time.</p> <p>b) Before opening of the section of the trench, the contractor shall satisfy himself that the line of the trench is clear of underground obstructions, by taking out trial pits on the line of the trench.</p> <p>c) The exact location of each trench shall be approved on site by BSES. The trenches shall be kept as straight as possible and each trench shall be excavated to approved formation and dimensions. If necessary, the trenches shall be adequately shored by wooden planks and bracing to avoid trench cave-ins which would cause injury to the persons and also damage the cables laid.</p> <p>d) The bottom of each trench shall be firm and of smooth contour. The contractor shall take reasonable precautions to prevent damage to the highway or ground surface from a slip or breaking away of the sides of the trench.</p> <p>e) The trench excavation and filling in shall be so executed that all</p>

		<p>walls, roads, sewers, drains, pipes, cables, structures, places and things shall be reasonably secured against risk of subsidence or injury and shall be carried out to the satisfaction of the authorities concerned. Should, however, a damage to an existing or other services be made, the Contractor will arrange and pay for any necessary repair, to make good the damages.</p> <p>f) Where trenches pass from a footway to a roadway or at other positions where a change of level is necessary, the bottom of the trench shall rise or fall gradually. The rate of rise or fall shall be approved by BSES.</p> <p>g) Contractor shall ensure that during excavation and until restoration has been completed, for reasonable access of persons and vehicles to property or places adjacent to the route.</p> <p>h) When the excavation of the trenches has been accurately executed, the contractor shall inform BSES for approval. Laying of cables or building of structure shall not be started until the contractor has been advised by BSES to proceed with the work.</p>
3.5	Excavated material	<p>a) The materials excavated from each trench shall be placed so as to prevent nuisance or damage to adjacent ditches, drains fences, gateways and other property or things. Excavated material shall be stacked so as to avoid undue interference with traffic.</p> <p>b) Where, owing to traffic or for reasons of safety or other considerations, this is not permissible, the excavated material shall be removed from the site and returned for refilling the trench on completion of laying; surplus material shall be disposed off by the contractor at his own cost.</p>
3.6	Pipes and Ducts	<p>a) Care shall be taken to make the bend of the pipes or duct lines as easy as practicable and in no case of radius less than 3 meters. Where approved, split pipes may be used on bends, the pipes being fitted round the cable after laying.</p> <p>b) All road crossings shall be ducted. This applies to present and future roads as indicated on the route plans. The pipes and the ducts shall be laid in an approved manner and shall be surrounded by 150 mm of PCC (1:2:4)</p> <p>c) Ducts under the road shall be provided by the contractor, by non-disruptive method, if road cutting is not permitted by the concerned authorities Cable laying shall be done by Horizontal Direct drilling method (HDD).</p> <p>d) The cables shall be suitably protected at entry and exit from the pipes, so that the outer sheath does not come in contact with the edges of the pipes / ducts. The pipes and ducts shall have slope so that the seepage water can drain through the small opening provided on the lower side of the pipe sealing.</p> <p>e) The pipes and ducts shall be secured to the base at both ends and at regular interval, throughout the length, so that at no point the ducts or pipes get suspended over the threaded cable, and damage the same, thus defeating the very purpose of providing the pipe / duct.</p>

		<p>f) At all road crossings at least one spare duct / pipe shall be provided for future use. The pipe shall be thoroughly cleaned of obstructions. A draw wire or rope shall be left in each pipe to facilitate the drawing in of the cables. The duct end shall be sealed temporarily to prevent the entry of foreign matter. End caps and permanent markers shall be placed flush with footpath / roadways at both the ends. The pipes and ducts shall be cleaned again immediately before the cables are drawn in.</p> <p>g) The internal diameter of the pipe / duct should be such that the cables occupy only 40% of the area of the pipe / duct to avoid de-rating.</p>
3.7	Joint Bays	The contractor shall provide all help so as to enable jointers to carry out their work efficiently and expeditiously. The method of securing and supporting cable joints and cables also the bonding and earthing thereof, shall be detailed on the drawing. The details shall be approved by BSES prior to commencement of work. The joint position should be staggered.
3.8	Back filling of trenches	<p>a) Filling in of trenches shall not be commenced until BSES has inspected and approved the cables and accessories at site. The inspection should be got done on daily basis so that the trenches do not remain open unnecessarily, to avoid inconvenience to public.</p> <p>b) The trench shall be backfilled after putting all protections for cables.</p> <p>c) Soft soil shall be backfilled for 300 mm above the cable protection cover.</p> <p>d) Caution Tape shall be laid all along the cable route above the soft soil filling.</p> <p>e) Complete backfilling shall be done above the caution tape.</p>
3.9	temporary Reinstatement	<p>a) Where cables routes are in public highways, footpaths, gardens etc., the method of reinstatement will be subject to approval by MCD. All costs incurred will be at the contractor's expenses.</p> <p>b) The contractor shall be responsible for proper permanent reinstatement of the upper levels, which shall be carried out to the satisfaction of BSES and the MCD authorities concerned.</p> <p>c) Before finally leaving site, permanent reinstatement shall be executed by the contractor to the approval of MCD and the property owners and all costs incurred shall be to the contractor's account.</p>
3.10	Permanent Reinstatement of Public Road,	<p>a) In public roads and footways the surfaces and foundations shall be temporarily reinstated by the contractor. After settlement, temporary reinstatement material shall be removed as necessary and the permanent reinstatement shall be carried out to the approval of the appropriate highway authority / MCD. Stone and pre-cast concrete paving kerbs and channels shall also be finally reinstated by the contractor.</p> <p>b) Temporary reinstatement shall be maintained by the contractor until commencement of final reinstatement to ensure that the surface is always safe for the passage of pedestrians and vehicular traffic.</p>

3.11	Identification	All cables shall be identified below the gland at each end, at joint position and at approved positions by means of bands engraved or punched with cable no. feeder name, size of cable, number of cores, phase colour etc. The bands shall be secured fastened in a permanent manner, and shall be made of material able to resist corrosion, dampness and mechanical damage.
3.12	Cable Route Markers	All cables routes shall have markers at suitable location with a gap not exceeding 30 meters. The route markers shall be approved design. Additional markers shall be provided at joint locations with approved markings.
3.13	Cable supports / Clamps	<ul style="list-style-type: none"> a) The contractor shall supply and install all the supports, racks, trays, cleats, saddles, clips and other parts required to carry and secure the cables, without risk so that there is no undue mechanical load or stress due to weight of the cable at each end. Cleats, saddles and clips shall be of the design as approved by BSES. No cable shall be laid on the trench floor. They shall be run in a neat and orderly manner and the crossing of cables within the trench shall be avoided as far as possible. Where cable runs unavoidably cross, a suitable supporting arrangement shall be provided to maintain an adequate gap between the cables b) Every cable shall be supported at a point not more than 500 mm from its termination.
3.14	Installation of Cables in tunnels / basement / below the panels etc	<ul style="list-style-type: none"> a) The design of cable support for cables installed in air in cable tunnels, basements etc. shall consist of vertical steel members spaced at approved interval and secured to the walls, floors and ceilings as necessary by means of bolts either cemented in position or expanded into cored holes. Each vertical support shall have bolted to it a number of steel brackets spaced at the intervals and designed to support and retain trays constructed of galvanized sheet steel of adequate section to carry the weight of the cables, plus space for an additional quantity of future cables at least 25% by weight and dimensions in excess of the cables installed under the contract and an additional load of 100 kg at the extremity without distortion. The trays shall be designed with raised edges to retain the cables and shall incorporate an interlocking feature so as to prevent movement between supports. b) The design and construction of all cable cleating and supporting arrangements shall suit the cable system design. The spacing of cable supports shall be approved by BSES. c) Cable run on trays shall be neatly dressed and where not provided with cleats shall be secured by heavy gauge, type approved metal reinforced, clips or saddles. Not more than six cables shall be embraced by one clip. d) Mild steel of appropriate sections, duly painted in an approved manner, shall be used for fabrication of cable supports. The steel shall be free from blisters, scales, laminations or other defects. Before final painting, the steel sections shall be provided with double coat of red primer.

3.15	Cable Protection at overhead Towers or Poles	Where the cables terminate on overhead line poles or towers located outside substation compounds the contractor shall provide suitable cable supporting galvanized steel work attached to the pole or tower and comprising backboard, runners, sheet, steel cover of not less than 3.0mm thickness, stays, cable cleats, anti climbing guard and all incidental items to provide secure protection for the cables. Isolators and Lightning arrestor if required to be installed shall be provided as free issue item to the contractor, however the erection and steel structure required shall be in scope of the contractor.
3.16	Sun Shades	All cables shall be protected from direct solar radiation by ventilated sun shields as approved by BSES.
3.17	Route Plan	<ul style="list-style-type: none"> a) BSES intends to show all the cable routes, location of joints and other underground obstructions on a GPS map. b) During the progress of the contract works the contractor shall record on a set of route plans and cross section drawings of an approved form, these details so that the same can be transferred on the GPS maps. Such particulars will allow an accurate reference to be made in the case of any fault or projected modification. These records shall show, amongst other data, both indoors and outdoors the exact position of every joint, cable end termination and also the particulars of the depth of the trench, the arrangement of the cables, with cable numbers and the position of all obstructions revealed during the course of excavations. These completed records shall be submitted to BSES within 15 days of completion of any particular route/feeder. The final bill shall not be processed by BSES unless this activity has been completed to the entire satisfaction of BSES
3.18	Site Facilities to be maintained by the Contractor	<ul style="list-style-type: none"> a) The contractor shall arrange for all the tools and tackles required for cable laying as per this specification. BSES shall arrange for all the material and manpower required for jointing and end termination. b) Illumination and Power supply shall be arranged by the contractor so that the work can be carried out round the clock. c) The contractor shall maintain functional dewatering pumping facility with suitable power supply so as to protect the cables and the joints from ingress of water due to rain or otherwise d) The contractor shall make arrangement to provide suitable scaffolding arrangement to carry out the termination work e) The contractor shall carry out proper barricading of the dug cable route and the joint bays and shall take all necessary precautions to avoid any public hazard f) Also refer Annexure-7: Barricading and Safety.
3.19	Type of Roads and guidelines for road restoration	<p>The typical section of type of Roads (based on width) under PWD and MCD are :-</p> <ul style="list-style-type: none"> - 20 Feet Wide road - 30 Feet wide road - 40 to 60 Feet Road - Other (which include Kota stone, Agra stone, Cement concrete, interlocking paving tiles, brick road, chequered tiles

		<p>and asphalted road)</p> <p>The drawing are shown in annexure IV</p> <p>The guidelines for road restoration for various type of roads and surfaces are indicated in annexure V as :-</p> <ul style="list-style-type: none"> - Bituminous road Type I (category I & II) - Bituminous road Type II (category III) - Cement concrete road - Kota/Rajasthan stone Road - Brick Road - Interlocking paving tiles. - Agra stone road - Chequered tiles road - Asphalted road
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4.0 Testing

S. No.	Parameter	Details
4.1	Tests to be carried out during and after completion of Cable Laying	<p>Testing of cable before jointing –</p> <ul style="list-style-type: none"> - Cable shall be tested for Insulation Resistance prior to laying by opening the end and resealing end properly. <p>Testing on complete Cable Installation –</p> <ol style="list-style-type: none"> a) Insulation resistance of each core shall be measured against all the other cores and the metal screen connected to earth. b) The resistance of the conductor shall be measured. c) DC High voltage. For old cables test voltage shall be 1.5 times rated voltage or less depending on age of cable.(refer annexure # 2 for values) d) Charging of Cable at No-Load at Nominal working voltage for 24 Hours. e) After laying and before termination of cable a sheath test shall be conducted for 66KV Single core Cable as under :- <p>At both ends the cable shall be raised from ground. From the end graphite coat applied over the outer PVC jacket shall be removed with a piece of glass for a length of 300mm. A spiked steel rod with an eye for attaching a wire shall be driven into the ground and connected to a nearby water or hydrant pipe. Insulation resistance of PVC jacket shall be measured between the aluminium wire armour and the spike with a 500/1000V insulation tester. Measured resistance shall not be less than 2.5M OHM per KM. Thereafter 10KV DC shall be applied for one minute in the same way. After the test the armour shall be kept earthed to the steel spike for 15 minutes for discharging residual charge.</p>
4.2	Statutory	<ol style="list-style-type: none"> a) Road cutting permission

	clearance	Road cutting permission shall be taken from competent authority by vendor. How ever official fees shall be paid by BRPL. b) Electrical inspector clearance Electrical Inspector clearance shall be in vendor scope. How ever official fees shall be paid by BRPL.
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5.0 Progress Reporting:

S. No.	Parameter	Details
5.1	Detailed Progress report	Progress report to be submitted by Contractor to BSES once in a Week containing i) Excavation status ii) Cable laying status iii) Status of preparedness for Jointing iv) Reason for any delay in total programme v) Details of damage to cable during laying. vi) Progress on final completion / Constraints / Forward path

6.0 Drawing, Data & Manuals:

S. No.	Parameter	Details
6.1	To be submitted After Completion of the Job	As the works is completed the following reports in quadruplicate shall be submitted to BSES for record purpose and shall be incorporated in the 'As constructed Records'. a) Feeder details (sending end, receiving end, SAP number of project etc) - Type of cables, cross section area, rated voltage. Details of construction, cable number & drum number. - Year and month of laying. - Actual total route length, cable length, length between joint to joints or end. - Location of cables and joints in relation to certain fixed reference points, for example buildings, hydrant, boundary stones etc. - Jointing reports detailing the date, weather conditions, jointers and supervising Engineers names, details of type of cable and type of joint or termination, location and joint bay number, ambient temperature. - Results of original electrical measurements and testing on cable installation. - Full written reports will be required of any damage occurring to cable or equipment together with remedial action proposed which will be subject to the approval of BSES.
6.2	Drawing and document sizes	Standard size paper A0, A1, A2, A3, A4

7.0.0 Deviations

Deviations from this Specification shall be stated in writing by the contractor. Written approval shall be obtained from BSES by the contractor. In absence of such a statement, it will be assumed by BSES that the Contractor complies fully with this specification during execution of the job.

Deviation mentioned in any other submitted tender docs like in GTP, QAP, Old PO, old WO, BRPL Standard, vendor standards etc. shall not be considered as a deviation at any stage of contract.

The format for approval of deviation attached in annexure # 1

Annexure # 1 – DEVIATION REPORT FORMAT

S. NO.	Clause No. of Specification	Details about deviation	Reason for deviation	Approved by (Sign & Name)

Annexure # 2 – DC HIGH VOLTAGE TEST

Rated Voltage of cable in KV	Test Voltage Between		Duration in Min.
	Any conductor and metallic sheath / Screen / armour	Conductor to conductor (for unscreened Cables)	
0.65 / 1.1	3	3	15 Min
6.35 / 11	18	30	
19 / 33	60	----	
38 / 66	90	----	

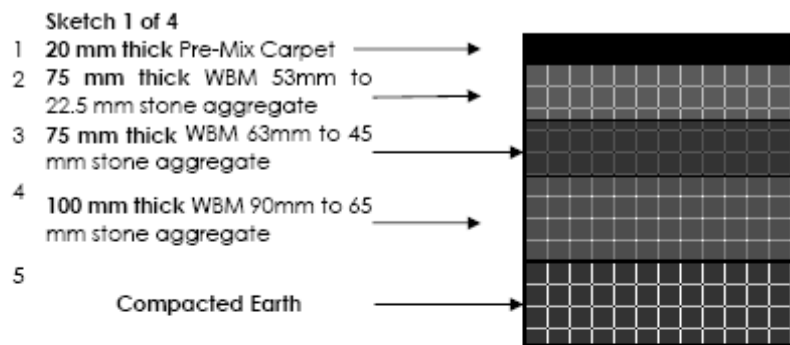
Reference value for DC High voltage Test.

Annexure # 3 – CABLE TRENCH DETAILS

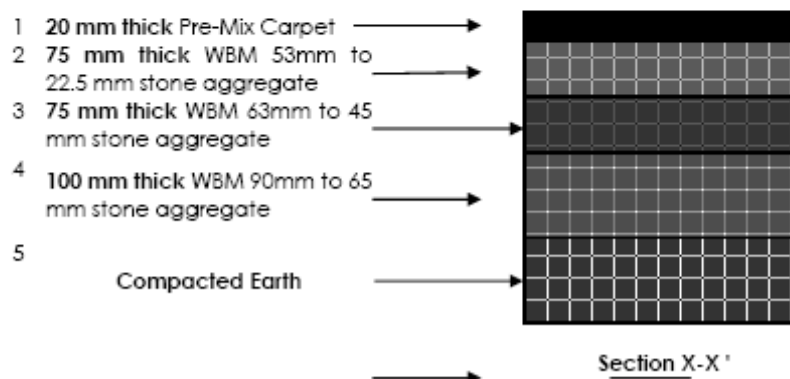
S. No.	Cable Size	Trench		Cable Trench drawing reference
		Width (mm)	Depth (mm)	
1	1.1 kV LT Cables			
a	3.5Cx150 mm ² - Single Circuit	400	875	A – 1 (Drg. # 9)
b	3.5Cx150 mm ² - Double Circuit	400	875	A – 1 (Drg. # 9)
c	3.5Cx150 mm ² - Triple Circuit	400	875	A – 1 (Drg. # 9)
d	3.5Cx300 mm ² - Single Circuit	400	875	A – 1 (Drg. # 8)
e	3.5Cx300 mm ² - Double Circuit	400	875	A – 1 (Drg. # 8)
f	3.5Cx300 mm ² - Triple Circuit	400	875	A – 1 (Drg. # 8)
2	11 KV Cables			
a	3Cx150 / 300 mm ² - Single Circuit	400	1055	A – 2 (Drg. # 6)
b	3Cx150 / 300 mm ² -Double Circuit	650	1055	B – 1 (Drg. # 7)
3	33 kV Cables			
a	3Cx400 mm ² - Single Circuit	400	1235	A – 3 (Drg. # 3)
b	3Cx400 mm ² - Double Circuit	650	1235	B – 2 (Drg. # 4)
c	3Cx400 mm ² - Quadruple Circuit	650	1235	B – 2 (Drg. # 5A)
d	3Cx400 mm ² - Quadruple Circuit	650	1545	B – 3 (Drg. # 5B)
e	3Cx400 mm ² - Quadruple Circuit	1200	1235	C – 1 (Drg. # 5C)
4	66 kV Cables			
a	1Cx630/1000 mm ² - Single Circuit	650	1445	B – 4 (Drg. # 1)
b	1Cx630/1000 mm ² - Double circuit	1200	1445	C – 2 (Drg. # 2)
c	3Cx300 mm ² - Double circuit	1200	1445	C – 2 (Drg. # 2A)

Annexure # 4 – Standard Road Profile

STANDARD ROAD PROFILE 20' - 00" FEET WIDE ROAD (Road type 1)

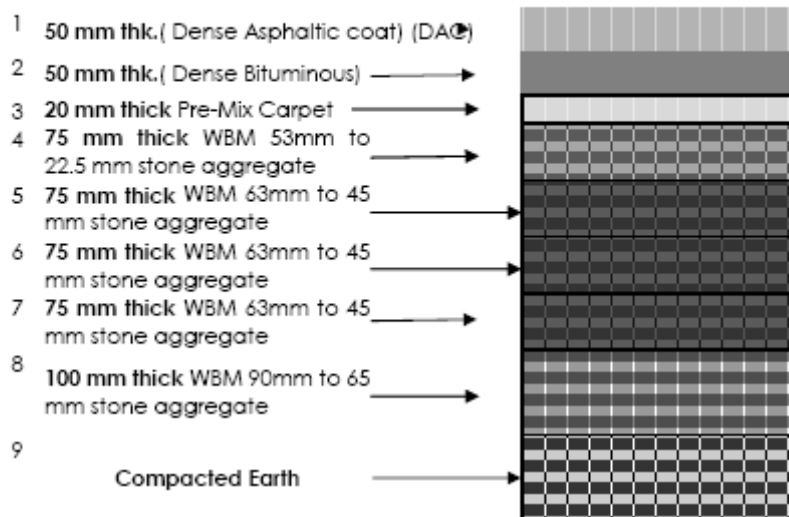


Sketch 2 of 4 30' - 00" FEET WIDE ROAD (ROAD TYPE II)



Sketch 3 of 4

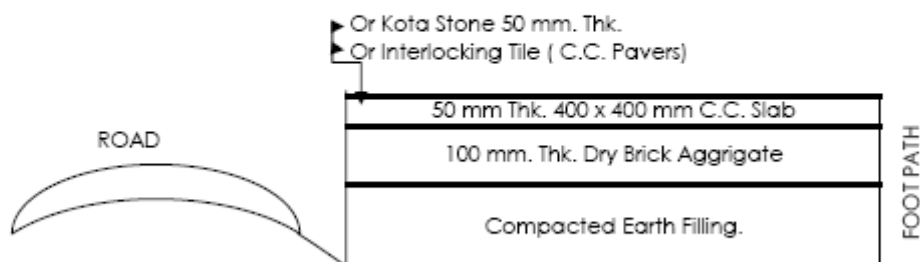
40'-00" TO 60'-00" FEET WIDE ROAD



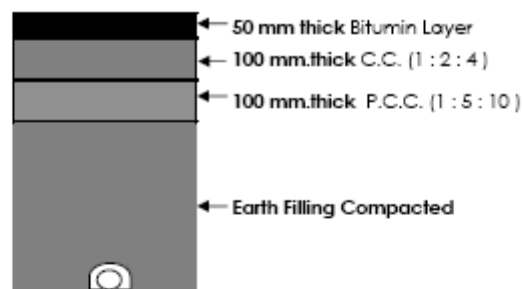
Section A-A'

Sketch 4 of 4

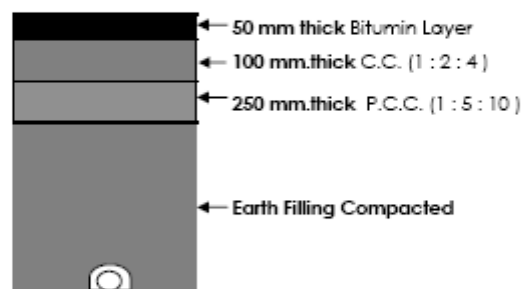
General drawing for cases other than roads.



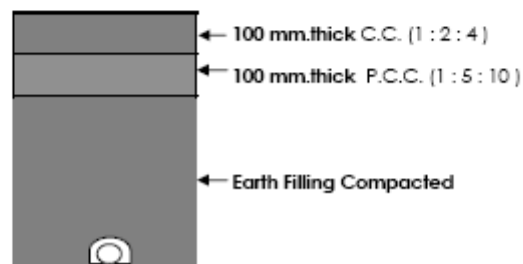
Details of Foot Path Along roads under PWD & MCD.

Annexure # 5 – Road Restoration Sectional Drawing**ROAD RESTORATION SECTIONAL DRAWINGS**

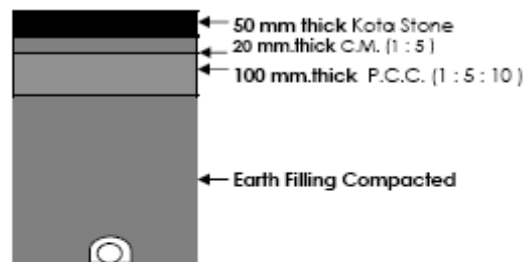
Bituminous Road Type - I (Category 1 & 2) Road width 20 to 30 feet and 30 to 40 feet.



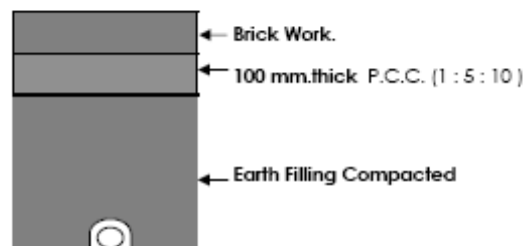
Bituminous Road Type - II (Category 3)



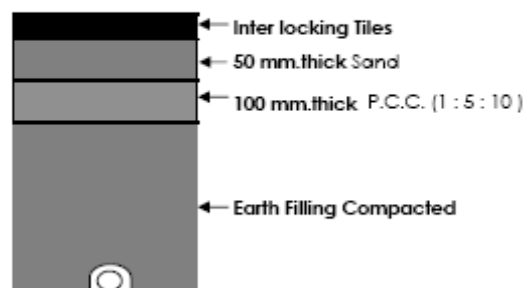
Cement Concrete Road



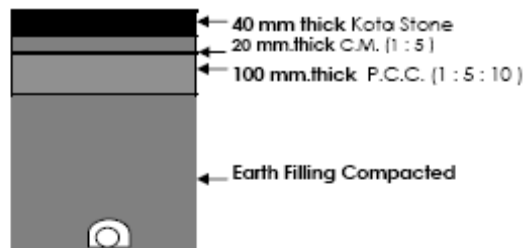
Kota / Rajasthan stone Road



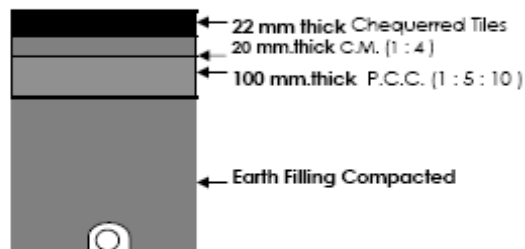
Brick Road



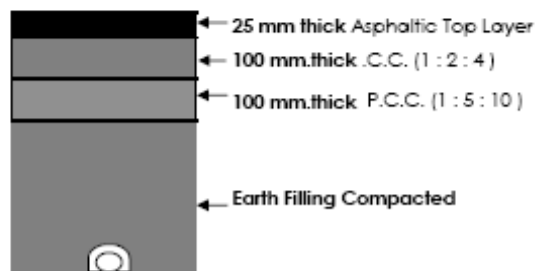
Interlocking Paving Tiles



Agra stone Road .



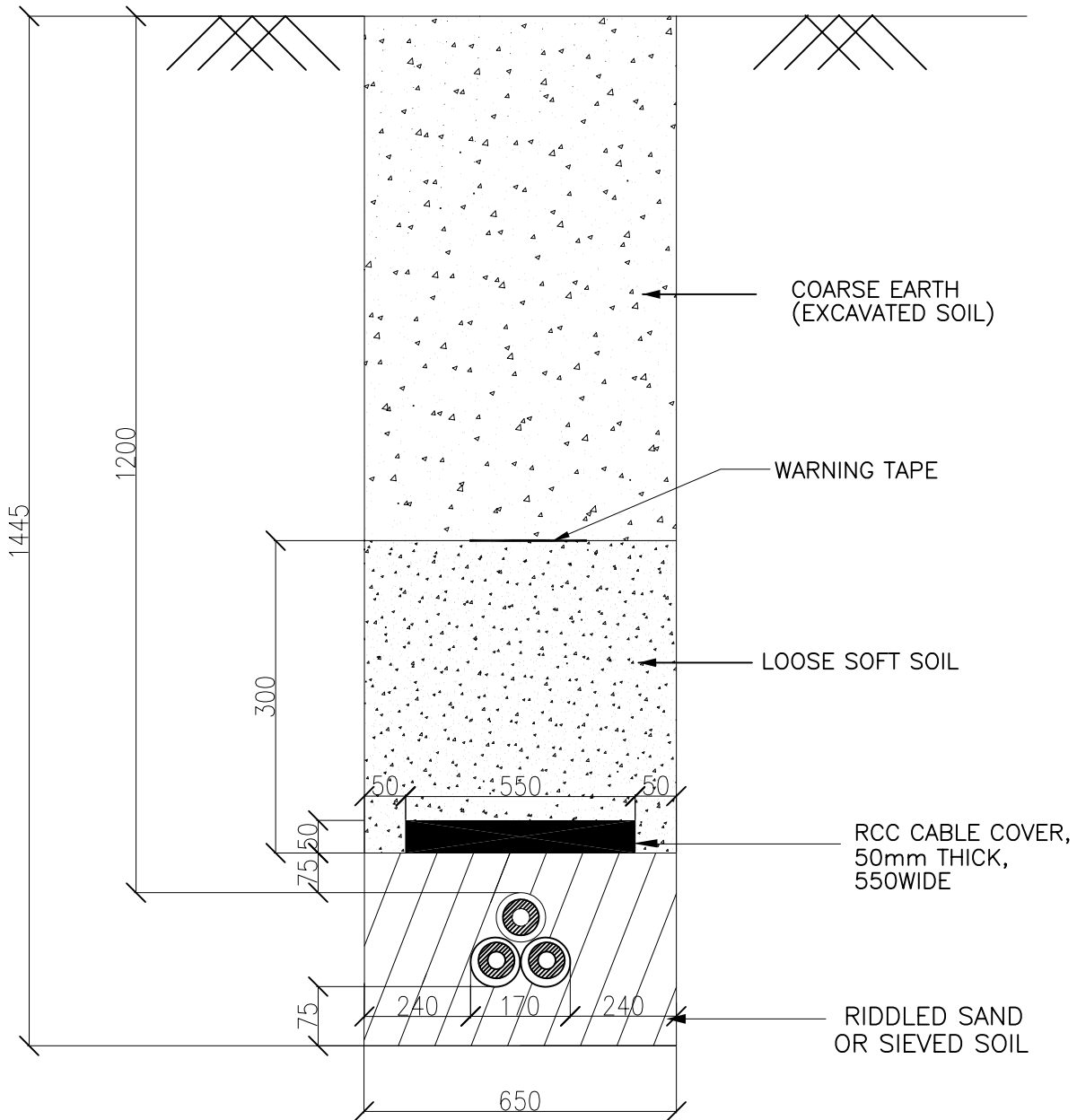
Chequerred Tiles .



Asphaltic Road .

Annexure # 6 – DRAWINGS (CABLE TRENCH AND RCC CABLE COVER)

DRAWING # 1



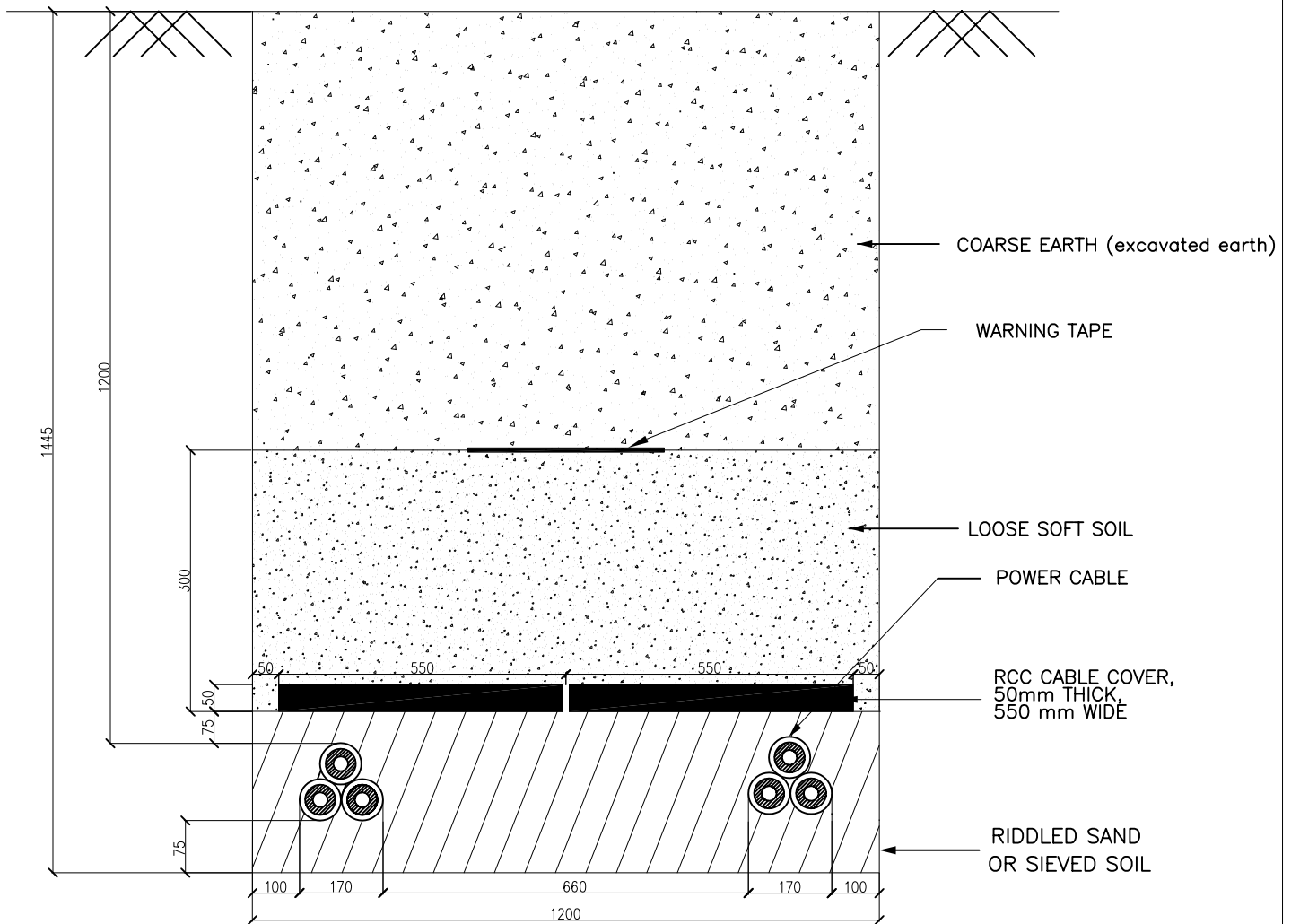
TYPICAL DETAILS FOR 66KV BURIED CABLE FOR SINGLE CIRCUIT
TYPE – B 4

DRAWN	DS	TITLE:—
CHECKED	SGD	TRENCH DRAWING FOR
APPD.	D.GUHA	1C X 630 Sq. mm
DATE		66KV SINGLE CIRCUIT
SCALE		XLPE CABLE

BSES

REV.
00

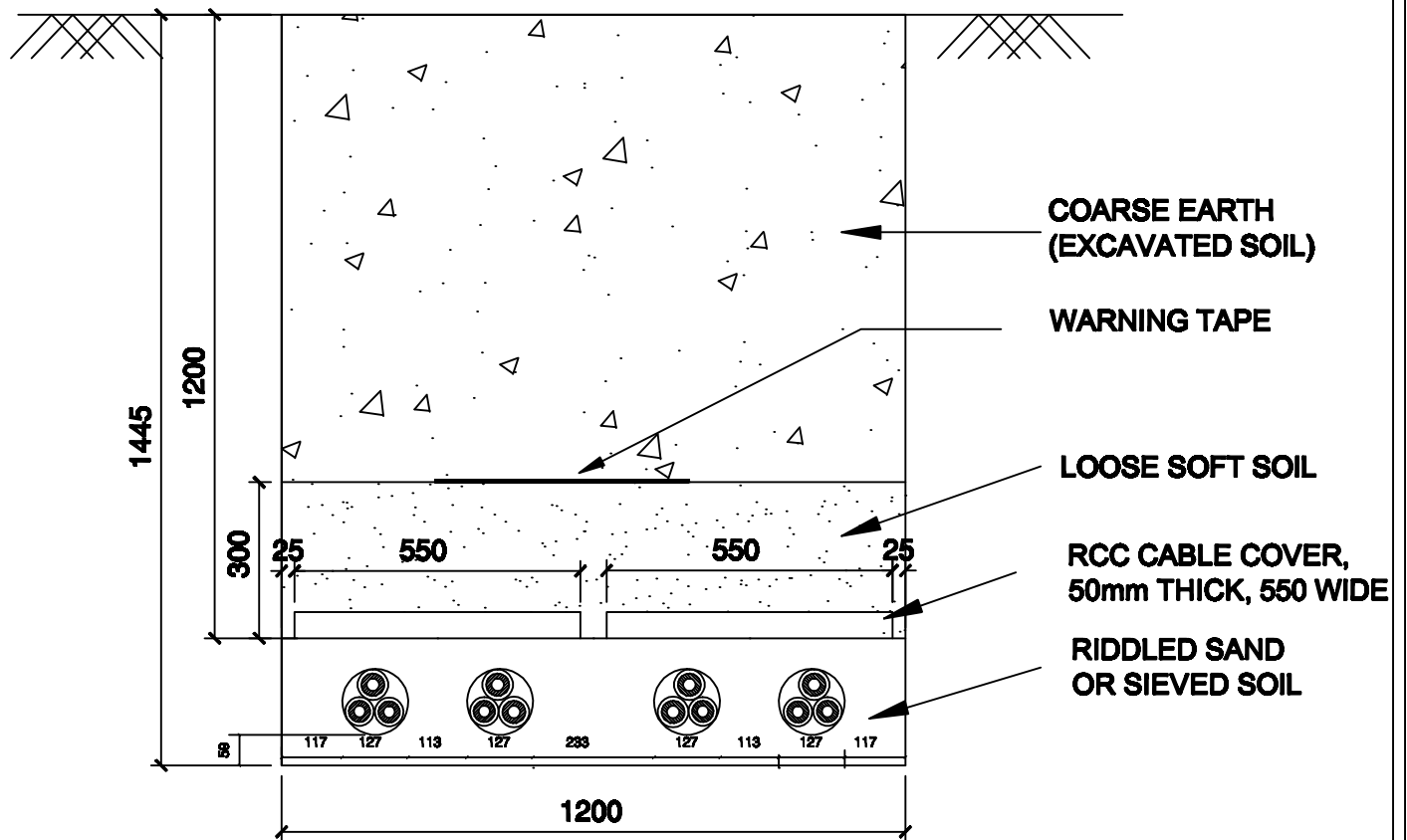
DRAWING # 2



TYPICAL DETAILS FOR 66KV BURIED CABLE FOR TWO CIRCUIT
TYPE – C 2


DRAWN	DS	TITLE:—	<h1 style="margin: 0;">BSES</h1>
CHECKED	SGD	TRENCH DRAWING FOR	
APPD.	D.GUHA	1C X 630 Sq. mm	
DATE		66KV DOUBLE CIRCUIT	
SCALE		XLPE CABLE	
			REV. 00

DRAWING # 2 A

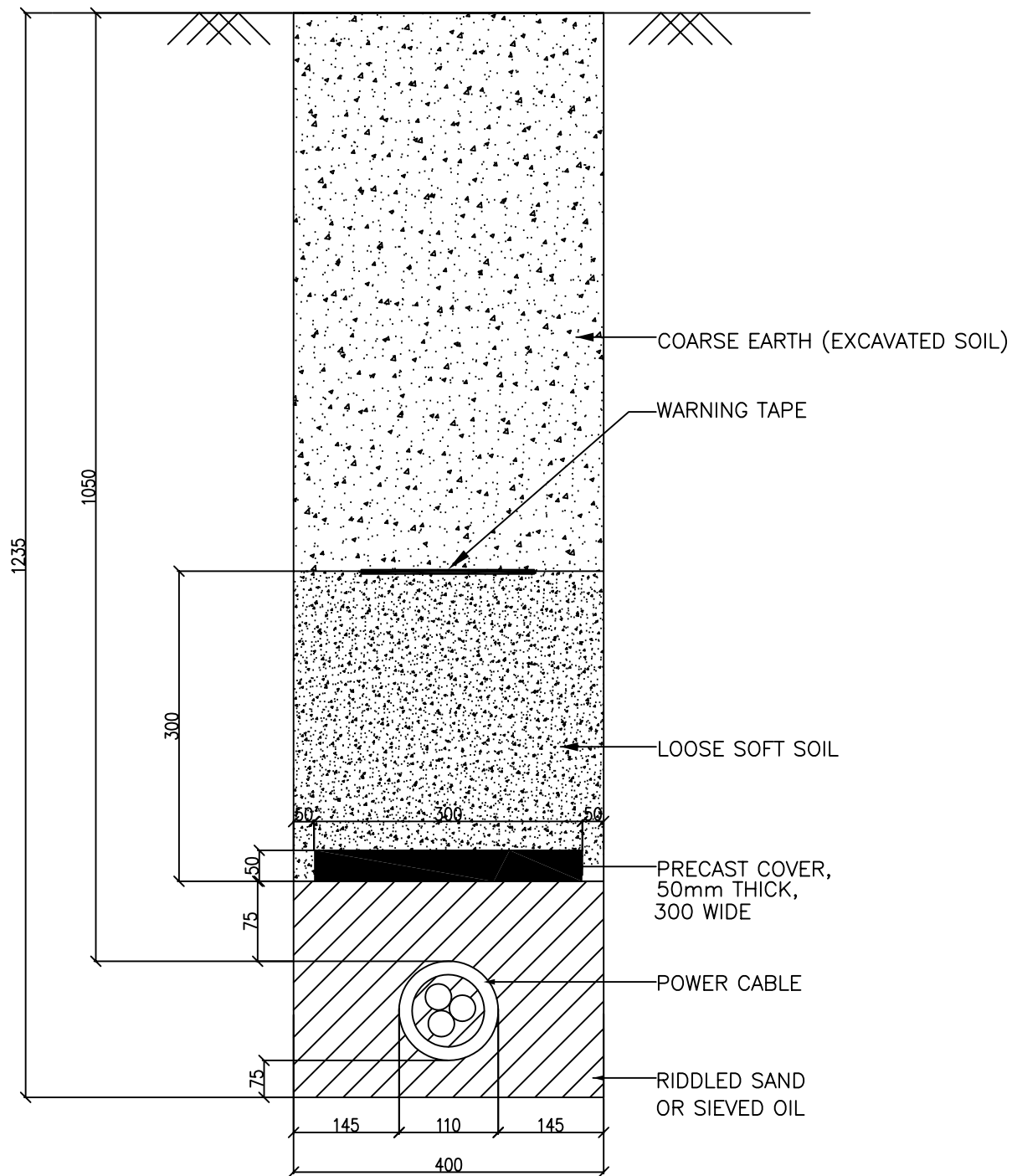


**TYPICAL TRENCH SECTION DETAILS FOR 66KV SINGLE
CORE 300 Sq. mm. BURIED CABLE FOR DOUBLE CIRCUIT**

TYPE - C 2

DRAWN	SAURABH	TITLE:--	
CHECKED	A.S	TYPICAL TRENCH SECTION DETAILS FOR 66KV SINGLE CORE 200 mm BURIED CABLE FOR DOUBLE CIRCUIT	
APPD.	K.S		
DATE	09.01.15		
SCALE			
			BSES Rajdhani Power Limited
			<div>REV. 00</div>

DRAWING # 3



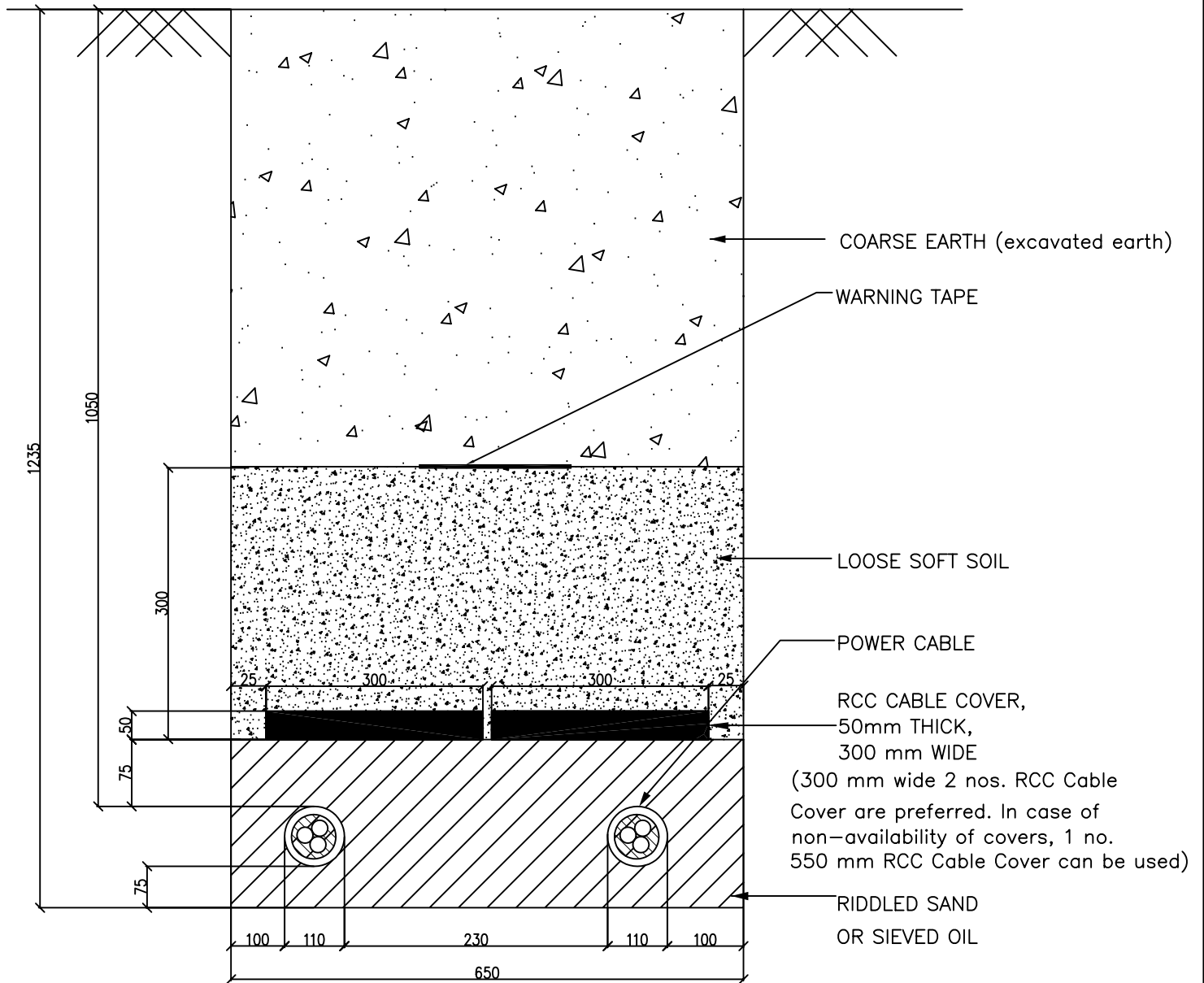
TYPICAL DETAILS FOR 33KV BURRIED CABLE FOR SINGLE CIRCUIT
TYPE – A 3

DRAWN	DS	TITLE:– TRENCH DRAWING FOR 33KV 3CX 400 mm sq. SINGLE CIRCUIT XLPE CABLE
CHECKED	SGD	
APPD.	D.GUHA	
DATE		
SCALE		

BSES

REV.
00

DRAWING # 4



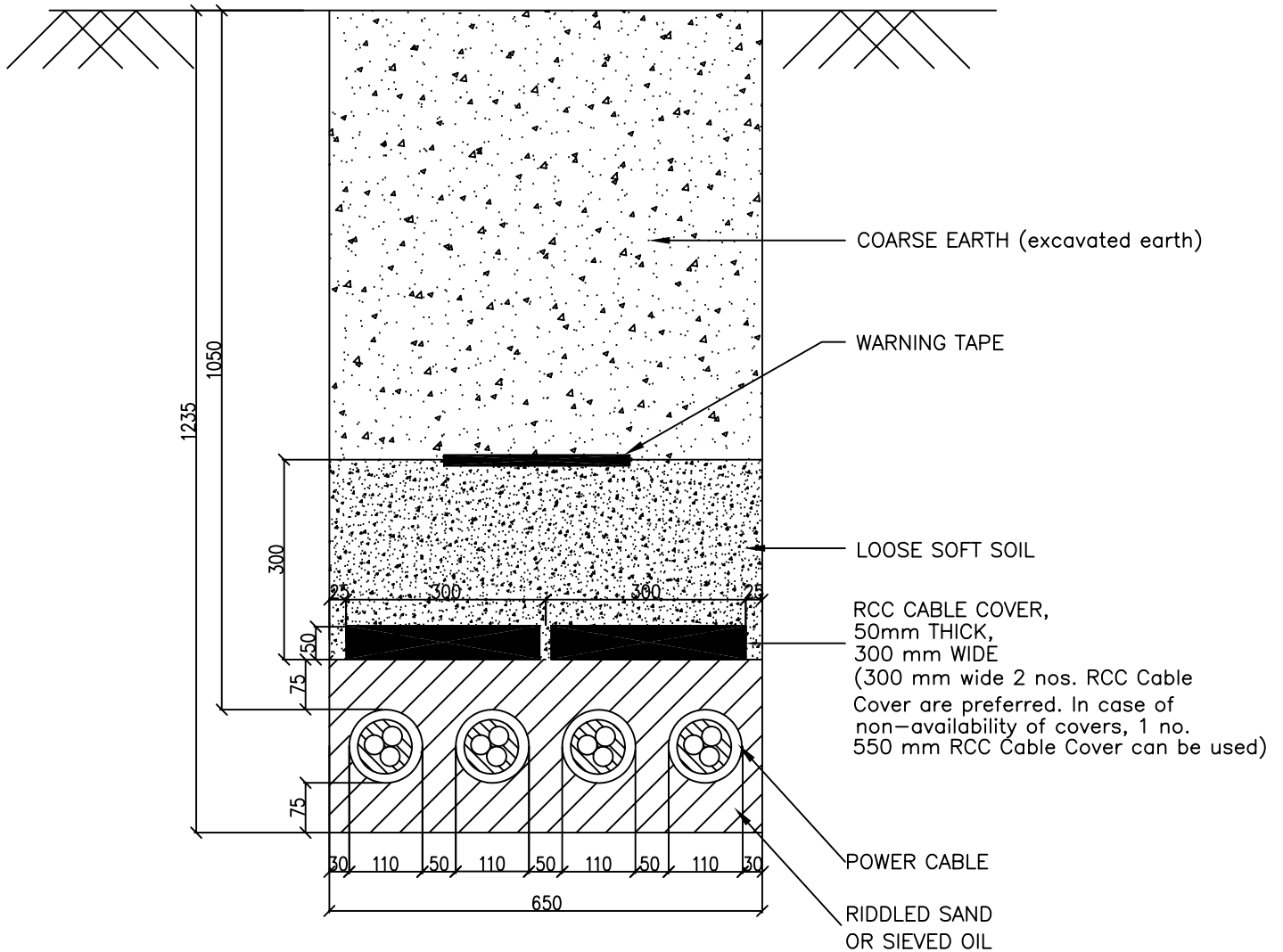
TYPICAL DETAILS FOR 33KV BURRIED CABLE FOR TWO CIRCUIT
TYPE – B-2

DRAWN	DS	TITLE:-- TRENCH DRAWING FOR 3C X 400MM2, 33KV DOUBLE CIRCUIT XLPE CABLE
CHECKED	SGD	
APPD.	D.GUHA	
DATE		
SCALE		

BSES

REV.
00

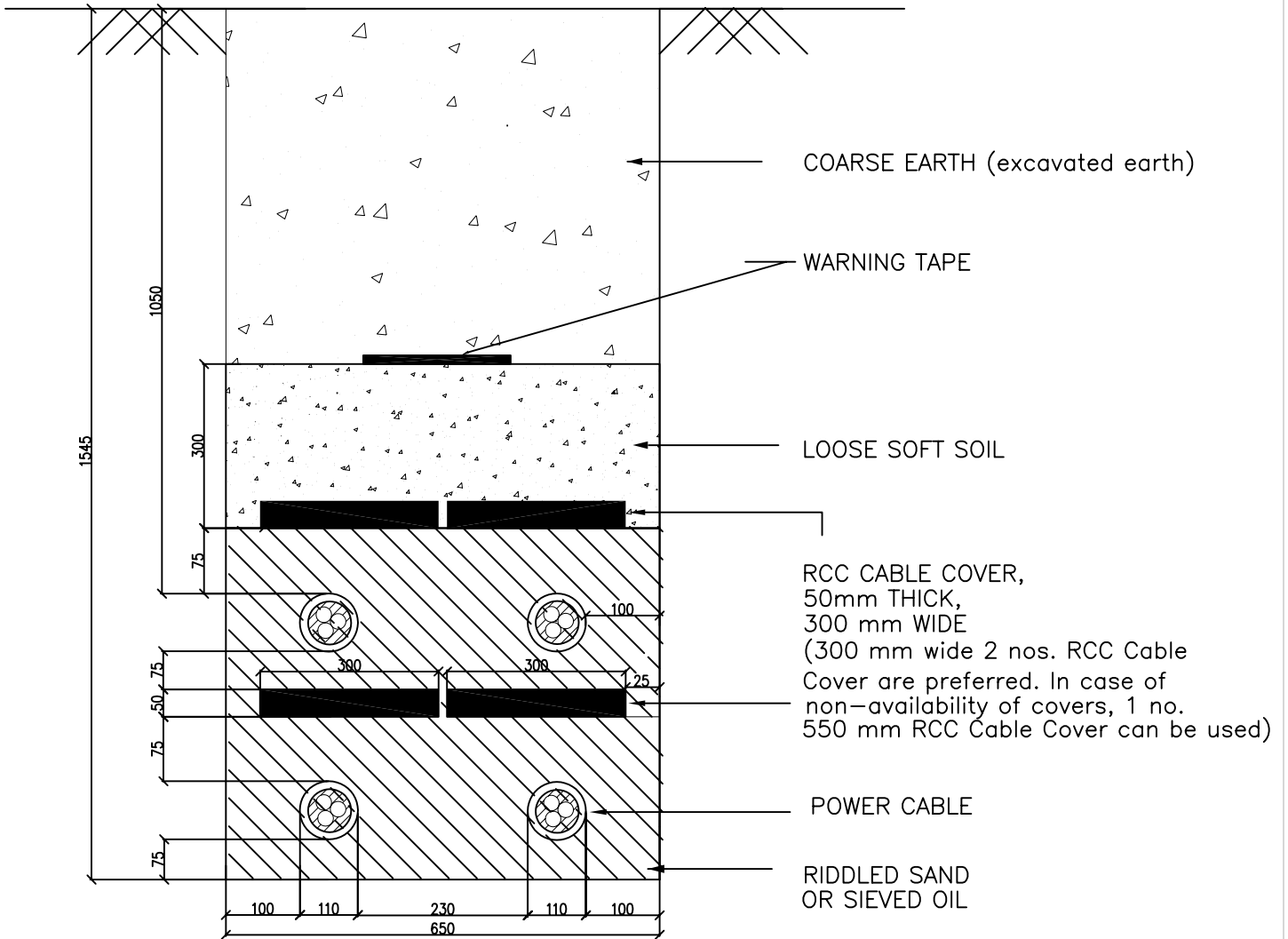
DRAWING # 5 A



TYPICAL DETAILS FOR 33KV BURIED CABLE FOR FOUR CIRCUIT
TYPE – B 2

DRAWN	DS	TITLE:– TRENCH DRAWING FOR 3C X 400MM ² , 33KV FOUR CIRCUIT XLPE CABLE	BSES	
CHECKED	SGD			
APPD.	D.GUHA			
DATE				
SCALE				
				REV. 00

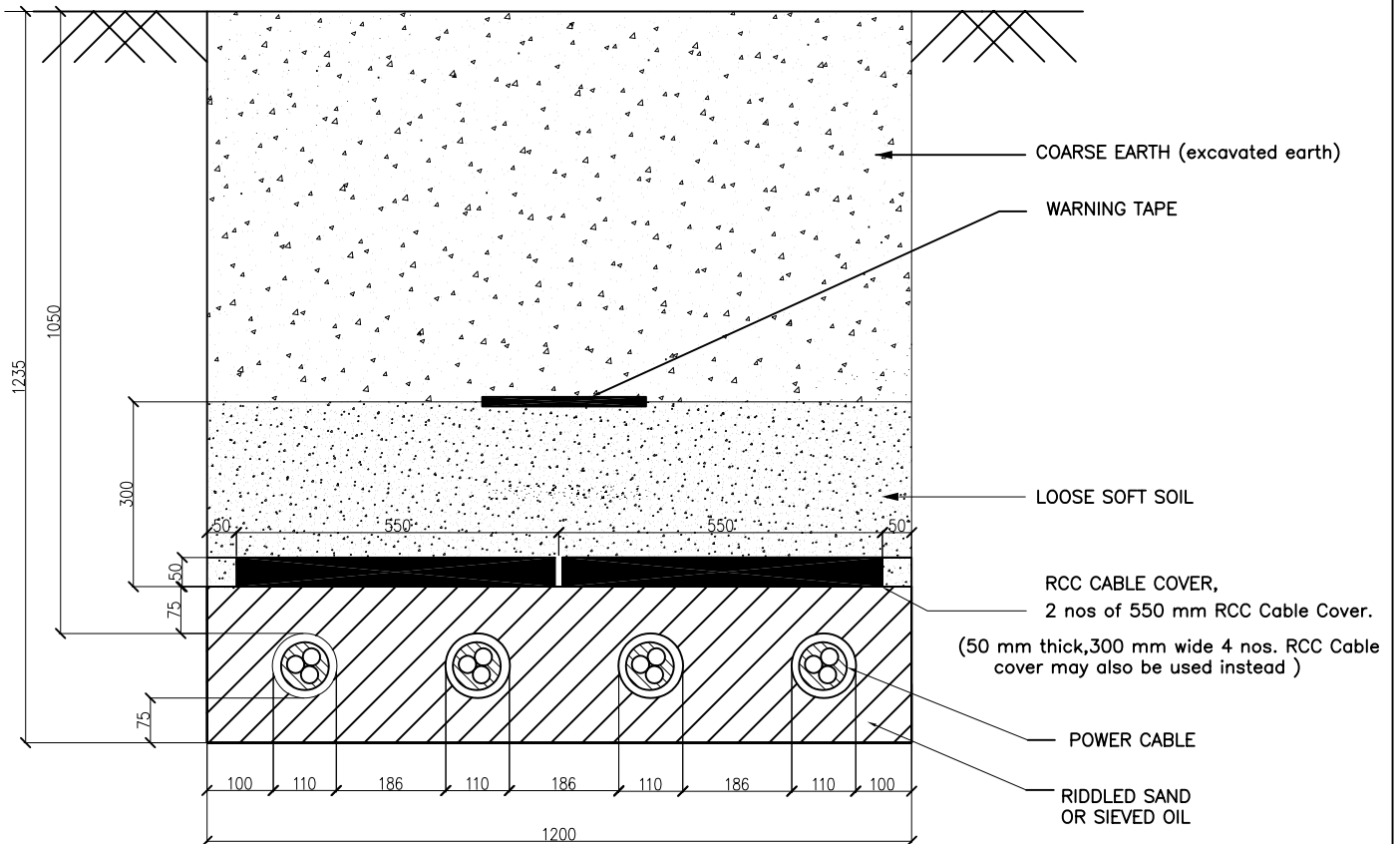
DRAWING # 5 B



TYPICAL DETAILS FOR 33KV BURIED CABLE FOR FOUR CIRCUIT
TYPE – B 3

DRAWN	DS	TITLE:—	<div style="text-align: center; font-size: 2em; font-weight: bold;">BSES</div>	<div style="text-align: right; font-weight: bold;">REV. 00</div>
CHECKED	SGD	TRENCH DRAWING FOR		
APPD.	D.GUHA	3C X 400MM2, 33KV		
DATE		FOUR CIRCUIT		
SCALE		XLPE CABLE		

DRAWING # 5 C



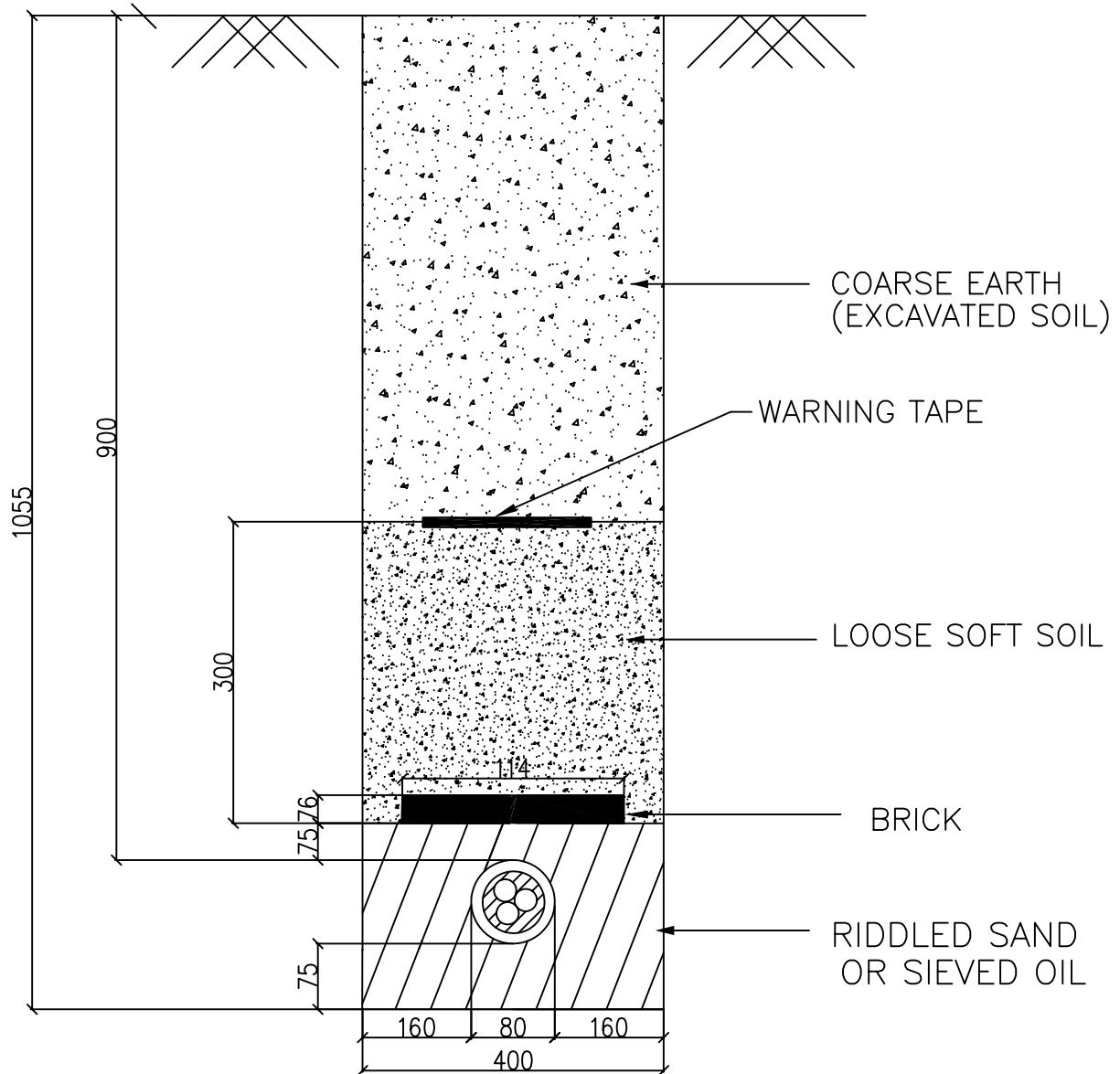
TYPICAL DETAILS FOR 33KV BURIED CABLE FOR FOUR CIRCUIT
TYPE – C 1

DRAWN	DS	TITLE:–
CHECKED	SGD	TRENCH DRAWING FOR
APPD.	D.GUHA	3C X 400MM2, 33KV
DATE		FOUR CIRCUIT
SCALE		XLPE CABLE

BSES

REV.
00

DRAWING # 6



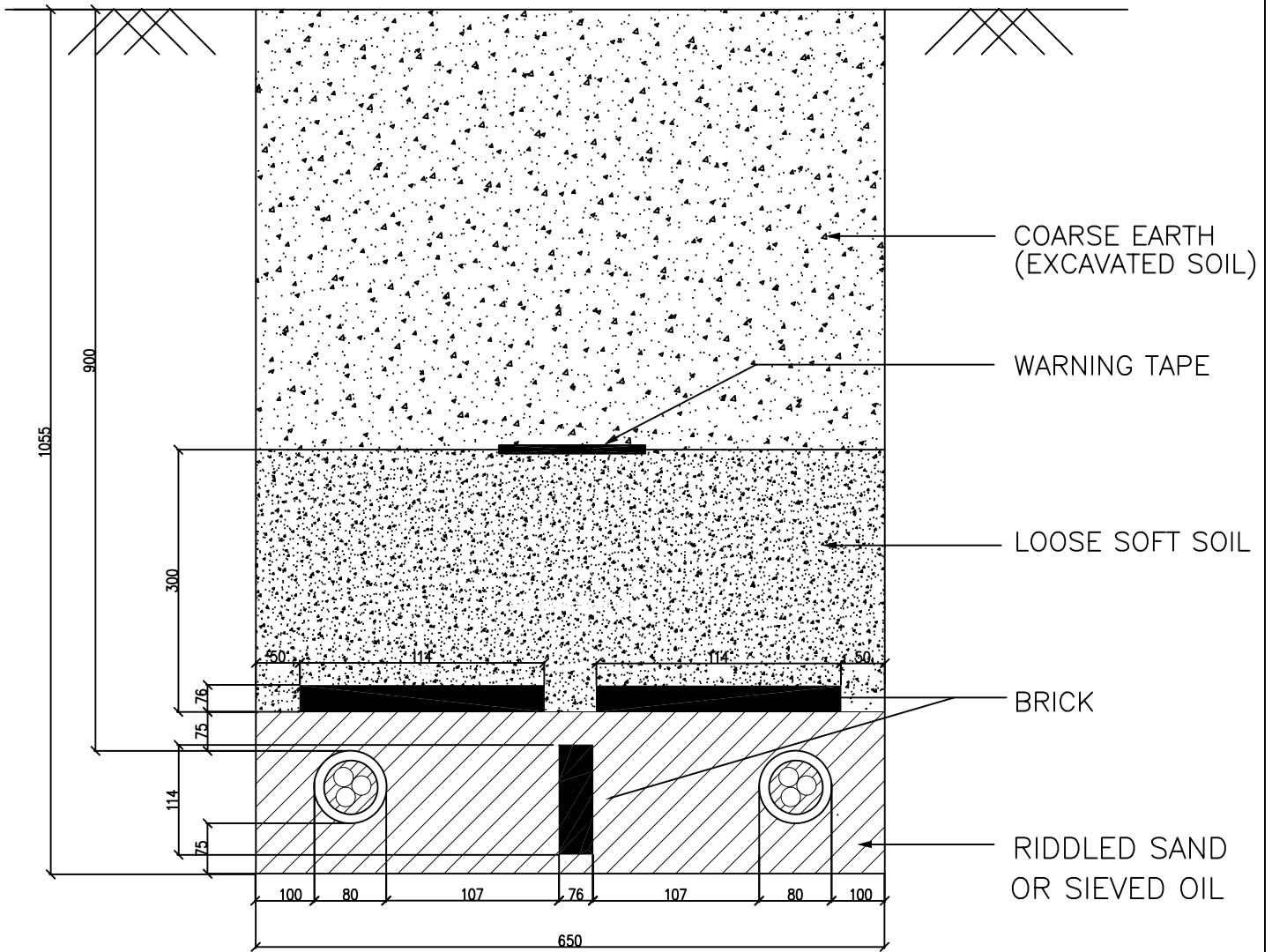
TYPICAL DETAILS FOR 11KV BURRIED CABLE FOR SINGLE CIRCUIT
TYPE – A 2

DRAWN	DS	TITLE:–
CHECKED	SGD	TRENCH DRAWING FOR
APPD.	D.GUHA	3C X 300 Sq. mm
DATE		11KV SINGLE CIRCUIT
SCALE		XLPE CABLE

BSES

REV.
00

DRAWING # 7



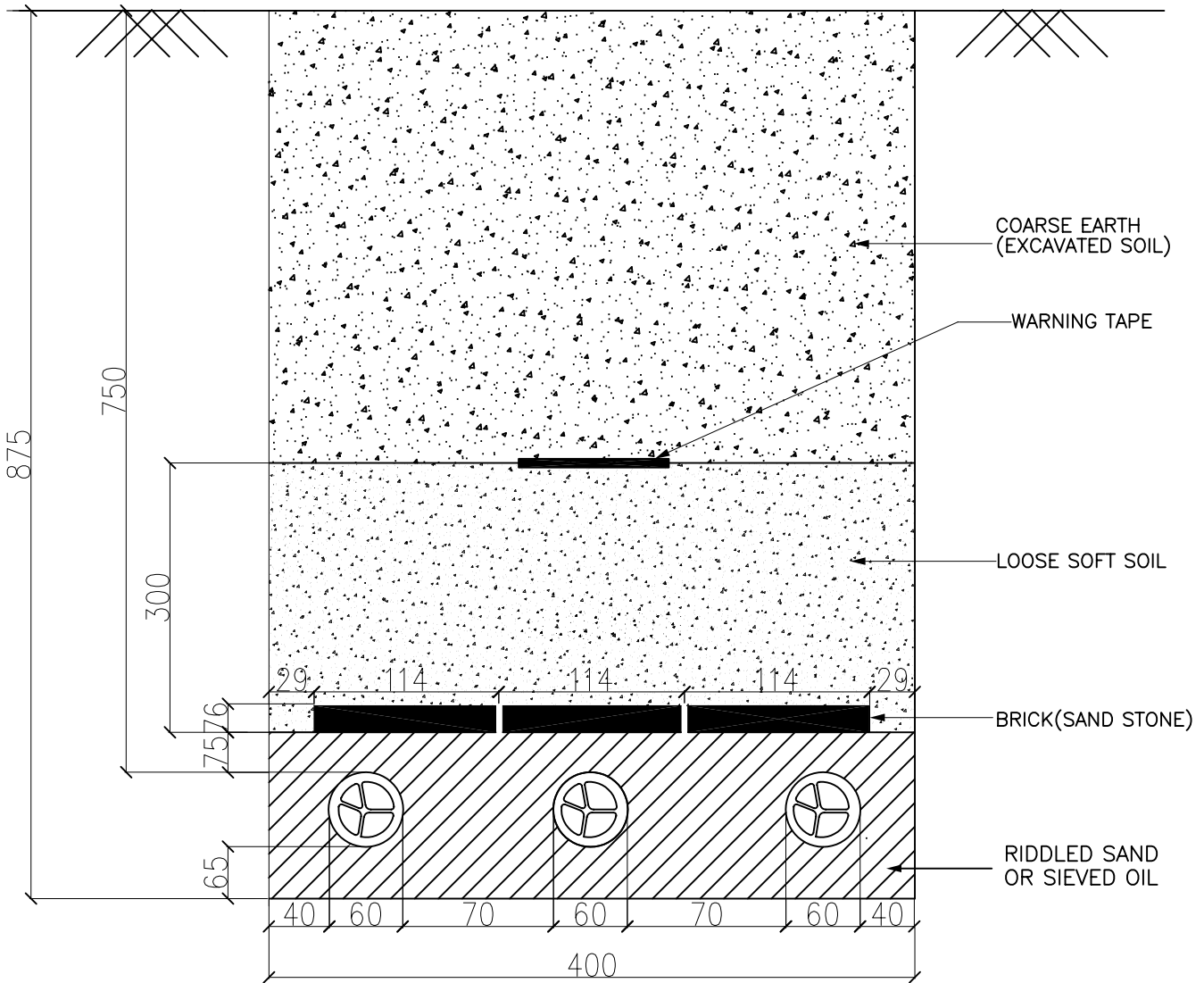
TYPICAL DETAILS FOR 11KV BURIED CABLE FOR TWO CIRCUIT
TYPE – B 1

DRAWN	DS	TITLE:-
CHECKED	SGD	TRENCH DRAWING FOR
APPD.	D.GUHA	3C X 300 mm Sq. or
DATE		3C X 150 mm sq
SCALE		11 KV DOUBLE CIRCUIT
		XLPE CABLE

BSES

REV.
00

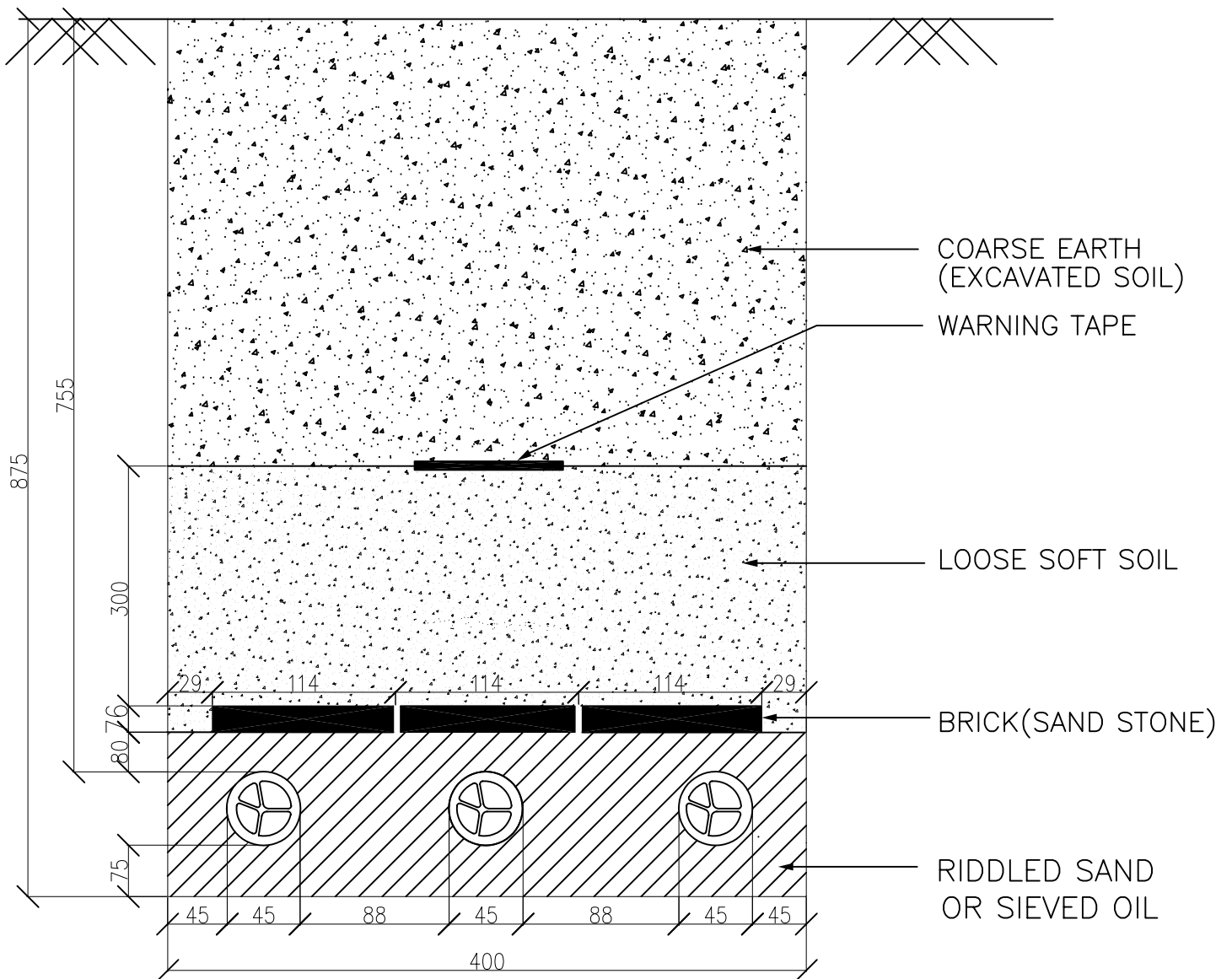
DRAWING # 8



TYPICAL DETAILS FOR 1.1KV BURIED CABLE
TYPE – A 1

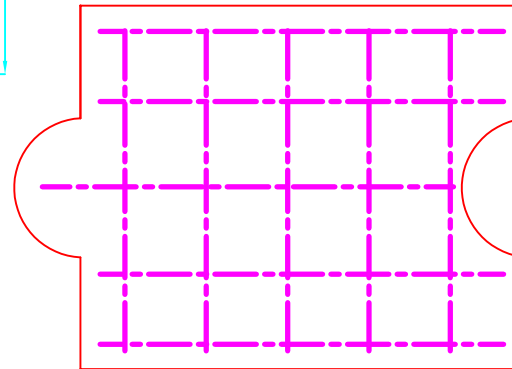
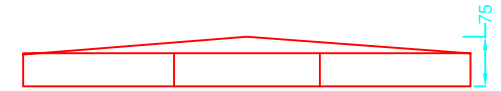
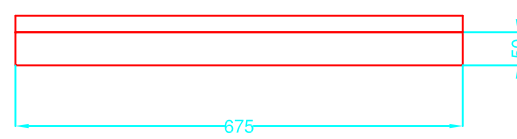
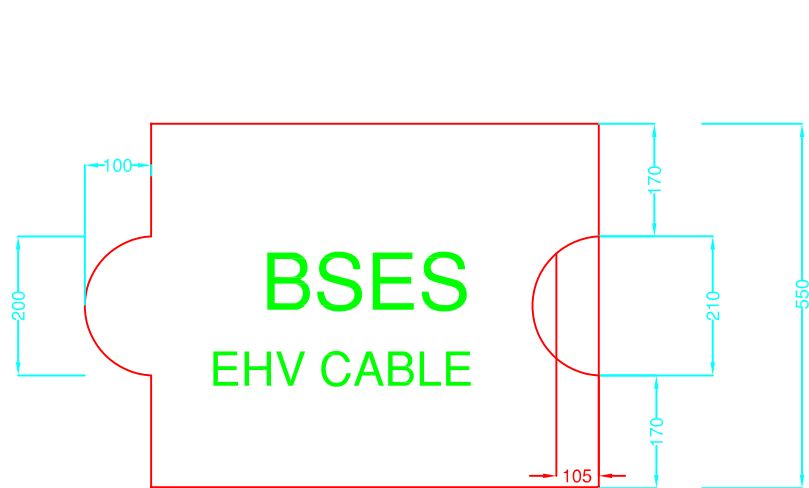
DRAWN	DS	TITLE:–	<div>BSES</div> <div>REV. 00</div>
CHECKED	SGD	TRENCH DRAWING FOR	
APPD.	D.GUHA	3.5Cx300Sqmm 1.1 KV	
DATE		XLPE CABLE	
SCALE			

DRAWING # 9



TYPICAL DETAILS FOR 1.1KV BURRIED CABLE
TYPE – A 1

DRAWN	DS	TITLE:- TRENCH DRAWING FOR 3.5Cx150Sqmm 1.1 KV XLPE CABLE	BSES	REV. 00
CHECKED	SGD			
APPD.	D.GUHA			
DATE				
SCALE				

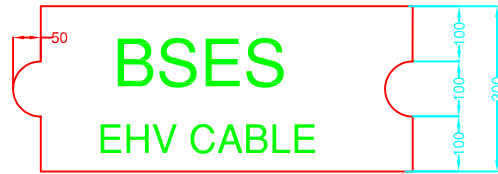


NOTE -

- (i) All dimensions are in MM.
- (ii) Concrete Mix 1 : 2 : 4
- (iii) MS rod - 6 MM Ø

CABLE COVER FOR EHV CABLES TYPE - A.

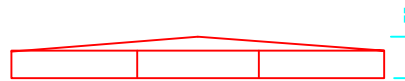
1. STEEL ROD - AS PER IS 432/1139
2. CONCRETE MIX SHALL BE NOT LESS THAN M200 GRADE AS PER IS 456.
3. MOULDING SHALL BE WITH COMPACTION NOT LESS THAN 7 MN/Sq.m.(70 kgf/Sqcm)



PLAN

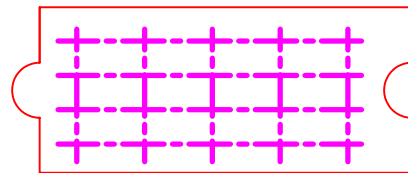


ELEVATION



SIDE VIEW

1. STEEL ROD - AS PER IS 432/1139
2. CONCRETE MIX SHALL BE NOT LESS THAN M200 GRADE AS PER IS 456.
3. MOULDING SHALL BE WITH COMPACTION NOT LESS THAN 7 MN/Sq.m.(70 kgf/Sqcm)



NOTE -

- (i) All dimensions are in MM.
- (ii) Concrete Mix 1 : 2 : 4
- (iii) MS rod - 6 MM Ø

CABLE COVER FOR EHV CABLES TYPE B.

Annexure-7: Barricading and Safety

1. Dimensions of barricading- Height- 2 mtr, Length- 1.5 mtr. Refer drawing enclosed with tech spec for more details.
2. There shall not have any gap in between two barricades. Edge to edge shall be intact.
3. LED Bacon light shall be placed at 1st and 4th barricade and same shall be continue
4. Name, painting, colour, clean ness etc. shall be done on regular basis.
5. Vendor to ensure that traffic management shall not be excuse of work execution. The contactor shall not undertake loading and unloading at carriageways obstructing the free flow of vehicular traffic and encroachment of existing roads by the contactor applying the excuse of work execution.
6. Full height fence, barriers, barricades etc. shall be erected around the site in order to prevent the working area from the risk of accidents due to speedy vehicular movement. Same the way barricades protect the road users from the danger due to construction equipment and temporary structures.
7. The structure dimensions of the barricades , material and composition, its colour scheme, BSES logo and details shall be in accordance with specification and drawing laid down in the tender documents.
8. All the barricades shall be erected as per the design requirements of employer, numbered painted and maintained in good condition and also barricade in charge maintain a barricade register at site
9. All barricades shall be conspicuously seen in the dark/night time by the road users so that no vehicle hits the barricades. Conspicuity shall be ensured by affixing retro reflective strips of required size and shape at appropriate angle at bottom and middle portion of the barricades at a minimum gap of 1000 mm. In addition minimum one red light /red blinker and red beacon light should be placed at the top of each barricade.
10. No dust deposit at the front side of barricades.
11. Cable drum shall be returnable and vendor shall take it back (by bye back process) from site at their own risk and cost.
12. Once cable lying complete of a drum, within two days empty drum shall be removed from site by bye back process.
13. Trained traffic marshal with all PPE and traffic control light (Red and Green) shall be placed at site for 24x7.
14. No excuse of theft (beyond 6 hrs. of FIR) shall be acceptable.
15. During execution of job, any damage to other agency's properties shall be counted in vendor account and necessary action shall be taken by vendor to recover, repair etc.
16. Excess earth shall be removed from site after back filling. Site to be cleared to avoid flowing of dust. Barricades to be removed from site with in 24 hrs. after completion of job.
17. During non working hrs. vendor to ensure presence of supervisor for controlling any event from locals.
18. PPEs

- Helmets

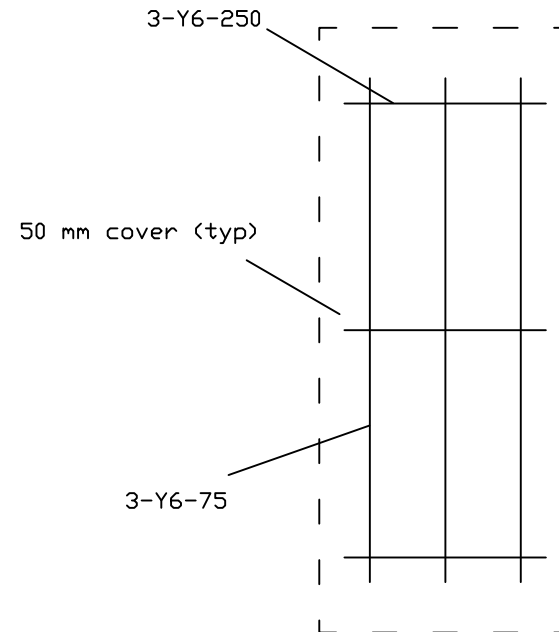
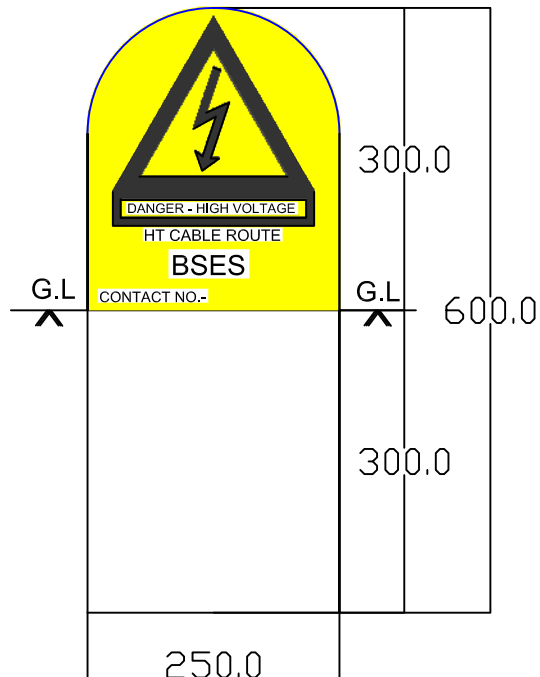
- Mask
- Jacket
- Shoes
- First Aid Box etc.

Shall be available at site 24x7. Zero tolerance on absence of PPEs to the working personnel. No excuse shall be acceptable in this regards.

19. GPR/Scanning shall be done by vendor of whole the route and same shall be submitted to BRPL. This work shall be done by vendor before execution of job.
20. Jointing TAT- Jointing to start within 48 hrs. and shall be completed by 96 hrs.+1 day.
21. Lifting of cable drums with hydraulic machine, pulling of cable from top end of drum with pulling machine (hydraulic winch) is mandatory.
22. Violation on barricading guideline and safety norms, a fine of Rs.5000 /day shall be imposed. BRPL inspector/engineer in-charge shall be empowered to impose the above penalty.


Annexure # 8 – ROUTE MARKER AND BARRICADING DRAWING

DETAIL OF HT CABLE ROUTE MARKER (RCC) - BSES



Notes:-

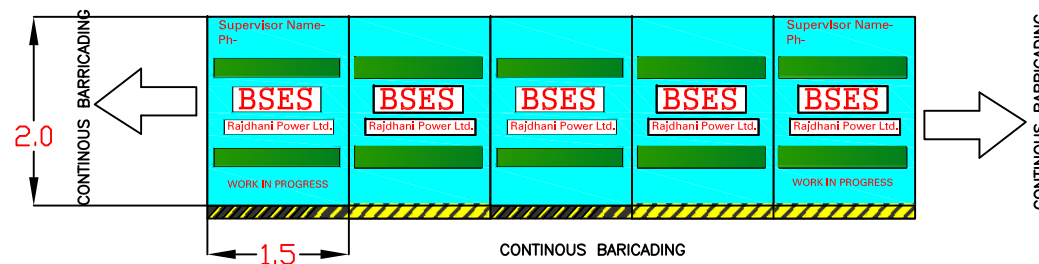
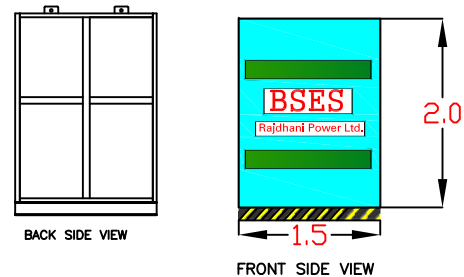
1	RCC Cable route marker with 6 mm Dia. Road and M25 concrete grade.
2	The litter/number shall be engraved on both the side route marker.
3	All dimentions are in mm unless specified.
4	Thickness of RCC shall be 75mm.
5	Yellow colour shall be visible above ground level.
6	Each route marker to be placed at an internal 50 mtr. and at every turn of route.
7	All kind of paint on route marker shall be in the scope of manufacturer.


DRAWN	R.K.JANA	TITLE:- DETAIL OF HT CABLE ROUTE MAKER (RCC).	 BSES Rajdhani Power Ltd.
CHECKED	P.B		
REVIEWED	M.B		
APPO.	K.A		
DATE	16.08.16		
			DWG. NO. BSES-RM-RCC-01, R0

BARRICADING FOR CABLE LAYING WORK

NOTE:

1. Barricading shall provided through out the route length as well as project location.
2. Plate shall be MS
3. Supervisor name, ph no, work in progress, shall be mentioned at every 1st and 4th plate of barricading through out the route.
4. Beacon Light shall be provided through out the length.
5. Traffic marshal shall be Provided for traffic control by vendor.
6. Violation of safety norms and barricading shall be reviewed by BRPL and shall impose fine of Rs.5000/day as well as termination of work and short close of award.
7. After finishing of job vendor shall take return all the plate at their own risk and cost.
8. PPE's like Helmet, Mask, Jacket, safety boot etc. shall be provided vendor to all worker.



DRAWN	R.K.JANA	TITLE:- DRAWING-BARRICADING FOR CABLE LAYING WORK	 BSES Rajdhani Power Limited	
CHECKED	P.B.			
REVIEWED	A.S.			
APPD.	V.P.			
DATE	29.06.17			

Annexure#9-Note for HDPE Pipe Diameter in Cable Laying

- 1) Primarily our intent for laying cable will be through open trench only.
- 2) Trench dimensions shall be as per the standards which mentioned as below table

Sl. no.	Cable	Trench Details (mm)		
		Depth (single and double run)	Width (Single Run)	Width (Double Run)
1	LT Cable	875	400	400
2	11 kv	1055	400	650
3	33 kv	1235	400	650
4	66 Kv	1445	650	1200

- 3) QC team will do stage inspection after completion of digging to validate the depth of trench and will give approval for issuing of cable.
- 4) Execution in charge to ensure the cable laying work.
- 5) QC team will also inspection the laying work to validate the laying as per standards before back filling.
- 6) In case of site constraints, trench less cable laying shall be allowed as per the followings-
 - a) Cable laying up to 50 mtr through trenchless will be allowed with approval of circle head (O&M) for road crossing or site constraints. Site photos of constraints shall be reviewed before approval by circle head.
 - b) Absence of permission for digging- written disapproval by road owing agency and appropriate approval by circle head (for O&M Jobs), by O&M head (for 11kV, P&C job) and by EHV head (for EHV Jobs)
 - c) The size of HDPE (PN6, PE80) pipe shall be as per the guidelines of IS-1255, 1983, clause no-6.3.4.3. Details mentioned below in below table-

Sl. No	Cable	Recommended Dia of HDPE pipe (mm)
1	66kV, 3CX300	225
2	66kV, 1CX630	180
3	66kV, 1CX1000	180
4	33kV, 3CX400	180
5	11kV, 3CX300	160
6	11kV, 3CX150	160

- d) In-case of using lower size of HDPE pipe due to site conditions, the deviation for using lower HDPE pipe from above table, written approval must be taken through technical committee. Photos of the challenges while apparently the same will be reviewed by technical committee.

(However, HDPE pipe size with less than 1.5XOD of cable shall not be allowed at any stage)