

POWER GRID COMPANY OF BANGLADESH LIMITED
Dhaka and Western Zone Transmission Grid Expansion Project

Design, Supply, Installation, Testing & Commissioning of Rampura-Bashundhara 132kV Underground Cable Line on Turnkey Basis (Package-2)
Invitation for Bids No.: 27.21.0000.101.07.312.21.5537 dated December 22, 2021
[OCB No.: PGCB/ADB/3853-BAN/DWZTGEP/UGTL/P2]

CLARIFICATION NO.1

Pre-bid meeting was held on January 04, 2022 as per clause 7.4 of Instruction to Bidders of Volume 1 of 3 of the Bidding document. Some queries were received from the prospective Bidders regarding the Bidding Documents prior the Pre-bid meeting as well as some of the bidders have submitted queries after pre-bid meeting. Clarifications on the above queries are given below, which will form part of the bidding documents.

Sl. No.	Reference and Queries of Prospective Bidders	Reply(PGCB)
Volume 1 of 3		
1	<u>Vol 1 Section 3, 2.5.1 -Overhead Transmission Line Part</u> <u>Clause:</u> At least last ten (10) years of experience prior to the date of bid submission In manufacturing minimum 132 kV or higher voltage Steel Pole Including 25m or above height size. Evidence from end users (at least one) of satisfactory service of equipment for a minimum of three (3) years prior to the bid submission date. Minimum average delivery over the last 10 years of 3,000 metric tons including 132kV steel pole. Implemented ISO 9001:2015 certificate. <u>For Bangladeshi Manufacturers:</u> At least last ten (10) years of experience prior to the date of bid submission in manufacturing minimum 33kV, 132 kV or higher voltage Steel Pole including 20m or above height size. Evidence from end users (at least one) of satisfactory service of equipment for a minimum of three (3) years prior to the bid submission date. Implemented ISO 9001:2015 certificate. <u>Bidder's Query:</u> Please consider criteria should be same Aboard and Local Manufacturer.	Please follow the bid document.

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2	<u>Vol 1 Section 3, 2.5.2 - Subcontractor, Electrical Works Subcontractor</u> <u>Clause:</u> The proposed Subcontractor for executing the field works for underground transmission lines shall have experience of XLPE cable laying of minimum 1km route length for 110kV or higher voltage underground transmission line in Bangladesh. <u>Bidder's Query:</u> The proposed Subcontractor for executing the field works for underground transmission lines shall have experience of XLPE cable laying of minimum 1km route length for 110kV or higher voltage underground / OHL transmission line in Bangladesh (Or) Outside.	Please follow the bid document.
3	<u>Vol 1 Section 3, 2.5.2 - Subcontractor, Civil Works Subcontractor</u> <u>Clause:</u> At least last five (5) years of experience prior to the date of bid submission in civil works during installation of new transmission lines of 110 kV or higher rated voltage. At least one contract for civil works for the Installation of new 110 kV or higher rated voltage single or double circuit overhead transmission line on steel lattice towers, having minimum of 5 (five) km route length In last ten (10) years prior to the date of bld submission. <u>Bidder's Query:</u> At least last five (5) years of experience prior to the date of bid submission in civil works during installation of new transmission lines of 110 kV or higher rated voltage (OR) At least one contract for civil works for the installation of new 110 kV or higher rated voltage single or double circuit overhead transmission line on steel lattice towers, having minimum of 5 (five) km route length In last ten (10) years prior to the date of bid submission	Please follow the bid document.
4	<u>Vol 1 Section-6 Appendix-2 Price Adjustment Power Cable</u> It has to be for 132kv cables (and not 220kv or 400kv) Price variation formula can be made simpler as follows which is prevailing practice in contracts: $P1 = [Po + \{(LME2 \text{ Cu} - LME1 \text{ Cu}) \times \text{Cu content in kg/m}\} + \{(LME2 \text{ Al} - LME1 \text{ Al}) \times \text{Al content in kg/m}\}] / 1000$ LME1 = Base LME in USD/ton LME2 = Closing LME rates of metals of next working day from receipt of award, in USD/ton P1 = Final Price in USD/m Po = Base Price in USD/m	The price adjustment formula mentioned in the bid document shall be applicable for 132kV XLPE power cable. Please follow Addendum-1.

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5	<u>Vol 1 Section-6 Employer's Requirement</u> <u>1.Scope of Supply of Plants & Services</u> <u>Type Test Requirements (Underground XLPE Power Cable)</u> Type test Report of 110kv or higher conducted on a Cable system from STL member testing laboratories as per IEC along with Pre-qualification tests (at STL laboratories), both conducted within last 10 years from the date of opening of tender to be included to ensure better quality and proven suppliers.	Please follow the bid document.
6	<u>Vol 1, Section 8, SCC 26, Defect Liability</u> Clause: The Defect Liability Period shall be 540 days from the date of Completion of the Facilities (or any part thereof) or 1 year from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs Query: We understand that Defect liability period will be applicable location wise. i.e., Defect liability period will start for a particular location on operational acceptance of that particular location. Kindly confirm.	Your understanding is not correct. Please follow the bid document.
7	<u>General</u> If the lockdown due to any epidemic/pandemic situation is implemented can we get a time extension to complete and reimbursement to cost implication incur due to that. Please confirm.	This shall be taken care of as per the provision of the bid document.
8	<u>GENERAL</u> Kindly provide the Soil Electrical Resistivity Parameters / Plot Size and ERT Data for the proposed SS.	The bidders are requested to visit the site and to collect the required information.
9	7th of Feb 2022, the submission date is too tight. We need at least more than 4 weeks extension	The time has been extended upto 23 February 2022 and all the bidders have been notified.
10	<u>Volume 1 of 2, Section X Appendix 5 List of Major Items of Plant and Installation Services and List of Approved Subcontractors/Manufacturers.</u> Original content: The following Subcontractors and/or manufacturers are approved for carrying out the items of the Facilities indicated below. Where more than one Subcontractor is listed, the Employer is free to choose between them, but it must notify the Employer of its choice in good time prior to appointing any selected Subcontractor	You have quoted the wrong text and the quoted text is not related with this bid document. Please carefully read and follow the bid document.

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	<u>Bidder's comment:</u> The project involves large quantity of high voltage equipment and the choice of the subcontractor is of great significance to the Contractor. Based on international practice, where more than one Subcontractor is listed, the Contractor shall have the right to choose between the subcontractors in the list. The Contractor and Employer has pre-agreed to the list of qualified vendors and a lump-sum price. In execution stage, to achieve fair and sustainable execution of the project, we request the Contract has the right to choose between the subcontractors stipulated in the final signed Appendix 5.	
11	<u>Volume 1 of 2, Section IV Form ELI 1 13.1 Bidder Information Sheet</u> <u>Original content:</u> In case of JV, letter of intent to form JV or JV agreement need to be attached <u>Bidder's Query:</u> Is Consortium agreement valid? Can the consortium agreement signing date prior than tender floating date?	Yes, the Consortium agreement is acceptable. Regarding the formation of consortium please follow the ITB 4, Volume-1 of 3 of the bidding documents.
12	<u>Order of precedence</u> In case of contradiction between the requirements as specified in Volume-1, Volume-2 Schedule A: Scope of Work, Volume-2 Schedule B1: Bid Prices & Schedules and Volume-1 Schedule E: Technical Particulars and Guarantees, Tender drawings, please confirm the order of precedence to be followed.	Bidders shall quote for the entire plant and services on a "single responsibility" basis such that the total Bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the Bidding Document in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction, installation, and completion of the plant. Order of precedence for the Contract Documents shall be as per the "Article 1: Contract Documents", Page 9-4, Volume-1 of 3 of the bid documents.
13	<u>Volume 1 of 2, Section III, 4.2 (a) Specific Experience</u> We understand the bidder need to fill the form "Form EXP-4.2(a): Experience [Specific Experience]" for bidder qualification. While filling the form, if contract value is in other currency then it should be converted to USD and the exchange rates will be as on date of award of that particular contract. Kindly confirm. If our above understanding is not correct, kindly provide the methodology for considering exchange rates. And also we request to provide the methodology for considering exchange rates for converting annual turnover and current contract commitments to USD.	The exchange rate to be used to calculate the value of the contract for conversion to a specific currency shall be the selling rate of the Borrower's national bank on the date of the contract. The information supplied should be the Annual Turnover of the Bidder or each member of a Joint Venture in terms of the amounts billed to clients for each year for work in progress or completed, converted to US dollars at the rate of exchange at the end of the period reported.

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14	<u>Volume 1 of 2, Section X- Appendix 1. Terms and Procedures of Payment</u> We understand the advance paid to the Contractor shall be interest free. Kindly Confirm.	Please follow the bid document.
15	<u>Volume 1 of 2, Appendix 1- Terms and Procedures of Payment</u> <u>Clause:</u> Five percent (5%) of the total or pro rata CIP amount upon issue of the Completion Certificate, within forty-five (45) days after receipt of invoice. Five percent (5%) of the total or pro rata CIP amount upon issue of the Operational Acceptance Certificate, within forty-five (45) days after receipt of invoice. <u>Bidder's Query:</u> We understand that completion certificate and operational certificate can be obtained location wise and payment of final 10% will be released location wise. & In Case of delay of Completion Certificate/Operational acceptance for reason attributable of employer (PGCB) the payment of final 10% shall be released to contractor. Kindly confirm.	Please follow the bid document.
16	<u>Volume 1 of 2, Section IX- Special Conditions of Contract 27.2</u> <u>Clause:</u> The Defect Liability Period shall be 540 days from the date of Completion of the Facilities (or any part thereof) or 1 year from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs, unless specified otherwise in the SCC pursuant to GCC Sub-clause 27.10. <u>Bidder's Query:</u> We understand that Defect liability period will be applicable location wise. i.e., Defect liability period will start for a particular location on operational acceptance of that particular location. Kindly confirm.	Please follow the bid document.
17	<u>Vol.1 of 3, section-6, cl.no.1, Type Test Requirements</u> We are not envisaging repetition of type tests for EHV cable and cable accessories. However, we shall submit valid type test reports of similar or higher rating (Voltage level & Conductor size) as per IEC 62067: 2011. Please confirm acceptance.	Please follow the bid document.

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18	<u>Vol.1 of 3, section-6, cl.no.1, Type Test Requirements</u> The cable system (cable, joints & terminations) shall be successfully Type tested as per IEC 62067. However, we request you to accept type tests for Cable and accessories conducted as per IEC – 62067 for: i) 132kV or higher voltage level (For 132kV system) ii) With combination of cable & cable accessories of same or different make.	Please follow the bid document.
19	<u>Vol.1 of 3, section-6, cl.no.1, Type Test Requirements</u> We are not envisaging repetition of type tests for outdoor AIS equipment (Surge arrester & Cable sealing end). However, we shall submit the valid type test reports of similar or higher rating (Voltage level & current capacity) as per relevant IEC. Please confirm acceptance.	Please follow the bid document.
20	<u>General</u> In case of conflict between price schedule and drawings, which document will prevail Please confirm	Bidders shall quote for the entire plant and services on a “single responsibility” basis such that the total Bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the Bidding Document in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction, installation, and completion of the plant.
21	<u>Requirement of Thermal backfilling</u> We presume that thermal backfilling is not required for this project, as the same is neither mentioned in technical specification nor mentioned in Price schedule. If required, please add a separate line item for thermal backfilling along with required quantity.	Please follow the bid document.
22	<u>Creepage distance</u> Please provide the creepage distance to be followed for outdoor bushing of AIS equipment under this cabling package	Please refer to the volume 3 of the Tender document.
23	<u>Distributed temperature monitoring system</u> We do not envisage any supply of DTS system in our present scope. Please confirm whether bidder's understanding is correct.	Please follow the Tender document.
24	<u>Dismantling works</u> We do not envisage any dismantling, re-erection works in the substation ends. Please confirm.	Please follow the Tender document.

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25	<u>Volume 1 Section 3 Clause 2.5.1.1</u> <u>Clause Description:</u> Bidder shall furnish evidence for at least one (1) project for 110kV or higher voltage rated and at least 1200mm² XLPE cable with a minimum of three (3) years in satisfactory service in outside the manufacturer's country as on the date of bid opening. Evidence of satisfactory service shall be issued by the end user's respective letterhead stationary indicating address, telephone and email numbers of the users. <u>Bidder's Observation:</u> We request you to please change this qualification requirement to following :- 1. Must have supplied XLPE cable of size 1200 Sqmm for at least (1) project for 110kV or higher rated voltage. 2. At least one evidence for 110kV or higher voltage rated XLPE cable with minimum 3 (three) years of performance from end user.	Your request cannot be accepted. Please follow the bid document.
26	<u>Volume 1 Section 3 Clause 2.4.1 (d)</u> <u>Clause Description:</u> The scope of each contract must include supply, installation, testing and commissioning of 110kV and/or higher voltage rating XLPE underground cable line having at least 3.0 km route length including supply of XLPE cable and associated fittings and accessories. (d) at least one (1) of the above contracts shall be in successful operation for a minimum of three (3) years prior to the date of bid submission. <u>Bidder's Observation:</u> We hereby request you to please change clause (d) i.e. at least one (1) contracts with scope of supply, installation, testing and commissioning of 110kV and/or higher voltage rating XLPE underground cable having at least 3 Kms of 1200 Sqmm or above XLPE cable, shall be in successful operation for a minimum of three (3) years prior to the date of bid submission.	Your request cannot be accepted. Please follow the bid document.



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27	Volume 1 Appendix 2 - Price Adjustment-Power Cable Clause Description: The formula for calculating the price adjustment to be applied to the Contract price component of the 400kV and 230kV XLPE power cable is as follows:- Power Cable The formula for calculating the price adjustment to be applied to the Contract price component of the 400kV and 230kV XLPE power cable is as follows:- $P_1 = [P_0 \times (a + b \frac{M_1}{M_0}) - P_0] \times Z_1 / Z_0$ Where, P1 = Price Adjustment amount of XLPE power cable Po = Contract price (base price) a = percentage of fixed element in Contract price (a = 67%) b = percentage of material (Copper) component in Contract price (b = 33%) M0, M1 = material (Copper) indices applicable of the base date and the date for adjustment, respectively Z = number of units of currency of bid equal to one US dollar (1 USD) Subscript 'o' refers to indices as on 30 days prior to the date of opening of Technical Bids Subscript '1' refers to indices 60 days prior to the date of shipment of materials Bidder's Observation: Kindly clarify wheather price price variation is applicable for 132 kV power cable.	Price adjustment is applicable for 132kV XLPE power cable. Please follow Addendum-1.

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28	<u>Volume 1 Appendix - 1 - Terms & Procedures of payment.</u> <u>Clause Description:</u> All Foreign currency payment will be through an irrevocable commercial letter of credit except the advance payment. All costs in connection with the Letter of Credit inside Bangladesh shall be borne by the Employer and costs outside Bangladesh shall be borne by the Contractor. <u>Bidder's Observation:</u> We understand that, cost of setting up LC within employer's country will be in scope of PGCB and cost incurred within contractor's country will be in scope of Contractor. Please confirm if our understanding is correct.	Please follow the bid document.
29	<u>Appendix 2 – Price Adjustment of Section 9: Contract Forms Page 9-11</u> <u>Clause Description:</u> Power Cable Formula Note describes Subscript 'o' refers to indices as on 30 days prior to the date of opening of Technical Bids and Subscript '1' refers to indices 60 days prior to the date of shipment. Page 9-14 Conditions as a. The base date shall be the date 28 days prior to the deadline for submission of the Bid. b. The date of adjustment shall be the mid-point of the period of manufacture of the component or Plant. <u>Bidder's Query:</u> 1. Base date '0' and date of adjustment '1' are not coincident between descriptions of Page 9-11 and Page 9- 14. Which conditions will be used for adjustment? 2. Towers and Poles, Conductors (ACCC), Conductor (ACSR/AAAC), Earthwire (ACSR) &OPGW with NON APPLICABLE, are those products not allowed to be adjusted?	Please follow Addendum-1.
30	<u>Vol. 1 SCC 47 Environmental Managment Plan.</u> Appendix to SCC (will be provided in PDF form) with the bidding document): 1. Resettlement Plan (RP) 2. Initial Environment Examination (IEE) 3. Environment management Plan (EMP) 4. Corrective Action Plan (CAP) <u>Bidder's Query</u> These appendices are not provided with the bidding documents. Please provide the documents.	These documents are available on the website of PGCB. Bidders are requested to download from the website of PGCB.

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31	<u>Volume 1 Section 2: Bid Data Sheet ITB 24.1</u> <u>Clause Description:</u> The deadline for bid submission is February 7, 2022 <u>Bidder's Query:</u> As the bid was published on December 22, 2021, it's very tight schedule for preparation of bid. We sincerely suggest extension of Bid Submission Deadline to March 7, 2022. Please kindly consider.	The time has been extended upto 23 February 2022 and all the bidders have been notified.
32	Volume1, page 220, Appendix 2 – Price Adjustment mentioned 400kV and 230kV: 132kV is correct?	Please follow Addendum-1.
33	<u>Volume 1,</u> <u>Section 3: Evaluation and Qualification Criteria</u> <u>Clause Description:</u> 2.5.1 Manufacturers 1. XLPE Power Cable (132kV) Bidder shall furnish supply record of similar or higher voltage rating XLPE cables including 110kV, 1200 mm2 or higher rating at least for the last ten (10) years counting backward from the bid submission date. <u>Bidder's Query:</u> Please confirm whether the "or higher rating" means that the two conditions of "voltage level greater than 110kV and cross-sectional area greater than 1200mm2" need to be met at the same time or only one of them needs to be met?	For the "or higher rating" both the voltage level and the cross sectional area need to be met at the same time.
Volume 2 of 3		
34	<u>Volume 2 of 3, Section 5, ACCESS, 5.1 WAYLEAVES, 5.1.1 General</u> <u>Clause:</u> The necessary permission for the removal of obstructions such as trees and for the permanent removal or guarding of pipes, telegraph, telephone and power lines will be obtained by the Employer at the cost of Contractor. All such costs shall deem to be included in the Contract Price. <u>Query:</u>	Please follow the Bid Document.

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	as you are aware that, the bidders are from outside the Employers country. Due to ongoing pandemic and movement restrictions bidders are unable to get access to concern authority for obtaining necessary permission/Charges. Hence, we request you to consider the statutory charges paid to the Agencies shall be directly paid to the respective agencies. Kindly confirm	
35	<u>Volume 2 of 3, Section 5, 5.2.1 Access Routes - General</u> <u>Clause-5.2.1.2:</u> The Contractor shall pay the fees, charges etc. either refundable and/or non-refundable required for securing the permission of local authorities such as City Corporation or other authorities to construct the line. Such costs shall deem to be included in the contract price. <u>Bidder's Query:</u> 1. We understand that the land for Cable laying is coming under four Private entities i.e. Jahurul islam Avenue Housing Complex, Sun Valley Abasan Complex, Basundhara Group & united Group. They are not providing Fees/permission charges/compensation charges/reinstatement charges for the Cable route. As per tender document bidder to consider all the charges in the bid. We request PGCB to amend the above clause "PGCB will pay the permission charges/compensation charges/reinstatement charges and fees applicable during the execution of project directly to the land owners" or "please provide provisional sum for the same and the same to be reimbursed at actual execution of project." Please confirm.	Please follow the Bid Document. Your request cannot be accepted. Please follow the bid document.
36	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, cl.no.11A.3</u> From the referred clause, it is mentioned that "The operating current will be 1200 amps at 132kV double circuits with trefoil formation and cross bonding system." We understand that 1200A is the ampacity in air. Please confirm	Your understanding is correct.
37	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, APPENDIX 11A.A1</u> As per referred clause, The Symmetrical short circuit rating for 1 sec is mentioned as 90kA for 132kV. We presume that these values are the short time withstand current capability of the cable conductor. Please confirm.	Please follow the Bid Document.

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38	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, cl.no.11A.15.5</u> From the referred clause it is mentioned that "Cable trenches shall be constructed for directly buried cables as per drawings of Drawing Section.". However, cable trench drawings are not available along with tender documents. We request PGCB to furnish the following drawing: a) Cross section drawing for 132kV double circuit transmission cables (direct buried) b) Cross-section for Road and rail crossing c) Concrete cable trench drawing (Inside substation) for 132kV double circuit transmission cable d) Standard drawing of cable bridge e) Joint bay drawing for 132kV Double circuit cable	Please follow the Attachment-1 for the following drawings:- 1) Typical Trench for 132kV Cables 2) Typical Road Crossing Drawing 3) Typical Warning Tape Drawing 4) Typical Joint Arrangement for 6 joints in one joint bay. For Cable Bridge design please follow the bid document.
39	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, cl.no.11A.12.6, Metallic Sheath</u> Please clarify the following w.r.t laying of 132kV cable: a) Size & Specification of Bonding cable b) Maximum cable sheath voltage limitation	Design is in the scope of the contractor/bidder and shall be finalized during execution and need to be approved by PGCB.
40	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, cl.no.11A.12.6, Metallic Sheath</u> We request PGCB to accept both extruded corrugated seamless aluminium sheath & seam welded aluminium sheath.	"corrugated aluminium sheath" means both seamless and seam welded corrugated aluminium sheath.
41	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, cl.no.11A.12.8, Anti-Termite Protection</u> As per referred clause, it is mentioned that "An approved chemical additive shall be added to the cable outer sheath compound to protect it from termite attack" However, protection against termite and rodent attack is not applicable for MDPE outer sheath. Please confirm.	Please follow the Bid Document.
42	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, cl.no.11A.14.3, Joints</u> As per the referred clause of technical specification, "The cable metallic sheaths shall be connected in a suitable way to the copper tube to withstand short-circuit currents" However, in the datasheet, premoulded EPDM/EPR/ Silicone Rubber is mentioned as the	Please follow the Bid Document.

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	material for joints. Hence we presume that the material shall be as per datasheet & hence copper tube is not required. Please confirm.	
43	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, cl.no.11A.15.6</u> Please provide the Bonding schematic drawing as mentioned in the referred clause.	Please refer to Answer no. 38.
44	<u>Vol.2 of 3, Section-11A, Power cables, cable terminating accessories and cable laying, cl.no.11A.12</u> We do not envisage the supply of any cable fault locator (either portable or Van mounted) in the present scope, as no requirements are mentioned in specification. Please confirm.	Please follow the Bid Document.
45	<u>Volume 2 Section 18 Clause 18.3</u> Clause Description: Route clearance undertaken by the Contractor on the Employer's instruction shall be paid for at Schedule B unit prices and shall be measured to the nearest metre along the centre line of the route. The prices of route clearance shall include payment of compensation for crops, trees, houses, etc. and all kinds of damage compensation. Bidder's Observation: From Price Schedule No. 4, Item no. 8.5, "Payment for Compensation (For resettlement of affected people, dwelling/commercial structures, trees, crops etc. on the Right of Way) We understand compensation cost for resettlement of affected people, dwelling/commercial structures, trees, crops etc. on the Right of Way has been considered by employer and bidders need not envisage this cost in their bid, Please confirm if our understanding is correct.	Please follow the Bid Document.
46	<u>Volume 2 Section 5, Clause 5.2.1.2</u> Clause Description: 5.2.1.2. The Contractor shall pay the fees, charges etc. either refundable and/or non-refundable required for securing the permission of local authorities such as City Corporation or other authorities to construct the line. Such costs shall deem to be included in the Contract Price. Bidder's Observation: We understand, Cost of road cutting need to be envisaged in bid price and Dhaka North City	Please follow the Bid Document.

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	Corporation is responsible utility in order to to understand unit cost of road damage during trenching. Please confirm if our understanding is correct.	
47	<u>Volume 2 Section 11A, Clause 12.6</u> <u>Clause Description:</u> The metallic sheath shall consist of the corrugated aluminium sheath/extruded corrugated seamless aluminium sheath. Aluminium used for the sheath shall have the minimum purity of 99.5% and shall be of best quality metal free from pinhole flaws and other imperfections. The minimum thickness at any point shall not fall below 85% of the specified nominal thickness by more than 0.1mm. <u>Bidder's Observation:</u> Technical specification of clause 11A. 12.6 specify extruded corrugated seamless type aluminium sheath whereas we have manufacturing facility with seam welded type corrugated aluminium sheath, which is followed and accepted worldwide, seam-welded corrugated Aluminium Sheath is equally robust mechanically and sheath is welded online. Please confirm, if seam welded type corrugated aluminium sheath XLPE cable is acceptable.	Please refer to Answer no. 40
48	<u>Volume 2 Section 11A, Clause 12.6</u> <u>Clause Description:</u> The metallic sheath shall consist of the corrugated aluminium sheath/extruded corrugated seamless aluminium sheath. Aluminium used for the sheath shall have the minimum purity of 99.5% and shall be of best quality metal free from pinhole flaws and other imperfections. The minimum thickness at any point shall not fall below 85% of the specified nominal thickness by more than 0.1mm. <u>Bidder's Observation:</u> Metallic sheath short circuit current values are not specified in clause 11A. 12.6 of technical specification. So please confirm.	Please refer to Appendix 11A.A1 of the volume 2 of the Bid Document.
49	<u>Volume 2 Section 11A, Clause 3</u> <u>Clause Description:</u> The cable shall be single core XLPE insulated cable with stranded copper conductor. The conductor screen consists of an extruded layer firmly bonded to the XLPE insulation. The nominal	Current carrying capacity of each cable shall be 1200A. Please refer to answer no. 36.

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	system voltage to which the cables will be connected is 132kV and the highest operating voltage Um will be 145kV. The operating current will be 1200 amps at 132kV double circuit trefoil formation and cross bonding system. Bidder's Observation: Technical specification of clause 11A. 3 specified that the operating current will be 1200 amps at 132kV double circuit trefoil formation and cross bonding system, please confirm whether this require current shall be meeting with double circuit (i.e. 2 run per phase) or each circuit should carry required current 1200 Amp. Kindly review cable size 1200 sq.mm copper (as per BOQ), if each (single) circuit should carry 1200 Amp current because 1200 sq.mm copper 132 kV cables will not able to withstand 1200 Amp current considering installation condition as per tender specification.	
50	<u>Volume 2 11A.3</u> <u>ORIGINAL DESCRIPTION FROM TENDER</u> The operating current will be 1200 amps at 132kV double circuit trefoil formation and cross bonding system. <u>Volume 2 11A.4.1</u> <u>ORIGINAL DESCRIPTION FROM TENDER</u> All 132kV cable circuit shall be installed by direct burial at an average depth of 1.5 meter from finished ground level to the top of cables. <u>BIDDER'S CLARIFICATION QUESTIONS</u> We used CYMCAP software to calculate the current carrying capacity for the required 1200mm² conductor cross section Cable. The current carrying capacity is 1370A in the air, which meets the requirement of 1200A. However, when it is directly buried underground of 1.5m length with trefoil formation, the current carrying capacity is 816A which cannot meet the requirement of 1200A. Therefore, we would like to raise question below: Is the 1200A for the current carrying capacity requirement under air laying Conditions only? Could Contractor propose the exact calculated current carrying capacity in trefoil direct buried condition? The calculation of the current carrying capacity of the cable is also attached for your kind reference.	Please refer to answer no. 36.
51	<u>Volume 2 Section 8A, Clause 8A.2.1</u> <u>Clause Description:</u> All pole designs shall be such as to facilitate inspection, painting, maintenance, repairs and	a) confirmed



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	operation with the continuity of supply being the prime consideration. The design shall be such that the number of different parts shall be as few as possible to facilitate transport, erection and inspection. The maximum weight of the heaviest section should be limited to that within the normal lifting capability of the proposed erection equipment. <u>Bidder's Observation:</u> a) We understand design is not in scope of contractor and poles are to be manufactured as per drawings provided along with tender. Please confirm if our understanding is correct. b) If design is not in scope of contractor then, In price Schedule 3 Item No. 2.1, Proto Type testing should get deleted. Kindly Confirm.	b) Proto Assembly Test is required to be done for Poles.
52	<u>Detail Layout & Dimension Map</u> a). As mentioned in Detailed Layout & Dimension map, From Chainage +0.656.35 to +0.943.89, cable is passing in middle of the divider, we understand compensation cost of tree or any other facility removal is not in scope of contractor. Please Confirm. b) Also re plantation of those trees also not in scope of contractor, please confirm.	Please follow the Bid Document.
53	<u>Detail Layout & Dimension Map</u> a). As mentioned in Detailed Layout & Dimension map, From Chainage +0.943.89 to 1+005.15, From 1+068.05 to 1+252.15 and at other many places cable is diagonally crossing the road, we understand, contractor need to lay the cable using HDD method. Please confirm if our understanding is correct.	It shall be finalized during execution.
54	<u>Detail Layout & Dimension Map</u> a). As mentioned in Detailed Layout & Dimension map, From Chainage 6+0.662 to 7+ 0.307, area is completely under United International University Group. Please confirm if entire length is to be done under HDD or open trench, if it is to be done under open trench then, please let us know under whose scope is the cost of compensation.	Please follow the Bid Document.
55	<u>Detail Layout & Dimension Map</u> a). As mentioned in Detailed Layout & Dimension map, From Chainage 7+0.307 to 7+ 0.823, area is under already beautified Bashundhara City. Please confirm if entire length is to be done under HDD or open trench, if it is to be done under open trench then, please let us know under whose scope is the cost of compensation.	Please refer to Answer no. 54
56	<u>Detail Layout & Dimension Map</u> Request you to please provide details of chainage, where cable need to be laid out using HDD method	Design is in the scope of the contractor and shall be finalized during execution and need to be approved by PGCB.

Sl. No.	Reference and Queries of Prospective Bidders	Reply(PGCB)
57	<u>We hereby request you to please provide typical drawings of following items :-</u> 1. Open Cable Trench & Cable Junction bay. 2. Road Crossing for 132kV Cable 3. Cable Termination Support Drawing.	Please refer to Answer no. 38
58	<u>Volume 2 Clause-11A.15.5</u> <u>Clause Description:</u> Installation of underground Cables <u>Bidder's Observation:</u> As per Volume 2, clause no Clause-11A.15.5, Cable trenches shall be constructed for directly buried cables as per drawings of Drawing section. However in drawing section no drawing is provided for the same. Kindly provide the cable trench section drawing to be followed for tender purpose.	Please refer to Answer no. 38
59	<u>Volume 2 Clause-11A.15.5</u> <u>Clause Description:</u> Installation of underground Cables <u>Bidder's Observation:</u> As per Volume 2, clause no Clause-11A.15.5, Cables shall be installed by direct burial at an average depth of 1.5 meter from finished ground level. We understand that no separate construction of RCC cable trench is required for buried cables. Please clarify.	Please follow the scope of work.
60	Who will be responsibility of road cutting compensation for Underground portion to pay to related authorities like city cooperation, Roads and Highway etc.?	Please follow the Bid Document.
61	What is the type of underground cable termination at both substations. (i.e. we would like to know if the underground cable termination is outdoor sealing end or GIS sealing end)	Please follow the scope of work in the Bid Document.
62	Whether the alternative route should be made by overhead line or can be possible made by underground line?	Bidder is requested to follow the original route. "Alternate route" is a typographical error.
63	<u>Route map</u> <u>Clause Description:</u> (Full) Details Layout & Dimension Map (Meter)-Model	Design is in scope of the contractor. Design shall be finalized during execution and need to be approved by PGCB.

Sl. No.	Reference and Queries of Prospective Bidders	Reply(PGCB)
	<u>Bidder's Observation:</u> Between chainage point 7+620.37 to 7+670.37 where almost 100m length of bridge is required, we understand that intermediate supports can be considered suitably. Please confirm.	
64	<u>Volume 2,</u> <u>11A. POWER CABLES, CABLE TERMINATING ACCESSORIES AND CABLE LAYING</u> <u>Clause Description:</u> 11 A, 14.1 : " base insulated from support steelwork by mounting upon porcelain pedestrian type insulator <u>Bidder's Query:</u> Please confirm whether support insulators of epoxy resin can be accepted ?	Please follow the Bid Document. Please follow Addendum-1.
65	<u>Volume 2,</u> <u>11A. POWER CABLES, CABLE TERMINATING ACCESSORIES AND CABLE LAYING</u> <u>Clause Description:</u> 11 A 14.3 The cable metallic sheaths shall be connected by soldering to the copper tube. The copper tube shall be connected to the cable sheath in such a way to withstand short-circuit currents as specified in the technical data sheets. The two sides of the metallic sheaths shall be isolated, and each to be connected to the link box. Finally, the outer covering of a protective glass fiber box casing shall be provided <u>Bidder's Query:</u> Some manufacturers feedback that PGCB also accepts Joints with only FRP outer protection without copper tube. Please confirm whether you require Joints with Copper tube or not.	Please follow the Bid Document.
66	<u>Volume 2,</u> <u>15. Aircraft Navigation</u> <u>Clause Description:</u> 15. Aircraft Navigation <u>Bidder's Query:</u> Please confirm whether Aircraft Navigation is required for this project, If this project needs these	Not required.

Sl. No.	Reference and Queries of Prospective Bidders	Reply(PGCB)
	materials, please upgrade BOQ and add relevant items.	
67	<u>Volume 2, highest flood level</u> Please provide the highest flood level of the project area.	Bidder can collect data from PWD/BWDB.
68	<u>Volume-2 GB.1.11 Witnessing of Tests by Employer; Sub clause d</u> Factory Acceptance Test (Sample Test of Insulators, Conductor, Insulator & conductor fittings with accessories, OPGL & ORGY fittings with accessories before each shipment of materials and type test of insulator strings (if applicable) There is no line item in the price schedule for type test of insulator strings. How PGCB will settle the rate and process of payment disbursement for the type test of insulator strings if it is applicable/required during the execution time?	Cost shall be deemed to be included in the Contract Price
69	Required bonding system is Cross bonding with 11 bays with sheath sectionalizing joints and 8 bays with sheath non-sectionalizing joints (double phase each). Anyway with given cable accessory quantity in Tender price schedule, we cannot match normal cross bonding system. Also, LS Max drum length for 2000sqmm size of cable is 500m which means maximum route length should be less than 500m. we need to know BOM in Price schedule Qty of Joints.	Please follow Addendum-1 and bid document.
70	Can we offer the correct Qty with Joint based on optimized route and drum lengths?	Please follow the Tender Document. BoQ can be updated after the execution as per the exact quantity be used in the line.
71	Existing GIS (made by Mitsubishi) detailed drawing and information required	Bidders have to visit the site and collect the required data.
72	<u>Annex 1-2: Terminal Points</u> <u>Clause Description:</u> Rampura-Bashundhara 132kV Double Circuit Underground Cable Transmission Line. Cable trench in the premises of Rampura substation will be constructed by the contractor of this contract. Fiber optic underground cable shall be terminated at the termination box inside the control room building of Rampura substation. The termination boxes shall be supplied and installed under this Contract.	Please follow the bid document.



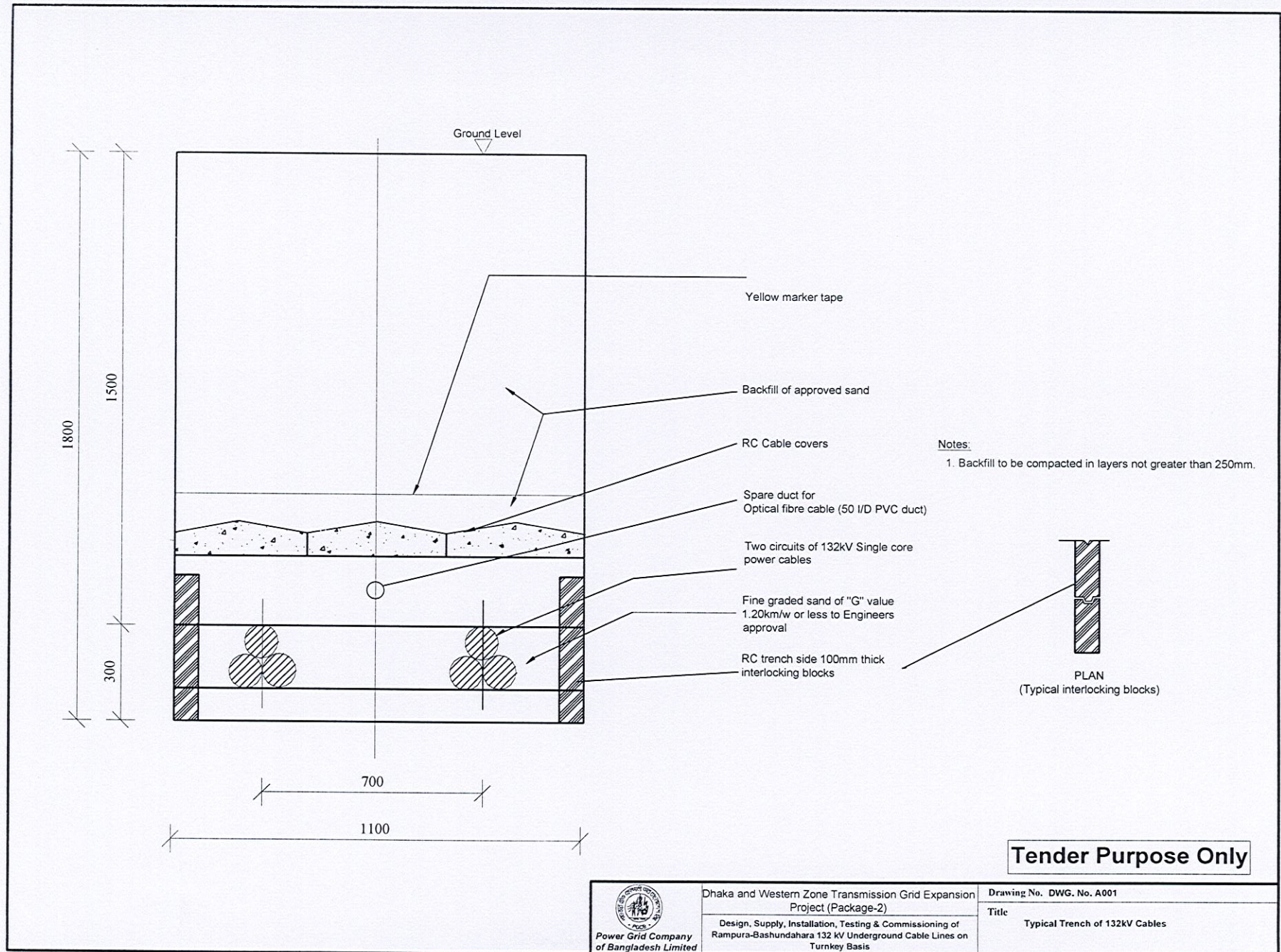
Sl. No.	Reference and Queries of Prospective Bidders	Reply(PGCB)
	Bidder's Query: According to the bidding documents, the cable trench construction and termination box in the two terminal substations of this project is within the scope of the contractor's work, but there seems to be no corresponding item in the BOQ, please confirm and upgrade the BOQ if necessary	
Volume 3 of 3		
73	<u>Volume 3 of 3, Schedule A - 1. Scope of work Annex 1-1</u> <u>SCOPE AND EXTENT OF DEFINITE WORK</u> We trust that, dismantling & reconstruction works for roads, medians, drains, boundary wall, etc., coming in the cable laying route are not in bidders scope and shall be carried out by other authorities, the cost for which would be reimbursed by PGCB at actual. Please confirm.	Please follow the Bid Document.
74	<u>Volume 3 of 3, Schedule A - 1. Scope of work Annex 1-1</u> <u>SCOPE AND EXTENT OF DEFINITE WORK</u> As per the scope of work & price schedule we trust that the Concrete Cable trench (along the road & road crossing), Cable termination structure (LA & CSE), Cable joint pit is in our scope. Please provide the following details/drawings in order to estimate the quantum of work. 1. Concrete Cable trench (along the road & road crossing) 2. Cable termination structure (LA & CSE) & Foundation detail drawing. 3. Cable joint pit detail drawing.	1 & 3) Please refer to answer no. 38. 2) Design is in scope of the contractor. Final Design shall be finalized during execution and need to be approved by PGCB.
75	<u>Vol.3 of 3, Schedule A: Annex 1-2: Terminal Points, 132kV Underground cables at Bashundhara Substation</u> From the referred clause, we understand that scope demarcation between GIS Manufacturer and cable termination supplier shall be as per IEC-62271-209. Please confirm.	The bidders are requested to visit the site and to collect the required information.
76	<u>Vol.3 of 3, Schedule A: Annex 1-2: Terminal Points, 132kV Underground cables at Bashundhara Substation</u> Please furnish the following details for expert service work in existing GIS cable chambers: a) Make and model no. of existing GIS b) Existing GA & internal arrangement drawings of the GIS cable chamber c) Existing GIS building layout and section d) Existing EHV cable trench layout	Please follow the Tender Document.

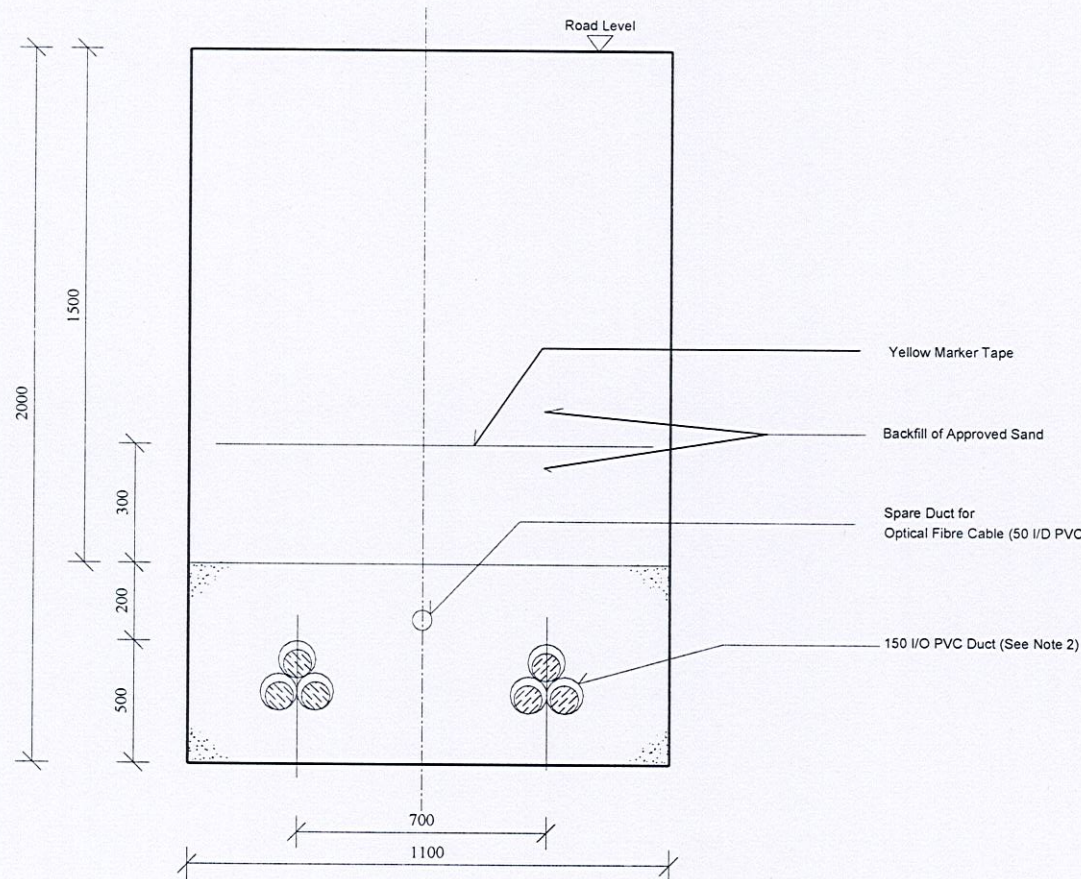
Sl. No.	Reference and Queries of Prospective Bidders	Reply(PGCB)
	e) Existing GIS building earth mat drawing f) Please confirm whether existing GIS bay is suitable for terminating one run of 1Cx1200sq.mm Cu XLPE EHV cable	
77	<u>Vol.3 of 3, Schedule E, 2. Technical Data Schedules, cl.no.2.7, 132kV XLPE Cable</u> In the referred technical data sheet, metallic screen/sheath technical details are not mentioned. However, as per vol.2, section-7, cl.no.11A.12.6, metallic sheath shall be corrugated aluminium sheath/extruded corrugated seamless aluminium sheath is mentioned. We understand that the cable construction shall be followed as per technical specification requirement. Please confirm whether bidder's understanding is in order.	Please follow SI No. 40
78	<u>Vol.3 of 3, Attachment-Price Schedule</u> Quantities mentioned in price schedule / supply of materials are indicative. Any change in the same shall be paid as unit rate. Please confirm.	Please follow the bid documents.
79	<u>Price Schedule No. 4 Installation and Other services; Item 2.2 & 2.3:</u> Pile Foundation for any soil category with 6 meter Raised chimney included but there is no line item for 4 meter Raised Chimney. How to settle the rate for the 4 meter Raised Chimney if it is required during the execution period? Please clarify.	Please follow the bid document.
80	<u>Price Schedule No. 4 Installation and Other Services; Item 8.5</u> Payment for Compensation (For resettlement of affected people, dwelling/commercial structures, trees,crops etc. on the Right of Way) mentioned 4,059,792.00 BOT. The Land Acquisition, Compensation is subject to the actual tower position and site condition during the execution period. Moreover, Ministry of Power, Energy & Mineral Resources of Bangladesh has published a new S.R.O regarding the Land Acquisition during Tower Construction where it's been stated that Contract should compensate the loss of Land as per the Market Price beside Crops. [Ref. S.R.O No. 297-Law/2020] So considering above mentioned facts the actual cost could be way higher than the specified amount. Is there any scope for the Price Adjustment for this line item during the execution period considering the above mentioned issues?	No tower shall be used for this project. Please follow the bid document.

Sl. No.	Reference and Queries of Prospective Bidders	Reply(PGCB)
81	<u>Price Schedule No. 4 Installation and Other Services; Item 6.7</u> Excavation and construction of all civil related works of cable joint bay as per the requirements of the technical specification. - 12 Set. As per LSCNS calculation the required quantity is 19 Set. Please clarify.	Please follow Addendum-1.
82	<u>Price Schedule No.-4; Item 6.5.1, 6.5. 2 & 6.6</u> The LSCNS understanding is the fine item no. 6.6 i.e HDD work is alternative of line items no. 6.5.1 & 6.5.2 i.e Cable Bridge. The LSCNS is preferring HDD. Is LSCNS allowed to put unit price only for the Cable Bridge not the total price in the price schedule?	The actual item and quantity shall be finalized during the contract execution stage. Bidders are requested to follow the bid document.
83	On the price schedule-1, 2 phases of Insulated Joint and Straight Joint Qty and Schedule 4 6.8 Joint installation Qty are different. Which one is correct?	Please follow Addendum-1.
84	On the price schedule-1, No. 2.1: what is detailed requirement on this part?	This item is for fabrication, galvanizing and supply of Cable Bridge including all kinds of accessories.
85	On the price schedule-4, No. 6.7: what is detailed requirement on this part?	This item is for fabrication, galvanizing and supply of Cable Bridge including all kinds of accessories.
86	<u>Price schedule, sl.no.1.1.2 & 1.1.3, Joints</u> We presume from the referred line item that 1set of joints is equal to 1no of joint. Please confirm	confirmed
87	<u>Price schedule, sl.no.1.1.6, 1.1.7 & 1.1.8, Link boxes</u> We presume from the referred line item that 1set of link box is equal to 1no of link box. Please confirm	Confirmed (One sets for one circuit)

The above mentioned clarification will form part of the Bidding Documents.

-End-

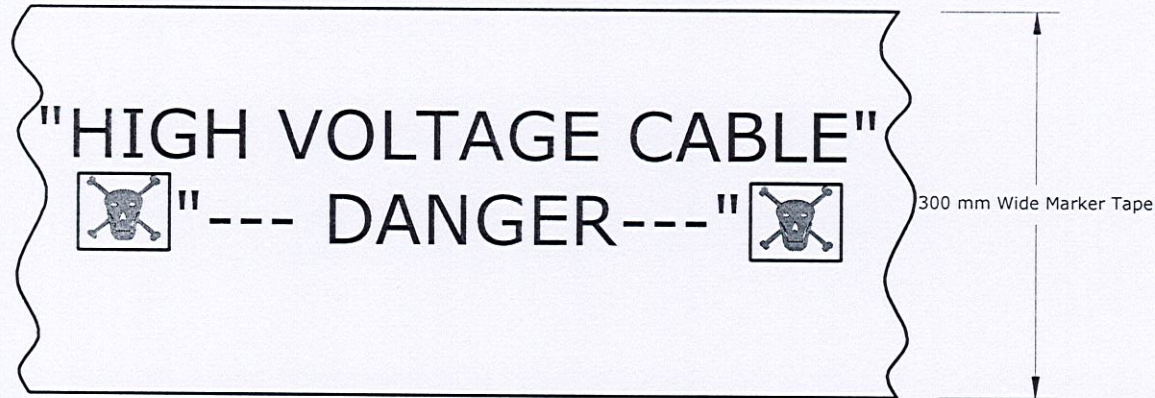


**Notes:**

1. Spacing and buried depth of cables may vary to suit site conditions.
2. Ducts to be high impact PVC 6 thk nominal gray male and female sections and to extend at least 1.0m beyond edge of road.
3. Duct to have 150 minimum cover of concrete.
4. All unused ducts shall be supplied with a galvanized draw wire inside and fitted with suitable plugs both ends.
5. Backfill to be compacted in layers not greater than 250.00mm.

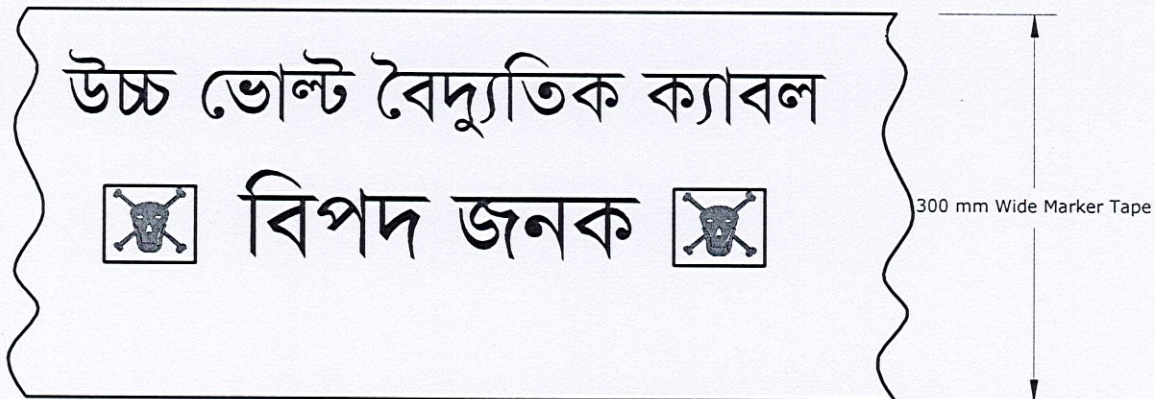
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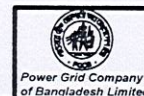


Notes:

1. Marker Tape to be 1mm minimum thickness.



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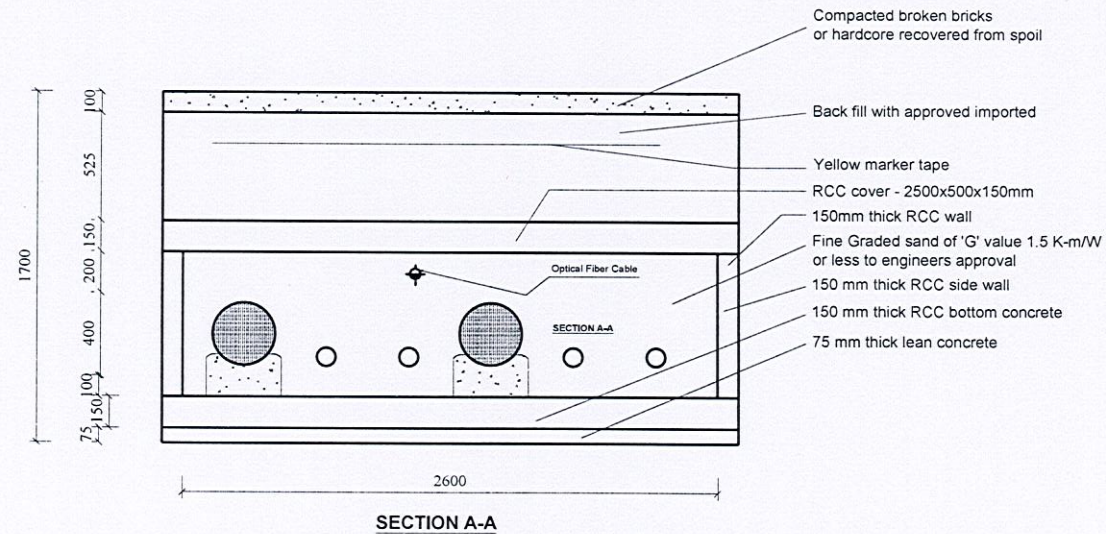
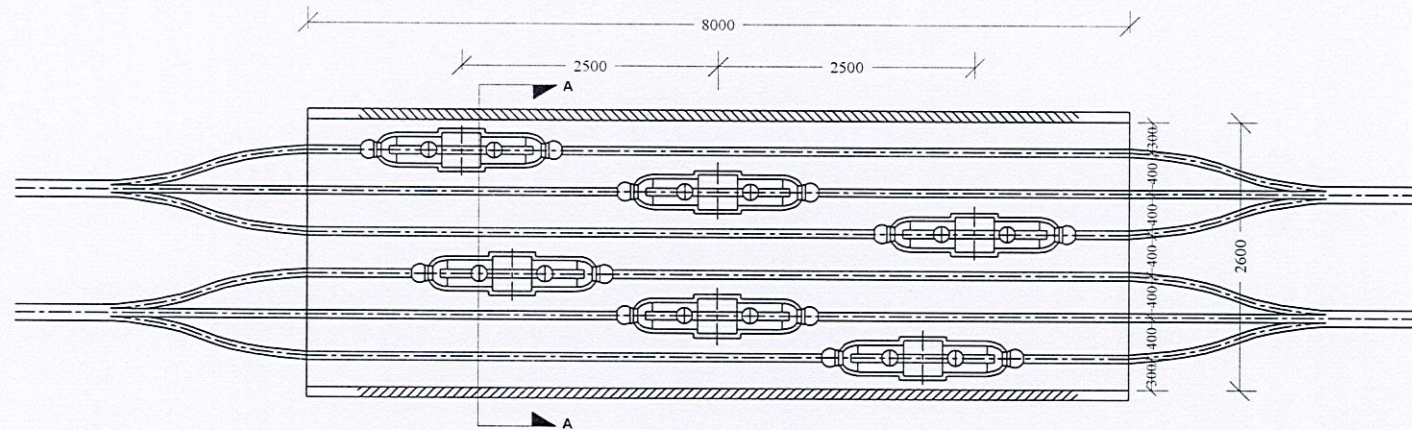
Dhaka and Western Zone Transmission Grid Expansion
Project (Package-2)

Design, Supply, Installation, Testing & Commissioning of
Rampura-Bashundahara 132 kV Underground Cable Lines on
Turnkey Basis

Drawing No. A004

Title

Warning Tape



Tender Purpose Only



Dhaka and Western Zone Transmission Grid Expansion
Project (Package-2)
Design, Supply, Installation, Testing & Commissioning of
Rampura-Bashundahara 132 kV Underground Cable Lines on
Turnkey Basis

Drawing No. DWG. NO. A005

Title
Typical Joint Arrangement
for 6 Joints in one Joint Bay