



INVITATION OF BID

**Supply, Installation and Commissioning of 400 KW
On-Grid Solar Power System for**

**FAZAIA RUTH PFAU MEDICAL COLLEGE,
KARACHI**

PART-A

Bidding Procedure & Requirements

SECTION I: Invitation for Bids

Supply, Installation and Commissioning of 400 KW
On-Grid Solar Power System for

Invitation for Bids

December 15, 2024

1. This Invitation for Bids follows the Procurement Notice (PN) or Procurement Advertisement (PA) for the subject Project/Procurement which appeared in newspapers vide dated *15 December, 2024*.
2. The Procuring agency/Employer has reserved the funds for the procurement planned during the financial year **2025-26**. It is intended that part of the proceeds of the funds will be used to cover eligible payment under the contract for the **supply, installation and commissioning of 400 KW On-Grid solar power system for its Medical college campus at Karachi**.
3. Fazaia Ruth Pfau Medical College now invites electronic bids from eligible bidder's **supply, installation and commissioning of 400KW On-Grid solar power system for its medical college Karachi** preferably from Pakistan Based firms having **PEC Category C-5 and above with specialization field of EE03, EE04 and EE11 (Solar Energy works)**.
4. The bidding shall be conducted in line with the Single Stage Two (02) Envelopes procedure, Regulatory Guides, Procurement Guidelines or Instructions issued by the Authority is open to all potential bidders.
5. All bids must be accompanied by a Bid Security in shape of Pay Order / Bankers cheque of in favor of "Fazaia Ruth Pfau Medical College, Karachi" with amount not exceeding to **Two percent 2%** of overall project value.
6. The bids as instructed with supporting documents must be submitted (by-hand or via courier) to **Principal Secretariat, Fazaia Ruth Medical College, PAF Base Faisal, Main Shahra-e-Faisal, Karachi-74350**. on or before **Monday, 30th December 2024 by 03:00pm**.

SECTION II:
Instruction to Bidders (ITBs)

A. INTRODUCTION

1. Scope of Bid	1.1	The Procuring agency/Employer (PA), as indicated in the Bid Data Sheet (BDS) invites Bids for the execution of “Supply, Installation, Testing & Commissioning of 400 KW ON-Grid Solar System for Fazaia Ruth Pfau Medical College, Karachi. as specified in the BDS and Section V- Works Requirements. The name, identification, and number of lots (contracts) of this National Competitive Bidding process are specified in the BDS.
2. Source of Funds	2.1	Fazaia Ruth Pfau Medical has arranged funds from its own resources.
3. Eligible Bidders	3.1	Tender is open to all contractor’s/construction firms who have relevant PEC category (C-5 and above with specialization field of EE03, EE04 and EE11), previous experience of similar work and necessary expertise to undertake the stated works as mentioned above. Relevant additional conditions in this regard are given below: - a) Never been blacklisted by any Govt organization. Affidavit to this effect shall be furnished. b) Never involved in litigation with any agency/Govt Dept. (Affidavit to this effect shall be furnished). c) Financial bids of only the technically qualified bidders will be opened.
	3.2	(Not Applicable)
	3.3	(Not Applicable)
	3.4	(Not Applicable)
	3.5	The invitation for bids is open to all prospective bidder’s subject to any provisions of incorporation or licensing by the respective national/ international incorporating agency or statutory body established for that particular trade or business.
	3.6.	(Not Applicable)
	3.7	A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidders may be considered to have a conflict of interest with one or more parties in this Bidding process, if they: a) are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring agency/Employer to provide consulting services for the preparation of design or technical specifications of the works that are the subject of the bid; or

		<ul style="list-style-type: none"> b) any of its affiliates has been hired (or is proposed to be hired) by the Procuring agency/Employer as Engineer for the Contract implementation; or c) The works to be executed are resulting from or directly related to consulting services for the preparation or implementation of the project that the bidder provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; d) have controlling shareholders in common; or e) receive or have received any direct or indirect subsidy from any of them; or f) have the same legal representative for purposes of this Bid; or g) have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder, or influence the decisions of the Procuring agency/Employer regarding this Bidding process; or h) Submit more than one bid in this bidding process.
	3.8	<p>A Bidder may be ineligible if –</p> <ul style="list-style-type: none"> a) he is declared bankrupt or, in the case of company or firm, insolvent; b) payments in favor of the bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting (in accordance with the national laws) in the total or partial loss of the right to administer and dispose of its property; c) legal proceedings are instituted against such bidder involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property; d) the bidder is convicted, by a final judgment of a Court of Law or relevant Professional Statuary Body, of any offence involving professional conduct;

		<p>e) The bidder is debarred/ blacklisted by a national level Procuring agency/Employer and hence debarred due to involvement in corrupt and fraudulent practices, or performance failure or due to breach of bid securing declaration.</p> <p>f) The bidder is blacklisted or debarred by a foreign country, international organization, or other foreign institutions for the period defined by them.</p>
	3.9	Bidders shall provide to the Procuring agency/Employer evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.
	3.10	Bidders shall provide such evidence of their continued eligibility to the satisfaction of the Procuring agency/Employer, as the Procuring agency/Employer shall reasonably request.
	3.11	Bidders shall submit proposal relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract is envisaged.
4. Eligible Material and Equipment	4.1	All the material and equipment to be mobilized under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such materials and equipment. For this purpose, ineligible countries are stated in section-IV titled as “Eligible Countries”.
	4.2	For purposes of this Clause, “origin” means the place where the material, equipment is produced, manufactured, or processed, or through manufacture, procession, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its imported components or the place from where the services are/to be supplied.
	4.3	The nationality of the bidder shall not determine the origin of the material and equipment.
	4.4	To establish the eligibility of the material and equipment, Bidders shall fill the country-of-origin declarations included in the form of Bid.

5. One Bid per Bidder	5.1	A bidder shall submit only one bid, in the same bidding process, either individually as a bidder or as a member in a joint venture or any similar arrangement.
	5.2	No bidder can be a sub-contractor while submitting a bid individually or as a member of a joint venture in the same bidding process.
6. Cost of Bidding	6.1	The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring agency/Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. BIDDING DOCUMENTS

7. Contents of Bidding Documents	7.1	<p>The scope of Works, bidding procedures, and terms and conditions of the contract are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents which should be read in conjunction with any addenda issued in accordance with ITB 9.2 include:</p> <p>Section I -Invitation for Bids</p> <p>Section II Instructions to Bidders (ITBs)</p> <p>Section III Bid Data Sheet (BDS) Section IV Eligible Countries</p> <p>Section V Works Requirements Technical Specifications & Schedule of Requirements</p> <p>Section VI Standard Bidding Forms</p> <p>Section VII General Conditions of Contract (GCC)</p> <p>Section VIII Special Conditions of Contract (SCC)</p> <p>Section IX Contract Forms</p>
	7.2	The number of copies to be completed and submitted with the Bid is specified in the BDS .
	7.3	The Procuring agency/Employer is not responsible for the completeness of the bidding documents and their addenda, if they were not obtained directly from the Procuring agency/Employer or the signed pdf version downloaded from the website of the Procuring agency/Employer or the Authority's website or e-Procurement System as the case may be. However, procuring agency/Employer shall place both the pdf and editable version of the same on its website and Authority's website or e-Procurement System to facilitate the bidder for filling the standard bidding forms.
	7.4	The bidder is expected to examine all instructions, forms, specifications, terms and conditions prescribed in the bidding

		documents. Failure to furnish all the information required in the bidding documents will be at the bidder's risk and may result in the rejection of his bid.
8. Clarification of Bidding Document, Pre-bid Meeting	8.1	A prospective bidder requiring any clarification of the bidding document may notify the Procuring agency/Employer in writing or in electronic form that provides record of the contents of communication at the Procuring agency/Employer's address indicated in the BDS.
	8.2	The Procuring agency/Employer will within three (03) working days after receiving the request for clarification, respond in writing or in electronic form to any request for clarification provided that such request is received not later than three (03) days prior to the deadline for the submission of Bids as prescribed in ITB 24.1 . However, clarifications claims will not be acceptable within last five (05) days of closing date of the Tender.
	8.3	Copies of the Procuring agency/Employer's response will be forwarded to all identified prospective bidders through an identified source of communication, including a description of the inquiry, but without specifying its source. In case of downloading of the bidding documents from the website of Procuring agency/Employer or e-Procurement System, the response of all such queries will also be available on the same platform available at the website.
	8.4	Should the Procuring agency/Employer deem it necessary to amend the bidding documents as a result of a clarification, it shall do so following the procedure as prescribed under ITB 09 .
	8.5	If indicated in the BDS, the bidder's designated representative is invited at the bidder's cost to attend a pre-bid meeting (if required) at the place, date and time mentioned in the BDS . During this pre-bid meeting, prospective bidders may request clarification of the schedule of requirement, the evaluation criteria or any other aspects of the bidding documents.
	8.6	Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be transmitted promptly to all prospective bidders who have obtained the bidding documents. Any modification to the bidding documents that may become necessary as a result of the pre-bid meeting shall be made by the Procuring agency/Employer exclusively through the use of an Addendum pursuant to ITB 9. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

	8.7	The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering a contract for construction of the Works. The costs of visiting the Site shall be at the bidder's own expense.
	8.8	The bidder and any of its authorized personnel will be granted permission by the Procuring agency/Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the bidder and its personnel will release and indemnify the Procuring agency/Employer from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
9. Amendment of Bidding Documents	9.1	Before the deadline for submission of bids, the Procuring agency/Employer for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder or pre-bid meeting may modify the bidding documents by issuing addenda.
	9.2	Any addendum issued including the notice of any extension of the deadline shall be part of the bidding documents pursuant to ITB 7.1 and shall be communicated in a timely manner and on an equal opportunity basis. Where notification of such change, addition, modification or deletion becomes essential, such notification shall be made in a manner similar to the original advertisement. However, the contractor must accept the addendum. Provided that the bidder who had either already submitted their bid or handed over the bid to the courier prior to the issuance of any such addendum shall have the right to withdraw his already filed bid and submit the revised bid prior to the original or extended bid submission deadline.
	9.3	To give prospective bidders reasonable time in which to take an addendum/corrigendum into account in preparing their bids, the Procuring agency/Employer may, at its discretion, extend the deadline for the submission of bids: <i>“Provided that the Procuring agency/Employer shall extend the deadline for submission of bid, if such an addendum is issued within last three (03) days of the bid submission deadline”.</i>

C. PREPARATION OF BIDS

10. Language of Bid	10.1	<p>The bid prepared by the bidder, as well as all correspondence and documents relating to the bid exchanged by the bidder and the Procuring agency/Employer shall be written in the English language unless specified in the BDS. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in the English language unless specified in the BDS, in which case, for purposes of interpretation of the bidder, the translation shall govern.</p>
11. Documents Establishing Eligibility of Material, Equipment and Works, their Conformity to Bidding Documents	11.1	<p>The bid prepared by the bidder shall constitute the following components: -</p> <ul style="list-style-type: none"> a) Documentary evidence established in accordance with ITB 11 that the material, equipment and services to be provided by the Bidder are eligible material, equipment and services, and conform to the Bidding Documents; b) Documentary evidence established in accordance with ITB 12 that the bidder has been authorized to carry out the Construction works; c) Documentary evidence established in accordance with ITB 12 that the bidder is eligible and/or qualified for the subject bidding process; d) Form of Bid and Bid Prices completed in accordance with ITB 14 and 15; e) Completed schedules as required, including priced Bill of Quantities in accordance with ITB 13 & 15. f) Technical Proposal completed in all aspects in accordance with ITB-17. g) Bid security or Bid Securing Declaration furnished in accordance with ITB 19; h) Alternative bids, if permissible, in accordance with ITB 20; i) Duly Notarized Power of Attorney authorizing the signatory of the Bidder to submit the bid; and j) Any other document required in the BDS.

	11.2	(Not Applicable)
	11.3	The bidder shall furnish, as part of its bid, all those documents establishing the eligibility in conformity to the terms and conditions specified in the bidding documents for all material, equipment and works which the bidder proposes to execute.
	11.4	<p>The documentary evidence of conformity of the material, equipment and works to the Bidding Documents may be in the form of literature, drawings, and data, and shall consist of:</p> <ul style="list-style-type: none"> a) a detailed description of the work methodology, approach, schedule and resources to be mobilized at site; b) an item-by-item commentary on the Procuring agency/Employer's Technical Specifications demonstrating substantial responsiveness of the material, equipment and works to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications. c) any other procurement specific documentation requirement as stated in the BDS.
	11.5	The required documents and other accompanying documents must be in English. In case any other language than English is used the pertinent translation into English shall be attached to the original version.
12. Documents Establishing Eligibility and Qualification of the Bidder	12.1	The bidder shall furnish, as part of its bid, all those documents establishing the bidder's eligibility to participate in the bidding process and/or its qualification to perform the contract if its bid is accepted.
	12.2	The documentary evidence of the bidder's eligibility to bid shall establish to the satisfaction of the Procuring agency/Employer that the bidder, at the time of submission of its bid, is from an eligible country as defined in Section-IV titled as "Eligible Countries".
	12.3	The documentary evidence of the bidder's qualification to perform the contract if its bid is accepted shall establish to the satisfaction of Procuring agency/Employer that:

		<p>a) The bidder has the financial and technical capability necessary to perform the Contract, meets the qualification criteria specified in Section-V, Evaluation and Qualification Criteria and BDS.</p> <p>b) (Not Applicable)</p> <p>c) That the bidder meets the qualification criteria listed in Section-V, Evaluation and Qualification Criteria and BDS.</p>
13. Letter of Bid and Schedules	13.1	The Letter of Bid (Technical or Financial as the case may be) and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Standard Bid Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 22 . All blank spaces shall be filled in with the information requested.
14. Letter of Bid	14.1	The bidder shall fill in the Letter of Bid (Technical or Financial as the case may be) furnished in the bidding documents. The Standard Bid Forms must be completed without any alterations to its format and no substitute shall be accepted.
15. Bid Prices	15.1	The bid prices quoted by the bidder in the Standard bid Forms, Bill of Quantities and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the bidding documents.
	15.2	The bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. If a Price Schedule shows items listed but not priced, their prices shall be construed to be included in the prices of other items in the Bill of Quantities and will not be paid for separately by the Procuring agency/Employer.
	15.3	This an item / measurement-based contract. The Employer reserves the right to make any additions, alterations or modifications in the specification at any time in the best interest of the Work; also, Employer reserves the right increase or decrease the scope of work during the execution of work. ie include or delete items in BoQ.
	15.4	The Bid price to be quoted in the Form of Bid in accordance with ITB 15.1 shall be the total price of the bid.
	15.5	(Not Applicable)
	15.6	(Not Applicable)
	15.7	Prices quoted by the Bidder shall be fixed during the bidder's

		performance of the contract and not subject to variation on any account.
	15.8	All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date twenty-eight (28) days prior to the deadline for submission of bids, shall be included in the rates and prices and the total bid price submitted by the bidder.
16. Currencies of Bid and Payment	16.1	The currency of the bid and the currency of payments shall be Pakistani Rupees.
	16.2	(Not Applicable)
	16.3	(Not Applicable)
	16.4	(Not Applicable)
17. Documents Comprising the Technical Proposal	17.1	The bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV – Standard Bid Forms , in sufficient detail to demonstrate the adequacy of the bidder's proposal to meet the work requirements and the completion time.
18. Bid Validity Period	18.1	Bids shall remain valid for 30 days from the date of opening of financial bids . A bid valid for a shorter period shall be rejected by the Procuring agency/Employer as non-responsive. The period of bid validity will be determined from the complementary bid securing instrument i.e. the expiry period of bid security or bid securing declaration as the case may be.
	18.2	Under exceptional circumstances, prior to the expiration of the initial bid validity period, the Procuring agency/Employer may request the bidders' consent to an extension of the period of validity of their bids only once, for the period not more than the period of initial bid validity. The request and the bidders' responses shall be made in writing or in electronic forms that provide record of the content of communication. The Bid Security provided under ITB 19 shall also be extended 28 days beyond the deadline of extended bid validity period. A bidder agreeing to the request will not be required nor permitted to modify its bid, but will be required to extend the validity of its Bid Security for the period of the extension, and in compliance with ITB 19 in all respects.

19. Bid Security or Bid Securing Declaration	19.1	<p>Pursuant to ITB 11.1 unless otherwise specified in the BDS, the bidder shall furnish as part of its bid, a Bid Security in form of fixed amount not exceeding five percent of the estimated value of procurement determined by the Procuring agency/Employer and in the amount and currency specified in the BDS or Bid Securing Declaration as specified in the BDS in the format provided in Section VI (Standard Bidding Forms).</p> <p>In case Procuring agency/Employer is inviting bids in lots / packages, the bidder shall be required to submit his bid security against the respective lot/ package for which he is submitting his bid, which shall not exceed five percent of the estimated value of that particular lot/ package.</p>
	19.2	<p>The Bid Security or Bid Securing Declaration is required to protect the Procuring agency/Employer against the risk of Bidder's conduct before award of the contract to the most advantageous bidder which would warrant the security's forfeiture, pursuant to ITB 19.9.</p>
	19.3	<p>The Bid Security shall be denominated in the local currency, and it shall be in the form specified in the BDS which shall be in any of the following:</p> <ul style="list-style-type: none"> a) A bank guarantee, an irrevocable letter of credit issued by a Scheduled bank based in Islamabad in the form provided in the Bidding Documents or another form acceptable to the Procuring agency/Employer and valid for twenty-eight (28) days beyond the end of the validity of the Bid. This shall also apply if the period for Bid Validity is extended. In either case, the form must include the complete name of the bidder; b) A Banker's cheque/CDR/PO/DD
	19.4	<p>The Bid Security or Bid Securing Declaration shall be in accordance with the Form of the Bid Security or Bid Securing Declaration included in Section VI (Standard Bidding Forms) or another form approved by the Procuring agency/Employer prior to the bid submission.</p>
	19.5	<p>The Bid Security shall be payable promptly upon written demand by the Procuring agency/Employer in case any of the conditions listed in ITB 19.9 are invoked.</p>
	19.6	<p>Any bid not accompanied by a Bid Security in accordance with ITB 19.1 or 19.3 shall be rejected by the Procuring agency/Employer and shall be declared as non-responsive bid, pursuant to ITB 30.</p>

	19.7	<p>Unsuccessful bidders' Bid Security will be discharged or returned as promptly as possible, however in no case later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the Procuring agency/Employer pursuant to ITB 18. The Procuring agency/Employer shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, after whichever of the following that occurs earliest:</p> <ul style="list-style-type: none"> (a) The expiry of the Bid Security; (b) The entry into force of a procurement contract and the provision of a performance security (or guarantee), for the performance of the contract if such a security (or guarantee), is required by the Bidding documents; (c) The rejection by the Procuring agency/Employer of all Bids; (d) The withdrawal of the bid prior to the deadline for the submission of bids, unless the bidding documents stipulate that no such withdrawal is permitted.
	19.8	The successful bidder's Bid Security will be discharged upon the bidder signing the contract pursuant to ITB 47 or furnishing the performance security (in the shape of Bank Guarantee), pursuant to ITB 48 .
	19.9	<p>The Bid Security may be forfeited:</p> <ul style="list-style-type: none"> a) if a Bidder: <ul style="list-style-type: none"> i) Withdraws its Bid during the period of Bid Validity as specified by the Procuring agency/Employer, and referred by the bidder on the Form of Bid except as provided for in ITB 18.2; or ii) The bidder does not accept the correction of Arithmetic errors rectified by the employer and the contract will be awarded to the next lowest responsive bidder. b) In the case of a successful bidder, if the bidder fails: <ul style="list-style-type: none"> i) to sign the contract in accordance with ITB 47; or ii) to furnish performance security (in shape of Bank Guarantee) in accordance with ITB 48.
	19.10	(Not Applicable)
20. Alternative Bids by Bidders	20.1	(Not Applicable)
	20.2	(Not Applicable)
	20.3	(Not Applicable)

21. Withdrawal of Bids	21.1	Before the bid submission deadline, any bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and the corresponding must accompany the respective written notice.
	21.2	Bids requested to be withdrawn in accordance with ITB 21.1 shall be returned unopened to the bidders.
22. Format and Signing of Bid	22.1	(Not Applicable)
	22.2	(Not Applicable)
	22.3	Any interlineations, erasures, or overwriting shall be valid only if they are signed by the person(s) authorized for signing the Bid.

D. SUBMISSION OF BIDS

23. Sealing and Marking of Bids	23.1	(Not Applicable)
	23.2	(Not Applicable)
	23.3	(Not Applicable)
	23.4	(Not Applicable)
	23.5	(Not Applicable)
24. Deadline for Submission of Bids	24.1	Bids shall be received to the Procuring agency/Employer through (one hard copy) no later than the date and time specified in the Tender; Monday, 30th December 2024 before 03:00PM.
	24.2	The Procuring agency/Employer may, under exceptional circumstances and at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB 9 , in which case all rights and obligations of the Procuring agency/Employer and bidders previously subject to the deadline will thereafter be subject to the new deadline.
25. Late Bids	25.1	(Not Accepted)
	25.2	Any bid received by the Procuring agency/Employer after the deadline for submission of bids shall be declared late, recorded, rejected and returned unopened to the bidder.

26. Substitution and Modification of bids	26.1	(Not Applicable)
	26.2	(Not Applicable)

E. OPENING AND EVALUATION OF BIDS

27. Opening of Bids	27.1	The Procuring agency/Employer will open all technical bids, in public, in the presence of bidders' or their representatives who choose to attend, and other parties with a legitimate interest in the bid proceedings at the place, on the date and at the time, specified in the Tender . The bidders' representatives present shall sign a attendance sheet as a proof of their attendance.
	27.2	(Not Applicable)
	27.3	(Not Applicable)
	27.4	(Not Applicable)
	27.5	(Not Applicable)
	27.6	As case of Single Stage Two Envelope Procedure, the Procuring agency/Employer will open the Technical Proposals in public at the address, date and time specified in the Tender in the presence of bidders' designated representatives who choose to attend and other parties with a legitimate interest in the bid proceedings
	27.7	All Technical Proposals shall be opened one at a time, and the following read out and recorded: (a) the name of the bidder; (b) the presence of a Bid Security, if required; and (c) Any other details as the Procuring agency/Employer may consider appropriate.
	27.8	Bids not opened and not read out at the bid opening shall not be considered further for evaluation, irrespective of the circumstances.
	27.9	Bidders are advised to send in a representative with knowledge of the content of the bid who shall verify the information read out from the submitted documents. Failure to send a representative or to point out any un-read information by the sent bidder's representative shall indemnify the Procuring agency/Employer against any claim or failure to read out the correct information contained in the bidder's bid.

	27.10	No bid will be rejected at the time of bid opening except for late bids which will be returned unopened to the bidder, pursuant to ITB 25.
	27.11	The Procuring agency/Employer shall record the Bid opening sheet of the bid opening. The record of the bid opening shall include, as a minimum: the name of the bidder, the bid price (if applicable) and the presence or absence of a Bid Security.
	27.12	The bidders' representatives who are present shall be requested to sign the attendance sheet. The omission of a bidder's signature on the record shall not invalidate the contents and affect the record. A copy of the record shall be distributed to all the bidders.
	27.13	(Not applicable)
	27.14	In case of Single Stage -Two Envelop Bidding Procedure, after the announcement of technical evaluation report, the Procuring agency/Employer, shall at a time within the bid validity period, publicly open the financial proposals of the technically qualified bidder only . The financial proposal of bidders found technically non-responsive shall be returned un-opened to the respective bidders after seven days of the announcement of technical evaluation report, except those aggrieved bidder(s) whose complaints are pending before the Grievance Redressal Committee.
28. Confidentiality	28.1	Information relating to the examination, clarification, evaluation and comparison of bids and recommendation of contract award shall not be disclosed to bidders or any other persons not officially concerned with such process until the time of the announcement of the respective evaluation report.
	28.2	Any effort by a bidder to influence the Procuring agency/Employer processing of bids or award decisions may result in the rejection of its bid.
	28.3	Notwithstanding ITB 28.2 from the time of bid opening to the time of contract award, if any bidder wishes to contact the Procuring agency/Employer on any matter related to the bidding process, it should do so in writing or in electronic forms that provides record of the content of communication.

29. Clarification of Bids	29.1	To assist in the examination, evaluation and comparison of bids, the Procuring agency/Employer may ask any bidder for a clarification of its bid including breakdown of prices invariably in writing. Any clarification submitted by a bidder that is not in response to a request by the Procuring agency/Employer shall not be considered.
	29.2	The request for clarification and the response shall be in writing or in electronic forms that provide a record of the content of communication. No change in the prices or substance of the bid shall be sought, offered, or permitted, except clarification for the correction of arithmetic errors discovered by the Procuring agency/Employer during the evaluation of bids which shall be sought in accordance with ITB 32.
	29.3	The alteration or modification in the bid which in any case affect the following parameters will be considered as a change in the substance of a bid: a) evaluation & qualification criteria. b) required scope of work. c) contract price. d) all securities requirements. e) tax requirements. f) terms and conditions of bidding documents. g) change in the ranking of the bidder
	29.4	From the time of bid opening to the time of Contract award if any bidder wishes to contact the Procuring agency/Employer on any matter related to the bid it should do so in writing or in electronic forms that provide record of the content of communication.

30. Preliminary Examination of Bids	30.1	<p>Prior to the detailed evaluation of bids, the Procuring agency/Employer will determine whether each bid:</p> <ul style="list-style-type: none"> a) meets the eligibility criteria defined in ITB 3 and ITB 4; b) has been prepared as per the format and contents defined by the Procuring agency/Employer in the bidding documents; c) has been properly signed; d) is accompanied by the required securities; and e) is substantially responsive to the requirements of the bidding documents. <p>The Procuring agency/Employer's determination of a bid's substantial responsiveness will be based on the contents of the bid itself.</p>
	30.2	<p>A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one that: -</p> <ul style="list-style-type: none"> a) affects in any substantial way the scope, quality, or performance of the Works; b) limits in any substantial way, inconsistent with the bidding documents, the Procuring agency/Employer's rights or the bidders' obligations under the Contract; or c) if rectified, would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
	30.3	<p>The Procuring agency/Employer will confirm that the documents and information specified under ITB 11, 12 and 13 have been provided in the bid. If any of these documents or information is missing, or is not provided in accordance with the Instructions to Bidders, the bid shall be rejected.</p>
	30.4	<p>The Procuring agency/Employer may waive-off any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.</p>
	30.5	<p>Provided that a Technical Bid is substantially responsive, the Procuring agency/Employer may request the bidder to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any such aspect of the technical Proposal linked with the ranking of the bidders. Failure of the bidder to comply with the request may result in the rejection of its bid.</p>

	30.6	Provided that a Technical Bid is substantially responsive, the Procuring agency/Employer shall rectify quantifiable nonmaterial nonconformities or omissions related to the Financial Proposal. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of the missing or nonconforming item or component.
	30.7	If a bid is not substantially responsive, it will be rejected by the Procuring agency/Employer and may not subsequently be evaluated for complete technical responsiveness.
31. Examination of Terms and Conditions; Technical Evaluation	31.1	The Procuring agency/Employer shall examine the technical bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the bidder without any material deviation or reservation. For this purpose: “Deviation” means departure from the requirements specified in the Bidding Document. “Reservation” means setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document. Evaluation Yard stick is appended in the end of this document.
	31.2	The Procuring agency/Employer shall evaluate the technical aspects of the bid submitted in accordance with ITB 31 , to confirm that all requirements specified in Section V – Works Requirement, Technical Specifications of the Bidding Documents have been met without material deviation or reservation.
	31.3	If after the examination of the terms and conditions and the technical evaluation, the Procuring agency/Employer determines that the bid is not substantially responsive in accordance with ITB 30 , it shall reject the bid.
32. Correction of Arithmetic Errors	32.1	Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: - a) if there is a discrepancy between unit prices and the sub-total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail , and the sub-total price shall be corrected, unless in the opinion of the Procuring agency/Employer there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected; b) if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail, and the total shall be corrected; and c) where there is a discrepancy between the amounts in figures and in words, the amount in words will govern. d) Where there is a discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the

		amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.
	32.2	The amount stated in the Bid will, be rectified by the Procuring agency/Employer in accordance with the above procedure for the correction of errors and, with, the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount, its bid shall be rejected after forfeiture of Bid Security or execution of the Bid Securing Declaration, as the case may be, in accordance with ITB 19.9.
33. Conversion to Single Currency	33.1	The unit rates and the prices shall be quoted by the bidder entirely in Pak rupees.
	33.2	(Not Applicable)
	33.3	(Not Applicable)
34. Evaluation of Bids	34.1	The Procuring agency/Employer shall evaluate and compare only the bids determined to be substantially responsive, pursuant to ITB 30 .
	34.2	In evaluating the Technical Proposal of each Bid, the Procuring agency/Employer shall use the criteria and methodologies listed in the BDS and in terms of works requirement. No other evaluation criteria or methodologies shall be permitted.
	34.3	The Procuring agency/Employer's evaluation of a bid will take into account: a) the bid price, excluding provisional sums and the provision, if any, for contingencies in the summary bill of quantities, but including day work items, where priced competitively; b) Price adjustment/Escalation is not applicable for this project.
	34.4	(Not Applicable)
	34.5	(Not Applicable)

	34.6	<p>If the bid, which results in the Evaluated Bid Price (Most Advantageous Bid), is seriously unbalanced or front loaded in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated Contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.</p> <p>(“Unbalanced” or “front-loaded” bids consist of deliberately submitting bids with artificially high prices or unit rates for the early stages of a construction project, offset by artificially low prices or unit rates for the later stages of the project, to improve the contractor’s cash flow.)</p>
35. Domestic Preference	35.1	If the BDS so specifies, the Procuring agency/Employer will grant a margin of preference to the domestic contractor in line with the rules, regulations, regulatory guides or instructions issued by the Authority from time to time.
36. Determination of Most Advantageous Bid	36.1	The Procuring agency/Employer shall compare the evaluated bids in accordance with the predefined bidding procedure, of all substantially responsive bids to determine the Most Advantageous bidder.
37. Qualification of Bidder	37.1	The Procuring agency/Employer shall determine to its satisfaction whether the bidder is substantially responsive and whose bid is declared as most advantageous bid either continues to meet (if prequalification applies) or meets (if post-qualification applies) the qualifying criteria specified in Evaluation and Qualification Criteria/Yardstick.
	37.2	The determination shall be based upon an examination of the documentary evidence of the bidder’s qualifications submitted by the bidder, pursuant to ITB 12.
	37.3	Prior to contract award, the Procuring agency/Employer will verify that the successful bidder is not blacklisted/debarred.

38. Sub-Contractors	38.1	The successful bidder shall provide details regarding any specialized subcontractor to the Procuring agency/Employer. In case change of sub-contractors, the bidder shall promptly notify the Procuring agency/Employer and obtain approval for replacement of sub-contractors.
	38.2	(Not applicable)
39. Abnormally Low Financial Bid	39.1	<p>Where the bid price is considered to be abnormally low, the Procuring agency/Employer shall perform price analysis either during determination of Most Advantageous Bid or as a part of the post-qualification process. The following process shall apply:</p> <ul style="list-style-type: none"> a) The Procuring agency/Employer may reject a bid if the Procuring agency/Employer has determined that the price in combination with other constituent elements of the bid is abnormally low in relation to the subject matter of the procurement (i.e. scope of the procurement or ancillary services) and raises concerns as to the capability and capacity of the respective Bidder to perform that contract; b) Before rejecting an abnormally low bid the Procuring agency/Employer shall request the bidder an explanation of the bid or of those sections which it considers contribute to the bid being abnormally low; take account of the evidence provided in response to a request in writing; and subsequently verify the bid or parts of the bid being abnormally low; c) The decision of the Procuring agency/Employer to reject a bid and reasons for the decision shall be recorded in the procurement proceedings and promptly communicated to the bidder concerned; d) The Procuring agency/Employer shall not incur any liability solely by rejecting abnormally bid; and e) An abnormally low bid means, in the light of the Procuring agency/Employer's estimate and of all the bids submitted, the bid appears to be abnormally low by not providing a margin for normal levels of profit. <p><u>Guidance for Procuring agency/Employer:</u></p> <p>In order to identify the Abnormally Low Bid (ALB) following approaches can be considered to minimize the scope of subjectivity:</p> <ul style="list-style-type: none"> (i) Comparing the bid price with the cost estimate; (ii) Comparing the bid price with the bids offered by other bidders submitting substantially responsive bids; and (iii) Comparing the bid price with prices paid in similar contracts in the recent past either government- or development partner-funded.
	39.2	The Procuring agency/Employer will determine to its satisfaction whether the bidder that is selected as having

		submitted the most advantageous bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB 12
	39.3	The determination will take into account the bidder's financial and technical capabilities. It will be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder, pursuant to ITB 12, as well as such other information as the Procuring agency/Employer deems necessary and appropriate. Factors not included in these bidding documents shall not be used in the evaluation of the bidders' qualifications.
	39.4	Procuring agency/Employer may seek "Certificate for Independent Price Determination" from the bidder and the results of reference checks may be used in determining award of contract. (The Certificate shall be furnished by the bidder. The bidder shall certify that the price is determined keeping in view of all the essential aspects such as raw material, its processing, value addition, optimization of resources due to economy of scale, transportation, insurance and margin of profit etc.)
	39.5	An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder's bid, in which event the Procuring agency/Employer will proceed to the next ranked bidder to make a similar determination of that bidder's capabilities to perform satisfactorily.

F. AWARD OF CONTRACT

40. Criteria of Award	40.1	<p>Subject to ITB 36 and 37, the Procuring agency/Employer will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has been declared as Most Advantageous Bidder, provided that such bidder has been determined to be:</p> <ul style="list-style-type: none"> a) eligible in accordance with the provisions of ITB 3; b) is determined to be qualified to perform the Contract satisfactorily; and c) Successful negotiations have been concluded, if any.
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41. Negotiations	41.1	<p>The Committee of the Procuring agency/Employer may negotiate with the Most Advantageous Bidder relating to the following areas:</p> <ul style="list-style-type: none"> (a) a minor alteration to the technical (drawings, design technical specifications) details of the statement of works; (b) Methodology, work plan, staffing in view to streamline the work; (c) a minor amendment to the special conditions of Contract; (d) finalizing payment arrangements; (e) clarifying details that were not apparent or could not be finalized at the time of Bidding;
	41.2	<p>Where negotiation fails to result into an agreement, the Procuring agency/Employer may invite the next ranked bidder for negotiations. Where negotiations are commenced with the next ranked bidder, the Procuring agency/Employer shall not reopen earlier negotiations.</p>
42. Procuring agency/ Employer's Right to reject All Bids	42.1	<p>Notwithstanding ITB 37, the Procuring agency/Employer reserves the right to reject any or all the bids, and to annul the bidding process at any time prior to acceptance of bid, without thereby incurring any liability to the affected bidder(s). However, the Authority (i.e. PPRA) may call from the Procuring agency/Employer the justification of those grounds.</p>
	42.2	<p>Notice of the rejection of all bids shall be given promptly to all bidders that have submitted bids.</p>
43. Variations	43.1	<p>The Engineer shall make any variation in the quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion, be appropriate, he shall have the authority to instruct the Contractor to do and the Contractor shall do any of the following:</p> <ul style="list-style-type: none"> a) increase or decrease the quantity of any work included in the Contract, b) omit any such work (but not if the omitted work is to be carried out by the Employer or by another contractor), c) change the character or quality or kind of any such work, d) change the levels, lines, position and dimensions of any part of the Works, e) execute additional work of any kind necessary for the completion of the Works, or f) change any specified sequence or timing of construction of any part of the Works. <p>No such variation shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be</p>

		valued in accordance with ITB 15 . Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor.
44. Instructions for variations	44.1	The Contractor shall not make any such variation without an instruction of the Engineer. Provided that no instruction shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.
45. Valuation of Variations (For Non BoQ Items)	45.1	The valuation will be carried out on the basis of actual with the application of current market rates for labour and material. The percentage (%) of overheads, taxes profit, carriage and wastage, etc. all-inclusive to be allowed in such cases be twenty (25) percent (%).
46. Notification of Award	46.4	Upon the successful bidder's furnishing of the performance security in the shape of bank Guarantee issued by Islamabad based scheduled bank (within 14 days of issuance of Letter of Acceptance). Subject to failure to submit the Performance Security within given timeframe, the employer has the right to award the contract to the next suitable responsive bidder.
47. Signing of Contract	47.1	Promptly after notification of award, procuring agency/Employer shall send the successful bidder the draft agreement, incorporating all terms and conditions as agreed by the parties to the contract.
	47.2	Immediately after the Redressal of grievance by the GRC, and after fulfillment of all conditions precedent of the Contract Form, the successful bidder and the Procuring agency/Employer shall sign the contract.
48. Performance Security (or Guarantee)	48.1	After the receipt of the Letter of Acceptance, the successful bidder, within the specified time, shall deliver to the Procuring agency/Employer a Performance Guarantee in the amount and in the form stipulated in the BDS and SCC, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract.
	48.2	If the Performance Guarantee is provided by the successful bidder and it shall be in the form specified in the BDS which shall be in any of the following: Bank guarantee issued by Karachi based scheduled bank
	48.3	Failure of the Most Advantageous Bidder to comply with the requirement of ITB 47 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security or declare blacklisted (in case bid securing declaration is submitted) in which event the Procuring agency/Employer may

		make the award to the next most advantageous bidder or reinitiate the procurement process afresh (as a case may be).
49. Advance Payment		(Not applicable)
50. General Performance of the Bidders	50.1	The Procuring agency/Employer reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts / works. The Procuring agency/Employer may seek information / report from the previous employer for consideration. However, the Procuring agency/Employer shall incorporate such parameters in the evaluation criteria and accordingly decide the fate of the bid submitted.
51. Corrupt & Fraudulent Practices	51.1	Procuring agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Suppliers/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

G. GRIEVANCE REDRESSAL & COMPLAINT REVIEW MECHANISM

52. Constitution of Grievance Redressal	52.1	Procuring agency/Employer shall constitute a Grievance Redressal Committee (GRC) comprising of odd number of persons with proper power and authorization to address the complaint. The GRC shall not have any of the members of Procurement Evaluation Committee. The committee must have one subject specialist depending the nature of the procurement.
53. GRC Procedure	53.1	Any party can file its written complaint against the eligibility parameters or any other terms and conditions prescribed in the prequalification or bidding documents found contrary to provision of Procurement Regulatory Framework, and the same shall be addressed by the GRC well before the bid submission deadline.
	53.2	Any bidder feeling aggrieved by any act of the Procuring agency/Employer after the submission of his bid may lodge a written complaint concerning his grievances not later than seven days of the announcement of technical evaluation report and five days after issuance of final evaluation report.
	53.3	In case, the complaint is filed against the technical evaluation report, the GRC shall suspend the procurement proceedings.

	53.4	In case, the complaint is filed after the issuance of the final evaluation report, the complainant cannot raise any objection on technical evaluation of the report: Provided that the complainant may raise the objection on any part of the final evaluation report in case where single stage one envelope bidding procedure is adopted.
	53.5	The GRC, in both the cases shall investigate and decide upon the complaint within ten days of its receipt.
	53.6	Any bidder or the Procuring agency/Employer not satisfied with the decision of the GRC may file Appeal before the Appellate Committee of the Authority on prescribed format after depositing the Prescribed fee.
	53.7	The Committee, upon receipt of the Appeal against the decision of the GRC complete in all respect shall serve notices in writing upon all the parties to Appeal.
	53.8	The committee shall call the record from the concerned Procuring agency/Employer or the GRC as the case may be, and the same shall be provided within prescribed time.
	53.9	The committee may after examination of the relevant record and hearing all the concerned parties, shall decide the complaint within fifteen (15) days of receipt of the Appeal.
	53.10	The decision of the Committee shall be in writing and shall be signed by the Head and each Member of the Committee. The decision of the committee shall be final.

H. MECHANISM OF BLACKLISTING

54. Mechanism of Blacklisting	54.1	<p>The Procuring agency/Employer shall bar for not more than the time prescribed in Rule-19 of the Public Procurement Rules, 2004, from participating in their respective procurement proceedings, bidder or contractor who either:</p> <p>Involved in corrupt and fraudulent practices as defined in Rule-2 of Public Procurement Rules;</p> <p>i) Fails to perform his contractual obligations; and</p> <p>ii) Fails to abide by the id securing declaration;</p>
	54.2	<p>The show-cause notice shall contain: (a) precise allegation, against the bidder or contractor; (b) the maximum period for which the Procuring agency/Employer proposes to debar the bidder or contractor from participating in any public procurement of the Procuring agency/Employer; and (c) the statement, if needed, about the intention of the Procuring agency/Employer to make a request to the Authority for debarring the bidder or contractor from participating in public procurements of all the procuring agencies.</p>
	54.3	<p>The Procuring agency/Employer shall give minimum of seven days to the bidder or contractor for submission of written reply of the show cause notice.</p>
	54.4	<p>In case, the bidder or contractor fails to submit written reply within the requisite time, the Procuring agency/Employer may issue notice for personal hearing to the bidder or contractor/ authorize representative of the bidder or contractor and the Procuring agency/Employer shall decide the matter on the basis of available record and personal hearing, if availed.</p>
	54.5	<p>In case the bidder or contractor submits written reply of the show cause notice, the Procuring agency/Employer may decide to file the matter or direct issuance of a notice to the bidder or contractor for personal hearing.</p>
	54.6	<p>The Procuring agency/Employer shall give minimum of seven days to the bidder or contractor for appearance before the designated officer of the Procuring agency/Employer for personal hearing. The designated officer shall decide the matter on the basis of the available record and personal hearing of the bidder or contractor, if availed.</p>
	54.7	<p>The Procuring agency/Employer shall decide the matter within fifteen (15) days from the date of personal hearing unless the personal hearing is adjourned to a next date and in such an eventuality, the period of personal hearing shall be reckoned from the last date of personal hearing.</p>

	54.8	The Procuring agency/Employer shall communicate to the bidder or contractor the order of debarring the bidder or contractor from participating in any public procurement with a statement that the bidder or contractor may, within thirty (30) days, prefer a representation against the order before the Authority.
	54.9	Such blacklisting or barring action shall be communicated by the Procuring agency/Employer to the Authority and respective bidder or bidders in the form of decision containing the grounds for such action. The same shall be publicized by the Authority after examining the record whether the procedure defined in blacklisting and debarment mechanism has been adhered to by the Procuring agency/Employer.
	54.10	The bidder may file the review petition before the Review Petition Committee Authority within thirty (30) days of communication of such blacklisting or barring action after depositing the prescribed fee and in accordance with “Procedure of filing and disposal of review petition under Rule-19(3) Regulations, 2021”. The Committee shall evaluate the case and decide within ninety (90) days of filing of review petition.
	54.11	The committee shall serve a notice in writing upon all respondent of the review petition. The notices shall be accompanied by the copies of review petition and all attached documents of the review petition including the decision of the Procuring agency/Employer. The parties may file written statements along with essential documents in support of their contentions. The Committee may pass such order on the representation may deem fit.
	54.12	The Authority on the basis of decision made by the committee either may debar a bidder or contractor from participating in any public procurement process of all or some of the procuring agencies for such period as the deemed appropriate or acquit the bidder from the allegations. The decision of the Authority shall be final.

SECTION III:
BID DATA SHEET

Bid Data Sheet (BDS)

The following specific data for the for the procurement of works shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITBs). Whenever there is a conflict, the provisions herein shall prevail over those in ITBs.

BDS Clause Number	ITB Number	Amendments of, and Supplements to, Clauses in the Instruction to Bidders
A. Introduction		
1.	1.1	<p>Name of Procuring agency/Employer: Fazaia Ruth Pfau Medical College, Karachi.</p> <p>The subject of procurement is: “Supply, Installation & Commissioning of 400 KW On-Grid Solar System for Fazaia Ruth Pfau Medical College Karachi”.</p> <p>Period for completion of the works: 90-100 Calendar Days Commencement date execution of the works: As per work order Type of Procurement: <i>Competitive bidding (Single Stage Two Envelope)</i></p>
2.	2.1	<p>Financial year for the operations of the Procuring agency/Employer: 2024-2025</p> <p>Name of Project: “Supply, Installation & Commissioning of 400 KW Solar System for Fazaia Ruth Pfau Medical College Karachi”.</p> <p>Name of financing institution: Fazaia Ruth Pfau Medical College, Karachi</p> <p>Name and identification number of the Contract: “Supply, Installation & Commissioning of 400 KW on-Grid Solar System For Fazaia Ruth Pfau Medical College, Karachi”.</p>
3.	3.1	(Not Applicable)

B. Bidding Documents

4.	4.1	The bidders are advised to submit Hard Copy of the Technical & Financial Bids (separately labelled) along with Bid Security Pay Order/Bankers Cheque at Office of the Principal Secretariat, Fazaia Ruth Pfau Medical College, PAF Base Faisal, Karachi-74350. before the given date and time in the advertisement. <i>Note: Any bid without (original) bid security will be rejected at the spot.</i>
5.	5.1	The address for clarification and submission of Bidding Documents is: Principal Secretariat, Fazaia Ruth Pfau Medical College, PAF Base Faisal, Main Shahra-e-Faisal, Karachi-74350. Email: info@frpmc.edu.pk or Cell # 0321-2587123
	5.2	Pre-bid meeting will only be held on the requests of multiple bidders/or in case of multiple changes in the bidding documents.

C. Preparation of Bids

6.	6.1	The Language of all correspondences and documents related to the Bid is English
7.	7.2	Complete company profile according to the given yardstick must be included in the Bid.
8.	8.1	Other procurement specific documentation according to the yardstick should be attached with technical bid.
9.	9.1	(Not applicable)
10.	10.1	Name of the works “Supply, Installation & Commissioning of 400 KW On-Grid Solar System for Fazaia Ruth Pfau Medical College, Karachi”.
11.	11.1	The currency of the Bid shall be Pakistani Rupees
12.	12.1	The Bid Validity period shall be 90 days .
13.	13.1	The amount of Bid Security shall be Two percent (2%) of the total value quoted.
14.	14.1	The Bid Security shall be in the form of Pay Order / Bankers Cheque .
15.	15.1	(Not applicable)
16.	16.1	(Not applicable)
17.	17.1	Bidder must submit complete work schedule as per total duration of the project as mentioned in Tender Documents.

18.	18.1	The bidding documents (Hard copy) must be submit by-hand or via courier in which Technical & Financial Bids (separately labelled) along with Bid Security Pay Order / Bankers Cheque. Any bid without original Bid security will be rejected at the spot.
19.	19.1	(Not applicable)

D. Submission of Bids

20.	20.1	Bid shall be submitted: Office of the Principal Secretariat, Fazaia Ruth Pfau Medical College, PAF Base Faisal, Main Shahra-e-Faisal, Karachi-74350.
21.	21.1	Title of the subject Procurement or Project name: “Supply, Installation & Commissioning of 400 KW On -Grid Solar System for Fazaia Ruth Pfau Medical College, Karachi” . Time and date for submission: Monday 30th December 2024 before 03:00pm.
22.	22.1	<u>The deadline for Bid submission is:</u> a) Day: Monday b) Date: 30th December 2024 c) Time: 03:00 PM

E. Opening and Evaluation of Bids

23.	23.1	The Bid opening shall take place at: Office of the Principal Secretariat, Fazaia Ruth Pfau Medical College, PAF Base Faisal, Main Shahra-e-Faisal, Karachi-74350.
24.	24.1	The currency that shall be used for Bid evaluation and comparison purposes to convert all Bid prices expressed in various currencies are Pakistani Rupees
25.	25.1	The bids shall be quoted in (Pakistani Rupees)
26.	26.1	Evaluation Techniques As per attached “Yardstick”
27.	27.1	(Not applicable)
28.	28.1	(Not applicable)
29.	29.1	(Not applicable)
30.	30.1	(Not applicable)

F. Award of Contract

31.	48	The Performance Security (in shape of Bank Guarantee) shall be 5% of the Contract Price.
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		The Retention amount shall be 5% of the project value, which will be disbursed after One year from the project completion date.
32.	48	The Performance Security shall be in the form of Bank Guarantee issued by Karachi based scheduled bank.

G. Review of Procurement Decisions

33.	53.6	(Not applicable)
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Section IV:
ELIGIBLE COUNTRIES

All the bidders are allowed to participate in the subject procurement without regard to nationality, except bidders of some nationality, prohibited in accordance with policy of the Sindh Government.

Following countries are ineligible to participate in the procurement process:

- 1. India**
- 2. Israel**

SECTION V:
Evaluation and Qualification Criteria

The Procuring agency/Employer/Consultant shall evaluate the bids in accordance with predefined evaluation and qualification criteria mentioned in this document.

No other factors, methods or criteria shall be used. The Bidder shall provide all the information requested in the forms included in the Bidding Forms.

Wherever a Bidder is required to state a monetary amount, Bidders should indicate the currency prescribed in the BDS. In case of foreign currency, the exchange rates shall be taken from State Bank of Pakistan on that bid opening day. Any error in determining the exchange rates in the Bid may be corrected in accordance with **ITB 32** (Correction of Arithmetic Errors)

DOMESTIC PREFERENCE

If allowed in the BDS, a margin of preference shall be granted to domestic contractors, in accordance with policy of the Federal Government and guidelines issued by the Authority, and subject to, the following provisions:

- a) Contractors applying for such preference shall provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring agency/Employer, a particular contractor or group of contractors qualifies for a domestic preference. The bidding documents shall clearly indicate the preference and the method that will be followed in the evaluation and comparison of bids to give effect to such preference.
- b) After bids have been received and reviewed by the Procuring agency/Employer, responsive bids shall be classified into the following groups:
 - (i) Group A: bidder eligible for the domestic preference.
 - (ii) Group B: another bidder.
- c) All evaluated bids in each group shall, as a first evaluation step, be compared to determine the most advantageous bid, and the most advantageous bids in each group shall be further compared with each other. If, as a result of this comparison, a bid from Group A is the most advantageous, it shall be selected for the award. If a bid from Group B is the most advantageous, as a second evaluation step, all bids from Group B shall then be further compared with the most advantageous bid from Group A. For the purpose of this further comparison only, the percentage of price preference of the respective bid price corrected for arithmetical errors, shall be added to the evaluated price offered in each bid from Group B. If the bid from Group A is the most advantageous, it shall be selected for award. If not, the most advantageous bid from Group B based on the first evaluation step shall be awarded the contract.

EVALUATION

In addition to the criteria listed in **ITB 34.3** the following criteria shall be applied for the evaluation of bids:

2.1 Assessment of adequacy of Technical Proposal with Requirements

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section V Works Requirements.

2.2 Technical Alternatives:

Technical alternatives, if permitted under BDS, will be evaluated as follows;
(*The Procuring agency/Employer shall describe how this factor will be evaluated*).

2.3 Multiple Contracts:

If works are grouped in multiple contracts and pursuant to **ITB 34**, the Procuring agency/Employer shall evaluate and compare Bids on the basis of a contract, or a combination of contracts, or as a total of contracts in order to arrive at the Most advantageous bid for the Procuring agency/Employer by taking into account bids offered by Bidders in case of award of multiple contracts. If a Bidder submits several successful (lowest evaluated substantially responsive) bids, the evaluation will also include an assessment of the Bidder's capacity to meet the following aggregated requirements as presented in the bid:

- 1) Average annual construction turnover,
- 2) Financial resources,
- 3) Equipment to be allocated, and
- 4) Personnel to be fielded

If permitted under ITB 34, will be evaluated as follows:

Award Criteria for Multiple Contracts:

Lots: If specified in the procurement planning and allowed in the BDS, the Procuring agency/Employer may ask to the bidder to bid for any one or more lots. Bids will be evaluated lot-wise for combined lots. The contract(s) will be awarded to the Bidder or Bidders offering the most advantageous bid to the Procuring agency/Employer for combined lots, subject to the selected Bidder(s) meeting the required qualification criteria for lot or combination of lots as the case may be.

Packages: If specified in the procurement planning and allowed in the BDS the bidder may choose to Bid for any one or more packages and for any one or more lots within a package. Bids will be evaluated package-wise, for combined packages and/or lots within a package. The contract(s) will be awarded to the Bidder or Bidders offering the most advantageous bid to the Procuring agency/Employer for combined packages, subject to the selected Bidder(s) meeting the required qualification criteria for combination of packages and or lots as the case may be.

2.4 Specialized Subcontractors

Only the specific experience of subcontractors for specialized works permitted by the Procuring agency/Employer will be considered. The general experience and financial resources of the specialized subcontractors shall not be added to those of the Bidder for purposes of

qualification of the Bidder.

The specialized sub-contractors proposed shall be fully qualified for their work proposed, and meet the following criteria:

QUANTITATIVE EVALUATION YARDSTICK

A. Experience	Total Points = 40
1. Similar Works (Each Project) completed in last 03 years (supported by documents) to be listed at Appendix- "A"	20
2. Ongoing Works (Each Project) of similar nature (supported by documents) to be listed at Appendix- "B"	20
B. Profile	Total Points = 30
1. Management & Engineering and technical staff	15
2. Availability of relevant equipment & tools	15
C. Financial Capability	Total Points = 20
1. Average annual construction turnover in millions for the last 03 years	20
D. Work Plan	Total Points = 05
1. Work plan for total duration	05
E. Affidavit	Total Points = 05
2. Firm/Company never blacklisted by any Govt organization and never involved in litigation with any agency/Govt Dept.	05

CONTRACTOR’S REPRESENTATIVE AND KEY PERSONNEL

The Bidder must demonstrate that it will have a suitably qualified Contractor’s Representative and suitably qualified (and in adequate numbers) Key Personnel, as described in the Specification.

The Bidder shall provide details of the Representative and Key Personnel and such other Key Personnel that the Bidder considers appropriate to perform the Contract, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in the Bidding Forms.

Equipment

The Bidder must demonstrate that it has access to the key equipment listed hereafter:

[Specify requirements for each lot as applicable]

S. No.	Equipment Type and Characteristics	Minimum Number Required
1		
2		
3		
4		
5		

The Bidder shall provide further details of proposed items of equipment using Form EQU in Section V.

SECTION-V:
**Works Requirement, Technical Specifications,
Drawings, Supplementary Information and
Bill of Quantities**

SCOPE OF WORKS / BOQ
(attached as Vol-2)

DRAWING
(attached as Vol-3)

Note:**Shop Drawings**

During the execution of the work, the **consultant** may advise the contractor to present any shop drawings before execution of the project which are mandatory for completion of the project. Drawings may include: -

- Civil
- Electrical
- Mechanical

(The approval of employer / consultant is mandatory for execution of prepared shop drawings)

As-Built Drawings

After the completion of the project, the contractor must submit the As-Built drawings.

Technical Proposal

Following should be attached with Technical Proposal:

- **Site Organization**
- **Method Statement**
- **Mobilization Schedule**
- **Construction Schedule**
- **Equipment**

Form EQU: Equipment

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III, Evaluation and Qualification Criteria. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Bidder.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

SECTION-VI:
Standard Bidding Forms

Letter of Bid – Technical Proposal

*INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT
Place this Letter of Bid in the first envelope “TECHNICAL PROPOSAL”.*

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder’s complete name and business address.

Note: All italicized text in black font is to help Bidders in preparing this form and Bidders shall delete it from the final document.

Date of this Bid submission: Monday, 30th December, 2024 before 03:00 PM

To: Fazaia Ruth Pfau Medical College, PAF Base Faisal, Main Shahra-e-Faisal, Karachi.

We, the undersigned Bidder, hereby submit the first part of our Bid, the Technical Proposal.

In submitting our Bid we make the following declarations:

- (a) **No reservations:** We have examined and have no reservations to the bidding document, including addenda issued in accordance with Instructions to Bidders (**ITB 9**);
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITB 3;
- (c) **Bid/Proposal-Securing Declaration:** We have not been suspended nor declared ineligible by the Procuring agency/Employer based on execution of a Bid Securing Declaration or Bid Securing Declaration in the Procuring agency/Employer’s country in accordance with **ITB 3**;
- (d) **Conformity:** We offer to execute works in conformity with the bidding document and in accordance with the works requirements: **“Supply, Installation, Testing & Commissioning of 400 KW Solar System for Fazaia Ruth Pfau Medical College, Karachi”**.
- (e) **Bid Validity Period:** Our Bid shall be valid for the period specified in **BDS 18.1** (as amended, if applicable) from the date fixed for the Bid submission deadline specified in **BDS 24.1** (as amended, if applicable), and it shall remain binding upon us, and may be accepted at any time before the expiration of that period;
- (f) **Performance Security:** If our Bid is accepted, we commit to obtain a performance security in accordance with the bidding document;
- (g) **One Bid per Bidder:** We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other bid(s) as a Joint Venture member or as a subcontractor, and meet the requirements, other than Alternative Bids submitted in accordance with **ITB 20**;
- (h) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Procuring agency/Employer. Further, we are not ineligible under Pakistan laws;
- (i) **State-owned enterprise or institution:** [We are not a state-owned enterprise or institution] / [We are a state-owned enterprise or institution];
- (j) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

- (k) **Not Bound to Accept:** We understand that you are not bound to accept the Most Advantageous Bid or any other Bid that you may receive; and
- (l) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us, or on our behalf, engages in any type of Fraud and Corruption.

Name of the Bidder: _____

Name of the person duly authorized to sign the Bid on behalf of the Bidder: *[insert complete name of person duly authorized to sign the Bid]*

Title of the person signing the Bid: *[insert complete title of the person signing the Bid]*

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]*

Date signed *[insert date of signing]* **day of** *[insert month]*, *[insert year]*

Letter of Bid - Financial Proposal

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

Place this Letter of Bid - Financial Proposal in the second envelope marked “FINANCIAL PROPOSAL”.

The Bidder must prepare the Letter of Bid - Financial Proposal on stationery with its letterhead clearly showing the Bidder’s complete name and business address.

Note: All italicized text is to help Bidders in preparing this form.

Date of this Bid submission: Monday, 30th December, 2024 before 03:00 PM

Name of Project.: “Supply, Installation, Testing & Commissioning of 400 KW Solar System for Fazaia Ruth Pfau Medical College, PAF Base Faisal, Main Shahra-e-Faisal, Karachi”.

To: Fazaia Ruth Pfau Medical College, PAF Base Faisal, Main Shahra-e-Faisal, Karachi.

We, the undersigned Bidder, hereby submit the second part of our Bid, the Financial Proposal. We understand that this project is **item based / measurement-based contract**.

In submitting our Financial Proposal, we make the following additional declarations:

- (a) **Bid Validity Period:** Our Bid shall be valid for the period specified in **BDS 18.1** (as amended, if applicable) from the date fixed for the bid submission deadline specified in **BDS 24.1** (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (b) **Total Price:** The total price of our Bid is: _____ [*insert the total price of the bid in words and figures, indicating the various amounts and the respective currencies*];
- (c) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed.

Name of the Bidder:*[*insert complete name of the Bidder*]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ** [*insert complete name of person duly authorized to sign the Bid*]

Title of the person signing the Bid: [*insert complete title of the person signing the Bid*]

Signature of the person named above: [*insert signature of person whose name and capacity are shown above*]

Date signed [*insert date of signing*] **day of** [*insert month*], [*insert year*]

FORM ELI 1

Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date of this Bid submission: Monday, 30th December, 2024 before 03:00 PM

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. Bidder's actual country of registration: <i>[insert actual or intended country of registration]</i>
3. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
4. Bidder's Address: <i>[insert Bidder's legal address in country of registration]</i>
5. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
6. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above. <input type="checkbox"/> Establishing that the Bidder is not under the supervision of the Procuring agency/Employer [in case of subsidiaries]
7. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Contractor's Representative and Key Personnel Schedule

Bidders should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Contractor' Representative and Key Personnel

1.	Title of position:	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
2.	Title of position:	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
3.	Title of position:	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
4.	Title of position:	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
5.	Title of position:	

	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart]</i>
6.	Title of position: <i>[insert title]</i>	
	Name of candidate	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart]</i>

FORM PER-2:

**Resume and Declaration
Contractor's Representative and Key Personnel**

Name of Bidder

Position [#1]: <i>[title of position from Form PER-1]</i>		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>	
details		
	Address of Procuring agency/Employer:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present Procuring agency/Employer:

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Project	Role	Duration of involvement	Relevant experience
<i>[main project details]</i>	<i>[role and responsibilities on the project]</i>	<i>[time in role]</i>	<i>[describe the experience relevant to this position]</i>

Declaration

I, the undersigned *[insert either “Contractor’s Representative” or “Key Personnel” as applicable]*, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	Details
Commitment to duration of contract:	<i>[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]</i>
Time commitment:	<i>[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]</i>

I understand that any misrepresentation or omission in this Form may:

- (a) be taken into consideration during Bid evaluation;
- (b) result in my disqualification from participating in the Bid;
- (c) result in my dismissal from the contract.

Name of Contractor’s Representative or Key Personnel: *[insert name]*

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Bidder:

Signature: _____

Date: (day month year): _____

FORM CON – 2**Historical Contract Non-Performance,
Pending Litigation and Litigation History**

Bidder's Name: _____

Date: _____

Non-Performed Contracts in accordance with Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur January <i>[insert year]</i> <input type="checkbox"/> Contract(s) not performed since <i>[insert year]</i>			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and PKR equivalent)
		Contract Identification: Name of Procuring agency/Employer (PA): Address of PA: Reason(s) for nonperformance:	
Pending Litigation, in accordance with Qualification Criteria			
<input type="checkbox"/> No pending litigation <input type="checkbox"/> Pending litigation			

Note: Any relevant details must be provided.

FORM FIN – 3.1:

Financial Situation
Financial Situation and Performance

Bidder's Name: _____

Date: _____

1. Financial Data

Type of Financial information in (currency)	Historic information for previous _____ years, (amount in currency, currency, exchange rate*, PKR equivalent)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

* Refer to ITB 16 for the exchange rate

2. Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount (PKR)
1		
2		
3		

3. Financial documents

The Bidder and its parties shall provide copies of financial statements for **last 03 years** pursuant to Evaluation and Qualifications Criteria, Sub-factor 3.1. The financial statements shall:

- (a) be independently audited or certified in accordance with local legislation.
- (b) be complete, including all notes to the financial statements.
- (c) correspond to accounting periods already completed and audited.

*Attached are copies of financial and audited statements for the **last 03 years** required above; and complying with the requirements*

FORM FIN – 3.2:**Average Annual Construction Turnover**

Bidder's Name: _____

Date: _____

Year	PKR equivalent
* Average Annual Construction Turnover	

* See Section III, Evaluation and Qualification Criteria.

FORM FIN – 3.4:**Ongoing Contract Commitments / Works in Progress**

Bidders should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Current Contract Commitments					
No.	Name of Contract	Procuring agency/Employer's Contact Address, Tel, Fax	Value of Outstanding Work [PKR Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [PKR/month)
1					
2					
3					
4					
5					

FORM EXP - 4.1

EXPERIENCE
General Construction Experience

Bidder's Name: _____

Date: _____

Starting Year	Ending Year	Contract Identification	Role of Bidder
		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of PA: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of PA: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of PA: _____ Address: _____	

FORM EXP - 4.2(a)**Similar Construction and Contract Management Experience**

Bidder's Name: _____

Date: _____

Similar Contract No.	Information		
Contract Identification			
Award date			
Completion date			
Role in Contract	Prime Contractor <input type="checkbox"/>	Manageme nt Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount			PKR equivalent
If member in a JV or sub-contractor, specify participation in total Contract amount			
PA's Name:			
Address:			
Telephone/fax number			
E-mail:			

FORM EXP - 4.2(a) (cont.)**Specific Construction and Contract Management Experience (cont.)**

Similar Contract No.	Information
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	
2. Physical size of required works items	
3. Complexity	
4. Methods/Technology	
5. Construction rate for key activities	
6. Other Characteristics	

SECTION-VII:
Special Conditions of the Contract

Special Conditions of the Contract

The Special Conditions of Contract (SCC) complement the General Conditions of Contract (GCC) to specify data and contractual requirements of the Procuring agency/Employer/ Employer, the engineer, the sector, the overall project, and the works. In the event of a conflict, the provisions herein shall prevail over those in the GCC.

Part A – Contract Data

Contract data of the SCC, includes data to complement the GCC in a manner similar to the way in which the Bid Data Sheet complements the Instructions to Bidders.

SCC Clause Number	GCC Clause Number	Amendments of, and Supplements to, Clauses in the GCC
General Provision (GCC 1)		
1.	1.3	For Notices Procuring agency/Employer Authorized representatives name and address: Principal Fazaia Ruth Pfau Medical College, Karachi or his representative
2.	1.4	Governing Law; The Applicable Law shall be: Laws of the Islamic Republic of Pakistan
3.	1.4	Communication Language: The Communication Language shall be: English
The Employer/ Procuring agency/Employer (GCC Clause 2)		
5.	2.1	Time for access to the Site: Within 07 days after issuance of Work Order
The Engineer (GCC Clause 3)		
6.	3.2	Engineer's Duties and Authority: Variations resulting in an increase of the Accepted Contract Amount in excess of 20% shall require approval of the Procuring agency/Employer.
The Contractor (GCC Clause 4)		
7.	4.2	Performance guarantee/ security will be in the form of a Bank Guarantee (issued by Karachi based scheduled bank) equal to 5% percent of the Contract Price.

8.	4.7.2(a)	(Not used)
Commencement, Delays and Suspension (GCC Clause 8)		
9.	8.8	Delay damages shall be payable for each day of delay shall be Rs.10,000/- per day , Maximum amount of delay damages is 10% of the Contract Price.
Measurement and Valuation (GCC Clause 12)		
10.	12.2	Method of measurement shall be: <i>Joint measurement by Employe's and contractor's representatives (Measurement units: RFT, SFT, CFT, Nos, Jobs etc.)</i>
Variations and Adjustments (GCC Clause 13)		
11.	13.4 (b)(ii)	(Not applicable)
12.	13.7	(Not applicable)
Contract Price and Payment (GCC Clause 14)		
13.	14.3(iii)	Percentage of retention money: 5% of Each Interim payment certificate (IPC) Limit of Retention Money: 5%
14.	14.7b(i)	Period for the Procuring agency/Employer to make interim payments to the Contractor under Sub-Clause 14.6 (interim Payment): 15 days
15.	14.7b(ii)	Period for the Procuring agency/Employer to make interim payments to the Contractor under Sub-Clause 14.13 (Final Payment) 30 days
16.	14.15	Currencies of Payment: Pakistani Rupees
17.	17.2 (d)	Defect Liability Period In these Conditions the expression "Defects Liability Period" shall mean the defects liability period calculated from: (a) 365 days from the date of completion of the Work and completion certificate issued by the employer.

SECTION VIII:
CONTRACT FORMS

Form of Contract

THIS AGREEMENT made the ____ day of _____ 2024 between **Fazaia Ruth Pfau Medical College, Karachi** (hereinafter called “the Procuring agency/Employer”) of the one part and *[name of Contractor]* of *[city and country of Contractor]* (hereinafter called “the”) of Contractor other part:

WHEREAS the Procuring agency/Employer desired that the works “**Supply, Installation, Testing & Commissioning of 400 KW ON –GRID Solar System for Fazaia Ruth Pfau Medical College, Karachi**” should be executed by the contractor, and has accepted a Bid by the contractor for the execution and completion of these works and remedying of any defects therein, in the sum of *[contract price in words and figures]* (hereinafter called “the Contract Price”).

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below: -
 - (a) This form of Contract;
 - (b) Letter of Acceptance;
 - (c) the Form of Bid and the Price Schedule submitted by the Bidder;
 - (d) the Works Requirements;
 - (e) the Technical Specifications;
 - (f) the Drawings;
 - (g) the General Conditions of the Contract
 - (h) the Special Conditions of Contract,
 - (i) the completed schedule including Bill of Quantities; and
3. In consideration of the payments to be made by the Procuring agency/Employer to the contractor as mentioned in this contract, the contractor hereby covenants with Procuring agency/Employer to execute the works to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring agency/Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Contract to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by _____ the _____ (for the Procuring agency/Employer)	Signed, sealed, delivered by _____ the _____ (for the Contractor)
Witness to the signatures of the Procuring agency/Employer	Witness to the signatures of the Contractor

Performance Guarantee Form

To: Fazaia Ruth Pfau Medical College, PAF Base Faisal, Main Shahra e Faisal, Karachi.

WHEREAS *[name of Contractor]* (hereinafter called “the contractor”) has undertaken, in pursuance of dated *[insert date]* for the execution of “**Supply, Installation, Testing & Commissioning of 400 KW Solar ON -GRID System for Fazaia Ruth Pfau Medical College, Karachi**” (hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the contractor shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Contractor’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Contractor a guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Contractor, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Contractor to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract Number: _____

Dated: _____

Contract Value: _____

Contract Title: _____

[Name of Contractor] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Contractor] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Contractor] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Contractor] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Contractor] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Contractor] as

aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

[Procuring agency/Employer]

[Contractor]

TECHNICAL SPECIFICATIONS

2.0 TECHNICAL INFORMATION AND SPECIFICATION FOR SOLAR POWER GENERATION SYSTEM TO BE REQUIRED

Based on the data evaluated, Client desires to install **400 KW On-Grid PV Solar Power System** on available area.

2.1 SITE TECHNICAL INFORMATION

The necessary technical information about the project site is discussed below. However, any further query additional to information mentioned in the bidding documents would be responded on request within bidding time.

2.1.1 *Site Introduction:*

The suggested location for execution of Solar Based Power Project is at Roof Top of 'Fazaia Ruth Pfau Medical College, Karachi' Main building, at PAF Base Faisal, Shahr-e-Faisal, Karachi. **(Drawings are attached)**

2.1.2 *Site Location:*

Fazaia Ruth Pfau Medical College, Karachi is located at;
<https://maps.app.goo.gl/MY4BGuLGE1LAYBn8>

Aerial View

Figure-1: Fazaia Ruth Pfau Medical College

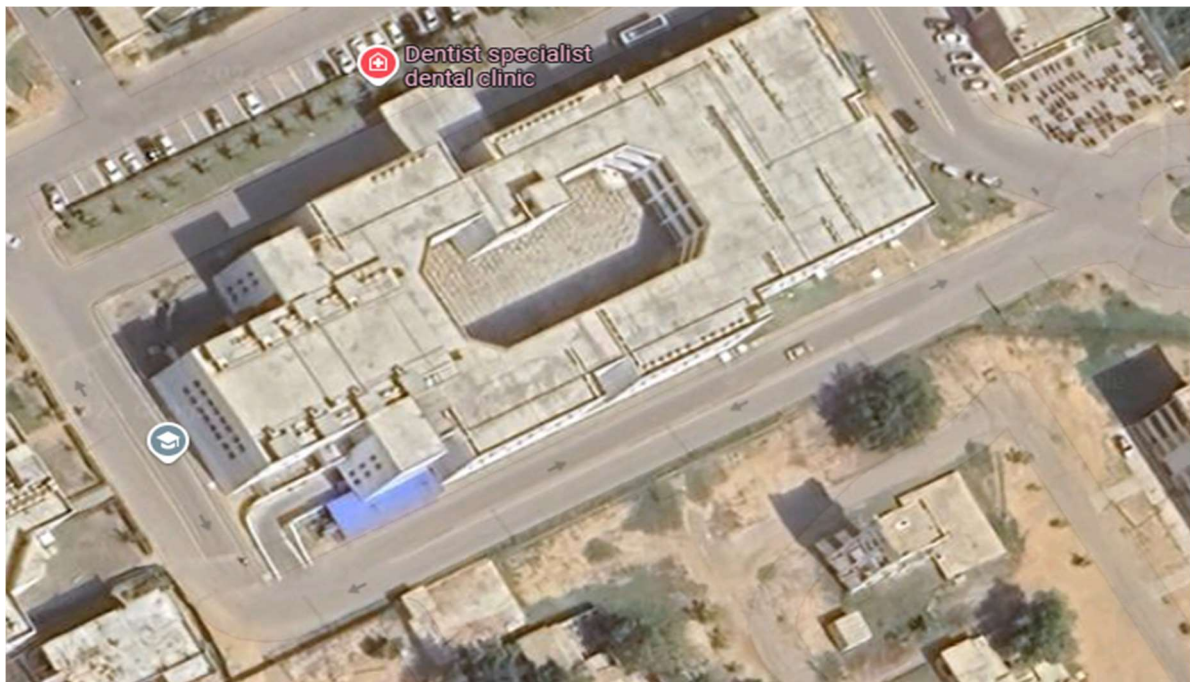


Figure 2: View of Fazaia Ruth Pfau Medical College



2.1.3 Site Description:

The premise of Ruth Pfau comprises of **Ground plus two (02) story** building having approx. covered area of Top Roof **12,000 Sq. ft.** The vertical height of the ‘building’ block is approx. 50 feet from ground level.

2.1.4 Power & Control Room (Suggested)

The Power & Control room is suggested to be built at Basement Parking Lot of the ‘building’ Block. The power output from the subject system is synchronized on Ground floor distribution box through cable trays. Whereas an independent Power & Control distribution box would be provided for solar array at building block furthermore this synchronization of solar array would be made with LV switch gear. Further Details regarding the proposed synchronization system has been discussed in pre bid meeting if required.

2.1.5 Existing Power Supply Arrangements:

The Campus already have independent transformer of 1000KVA Grid Supply.

2.1.6 Site Area Availability for Solar PV Modules:

As discussed above, the available roof area approx. **12,000 Sq. ft.**

2.1.7 *Area Available for Solar PV Modules:*

The available roof area of 'Ruth Pfau building' is **12,000 Sq. ft. estimated not exact** where Solar PV modules with accumulated capacity of 400KW have been recommended initially for Solar PV Plant. The Detailed dimensions of roof top area have been attached in drawings section. The area available and the recommended capacity of Solar PV modules can be summarized as below: -

S. No	Building Detail	Area Available (ft ²)	Solar PV Recommended (KW)
1.	Fazaia Ruth Pfau Medical College building	12,000 (Approx.)	400

Table 1 Area available for Solar PV Modules

2.1.8 *Strength of Roof:*

The proposed design (PV modules along structure & base) of the 'A' block will enhance surplus weight of 30 Kg/m² on the roof and the building is in good condition to bear that weight. The slab of the roof is supported by column and beam. The slab showed uniform distributed load corresponding to the accumulative of dead and live load. The dead load was based on an assumed density of concrete/ steel.

Whereas the proposed super structure for this solar array is attached in the drawing section.

2.1.9 *Base Structure:*

The both fixed solar array-based structure has been recommended to install with angle of 10 Degree. Concrete of size 12 x 12 x 4 (L x W x H) inch would be paved on each column of solar array structure of academic block after anchoring on the existing concrete slab. Proper civil work has to be done so as to cater wind speed of up to 120 Km/hr. with factor of safety 2. The further requirement for execution of the project is covered in Scope of work as discussed below:-

2.2 **TECHNICAL SPECIFICATION FOR SOLAR POWER GENERATION SYSTEM TO BE REQUIRED**

2.2.1 *Definition*

The Grid Interactive Solar Photo Voltaic system consists of mainly four (04) major components. The arrays of solar photovoltaic (SPV) modules, arrays mounting structure, the inverters and Balance of Systems.

The SPV arrays convert solar energy into DC electrical energy. The array mounting structure holds the PV modules in the required position and the DC electrical energy is converted to AC power by the inverter, which is connected to the utility power grid. The AC power output of the inverter is fed to the AC distribution board through (03) Phase metering panel and isolation panel. The (03) Phase AC output of the system can be synchronized with the KE grid and the power can be exported to the KE in case of excess generation.

2.2.2 *Location:*

Geographically it is located at: <https://maps.app.goo.gl/MY4BGuLGE1LAYBsn8>

2.2.3 *Existing Power Supply Arrangements:*

Electrical Power requirement for is met from 11 KV.

2.2.4 *Scope of Specification:*

The scope of this specification should cover design, engineering, manufacture, quality surveillance, testing at manufacturer's works, packing, and supply, erection testing and commissioning and performance testing of grid interactive roof top solar photovoltaic grid interactive system with associated components for installation at the roof top and operation and maintenance for ONE (01) year from date of commissioning/Completion of work in all respect.

- These systems should be complete with PV modules, PV Module String Isolation Breakers, inverter, metering, junction boxes, AC, DC distribution boards and cables, communication interface, all necessary installation material and any other equipment necessary for safe and efficient operation of the system.
- The scope of supply should also include LV Panel with appropriate Breakers and isolator switches, contractor is bound to follow vendor and component list approved **by the consultant**
- The scope of supply should also include comprehensive insurance, storage & in transit transportation.
- The civil works for installation of complete system should also be in scope of supplier.
- The scope of work should also include operation and maintenance of the Solar Power Generation System for ONE year from the date of commissioning.
- The scope of supply should also include essential spares necessary for operation, routine maintenance and testing of equipment supplied for ONE year.
- The equipment offered should conform in all respects to high standards of engineering, design and workmanship and be capable of performing in commercial operation.
- We have authorized to interpret the meaning of drawings, specification and should have the power to reject any work or materials, which in his judgment are not in full accordance therewith.
- It should be the responsibility of the installer to ensure that all the works as per scope of the specification are completed for safe and efficient working of the system.

- All the fittings and accessories that might not have been mentioned specifically in the specification but are necessary for equipment's of the plant, should be deemed to be included in the specification and shall be supplied and furnished by the installer without any extra charge.
- The contractor will train Ruth Pfau technician during the execution and maintenance period work.
- The equipment's warranty period (After Defects Liability Period) **will remain valid up to manufacturer recommended time period.**

2.3 TECHNICAL SPECIFICATION FOR SOLAR POWER EQUIPMENT TO BE REQUIRED

Solar PV system should consist of following equipment:

- i. Solar Power Generation system consists of required number of PV Modules.
- ii. Efficient Grid interactive Inverters
- iii. Mounting structures
- iv. Cables and hardware
- v. Monitoring & Data Logging System
- vi. Miscellaneous Item
 - a. Junction boxes and distribution boxes
 - b. PV String/ Arrays Isolation Breakers
 - c. AC earthing Complete
 - d. DC Earthing with Lightning arrestors
 - e. PVC pipes/ Cable trays and accessories
 - f. Tool kit
 - g. Control room having LV Switch gear system and fuel savor
- vii. Spares for ONE year

The supplied equipment must comply the below mentioned specifications:

2.3.1 *Panel Mounting Structure*

- (i) The structure design shall be appropriate and innovative. It must follow the existing roof and steel structure profile. Whereas for ease of bidders our proposed requirement of mounting structure drawings is attached.
- (ii) The PV solar panel mounting MS Structure should be fixed, mounted on concrete 1 cubic feet would be paved on each column of solar array structure above roof level.
- (iii) Bidder must submit the all the quality test documents and test certificates complying with the requirement of the structure.

2.3.2 *PV Module*

- i. The provided PV Module should be of A-Grade Tier-1 quality i.e. no other than Jinko/Longi/JA/Canadian/Trina.
- ii. The manufacture Logo must be engraved inside the tinted glass.
- iii. The PV module(s) shall be Mono/ Bifacial N-Type Panels.
- iv. The PV module have an ability to Works well with high-voltage input Inverters/ charge controllers
- v. PV Module(s) should be provided with MC-4 Cable and Connector and IP-65 Rated.

- vi. The PV Panel must have clear anodized aluminum frame with Anti-reflection cover glass.
- vii. The power output of the module(s) under STC should be at optimum level.
- viii. The operating voltage corresponding to the power output must be mentioned.
- ix. The open circuit voltage of the PV modules under STC must be mentioned.
- x. The terminal box on the module should have a provision for opening for replacing the cable, if required and it should be waterproof
- xi. Limited performance guarantees: panel power, in standard conditions, will not be less than 90% of nominal power for first 10 years of operation and at least 80% for the second 20 years of operation with 25-year limited power warranty.
- xii. The PV Module should have at least ten-year workmanship warranty.
- xiii. The PV Module should have over twenty (20%) percent cell efficiency.
- xiv. Solar panel should have to pack for safe transportation on non-metallic roads.
- xv. The Solar Module(s) shall meet the requirement set in IEC 61215:2000, IEC61730. All the supportive valid, genuine and traceable documents must be provided. Strict action will be taken in case of fake documents.

Note: Bidder should justify the specs with appropriate lab test reports/certifications from the principal manufacturer.

2.3.3 *Power and Control Cables*

Power Cables of adequate rating shall be required for interconnection of:

- Modules/panels within array
 - Array & Inverter
 - Distribution Box & Loads
- i) External cables should be specifically adapted to outdoor exposure (see IEC 60811). Especially the outer insulation must be sunlight (UV)-resistant, weatherproof. Preferably PVC/XLPE, LSZH and EPR coated cables shall be used.
 - ii) The temperature resistance of all interconnecting wires and cables should be (70-90°) C. The minimum acceptable cross-section of the wire in each of the following sub-circuits is as in ISO IEC prescription:
 - iii) Notwithstanding the ISO /IEC requirements, all wires must be sized accordingly to keep line voltage losses to less than 3% between PV Inverter & grid/generator all of them at the maximum current conditions.
 - iv) All wiring shall be color-coded (and/ labeled for troubleshooting/manual)
 - v) All supplied wires must be in UV-resistant conduits or be firmly fastened to the building and/or support structure. Cable binders, clamps and other fixing material must also be UV-resistant, preferably made of polyethylene.
 - vi) All connections should be properly terminated, soldered and/or sealed from outdoor and indoor elements. Relevant codes and operating manuals must be followed.
 - vii) Cable should pass from Pipes and Cable-ties shall be used to hold and guide the Pipes (cables/wires) from the modules to inverters or junction boxes. All the cables

- were aesthetically tied to module mounting structure
- viii) Brand & specs of cables must be **approved by the consultant** before delivering on site, approved brands include **Pakistan cables, fast cables** / Equivalent.

2.3.4 *Grid Tied Inverter*

In a grid interactive system AC power should be fed to the grid at three phase 440V AC bus. Inverter should supervise the grid condition continuously and in the event of grid failure (or) under voltage (or) over voltage, Solar System should be disconnected to share with National Grid Circuit Breaker / Auto switch provided in the inverter.

Other important Features/Protections required in the Inverter.

- i) The grid-connected inverters shall comply with UL 1741 standard.
- ii) Power generated from the solar system during the daytime is utilized fully by powering the all-building loads and feeding excess power to the grid as long as grid is available, in case of failure of grid the offered inverter must have the capability to synchronize with the generator power. If solar power is not sufficient due to more demand or cloud cover etc. the building loads should be served by drawing power from the grid. The inverter should always give preference to the Solar Power and will use Grid power only when the Solar Power is insufficient to meet the load requirement.
- iii) The inverters should be net metering compliant.
- iv) The output of the inverter must synchronize automatically its AC output to the exact AC voltage and frequency of the grid.
- v) Inverter equipped with array ground fault detection option.
- vi) Grid voltage should also be continuously monitored and in the event of voltage going below a pre-set value and above a pre-set value, the solar system should be disconnected from the grid within the set time. Both over voltage and under voltage relays should have adjustable voltage and time settings.
- vii) The inverter control unit should be so designed so as to operate the PV system near its Maximum Power Point (MPP), the operating point where the combined values of the current and voltage of the solar modules result in a maximum power output.
- viii) The inverter should be a true sinewave inverter for a grid interactive PV system.
- ix) The degree of protection of the outdoor inverter panel should be at least IP- 65.
- x) Typical technical features of the suggested inverters must mention as per following sequence.
 - Continuous output power rating
 - Nominal AC output voltage and frequency
 - Accuracy of AC voltage control
 - Accuracy of frequency control
 - Grid Frequency Control range
 - Maximum Input DC Voltage range
 - MPPT Range DC
 - Ambient temperature
 - Relative Humidity 0-100%
 - Protection of Enclosure IP-65 (minimum)

- Over Current & Over Voltage Protection
 - Power factor control 1 (Adjustable 0.8 leading to 0.8 lagging)
 - Inverter efficiency (minimum) plus 98%
 - Liquid crystal display should at least be provided on the inverters front panel or on separate data logging/display device to display following
 - a. DC Input Voltage
 - b. DC Input current
 - c. AC Power output (kW)
 - d. Current time and date
 - e. Time active
 - f. Time disabled
 - g. Time Idle
 - h. Temperatures (C)
 - i. Converter status
 - Following should also be displayed like Protective function limits, over voltage, AC under voltage, over frequency, under frequency, ground fault, PV starting voltage, PV stopping voltage, over voltage delay, under voltage delay over frequency, ground fault delay, PV starting delay, PV stopping delay).
- xi) Nuts & bolts and the inverter enclosure should be adequately protected taking into consideration the atmosphere and weather prevailing in the area.
- xii) The dimension and weight of the inverter should be indicated by the bidder in the offer.
- xiii) All doors, covers, panels and cable exits should be gasketed or otherwise designed to limit the entry of dust and moisture. All doors should be equipped with locks.
- xiv) Operation Mode:
- a. Night or sleep mode: where the Inverter is almost completely turned off, with just the timer and control system still in operation.
 - b. Standby mode: where the control system continuously monitors the output of the solar generator until pre-set value is exceeded.
 - c. Operational of MPP tracking mode: the control system continuously adjusts the voltage of the generator to optimize the power available. The power conditioner should automatically re-enter standby mode input power reduces below the standby mode threshold. Front panel should provide display of status of the inverter.
- xv) The offered inverter must comply with following standards.
 UL1741, IEEE1547, , UL 1998, CE,EN 50178, EN 62109-1, EN 62109-2, EN 61000-6-2, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12, FCC Part 15, NEMA3R/ NEMA 3R, DIN VDE V 0126-1-1, ENEL Guidelines (DK 5940) AS 4777, RD 1663/2000, RD 661/2007, EN 50178, IEC 62103, EN 55011, IEC 61000-3-11, IEC 61000-3-12, IEC 61000-6-3
- xvi) Brand & specs of inverter must be **approved by the consultant** before

delivering on site, approved brands include **Huawei/Sungrow** or Equivalent

Note: Bidder should justify the specs with appropriate lab test reports/certifications from the principle manufacturer and Pakistani Nominated Labs.

2.3.5 Protections and Control

- i. PV system software and control system should be equipped with islanding protection as described above. In addition to disconnection from the grid (islanding protection i.e. on no supply), under and over voltage conditions, PV systems should be provided with adequate rating circuit breakers, circuit breakers on inverter input side (DC) as well as output side (AC) side for overload and short circuit protection and disconnecting switches to isolate the DC and AC system for maintenances are needed. Circuit Breakers of adequate rating should also be provided in each solar array module to protect them against short circuit.
- ii. A manual disconnect switch beside automatic disconnection to grid should also be provided at utility end to isolate the grid connection by the utility personal to carry out any maintenance.

2.3.6 Integration of PV Power with Grid

The output power from Solar PV system would be fed to the On-Grid inverter and converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid.

2.3.7 Harmonics Standard

As per the standard of IEEE 519, the permissible individual harmonics level shall be less than 3% (for both voltage and current harmonics) and Total Harmonics Distortion (THD) for both voltage and current harmonics of the system shall be less than 5%.

2.3.8 Miscellaneous Items for Installation

a. Earthing Material:

1. Earthing is essential for the protection of the equipment & manpower. Four main grounds used in the power equipment are:
 - System earth AC & DC
 - Structure earth
 - Lightening Protection System
2. System earth is earth which is used to ground one leg of the circuit. For example, in AC circuits the Neutral is earthed.
3. In case of equipment earth all the non-current carrying metal parts are bonded together and connected to earth to prevent shock to the man power & also the protection of the equipment in case of any accidental contact.
4. To prevent the damage due to lightning the one terminal of the lightning protection arrangement is also earthed. The provision for lightning & surge protection of the SPV power source is required to be made.
5. In case the SPV Array cannot be installed close to the equipment to be powered & a separate earth has been provided for SPV System, it shall be ensured that all

the earths are bonded together to prevent the development of potential difference between and two earths.

6. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earths are bonded together to make them at the same potential.
7. The Earthing conductor shall be rated for the maximum short circuit current. & shall be 1.56 times the short circuit current. The area of cross- section will be discussed and shall be **approved by the consultant** in any case.
8. The array structure of the PV modules shall be grounded properly using adequate numbers of earthing pits. All metal casing/ shielding of the plant shall be thoroughly grounded to ensure safety of the power plant.
9. Earthing will be done as per **consultant provided specifications**.

b. Wiring PVC Channel Ducts

A product of good quality standard material with suitable size to be provided / used.

c. Flexible PVC Pipe

The flexible Conduit PVC pipe should be of good quality material with suitable size should be used.

d. Combiner Box

Combiner Box should be manufactured through powder coated material with 100% copper strip in it for termination of PV Arrays.

e. Junctions Boxes or Combiners

Dust, water and vermin proof junction boxes of adequate rating and adequate terminal facility made of fire-resistant Plastic (FRP) shall be provided for wiring.

Each solar shall be provided with Circuit breakers of adequate rating to protect the solar arrays from accidental short circuit.

f. Civil Works

The following civil works should be carried out.

- i. Laying of earthing equipment /structures and connecting to the main ground mat as per the statutory requirements.
- ii. Excavation of cable trenches etc. wherever necessary
- iii. PV Mounting Structure concrete work of ratio 1:2:4 or as mentioned in BOQ/Drawings.

g. Meter Configuration Options

The metering system for On-Grid Solar Energization under net-metering arrangement will be the responsibility of the contractor.

2.3.9 Other Features:

- I. The PV Module(s) should be warranted for a minimum period of 10 years from the date of supply, inverter with five years from the date of installation. The warranty

card to be supplied with the system must contain the details of the system. The manufacturers can also provide additional information about the system and conditions of warranty as necessary.

- II. Adequate space should be provided behind the PV module/array for allowing unobstructed airflow for passive cooling.
- III. Cable of appropriate size should be utilized to keep electrical losses to a bare minimum (e.g. length of the wire from module to combiner Box and Combiner Box to On-Grid Inverter should be as minimum as possible).
- IV. The control electronics should not be installed directly. All wiring should be in proper conduit of capping casing. Wire should not be hanging loose.
- V. Every major Component of the Plant should be suitably named/numbered for easy traceability, identification and maintenance.
- VI. Instruction and O&M manuals;
 - Two copies of Instruction and Operation and Maintenance Manual in English and the local language should be provided with the system.
 - The manual shall be furnished at the time of dispatch of the equipment and shall include the following aspects:
 - a. Precautions during unpacking
 - b. Instructions for handling at site.
 - c. Erection drawings with written assembly instructions that would enable the Purchaser to carry out erection with his own personnel if opted by him.
 - d. Detailed instructions and procedures for the installation operation and maintenance.
 - e. Pre-commissioning tests.
 - f. About solar PV system-its components and expected performance.
 - g. Clear instructions about mounting of PV module (s)
 - h. About electronics
 - i. DO's and DONT's
 - j. Principle of Operation of various equipment
 - k. Safety and reliability aspects
 - l. Metering scheme
 - m. About power conditioning units' software and controls
 - n. Clear instructions on regular maintenance and troubleshooting of solar power plant.
 - o. Name and address of the person or service center to be contacted in case of failure or complaint.
 - p. Outline dimension drawings showing relevant cross-sectional views, earthing details, constructional features. Rated voltages and current

etc.

Technical and interconnection requirements

Overall conditions of service	State Distribution/Supply Code	State Distribution/Supply Code
Overall Grid Standards	As Per KE	As Per KE
Equipment	As Per KE	As Per KE
Meters	As Per KE	As Per KE
Safety and supply	As Per KE	As Per KE
Harmonic Requirements Harmonic Current	As Per KE	As Per KE
Synchronization	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Photovoltaic system must be equipped with a grid frequency synchronization device. Every time the generating station is synchronized to the electricity system. It shall not cause voltage fluctuation greater than +/- 5% at point of connection.
Voltage	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The voltage-operating window should minimize nuisance tripping and should be under operating range of 80% to 110% of the nominal connected voltage. Beyond a clearing time of 2 second, the photovoltaic system must isolate itself from the grid.

Flicker	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Operation of Photovoltaic system should not cause
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Frequency	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	When the Distribution system frequency deviates outside the specified conditions (50.5 Hz on upper side and 47.5 Hz on lower side), There should be over and under frequency trip functions with a clearing time of 0.2 seconds.
DC injection	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Photovoltaic system should not inject DC power more than 0.5% of full rated output at the interconnection point or 1% of rated inverter output current into distribution system under any operating conditions.
Power Factor	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The photovoltaic system in the event of fault, voltage or frequency variations must island/disconnect itself within IEC standard on stipulated period.
Overload and Overheat	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	The inverter should have the facility to automatically switch off in case of overload or overheating and should restart when normal conditions are restored.

Paralleling Device	IEEE 519 CEA (Technical Standards for Connectivity of the Distributed Generation Resources) Regulations 2013	Paralleling device of photovoltaic system shall be capable of withstanding 220% of the normal voltage at the interconnection point.
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Note:

Any minor equipment and material may not be specifically mentioned in this specifications/BOQ or in drawings but are required to make the system complete in a every respect in accordance with technical specification shall be deemed to have been covered under the scope of this specification and shall be provided by the tenderer/supplier within the quoted items rate.

**BOQ SOLAR SYSTEM AT
FAZAIA RUTH PFAU MEDICAL COLLEGE, KARACHI**

BOQ NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT	Remarks
1	Providing and fixing of Threading Rods including making of Holes having 3/4" dia, 4" deep in RCC slab for Threading Rod having 6" long, 12mm" dia, embedded in Roof, including water proofing of holes with epoxy / Chemical (Sika), complete in all respect and as directed by the Engineer.	Nos.	500			
2	Providing and making of Holes (4 Nos in one Base plate) 10mm" thickness, 4" deep holes in RCC roof for Reinforcement, including water proofing of holes with epoxy / chemical (Sika), complete in all respect and as directed.	Nos.	2208			
3	Providing and laying RCC concrete 1:2:4 using ordinary Portland cement & Fine & coarse aggregates, including formwork and its removal, leveling, compacting and curing; complete as per drawings, and instructions of Engineer.	Cft	Refer to drawing			
4	Supply and fixing of MS Channel Pile 1&2 for specification refer to attached drawings, complete in all respect, with red oxide & epoxy paint 200 microns. As directed by the engineer in charge	FT	1420			
5	Supply and fixing of MS Channel Lintel, for specs refer to attached drawings, complete in all respect with redoxide & epoxy Paint 200 microns. As directed by the engineer in charge	RFT	2954			
6	Supply and fixing of MS Channel Perlins, for specs refer to attached drawings, complete in all respect with redoxide & epoxy Paint 200 microns. As directed by the engineer in charge	RFT	3800			
7	Supply and fixing of MS Channel Bracing, for specs refer to attached drawings, complete in all respect with redoxide & epoxy Paint 200 microns. As directed by the engineer in charge	RFT	350			
8	Supply and fixing of module & structure mounting bolts for Solar panels as per spec provided	No's.	1370			

**BOQ SOLAR SYSTEM AT
FAZAIA RUTH PFAU MEDICAL COLLEGE, KARACHI**

BOQ NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT	REMARKS
9	Providing, fixing, installing, testing, and commissioning Solar Modules Tier 01, A Grade, Efficiency more than 22%, N-type (Topcon, HJT, HPBC) Operating Temperature -40C to 80C Mono facial half cut Technology complete in all respect including the cost of Aluminum T & Z sections as required with nuts Bolts etc. for fixing of Solar Modules with Structure (top beam) as per drawings and instructions of the Engineer in charge	Pcs	684			Longi/ JA Solar/ Jinko/ Trina Solar/ Equivalen t
10	Providing, installing, testing, and commissioning of 400 kW Grid-Tie Solar Inverters with smart logger for Online Monitoring including data cable as required complete in all respect as per instructions of the Engineer in charge	No.	4			Huawei/ Sungrow/ growatt OR Equivalen t
16	Junction Box 16 Swg/Distribution Box IP65, powder coated, rust free, Compact Design, pre- fabricated, pole/wall mounted completely in all respect as per instructions of the Engineer in charge	No.	1			Local Pre-fabricated (High Quality)
17	Providing, installing, testing & commissioning of DC MCB – DC, 1000 Vdc, 4P, 32 Amp's including complete in all respect as per instructions of the Engineer in charge	No.	40			ABB/Sc hnieder OR Equivale nt
18	Providing, installing, and testing of SPD-DC, 1000 Vdc, and 4P complete in all respect as per instructions of the Engineer in charge	No.	40			ABB/Sc hnieder OR Equivale nt
19	Providing, and installing, 16 SWG AC combiner distribution box with 1000 Amps 4pole MCCB,50KA breaker including indication lights, volt meter, amps meter earthing bus bar complete in all respect as instructions of the Engineers in charge complete in all respect.	No.	1			ABB/Sch nieder Equivale nt

**BOQ SOLAR SYSTEM AT
FAZAIA RUTH PFAU MEDICAL COLLEGE, KARACHI**

BOQ NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT	REMARKS
20	Providing, and installing, 16 SWG distribution box with incoming breaker 200amps 4pole MCCB,25KA and complete in all respect as instructions of the Engineers in charge complete in all respect.	No.	4			ABB/Schnieder/ Equivalent
21	Providing and laying of XLPE, 3 layers, UV- Resistive, 6mmsq, 99.9% pure tint copper, black and red single core (For string wiring) complete in all respect as per instructions of the Engineer in charge	Rft	6600			Pakistan Cables/ Fast Cables OR Equivalent
22	Providing and laying of 4 core 300mm x 2 Pvc /Pvc copper cable complete in all respects as per instructions of the Engineer in charge	Rft	50			Pakistan Cables/ Fast Cables OR Equivalent
23	Providing and laying of 4x70mm ² copper cable complete in all respects as per instructions of the Engineer incharge	Rft	80			Pakistan Cables/ Fast Cables OR Equivalent
24	Providing and laying of 1 X 25mm ² bare copper conductor for Earthing cable in lightening arrestor, complete in all respects as per instructions of the Engineer in charge	Rft	500			Pakistan Cables/ Fast Cables OR Equivalent
25	Providing and laying of 1x16mmsq PVC earth copper bare conductor for earth pits to ECC	Rft	30			Pakistan Cables/ Fast Cables OR Equivalent
27	Earthing : Pure copper rod 3 no's 25mm dia 10 ft long for each pit and 30 ft deep and 6 inch dia earthing bore including 2inch dia upvc pipe and 1.5 ft x 1.5 earth chamber Earthing pits with complete fitting including heavy duty cast iron covers, complete fitting in all aspects Along with testing of Earthing system as per Standards	Job	3			Local Good quality
28	MC4 and accessories, IEC-approved standard, 99.9% pure copper.	No.	1500			Diwan
29	Providing and installing of 12x6 inch 18 gauge G.I perforated cable tray with cover along with all fitting accessories as per instruction of engineer in charge.	Rft	500			High quality
30	Providing and installation of 1.5" PVC conduit	Rft	50			Adamjee or equivalent High quality

**BOQ SOLAR SYSTEM AT
FAZAIA RUTH PFAU MEDICAL COLLEGE, KARACHI**

BOQ NO.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT	REMARKS
33	NEPRA & K E License 400Kw With load flow study. All the required approvals and requirements of Govt Departments/Agencies that is KE/NEPRA etc is Required	Job	1			
34	Providing and fixing of ESE Lightening Arrester complete with counter & fitting in all aspects Along with as per Standards.	Job	2			FURSE/DEHN/EQUV
35	Supply and laying / installation of PVC conduit (Civic, Jeddah or equivalent) 1.5 dia along with all required accessories such as bend socket etc complete in all respect and as per instructions of engineer	Rft	50			
	TOTAL Rs:					

Note: (a) All required accessories such as fixing arrangements of solar panels with MS structure, such as Nuts, Bolts, Screws, washers, welding, paint, steel cable tie etc. to complete the works as per drawings and specification for above BOQ items are included in each item where as required.

(b) Quoted Rates against each item will be consider as inclusive of all applicable Government Taxes.

**Fazaia Ruth Pfau Medical College, Karachi.
Solar Power System
December-2024**

**TENDER DRAWINGS
STRUCTURE**



P1 STRICTURE
TILT ANGLE = 10°
TOTAL MODULE = 110
TOTAL POWER = 64.35 kW

P1 STRICTURE
TILT ANGLE = 10°
TOTAL MODULE = 15
TOTAL POWER = 8.77 kW

INVERTER & AC COMBINER

ELEVATED P3 STRICTURE
TILT ANGLE = 10°
TOTAL MODULE = 297
TOTAL POWER = 173.7 kW

LIGHTNING ARRESTER

P1 STRICTURE
TILT ANGLE = 10°
TOTAL MODULE = 158
TOTAL POWER = 92.43 kW

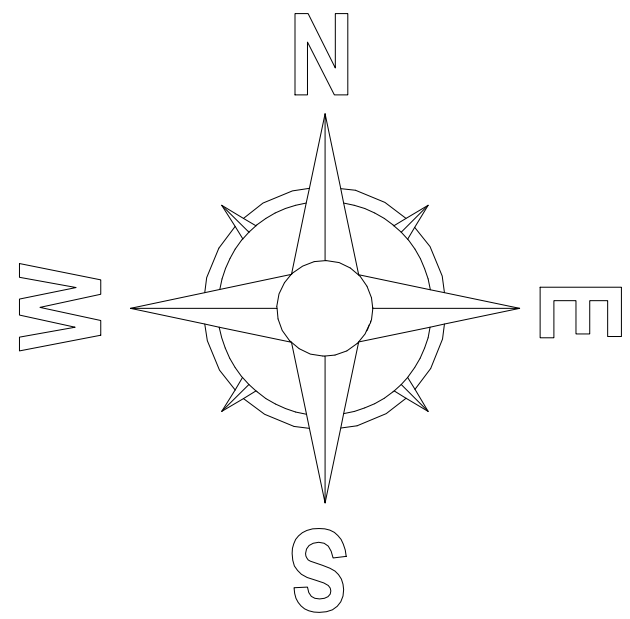
LIGHTNING ARRESTER

P1 STRICTURE
TILT ANGLE = 10°
TOTAL MODULE = 87
TOTAL POWER = 50.89 kW

P1 STRICTURE
TILT ANGLE = 10°
TOTAL MODULE = 18
TOTAL POWER = 10.53 kW

LEGENDS	
	SOLAR PANELS 585 WP
	AC CABLE
	INVERTER
	AC COMBINER

NOTES:
1- SOLAR STRUCTURE HDG / AL
2- WIND SPEED = 130 km/h.



CONSTRUCTION DRAWING

0	-	-	Nov. 2024
No.	Revision	By	Date

Client :
**FAZAIA RUTH PFAU MEDICAL
COLLEGE (FRPMC)**

Project :
**FAZAIA RUTH PFAU MEDICAL
COLLEGE (FRPMC)**

Contract :

**FAZAIA RUTH PFAU MEDICAL
COLLEGE (FRPMC)**

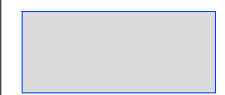
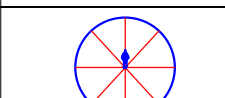
Consultants :

PRIME ENGINEERING

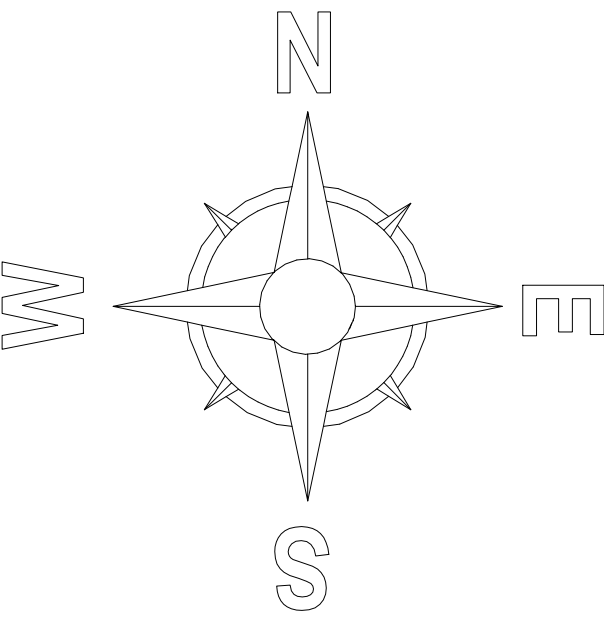
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**685 PV PANEL (400.72 KW)
PV SOLAR SYSTEM & DC CABLE
ROUTE LAYOUT**

Designed By : ATIF	Date : Nov. 28, 2024	
Drawn By : ATIF	Scale : N.T.S.	
Checked By : DANISH	Drg No : PV-01	Revision
Approved By : TAHA		0



LEGENDS	
	SOLAR PANELS 585 WP
	LIGHTNING ARRESTER

NOTES:
1- SOLAR STRUCTURE HDG / AL
2- WIND SPEED = 130 km/h.



CONSTRUCTION DRAWING

0	-	-	Nov. 2024
No.	Revision	By	Date

Client :
FAZAIA RUTH PFAU MEDICAL COLLEGE (FRPMC)

Project :
FAZAIA RUTH PFAU MEDICAL COLLEGE (FRPMC)

Contract :

FAZAIA RUTH PFAU MEDICAL COLLEGE (FRPMC)

Consultants :


Drawing Title :
**685 PV PANEL (400.72 KW)
PV SOLAR SYSTEM LIGHTNING
ARRESTER LAYOUT**

Designed By : ATIF	Date : Nov. 28, 2024		
Drawn By : ATIF	Scale : N.T.S.		
Checked By : DANISH	Drg No : PV-02	Revision	
Approved By : TAHA			0



- 1- Vertical Air Termination Rods
- 2- 20mm Dia Rod Copper Clad
- 3- Lightning Conductor 25mm²

CONSTRUCTION DRAWING

0	-	-	Nov. 2024
No.	Revision	By	Date

Client :	
----------	--

**FAZAIA RUTH PFAU MEDICAL
COLLEGE (FRPMC)**

Project :

**FAZAIA RUTH PFAU MEDICAL
COLLEGE (FRPMC)**

Contract :



**FAZAIA RUTH PFAU MEDICAL
COLLEGE (FRPMC)**

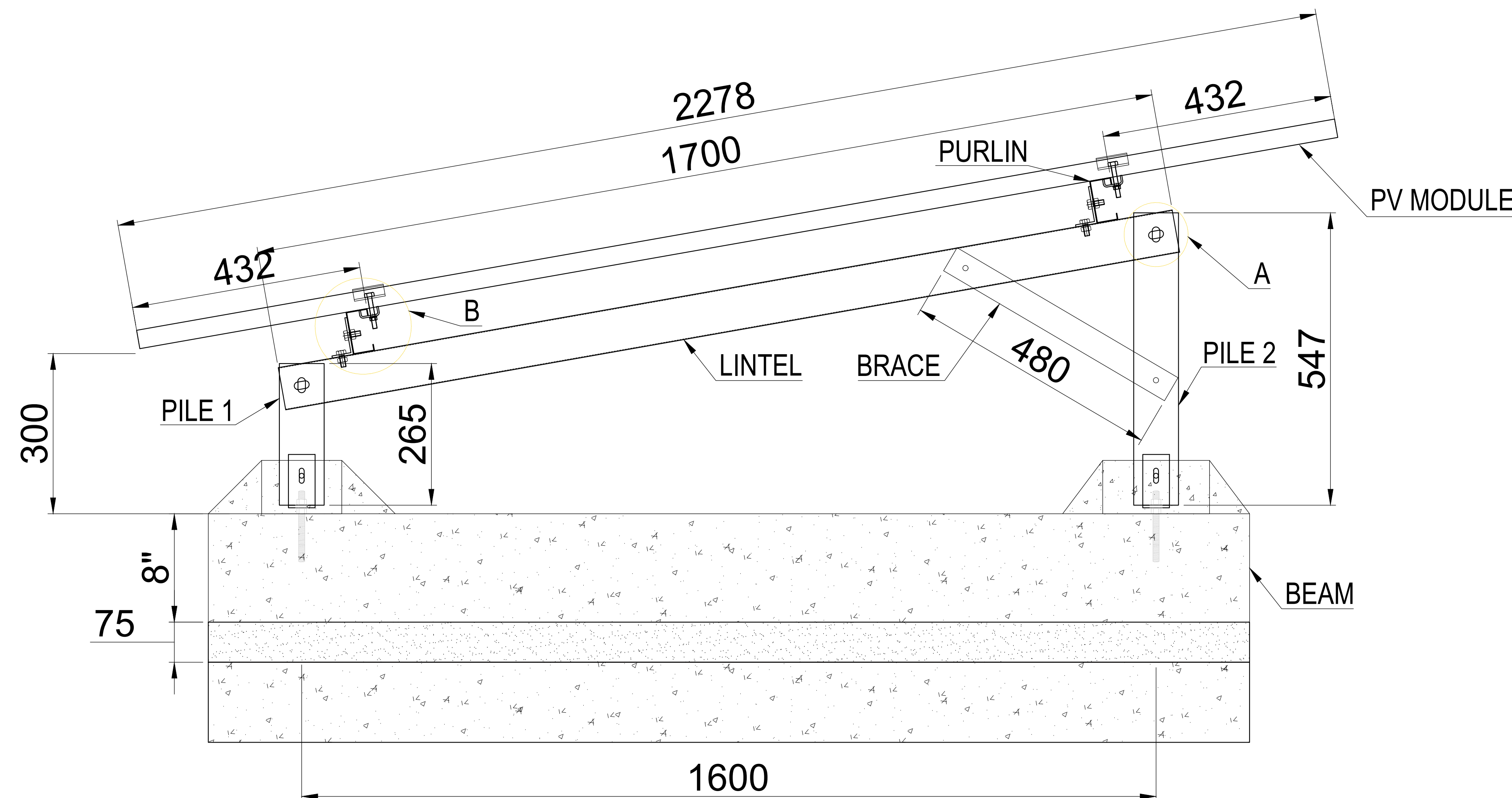
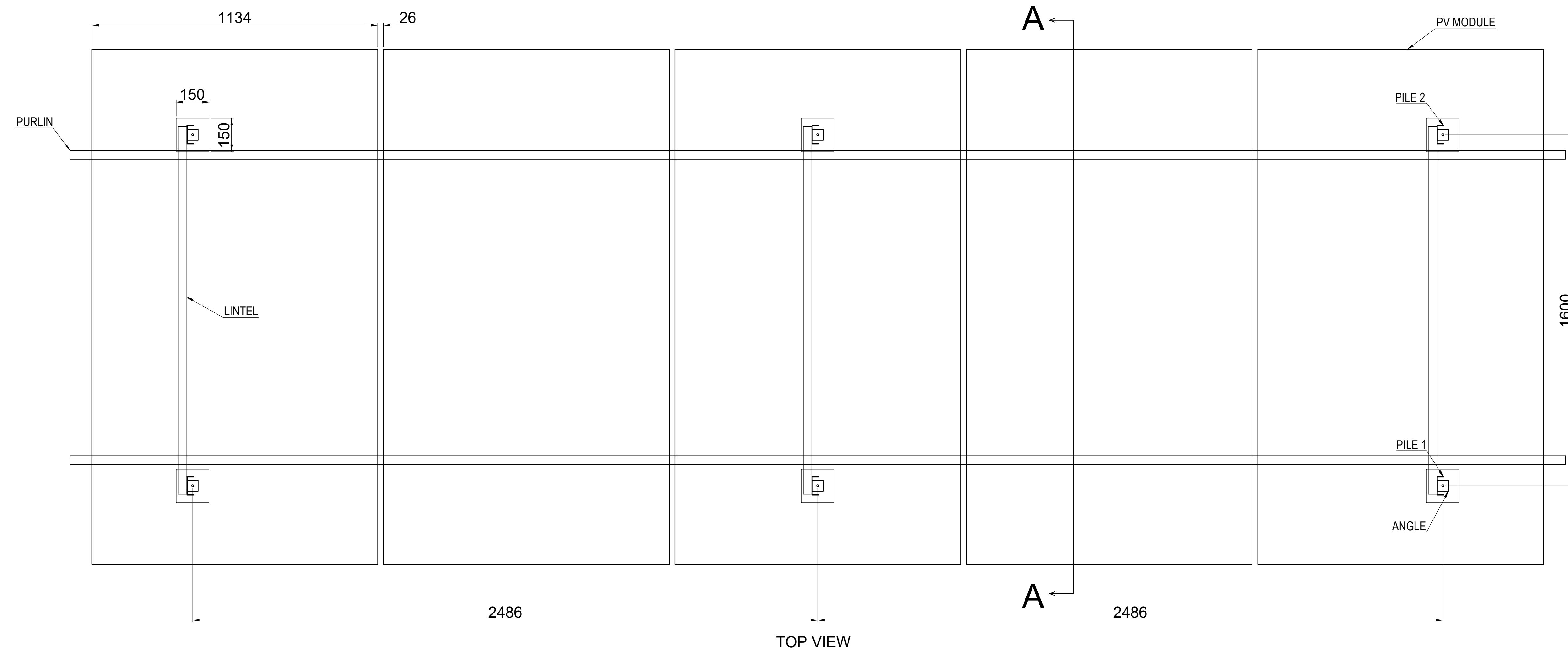
Consultants :



Drawing Title :

EARTHING DETAILS & LIGHTNING ARRESTER INSTALLATION DETAILS

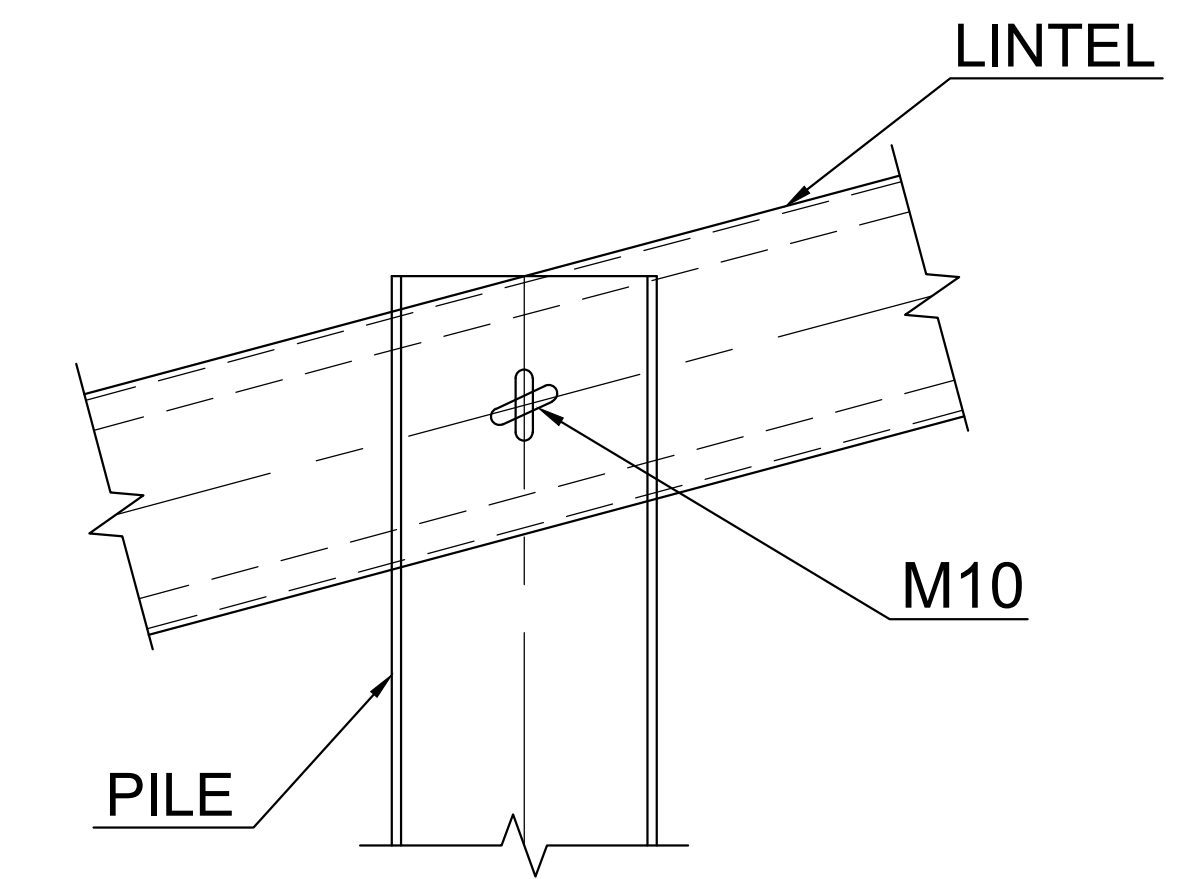
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Drawn By : ATIF	Scale : N.T.S.	
Checked By : DANISH	Drg No : PV-04	Revision
Approved By : TAHA		0



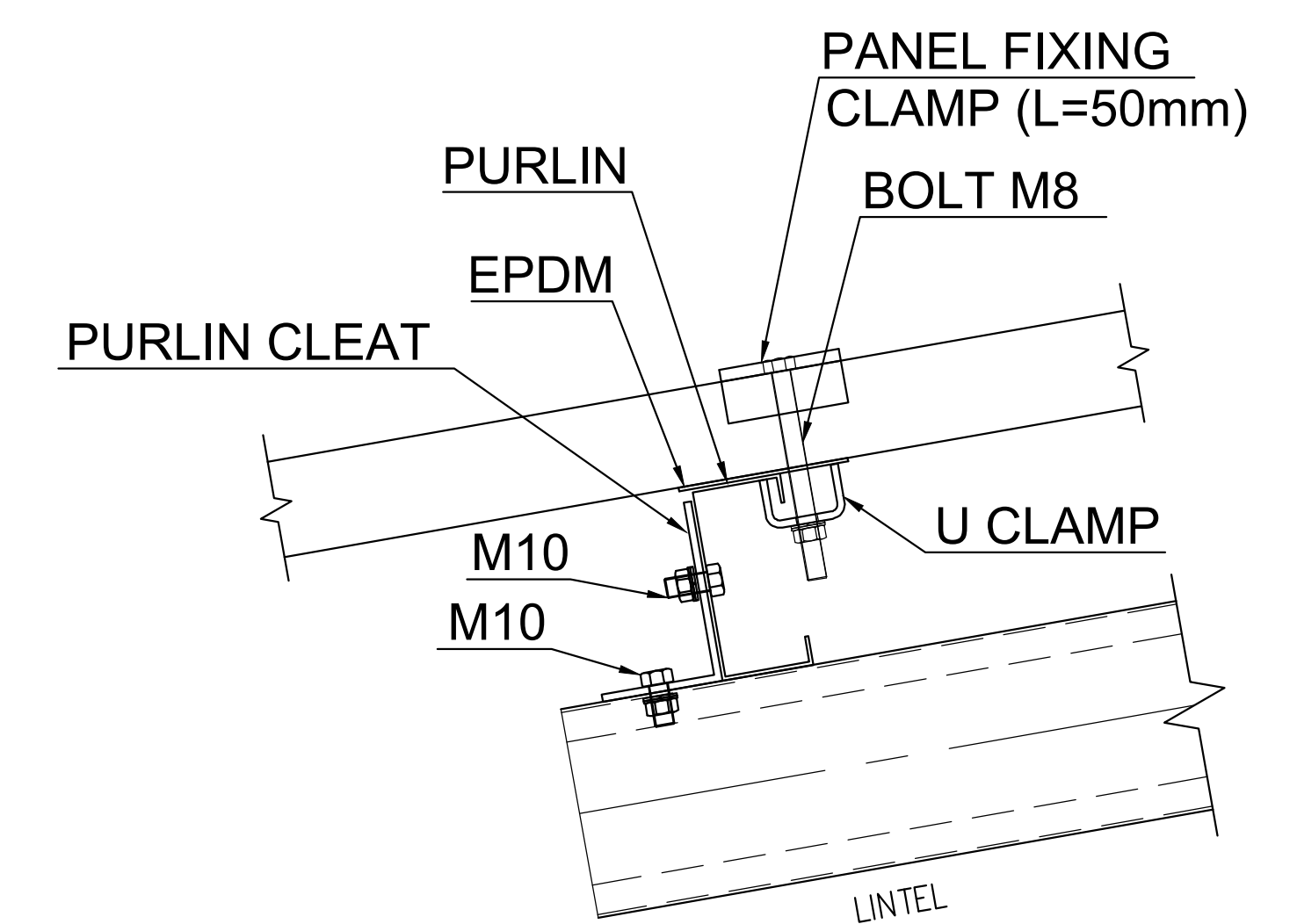
TYPICAL SOLAR PV MOUNTING STRUCTURE SECTION (A-A) DETAIL

NOTES:

- 1- All MS structure must comply with ASTM A36 or equivalent.
- 2- Structure will be hot dipped galvanized as per ASTM A123.
- 3- SS 304 M8 module & structure mounting bolts.



DETAIL-A



DETAIL-B

DESIGN DATA		ARRAY INFORMATION	
CODE	ASCE 7-10	MODULE CAPACITY (Wp)	585
WIND EXPOSURE CATEGORY	C	TILT ANGLE (DEGREE)	10°
DESIGN WIND SPEED (m/s)	35	DIMENSIONS (mm)	2278x1134x35
MODULE DEAD LOAD (psf)	3	WEIGHT (KG)	28
NUMBER OF PANELS	---	STRUCTURE	-----

NOTE: ALL DIMENSIONS ARE IN (mm) UNLESS OTHERWISE SPECIFIED

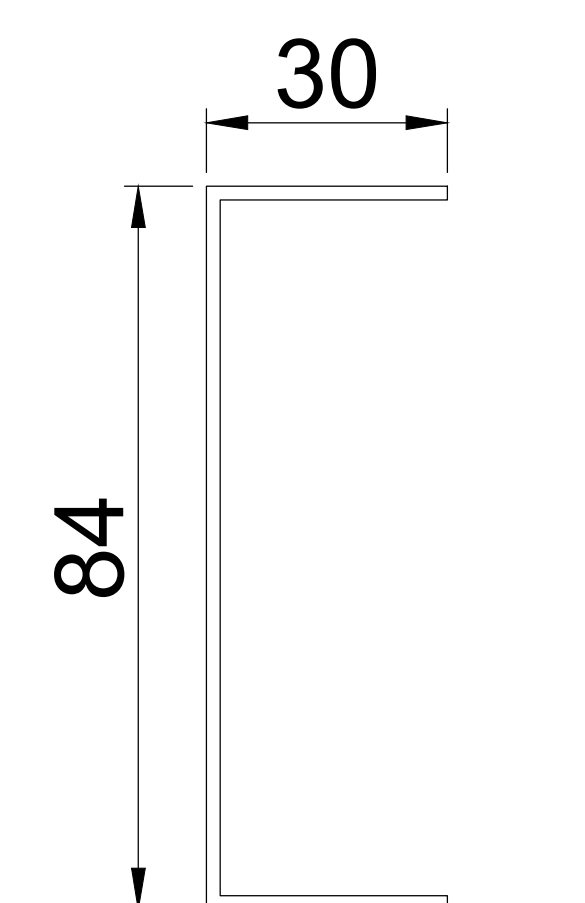
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REV	DATED	DESCRIPTION	DRAWN BY	CHECKED BY	APPROVED BY



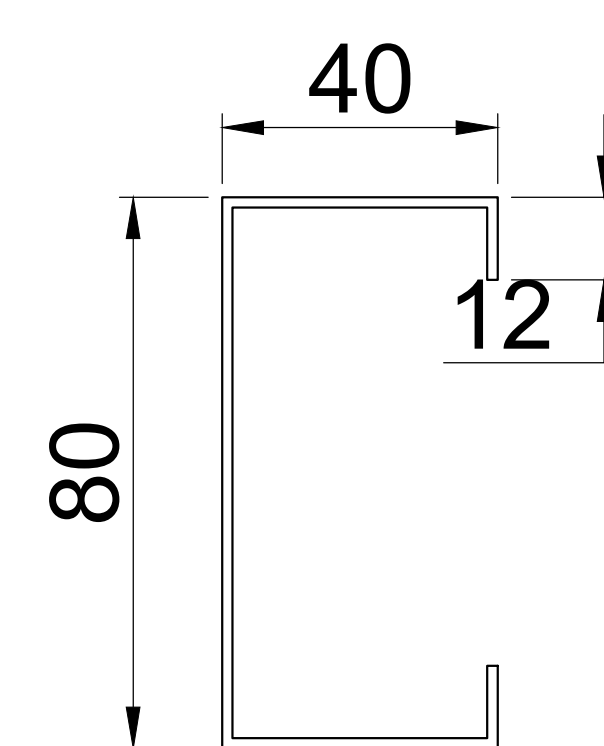
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CLIENT.	FAZAIA RUTH PFAU MEDICAL COLLEGE	
PROJECT.	FAZAIA RUTH PFAU MEDICAL COLLEGE	
TITLE.	RCC ROOF P-1 SECTION	

SCALE	SHEET SIZE	PROJECT NO.	DRAWING NO.	REV
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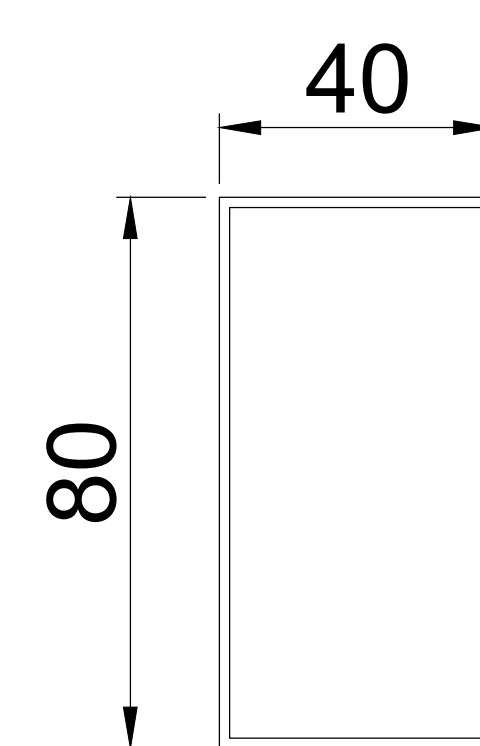
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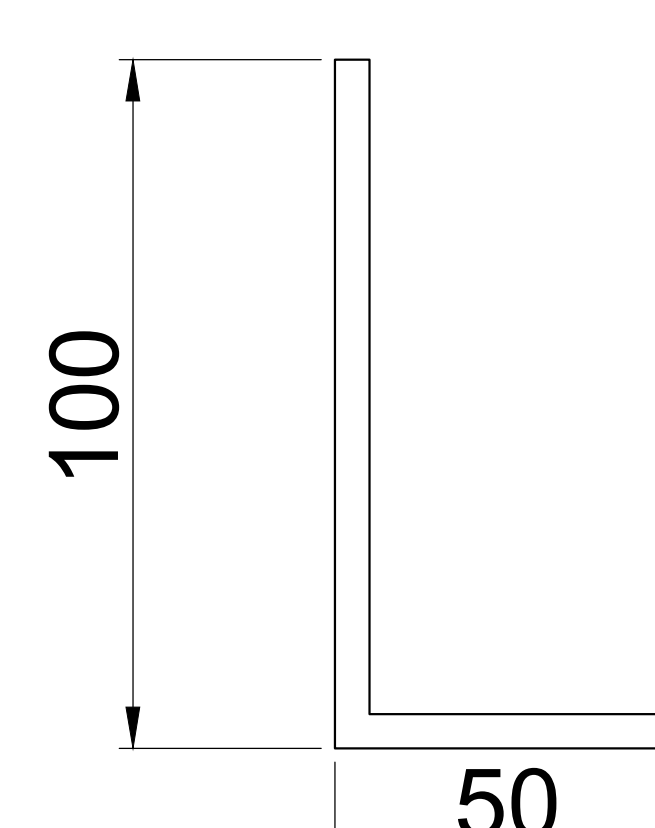
PILE 1&2
THK = 2mm



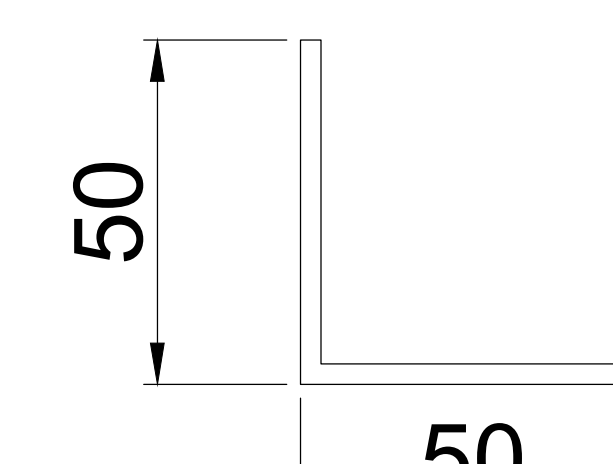
PURLIN
THK = 1.5mm



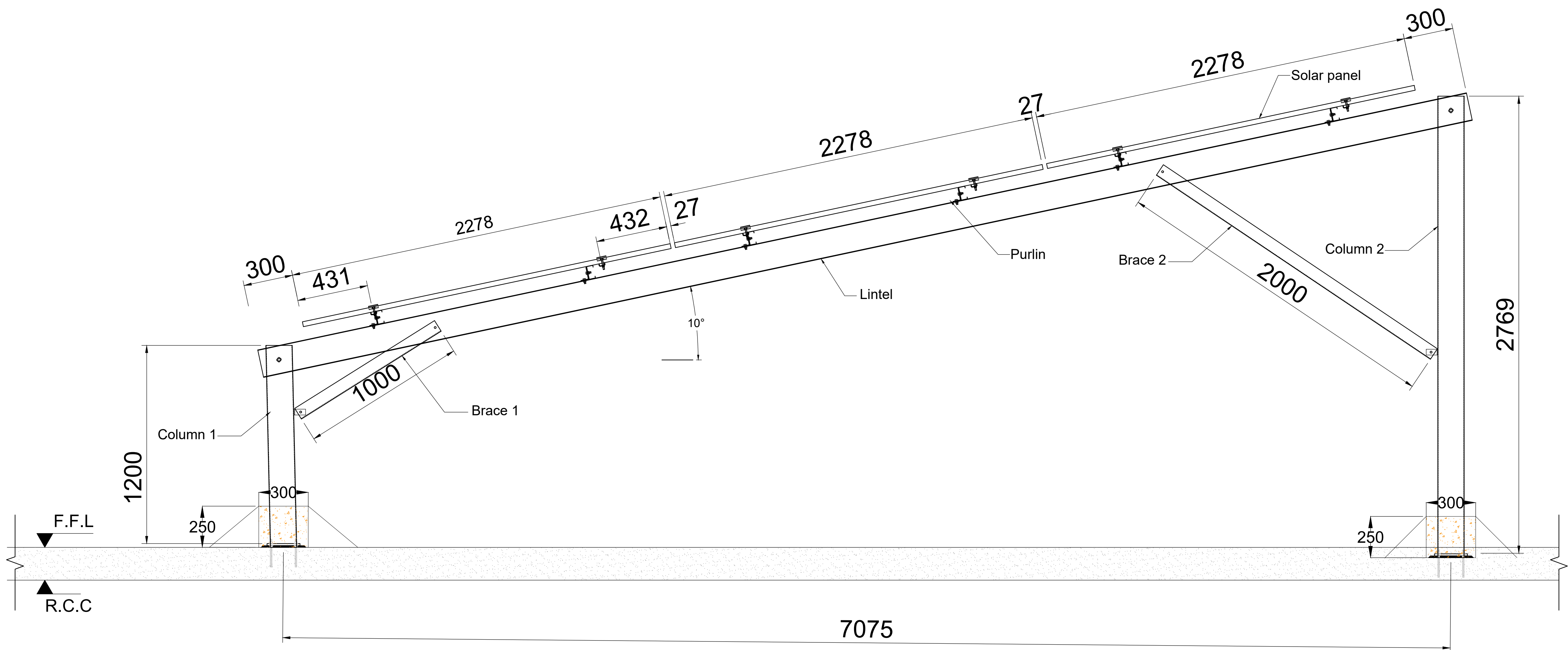
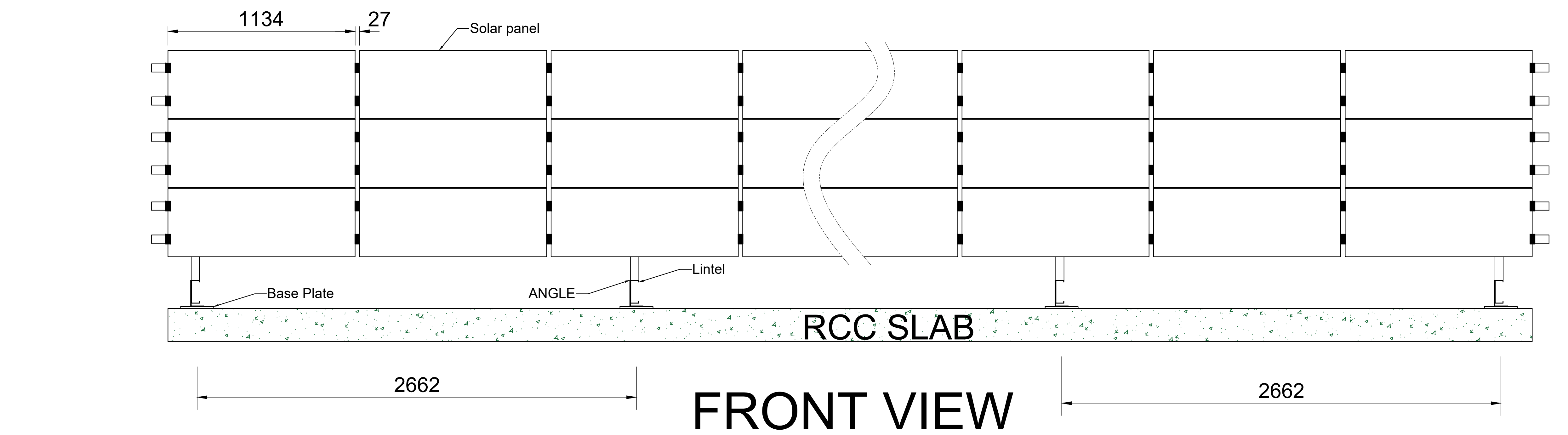
LINTEL
THK = 1.5mm



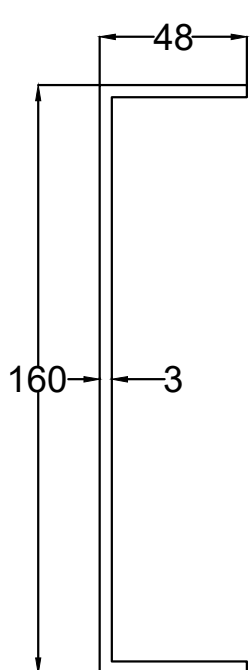
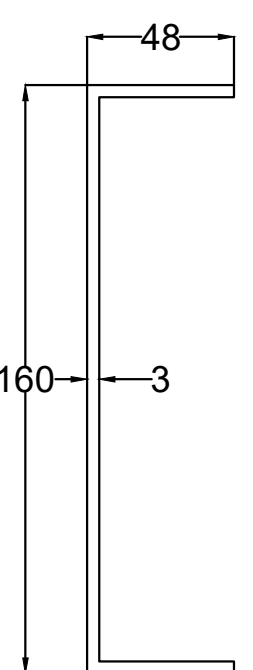
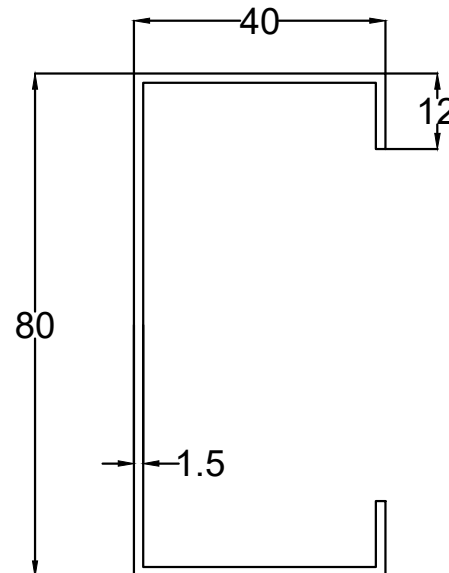
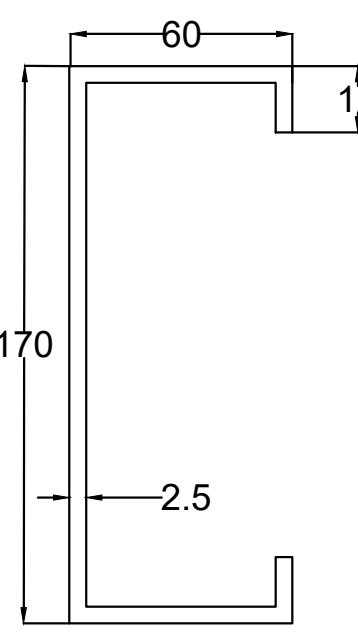
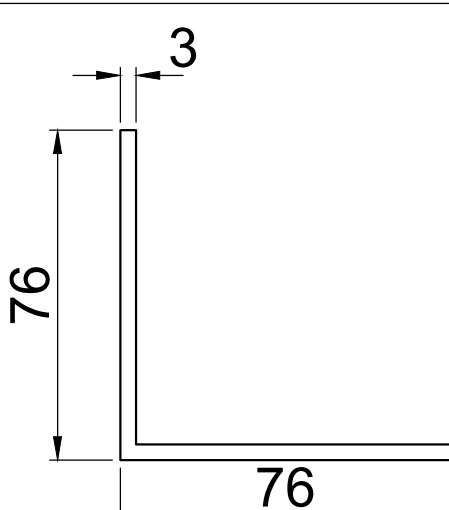
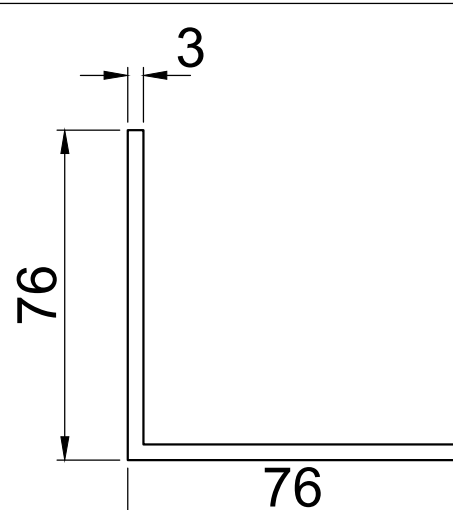
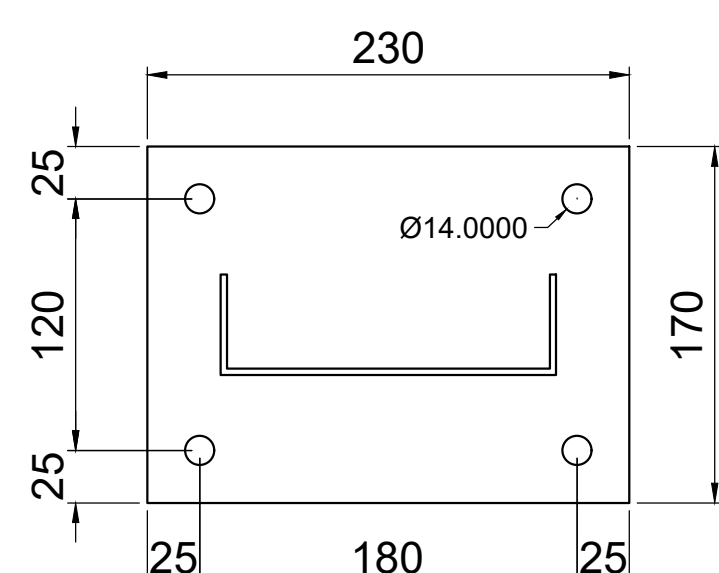
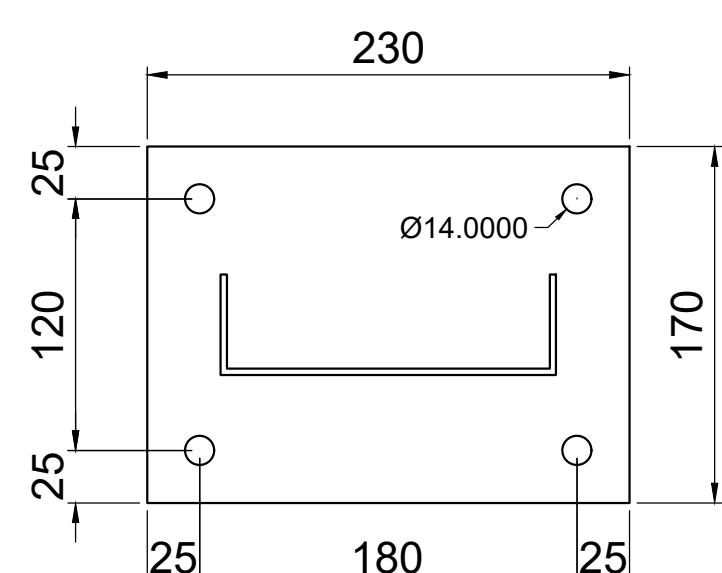
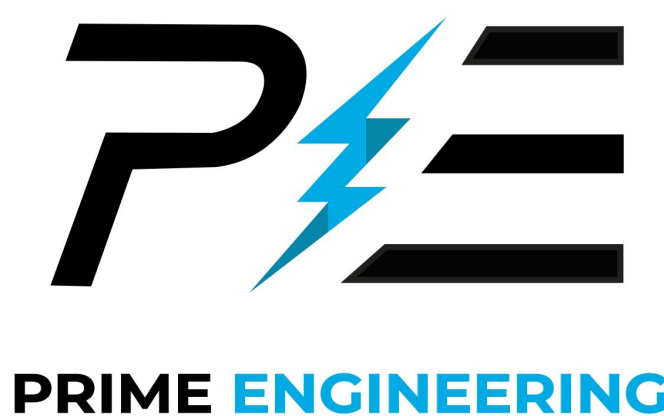
ANGLE
THK = 5mm



BRACE
THK = 3mm



- NOTES:
- 1- All MS structure must comply with ASTM A36 or equivalent.
 - 2- Structure will be hot dipped galvanized as per ASTM A123.
 - 3- SS 304 M8 module mounting bolts.
 - 4- Hot dip galvanized, grade 4.6 structure bolts & sag rods.
 - 5- Grade 5.8 anchor bolts (as per Fischer design).

 FRONT COLUMN	 BACK COLUMN	 PURLIN			
 LINTEL	 FRONT BRACE THK. 4mm	 BACK BRACE THK. 3mm			
 FRONT BASE PLATE THK.10mm		 BACK BASE PLATE THK.16mm			
DESIGN DATA		ARRAY INFORMATION			
CODE	ASCE 7-10	MODULE CAPACITY (Wp)	585		
WIND EXPOSURE CATEGORY	C	TILT ANGLE (DEGREE)	12°		
DESIGN WIND SPEED (m/s)	35	DIMENSIONS (mm)	2278x1134x35		
MODULE DEAD LOAD (psf)	3	WEIGHT (KG)	28		
TOTAL NUMBER OF PANELS	-----	NO. OF STRUCTURES	-----		
NOTE: ALL DIMENSIONS ARE IN (mm) UNLESS OTHERWISE SPECIFIED					
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REV	DATED	DESCRIPTION	DRAWN BY	CHECKED BY	APPROVED BY
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			CLIENT FAZAIA RUTH PFAU MEDICAL COLLEGE		
			PROJECT. FAZAIA RUTH PFAU MEDICAL COLLEGE		
			TITLE. ELEVATED RCC ROOF P-3 SECTION		
SCALE	SHEET SIZE	PROJECT NO.	DRAWING NO.		REV
1:1	A3	-	ST-02		-