



Republic of the Philippines
Cebu Normal University
Osmeña Boulevard, Cebu City

PHILIPPINE BIDDING DOCUMENTS

Procurement of Electrical Upgrading of CNU Main Campus (CTE Building Phase 2, Administrative Building, ASAB Building and ILS Building)

Bid No. 21-06-277

Government of the Republic of the Philippines

**Sixth Edition
July 2020**

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Infrastructure Projects (hereinafter referred to also as the “Works”) through Competitive Bidding have been prepared by the Government of the Philippines for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations, government financial institutions, state universities and colleges, local government units, and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

The PBDs are intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contract, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract; (ii) the eligibility requirements of Bidders; (iii) the expected contract duration; and (iv) the obligations, duties, and/or functions of the winning Bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Works to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

- a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.
- d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.
- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender*. (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

Contractor – is a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

Foreign-funded Procurement or Foreign-Assisted Project – Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term “related” or “analogous services” shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

- a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;
- b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;
- c. The deadline for the submission and receipt of bids; and
- d. Any important bid evaluation criteria.

The IB should be incorporated into the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.



Republic of the Philippines
CEBU NORMAL UNIVERSITY
Osmeña Blvd. Cebu City, 6000 Philippines

Office of the Bids and Awards Committee
Telephone No.: (+63 32) 254 1452 local 141 or 125
Email: ajsancajas95@yahoo.com; cnubacsec@gmail.com

**Invitation to Bid for
Electrical Upgrading of CNU Main Campus
(CTE Building Phase 2, Administrative Building, ASAB
Building and ILS Building)**

Bid No. 21-06-277

1. The *Cebu Normal University*, through the *General Appropriations Act of 2021* intends to apply the sum of *Twenty-three Million Four Hundred Seventy-five Thousand Pesos (Php 23, 475, 000.00)* being the Total Approved Budget for the Contract (ABC) to payments under the contract for *Electrical Upgrading of CNU Main Campus (CTE Building Phase 2, Administrative Building, ASAB Building and ILS Building)* with *Bid No. 21-06-277*; *Lot 1 – CTE Building Phase 2, Three Million Six Hundred Twenty-four Thousand Five Hundred Eighty-eight Pesos and Sixty-three Centavos (Php 3,624,588.63)*; *Lot 2 – Administration Building, Seven Million Five Hundred Eighty-four Thousand Two Hundred Eighty-nine Pesos and Ninety-nine Centavos (Php 7,584,289.99)*; *Lot 3 – ASAB Building, Six Million Eight Hundred Twenty-eight Thousand Five Hundred Eighty-five Pesos and One Centavo (Php 6,828,585.01)* and *Lot 4 – ILS Building, Five Million Four Hundred Thirty-seven Thousand Five Hundred Thirty-six Pesos and Thirty-seven Centavos (Php 5,437,536.37)* being the ABC to payments under the contract for each lot. Bids received in excess of the ABC for each lot shall be automatically rejected at bid opening.
2. The *Cebu Normal University* now invites bids for the above Procurement Project. Completion of the Works for each Lot is required in *One Hundred Fifty (150) Calendar Days*. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary “*pass/fail*” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Interested bidders may obtain further information from *Cebu Normal University* and inspect the Bidding Documents at the address given below from *8:00 A.M. to 5:00 P.M.*

5. A complete set of Bidding Documents may be acquired by interested bidders on July 6 - 27, 2021 from given address and website/s below *and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of: Lot 1 – CTE Building Phase 2, Four Thousand Pesos (Php 4,000.00); Lot 2 – Administrative Building, Eight Thousand Pesos (Php 8,000.00); Lot 3 – ASAB Building, Seven Thousand Pesos (php 7,000.00 and Lot 4 – ILS Building, Six Thousand Pesos (Php 6,000.00).* The Procuring Entity shall allow the bidder to present its proof of payment for the fees *if it will be presented in person, by facsimile, or through electronic means.*
6. The *Cebu Normal University* will hold a Pre-Bid Conference¹ on *1:30 P.M. of July 14, 2021* at the *EMMA Center, Cebu Normal University, Osmeña Boulevard, Cebu City*, which shall be open to prospective bidders.
7. Bids must be duly received by the BAC Secretariat through manual submission at the *BAC Office, Room 203 2nd Floor Administration Building, Cebu Normal University, Osmeña Boulevard, Cebu City*, on or before *1:00 P.M. of July 27, 2021*. Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 15.
9. Bid opening shall be on *1:30 P.M. of July 27, 2021* at the *EMMA Center, Cebu Normal University, Osmeña Boulevard, Cebu City*. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The *Cebu Normal University* reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

Ann S. Ancajas
Office of the BAC Secretariat
Cebu Normal University
Osmeña Boulevard, 6000 Cebu City
Tel. No. (032)254-1452 local 125
ajsancajas95@yahoo.com
12. You may visit the following websites:

For downloading of Bidding Documents: www.cnu.edu.ph
www.philgeps.gov.ph

¹ May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a pre-bid conference.

July 2, 2021

A handwritten signature in dark ink, appearing to be 'Rodin M. Paspasan', written over a faint circular stamp.

Dr. RODIN M. PASPASAN
BAC Chairperson

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, *Cebu Normal University* invites Bids for the *Project Electrical Upgrading of CNU Main Campus (CTE Building Phase 2, Administrative Building, ASAB Building and ILS Building)*, with Project Identification Number 21-06-277.

[Note: The Project Identification Number is assigned by the Procuring Entity based on its own coding scheme and is not the same as the PhilGEPS reference number, which is generated after the posting of the bid opportunity on the PhilGEPS website.]

The Procurement Project (referred to herein as “Project”) is for the construction of Works, as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for 2021 in the amount of *Seven Million Pesos (Php 23, 475, 000.00)*.

2.2. The source of funding is:

- a. NGA, the General Appropriations Act or Special Appropriations.

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manual and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or invitation to bid by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the work; (b) climatic conditions; (c) transportation facilities; (c) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (d) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and

obstructive practices defined under Annex “I” of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

- 5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.
- 5.2. The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the PSA’s CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

A contract is considered to be “similar” to the contract to be bid if it has the major categories of work stated in the **BDS**.

- 5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. Origin of Associated Goods

There is no restriction on the origin of Goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN.

7. Subcontracts

- 7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than fifty percent (50%) of the Project.

The Procuring Entity has prescribed that:

- a. Subcontracting is not allowed.

- 7.1. *[If Procuring Entity has determined that subcontracting is allowed during the bidding , state:]* The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criterial stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.

- 7.2. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be

changed during the implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

- 7.3. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address through videoconferencing as indicated in paragraph 6 of the **IB**.

9. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

10. Documents Comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.
- 10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.
- 10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided.

These key personnel must meet the required minimum years of experience set in the **BDS**.

- 10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

11. Documents Comprising the Bid: Financial Component

- 11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- 11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Alternative Bids

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative Bids shall not be accepted.

13. Bid Prices

All bid prices for the given scope of work in the Project as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as determined by the NEDA and approved by the GPPB pursuant to the revised Guidelines for Contract Price Escalation guidelines.

14. Bid and Payment Currencies

- 14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.
- 14.2. *Payment of the contract price shall be made in:*

- a. Philippine Pesos.

15. Bid Security

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security shall be valid until *November 22, 2021*. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

Each Bidder shall submit four (4) copies of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission to the given website or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB**.

18. Opening and Preliminary Examination of Bids

- 18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

- 18.2. The preliminary examination of Bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

19. Detailed Evaluation and Comparison of Bids

- 19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.
- 19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 16 shall be submitted for each contract (lot) separately.
- 19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

20. Post Qualification

Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the **BDS**.

21. Signing of the Contract

The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Section III. Bid Data Sheet

Notes on the Bid Data Sheet (BDS)

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

- a. Information that specifies and complements provisions of the ITB must be incorporated.
- b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

Bid Data Sheet

ITB Clause			
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be: <i>Electrical Works</i> .		
7.1	[Specify the portions of Works and the maximum percentage allowed to be subcontracted, which shall not be significant or material components of the Project as determined by the Procuring Entity.]		
10.3	[Specify if another Contractor license or permit is required.		
10.4	The key personnel must meet the required minimum years of experience set below:		
	<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>
	Electrical Engineer	3 – 5 Years	General Construction
	Safety Officer	1 – 3 Years	General Construction
	Foreman	3 – 5 Years	General Construction
10.5	The minimum major equipment requirements are the following:		
	<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>
	Welding Machine	300 Amp	1
	Demolition Hammer	1.2 Kw	1
12	[Insert Value Engineering clause if allowed.]		
15.1	The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:		
	a. The amount of not less than _____ [Insert two percent (2%) of ABC], if bid security is in cash, cashier’s/manager’s check, bank draft/guarantee or irrevocable letter of credit;		
	b. The amount of not less than _____ [Insert five percent (5%) of ABC] if bid security is in Surety Bond.		
	2%	Lot 1 – 72,491.80	
		Lot 2 – 151,685.80	
		Lot 3 – 136,571.70	
Lot 4 – 108,750.75			

		5%	Lot 1 – 181,229.45	
			Lot 2 – 379,214.50	
			Lot 3 – 341,429.25	
			Lot 4 - 271,876.85	
19.2	<p>Partial bids are allowed, as follows:</p> <p><i>Lot 1 – CTE Building Phase 2, Three Million Six Hundred Twenty-four Thousand Five Hundred Eighty-eight Pesos and Sixty-three Centavos (Php 3,624,588.63); Lot 2 – Administrative Building, Seven Million Five Hundred Eighty-four Thousand Two Hundred Eighty-nine Pesos and Ninety-nine Centavos (Php 7,584,289.99); Lot 3 – ASAB Building, Six Million Eight Hundred Twenty-eight Thousand Five Hundred Eighty-five Pesos and One Centavo (Php 6,828,585.01) and Lot 4 – ILS Building, Five Million Four Hundred Thirty-seven Thousand Five Hundred Thirty-six Pesos and Thirty-seven Centavos (Php 5,437,536.37)</i></p>			
20	<p><i>[List licenses and permits relevant to the Project and the corresponding law requiring it, e.g. Environmental Compliance Certificate, Certification that the project site is not within a geohazard zone, etc.]</i></p>			
21	<p>Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.</p>			

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Contractor, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special Conditions of Contract.

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

2. Sectional Completion of Works

If sectional completion is specified in the **Special Conditions of Contract (SCC)**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date shall apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC**, which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.

3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

The Contractor shall employ the key personnel named in the Schedule of Key Personnel indicating their designation, in accordance with **ITB** Clause 10.3 and specified in the **BDS**, to carry out the supervision of the Works.

The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.

5. Performance Security

- 5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.
- 5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **SCC** supplemented by any information obtained by the Contractor.

7. Warranty

- 7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.
- 7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the **SCC**.

8. Liability of the Contractor

Subject to additional provisions, if any, set forth in the **SCC**, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Contractor is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

9. Termination for Other Causes

Contract termination shall be initiated in case it is determined *prima facie* by the Procuring Entity that the Contractor has engaged, before, or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to corrupt, fraudulent, collusive, coercive, and obstructive practices as stated in **ITB** Clause 4.

10. Dayworks

Subject to the guidelines on Variation Order in Annex “E” of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor’s Bid shall be used for small additional amounts of work only when the Procuring Entity’s Representative has given written instructions in advance for additional work to be paid for in that way.

11. Program of Work

11.1. The Contractor shall submit to the Procuring Entity’s Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC**.

11.2. The Contractor shall submit to the Procuring Entity’s Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC**. If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity’s Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

12. Instructions, Inspections and Audits

The Contractor shall permit the GOP or the Procuring Entity to inspect the Contractor’s accounts and records relating to the performance of the Contractor and to have them audited by auditors of the GOP or the Procuring Entity, as may be required.

13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex “E” of the 2016 revised IRR of RA No. 9184.

14. Progress Payments

The Contractor may submit a request for payment for Work accomplished. Such requests for payment shall be verified and certified by the Procuring Entity’s Representative/Project Engineer. Except as otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

15. Operating and Maintenance Manuals

- 15.1. If required, the Contractor will provide “as built” Drawings and/or operating and maintenance manuals as specified in the **SCC**.
- 15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity’s Representative’s approval, the Procuring Entity’s Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

- a. Information that complements provisions of the GCC must be incorporated.
- b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
2	<i>[If different dates are specified for completion of the Works by section, i.e. “sectional completion,” these dates should be listed here.]</i>
4.1	<i>[Specify the schedule of delivery of the possession of the site to the Contractor, whether full or in part.]</i>
6	The site investigation reports are: <i>[list here the required site investigation reports.]</i>
7.2	<p><i>[Select one, delete the other.]</i></p> <p><i>[In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:]</i> Fifteen (15) years.</p> <p><i>[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]</i> Five (5) years.</p> <p><i>[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]</i> Two (2) years.</p>
10	Dayworks are applicable at the rate shown in the Contractor’s original Bid.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity’s Representative within <i>[insert number]</i> days of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is <i>[insert amount]</i> .
13	The amount of the advance payment is <i>[insert amount as percentage of the contract price that shall not exceed 15% of the total contract price and schedule of payment]</i> .
14	<i>[If allowed by the Procuring Entity, state:]</i> Materials and equipment delivered on the site but not completely put in place shall be included for payment.
15.1	The date by which operating and maintenance manuals are required is <i>[date]</i> .
	The date by which “as built” drawings are required is <i>[date]</i> .
15.2	The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required is <i>[amount in local currency]</i> .

Section VI. Specifications

Notes on Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying or conditioning their Bids. In the context of international competitive bidding, the specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of economy, efficiency, and fairness in procurement be realized, responsiveness of Bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is mandatory. Most specifications are normally written specially by the Procuring Entity or its representative to suit the Works at hand. There is no standard set of Specifications for universal application in all sectors in all regions, but there are established principles and practices, which are reflected in these PBDs.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, ports, railways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, although not necessarily to be used in a particular Works Contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for goods, materials, and workmanship, recognized international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or higher quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the SCC.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that

ensure a substantially equal or higher quality than the standards and codes specified will be accepted subject to the Procuring Entity's Representative's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity's Representative at least twenty-eight (28) days prior to the date when the Contractor desires the Procuring Entity's Representative's consent. In the event the Procuring Entity's Representative determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These notes are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final Bidding Documents.

TECHNICAL SPECIFICATION

FOR ELECTRICAL WORKS

1.0 GENERAL REQUIREMENTS

1.01 General Notes

This Technical Specifications for Electrical Works will be a part of the General Specification issued by the Managing / Consulting Personnel. These will become the basis for the standard implementation for the quality of materials and workmanship in relation to this project.

The Electrical Contractor shall comply with the standards set in this Specification when doing installation works. If there is change in the installation work for procedure, a written or verbal instruction shall be issued by the Consulting Engineer. For verbal instructions the contractor shall issue COI (Confirmation of Instruction) correspondence.

Unless otherwise specified, all materials and installation works shall comply with the local standards. Where this is not possible, the relevant Underwriter Laboratories Standards or other approved standards shall apply. All specification shall be those issues and amendments current thirty days before the closing date of tender.

All installation works and other procedures must be done in a very safe manner in order to protect life and property from hazards and other imminent dangers. The Electrical Contractor is obliged to supply workers with the proper PPE (Personal Protective Equipment) and the proper orientation including regular safety awareness program. This shall conform the requirements set forth by the Department of Labor (DOLE) and the Safety Organization of the Philippines (SOPH)

1.02 Abbreviations

- | | | | |
|--------|--------|---|------------------------------------|
| 1.02.1 | BFP | - | Bureau of Fire Protection |
| 1.02.2 | BS/BSS | - | British Standards |
| 1.02.3 | DOLE | - | Department of Labor and Employment |

1.02.4	IEC	-	International Electrotechnical Commission
1.02.5	IEE	-	Institute of Electrical Engineers
1.02.6	ISO	-	International Standardization organization
1.02.7	NEC	-	National Electrical Code
1.02.8	OBO	-	Office of the Building Official
1.02.9	PEC	-	Philippine Electrical Code
1.02.10	SOP	-	Safety Organization of the Philippines Incorporated
1.02.11	UL	-	Underwriters Laboratories Incorporated

1.03 Power Supply and Statutory Requirements

- 1.03.1 Power supply for this project is mostly 240V, 3 phase, 60Hz. Distribution transformer installation and other electrical application shall be coordinated with the OBO (Office of the Building Official).
- 1.03.2 Safety policy and Accident Reports shall coordinate with the Department of Labor and Employment(DOLE)

1.04 Scope of Work

- 1.04.1 Extent of installation works is described on Section 2.0 of this specification. This will include all other necessary accessories required to complete the whole installation. Scope of Electrical installation summarized as follows:

1.04.1.1 Panelboards

1.04.1.2 Wires & Cables

1.04.1.3 Pipes & Fittings

1.04.1.4 Boxes & Wire Gutters

1.04.1.5 Grounding systems

1.04.1.6 Lighting fixtures and wiring devices

1.04.1.7 Others

1.05 Program Evaluation, Review and Installation

- 1.05.1 Prior to start of installation works, the Sub-contractor shall submit a work schedule (PERT/CPM) for review. This schedule will be updated on a fortnightly basis as the construction work progresses.

1.05.2 Contractor's Initiated Proposal

It is when latent or unforeseen conditions requiring modifications to the Contract or the Working Plans, the concerned party may propose changes by submitting a request for a change to the Designer. Citing the relevance of the change, how it affects the whole or part of the construction and might as well consider financial cost aspects.

All materials shall be subject to the approval of the Architect or the Consultant. This approval shall not relieve the Electrical Contractor of the responsibility of inspecting such materials for defects or non-conformance with the Specifications. The electrical contractor shall initiate the information regarding the situation.

1.05.3 Coordination

The Sub-contractor shall at all times coordinate with the other Engineering Discipline and specially the supplier of special hospital equipment to insure a satisfactory work installation.

Interfacing with the other trades including but not limited to mechanical, fire protection, plumbing, civil, elevators and providing all necessary facilities to allow them to function correctly.

1.06 Climate and Site Conditions

- 1.06.1 The Electrical Contractor is deemed to be familiar with the climate and site conditions prevailing at the Construction site and to be aware of the high temperature (up to 40 deg. C) and the high relative humidity during summer. This will include elevation of site with respect to the sea level.

The Electrical Contractor upon submitting a tender will be assumed to warrant that all materials and equipment installed are suitable for continued use and/or operation in the various climatic conditions encountered including elevation conditions.

2.0 ELECTRICAL MATERIALS EQUIPMENT & WORKMANSHIP

2.01 Safety and Cleanliness

- 2.01.1 All safety and fire prevention precautions shall comply with all relevant local codes and regulations.
- 2.01.2 The Electrical Contractor shall use all flammable materials in a safe manner
- 2.01.3 Flammable and hazardous materials shall only be permitted inside working areas approved by the Owner's Representative.
- 2.01.4 The electrical Contractor shall keep the site area tidy and clean. All garbage shall be put in trash containers and removed from the site. No burning of garbage inside the site. Coordinate with Site Supervisors and Managers for proper disposal of trash.
- 2.01.5 After completion of the work, the Electrical Contractor shall immediately remove all temporary facilities, tools equipment and other materials from site. The site area shall be totally cleaned and made ready for occupation.
- 2.01.6 A placard shall be provided for each main L.V. switch room and substation detailing "Instructions for the Treatment of Electric Shock" and other safety signs.

2.02 Standards

- 2.02.1 All details of the equipment, materials and installations standards shall comply with this Specification Manual and the present standards and regulations as described in other parts of the Specification.
- 2.02.2 Where the materials or equipment offered comply with other standards, the Electrical Contractor shall demonstrate they meet the requirements of this Specification and details shall be provided to the Employer's Representative for comment and agreement prior to use.

2.03 Equipment Selection

- 2.03.1 All equipment supplied shall be in accordance with this Specification and the relevant drawings and to the approval of the Employer's Representative.
- 2.03.2 The Electrical Contractor shall be required to demonstrate at site that the duties required of the equipment are obtainable
- 2.03.3 Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes.
- 2.03.4 In selecting the types of equipment, the Electrical Contractor shall ascertain that the facilities for proper maintenance, repair and replacement are provided.
- 2.03.5 Where the Electrical Contractor proposes to use item of equipment other than that specified or detailed in the drawing, which requires any redesigning, drawing, showing the layout of the equipment and such redesign as required therefore shall be prepared by the electrical Contractor at his own expense. Where such approved deviation necessitates a different quantity and arrangement of materials and

equipment from that originally specified or indicated in the drawings, the Electrical Contractor shall furnish and install any such additional materials and equipment required by the system at no additional cost.

- 2.03.6 Equipment brochures and manufacturer's specifications must be submitted for the examination and details shall be submitted for comment and approval before any equipment is to be ordered. Data and sales catalogue of a general nature will not be accepted.
- 2.03.7 Before ordering the Owner's Representative shall be provided with full details of the weighs and characteristics of the equipment for purposes of determining floor loading
power consumption, protection etc.

2.04 Warehousing, Packaging and Protection

2.04.1 All materials and accessories shall be delivered to the site in a new conditioned.

Properly package and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, it shall be kept in the packaging cases or under approved protective coverings until required for use.

2.04.2 Any items suffering from damage during manufacture, or in transit, or on site while in storage or during erection shall be rejected and replaced without extra cost to either the Employer or the Main Contractor unless either of them, or respective representatives cause such damages.

2.04.3 Loading and Off loading of equipment shall be agreed on the final agreement by both parties prior to awarding of tenders. All parties shall identify what particular equipment for loading and off loading.

2.05 Electrical Contractor's Submission

2.05.1 Interpretation of Drawing

2.05.1.1 The Specification and any drawings or other documents attached thereto

and issued by the Employer's Representative shall be deemed to include whether or not specifically mentioned or shown, any materials accessories or work as may be necessary for the satisfactory completion of the works. The Electrical Contractor shall make due allowance in his tender for such materials or work.

2.05.1.2 Where a discrepancy exists between the Drawings and Specification, or where the interpretation of either is in doubt, the Electrical Contractor shall obtain written clarification on such matters before submitting his

Tender. Any such clarification from the Employer's Representative to the electrical "Contractor or vice versa dated prior to the Tender, shall form part

of the Sub-Contract Documents. If no clarification is requested and obtained by the Contractor the Employer's Representative reserves the right to select either option irrespective of the allowances the Electrical contractor has made in his tender.

2.05.2 Tender Drawings

2.05.2.1 The drawings listed in the Schedule are provided for the Electrical Contractor's guidance and information when tendering.

2.05.2.2 Tender Drawings are generally diagrammatic and indicative of work to be installed. Routing and arrangement of conduit installation and the positioning of apparatus shall be approximately as indicated. Final locations will differ.

2.05.3 Sub-Contractors Drawings

2.05.3.1 The Electrical Contractor shall prepare, or be responsible for obtaining the following drawings:

- Installation Drawings
- Manufacturer's Shop Drawing
- Builders Work Drawings
- Progress Drawings
- Record Drawings and Charts

2.05.4 Installation Drawings

2.05.4.1 The Electrical Contractor shall, before the relevant works proceeds, prepare and submit for approval by the Employer's Representative, all installation

drawings showing details of his proposals for the execution of the Sub-contract Works.

2.05.4.2 It includes the necessary schedules of equipment, and wiring diagrams, internal diagrams for items of electrical equipment and diagrams showing the interconnections between different items

2.05.4.3 These drawings to be produce and to be submitted includes but not limited to the following:

- Site distribution, cable and electrical ducts routes
- General layout drawings of all plant and equipment included in the contract
- Schematic distribution for main and sub-main and for final circuits.
- Correct discrimination between successive sections of the distribution network including all the specific curves or protective devices
- Cabling and wiring connections, showing cable types, sizes and loads
- Conduit routes and Boxes terminations.
- Trunking and Cable tray details

2.05.5 Manufacture's Shop Drawings

2.05.5.1 The Electrical Contractor shall submit for review shop drawings of any item of plant or equipment supplier indicating principle dimensions, fixings, connections and shall other relevant details. These shall include detail drawings for approval but not limited to the following:

- Panel-boards
- Grounding accessories
- Other supplied electrical equipment

2.05.6 Electrical Contractor's Approval of Manufacturer's Shop Drawings

2.05.6.1 All drawings, schedules or other information provided by the Manufacturers, Nominated Suppliers, Nominated Sub-Contractors or specialist Contractors shall be approved by the Electrical Contractor and such approval shall ensure that all requirements of the Sub-Contract Documents have been incorporated.

2.05.6.2 No purchase orders shall be made and/or works to commence, unless a

written approval has been issued by the Employer's Representative.

2.05.7 Builders Works Information & Drawings

2.05.7.1 The Electrical contractor shall provide fully Builders work drawings to show requirements for architectural or structural provisions necessary to facilitate the execution of the Sub-contract Works, and allow their integration into the

project. These drawings shall show dead and live loads of all plant, and fully dimensioned details of all plant bases, wall chases and penetrations. This

information shall be prepared in sufficient time for incorporation in the Main

Building Contractor's programme.

2.05.7.2 In cases where preliminary builders' work and structural information has already been given by the Employer's Representative such information shall be confirmed by the Electrical Contractor (including confirmation of weights

of items of equipment, sizes of access ways, etc.) and incorporated on his drawings.

2.05.7.3 The concerned contractor shall provide templates for, and supervise all builders work required, including drilling and plugging of walls, floors and ceilings for securing of brackets, and other builders work as is considered normal to the trade.

2.05.8 Progress Drawings

2.05.8.1 Such prints shall be kept up-to-date before each sites progress meeting.

The progress drawings shall be available for inspection at any time by the Employer's Representative and Main Building Contractor

2.05.8.2 This will also include by keeping a diary recording the work progress and details of all instructions received. The diary shall be at the disposal of the Employer's Representative as and when required.

2.05.9 Record Drawings and Charts

2.05.9.1 The Electrical Contractor shall issue draft copies of Record Drawings, showing the whole of the services as installed, to the Employer's Representative one month prior to the start of commissioning.

2.05.9.2 These drawing are also known as the As-Built Drawings.

2.05.10 Employer's Representative's Review

2.05.10.1 Information for review must be submitted in accordance with the agreed programme of work and in packages relating to complete buildings or previously agreed parts of the building.

2.05.10.2 The packages must include:

- Installation drawings
- Builders work drawings
- Associated Manufacturers shop drawings
- Technical information of proposed equipment and materials
- Any other relevant information required by the Owner's Representative.

2.05.11 Others

2.06 Operating and Maintenance Manuals

2.06.1 Before hand-over of the installation, the Electrical Contractor shall prepare complete Operation and Maintenance Manuals which are to be printed in English for all the installations.

2.06.2 The O & M Manuals must be handed over before the Date of Completion.

2.07 Samples

2.07.1 Samples shall be approved by the owner before installation and this shall include but does not limit to the following:

2.07.1.1 Cables and wiring

2.07.1.2 Cable supports

2.07.1.3 Conduit boxes

2.07.1.4 Wiring devices and accessories

2.07.1.5 Pipes and fittings

2.08 Coordination Between Trades

2.08.1 The Electrical Contractor's Work are to be carried out to suit the Main Building Work Programme and are to be completed in good time as so not to cause delay

2.08.2 Regular meeting shall be on site to ensure that proper coordination with other trades will be met.

2.08.3 All must inform if there is any conflict of installation for proper action

2.09 Progress Report

2.09.1 The Contractor shall submit two copies of the monthly report to the Employer's Representative containing:

- Percentage of work progress including BOQ comparison between actual and contracted work.
- Description of executed work.
- Problems or delay (if any) and how to solve these.
- Special occurrences, accidents, etc.
- List of drawings also indicating revisions.
- List of memos and instructions ordered by the consultant.
- List of equipment and workers at the site.
- Color photographs of the site showing necessary view of the work at not less than 10 locations.

2.10 Results of Test

2.10.1 Results of Test shall be part of the submittal after commissioning,

2.11 Defects Liability Period

2.11.1 To be discuss by the owner and the contractor. This is usually six-months to on-year period from the 'Date of Practical Completion.'

2.11.2 At the time of hand-over of the Work the whole installation shall be in 'as new' condition. And during the course of the Contract, shall protect all plant and equipment and shall restore/repaint as necessary before completion of the contract.

3.0 INCOMING SUPPLY

3.01 SECONDARY SUPPLY 240V, THREE (3) PHASE, 60 HZ. 4-WIRE.

3.02 PRIMARY SUPPLY 23.0kV

4.0 MAIN AND SUB-PANELBOARDS

4.01 Switchboards/Panelboards

4.01.1 Comprise of all main boards, transfer switches, sub-boards and distribution boards for lighting and general power distribution to all levels including necessary protection circuit breakers, earth leakage protection devices, indicating lights, meter panels, CTs, and all other accessories needed to complete installation.

- 4.01.2 The MCB and distribution boards provided as panel boards shall be from the same manufacturer and be in accordance with the IEC and NEMA standards.
- 4.01.3 Enclosures and doors for the distribution board shall be constructed from sheet steel having a thickness of not less than 1.0mm and enameled finished and color approved by the Consultant. The panel boards shall be of robust construction and suitable for indoor application in commercial and light industrial situation with a degree of protection not less than IP 30. Hinged enclosure doors are to be fitted with ball catch locks or a similar approved lock.
- 4.01.4 The back plate assembly shall be of sheet steel of substantial thickness and attached to the back of the distribution board enclosure for mounting of MCBs and switches.
- 4.01.5 The metal front plate assembly shall be of sheet steel and shall be finished to the same color as the distribution board enclosure. The front plate shall be affixed with labels for circuit identification.
- 4.01.6 All current carrying parts of the distribution board such as busbars, neutral and earthing terminals, incoming cable terminals etc. shall be of electro-tinned copper.

- 4.01.7 The configuration of the busbars, busbars supports and mounting arrangements shall be type tested and certified for a short time withstanding current of not less than 6 kA for 0.2 second at a voltage of not less than 480V.
- 4.01.8 Blanking off plates shall be supplied for spare circuits for all distribution boards.
- 4.01.9 All switch-boards shall be provided with line, neutral and earthing terminals for the incoming cables. There shall be one neutral and one earthing terminal for each outgoing MCB way.
- 4.01.10 Outgoing MCBs shall be connected to busbars by means of bolted joints. Plug-in type of current-carrying contacts' are not accepted.
- 4.01.11 Space shall be provided for the future accommodation of 20% additional circuit breakers in all distribution boards. All necessary busbars, studs and neutral bar ways shall be allowed.
- 4.01.12 Circuit schedules shall be provided and installed behind the inside of distribution board door, given in English for the following information:
- Distribution board designation
 - Rating of all circuit breakers
 - Cable sizes
 - Type and location of circuit load
 - Safety sign
- 4.01.13 Panel board shall be of dead-front safety for use with 480/240V, 3 Phase, 4 wires and ground system or 220V, 1 phase panel and ground system as specified in the drawings. All circuit breakers shall be of rating as specified on the drawings.
- 4.01.14 Panel boards shall be enclosed surface mounting type, or flush mounting type code gauged steel cabinets with concealed hinge door, and plug-on type or bolt-on construction.
- 4.01.15 Bus bars shall be of copper rigidly supported by insulation bases, of suitable electric and mechanical strength and enclosed in a steel cabinet in accordance with NEC requirements. Solid metal bars shall be separated from ground bars. Ground buses shall be grounded to bases and frames. Busbar connections to the branch circuit breakers shall be of the "PHASE-SEQUENCE" type.
- 4.01.16 Box steel sheet shall be galvanized with a prime and finish coat of gray baked enamel.
- 4.01.17 All door locks shall be chromium plated flush and supplied with two keys.
- 4.01.18 There shall be circuit directory frames with directory cards faced by clear plastic on the inside of doors. Safety sign shall be installed.
- 4.01.19 All terminals inside panel-boards shall be suitable for type of the conductors, as specified on the drawings.

- 4.01.20 Panel-boards shall be mounted rigidly with expansion bolts on concrete or nuts and bolts on wooden or metal wall at a centerline height of 1500mm above the finished floor.
 - 4.01.21 All connections and lugs shall be tightened securely. Circuit-space-openings shall be covered with steel plates.
 - 4.01.22 Panel-boards shall be cleaned thoroughly before being supplied with power.
 - 4.01.23 Before installing a panel-board, the Contractor shall check all the Engineering Drawings for possible conflicts of space, and adjust the location of panel board to prevent conflict with other items.
 - 4.01.24 When the panel-board is recessed into the wall and serving an area with accessible ceiling space the Contractor shall provide and install an empty conduit system for future wiring.
- 4.02 MCB – Miniature Circuit Breakers
- 4.02.1 All miniature circuit breakers (MCB) shall be of triple-pole or single-pole and conform to IEC898 and other international applicable standard

- 4.02.2 The body and base of the units are to be moulded bakelite, or similar material, and the units are to be sealed after assembly.
- 4.02.3 The load handling contacts are to be silver/tungsten and the contacts and operating mechanism so designed as to give a wiping action both at make.
- 4.02.4 The breaker operating mechanism is to be of the trip-free type so designed to prevent the load handling contacts from closing on a fault.
- 4.02.5 Circuit protection against overload and fault conditions is to be provided by means of a thermal-magnetic device designed to give thermal operation on overload and magnetic operation under fault conditions.
- 4.02.6 The minimum short circuit capacity of the MCB shall be of 6KA.
- 4.02.7 Cable terminals of the MCBs shall be at top and bottom of the unit with access from the front, and suitable for terminating solid or stranded conductors.
- 4.02.8 Positions of the breaker operating dolly are to be clearly indicated for 'ON' and 'OFF'.
- 4.02.9 None
- 4.03 Isolators/Switches
 - 4.03.1 Switches shall be metal clad, type tested in accordance with approved standards suitable for surface mounting. The rated fuse short-circuit current shall be at least 40 kA.
 - 4.03.2 Switches under this section shall be of continuous duty and shall be capable of closing onto and remaining closed on a fault without overheating or damage.
 - 4.03.3 None
- 4.04 Circuit Breaker brand shall be as follows;
 - 4.04.1 Schneider
 - 4.04.2 Eaton

5.0 WIRES & CABLES

- 5.01 Sub-main cables
 - 5.01.1 Bending of cables should be done by a qualified electrician and proper tools are to be used. A minimum bending radius of six times the diameter of the cable should be used.
 - 5.01.2 All cables shall terminate in approved glands, special care being taken to prevent ingress of moisture. This work must be undertaken by skilled tradesman using tools recommended by the manufacturer. Cable ends shall be properly sealed during storage prior to installation.
- 5.02 Cable Installation, Low Voltage Distribution.

- 5.02.1 All main power cables included in this section are shown on the drawings. And the electrical contractor shall provide all the necessary trays, conduits, supports and cable trunking, gland shrouds, end boxes, clamps, compounds, specialist tools, etc. necessary to install, terminate and connect the cables in accordance with good engineering practice.
- 5.02.2 The electrical contractor shall be responsible for the off loading, and handling of the cables on site and shall ensure that cables are new and delivered to site on new drum. They shall be properly protected against mechanical damage and with the manufacturer's seals still intact. Partly used drums of cable which were already been used elsewhere, are not acceptable unless special approval is given by the Employer's Representative in writing.

- 5.02.3 All wiring shall be carried out by the loop-in system and the wiring shall be enclosed in conduits or in metal trunking. Joints or connectors shall not be allowed in any such cable length.
- 5.02.4 Cables shall be conforming to approved international and local standard specification and shall have insulated copper conductor rated not less than 600V 70 degrees centigrade. The cable shall be THW or THHN type as shown on drawings or fire rated as specified.
- 5.02.5 Cable sizes for luminaire and control circuit shall not be smaller than 2.5mm² and as specified on the drawings.
- 5.02.6 Cable connected to the convenience outlets shall not be smaller than 4mm².
- 5.02.7 No cable shall be pulled into the conduit system until it is complete in all details. The color identification of the cables shall be submitted for comment and acceptance.
- 5.02.8 Lubricant shall be used to facilitate wire pulling. Lubricants shall be approved for using with the insulation specified.
- 5.02.9 Cable glands shall be corrosion resistant with inner and outer seals and in the case of outdoor terminations protected by a watertight type, polychlorophene shroud cover.
- Glands terminated to switchboards shall be fitted with an earth tag. All terminations on cable conductors 6mm² or greater shall be made utilizing compression type terminal lugs. All glands shall be metric size with International Standards Organization metric entry thread.
- 5.02.10 Splicing of cables shall be allowed only in the luminaries, receptacles and proper junction box with an approved method of insulation. No splice shall be made in conductors for instrument circuit or control circuits.
- 5.02.11 Splicing of large cables where allowed shall be by compression type, solderless wire connectors indented by special hydraulic tool. The splice shall be insulated with plastic insulation tape such as Scotch Brand No.33. Thickness of the tape shall not be less than three layers or at least the same thickness as the cable insulation.
- 5.02.12 Compression type, solderless lugs indented by proper tool shall be used at the end of all cables and shall be connected to the screw type terminals of the equipment and to the busbars.
- 5.02.13 Where cables are buried in the ground the minimum depth of burial shall be 800mm.
- Cable route markers shall be installed above ground along underground cable routes. These shall be located at 30meter intervals at changes of direction and at entries of buildings
- 5.02.14 All cables shall be identified by means of cable tags fitted to each termination point and at 30 meter intervals along cable route. Tags must be insulated and be capable of withstanding a continuous temperature of 90 deg. C.
- 5.02.15 Color Coding of Wires:

- Red - for line phase A
- Yellow - for line phase B
- Blue - for line phase C
- White or Gray - for line phase neutral
- Green or Green with Yellow strip - for grounding

5.02.16 Insulated single conductors shall be THW or THHN and have a temperature minimum rating of 70 deg. C. For lamps rated as more than 100 watts cables shall be rated at 90 deg. C. Multi-conductor power cable shall have a temperature rating of 70 deg. C / 750 V. Multi-conductor cable for supervisory control cable shall have a temperature rating of 70 deg. C. the cable types for location shall be as follows

- In conduit - THW or THHN]
- Direct burial adjacent to high temp. areas – NYY (min. 4mm²)

5.02.17 Wiring connections shall be made only in accessible pull, junction and outlet boxes.

Conductors running in vertical raceways shall be supported at intervals in accordance with NEC and PEC regulations. Conductors shall not be bent less than manufacturer's recommended radius. Conductor insulation and sleeves shall not be

damaged during pulling into conduit. For direct burial in trench, sufficient slack shall be allowed for soil movement.

5.02.18 All phases and neutral conductor of each feeder shall run inside the same conduit pipe in order to reduce induced current heating effects.

6.0 PIPES & FITTINGS

- 6.01 The Electrical Contractor shall be responsible for the supervision of the cable/pipe trench excavation, sand bedding and back-filling supply and installation of warning tape, cable tiles and cable marker posts as detailed on the drawing and in this Specification.
- 6.02 Conduit pipes for convenience outlet auxiliary outlets shall be provided by the Electrical Contractor according to the locations indicated on the design drawings or within the specification. This is also true to lighting installation and other electrical services/Conduit pipes shall be cast-in except in plant rooms, inside false ceilings and inside floor voids.
- 6.03 Electrical conduit piping shall conform to the requirements of local Utilities, NEC and PEC specifications and as specified on the drawings.
- 6.04 For PVC pipes use in cast-in installation shall be the orange type, schedule 40 and high impact materials and shall conform to the international standards.
- 6.05 All metal conduits shall be steel and galvanized by the hot dip process. The size of conduit fitting and accessories shall comply with the requirements of the local Utilities, PEC and NEC codes and standards.
- 6.06 All conduits shall be as specified herein with a minimum size of ½ inches unless otherwise noted.
- 6.07 Where the conduits enter the cabinets and equipment, conduit bushings and double locknuts shall be used. The end of all conduits shall be tightly plugged to exclude dust and moisture while the buildings are under the construction. The conduits used shall not have any internal and external defects. Each end of the conduit shall be made smooth with the conduit reamer to prevent damage to the wire.
- 6.08 Bending radius shall comply with NEC and PEC standard. No single run shall contain more than four (4) 90 deg. Bends.
- 6.09 All conduits in offices and finished areas shall be concealed in walls, floors slabs, ceiling voids or columns. Conduits may be exposed in unfinished areas.
- 6.10 Prior to wiring conduits shall be entirely completed, cleaned and dried. Spare conduits shall be wired with Zinc coated #14 gauge wire for pulling cables in the future.
- 6.11 Use PVC conduit for all runs exposed and burial installation, brand shall be poly, emerald or approved equal.
- 6.12 None

7.0 WIRING DEVICES & ACCESSORIES

- 7.01 Final Outlets

- Socket outlets shall be of the three pin type (2 poles and earth), 10 A Universal type. Submit sample for approval.
- Socket outlets exposed to weather shall be die cast aluminum or polycarbonate weatherproof type complete with protective captive screw on cap to cover the socket orifice when not in use. Weatherproof plug to shall be provided together with the outlet.
- Generally socket outlets shall be installed 225 mm from FFL.
- And 1350mm from FFL in kitchens, plant rooms, car parks and other service areas.
- Earth Leakage Type outlets may be installed in bathrooms.

7.01.5 Power Outlets

- Power Outlets for 3 and 4 poles shall be angle type receptacles suitable for use in a 240V, 3 phase system.
- They should be equipped with spring door cover. There shall be lock position to lock plug in place with simple twisting motion. All outlets shall be rated up to 600V with ground pin.

7.01.6 GFCI Outlets

- The ground-fault circuit interrupter shall be fast acting unit that shut-off the electrical power in the event of ground-fault within a little as 1/40 of second.
- The GFCI shall be rated to trip quickly enough to prevent an electrical incident.
- Portable type GFCI's shall be designed for easy transport.
- Units approved for outdoor use should be in enclosures suitable for the environment.

7.01.7 ACU/ACCU Outlets & ACMV Trade

- Power supply point shall be provided by the electrical contractor. The ACMV contractor shall be responsible for extending the electrical supply from the control panels to the equipment.

- For ACU (Aircon) window type the power outlet shall be installed by the electrical contractor.

7.01 Final Switching

- 7.02.1 Switch locations shall be as indicated in the drawings. Switches indicated adjacent to doors, shall be placed 150mm for the edge of the switch plate to the edge of the door-frame and on the lock side.
- 7.02.2 Switches shall be mounted unless otherwise indicated with the base at 1350mm above FFL.
- 7.02.3 Where several switches occur at the same location, multi gang units mounted on single plates may be used.
- 7.02.4 Switches shall be rocker operated type, grid pattern, single pole, one way or two way or intermediate as required on the drawings. Switches shall be of the quick make and slow break, silent switch action type with solid silver alloy contacts and in accordance to BS 3676 or other international approved standards.
- 7.02.5 Switches shall be suitable for flush or surface mounting as required and be complete with brass counter sunk PVC box, adjustable grid plate, switch interior and cover plate. A minimum clearance of 9mm shall be provided between the back of the switch and the back of the conduit box. All knockout boxes must have an earth terminal.
- 7.02.6 Dimmer Switches:
 - Dimmer switches for controlling tungsten lighting shall be 500W, 250 volts unless listed otherwise.

7.02.7 Weather Proof Switches:

- Switches mounted outdoors, or in positions where they may be exposed to rain or water shall have watertight enclosures to IP65.

Alternatively they may be mounted inside watertight enclosures but shall be subject to the acceptance of the Employer's Representative.

- Time Switches:

8.0 LIGHTING FIXTURES

- 8.01 All Lighting Fixtures shall be manufactured by a reputable lighting manufacturer and shall be well constructed and shall comply with the requirements of IEC598 and be chosen to suit the conditions under which they are to operate.
- 8.02 Alternative Fixtures may be considered provided that the performance and quality are the same or higher than the specified ones and shall be subject to the Owner's Representative's acceptance.
- 8.03 Exit Sign Fixtures shall be provided as shown on the Drawings and shall be maintained type, provided with self-contained charger, built in converter and ni-cad battery. The capacity of battery shall be able to power the lamp for a minimum of 2 hours at functional operation.
- 8.04 Emergency Lighting Fixtures shall be self-contained battery suitable for a 220V, 60hz system with two 55 watt halogen lamps. Batteries shall be maintenance-free sealed lead acid type with a capacity not less than 2 hours..

9.0 BOXES, WIRE GUTTERS AND TRAYS

- 9.01 Boxes
 - 9.01.1 Conduit boxes shall be of cast iron or mild steel. The internal depth of a box shall be not less than 32mm. Boxes of steel shall have plain sides or be provided with knock-outs. Corners shall be mechanically and electrically.
 - 9.01.2 Metallic boxes shall be used as junction boxes where permitted, pull boxes, cabinets, outlets or other accessories as shown on drawing.
 - 9.01.3 All concealed outlet boxes shall be of galvanized pressed steel and exposed outlets boxes shall be of cadmium plated cast iron with aluminum or stainless steel covers. Outlet boxes for exterior or moisture areas shall be cast metal with threaded opening and with cast steel cover and waterproof seal.
 - 9.01.4 All junction, pull boxes and cabinets shall be of galvanized steel with a thickness of at least 1.2mm. And large junction, pull boxes and cabinets shall be sheet steel of thickness not less than 1.4mm and coated with rust proof paint and finish with light gray or munzell beige paint or what ever approved by the Consultant.

- 9.01.5 Boxes shall be installed at every 30m maximum for easy installation in a conduit run and shall be concealed in finished areas. No boxes for pulling in will be allowed on plasterboard ceilings. All pulling in of cables must be done at equipment location.
- 9.01.6 The size of boxes and number of wires shall conform to the NEC and PEC standard.
- 9.01.7 Labels indicating nominal voltage shall be applied to pull and junction boxes after painting is completed.
- 9.01.8 RESERVE
- 9.01.9 NONE

9.02 GUTTERS & TRAYS

- 9.02.1 Cable trays shall be of a perforated pattern 1.6mm minimum thickness mild steel with returned edges and hot-dipped galvanized over-all.
- 9.02.2 The cable tray gauge shall be of sufficient strength to prevent sagging between supports.
- 9.02.3 Cables leaving cable trays shall be installed properly without damage to cables by cutting edges of trays and rubber pads shall be inserted to underside of cables.

- 9.02.4 Trays shall not be bent for change in direction of run. Proper bends or straight trays meeting at angle shall be employed at change of direction. Cable trays shall be supported at either sides of junction.

10.0 GROUNDING SYSTEM

10.01 GROUNDING

- 10.01.1 Ground conductors shall be bare copper conductor sized as indicated on the drawings. Where size is not indicated on the drawings, conductor size shall be determined from the Philippine Electrical Code table on sizes of grounding electrode conductors.
- 10.01.2 Equipment grounding conductors shall be green insulated type THHN/THWN sized as indicated on the drawings. Where size is not indicated on the drawings, conductor size shall be determined from the Philippine Electrical Code table on size of equipment grounding conductors.
- 10.01.3 Bonding jumpers shall be flexible copper bonding jumpers sized in accordance with the National Electrical Code tables for grounding electrode conductors.

10.02 MISCELLANEOUS

- 10.02.1 Grounding rods shall be 20mm x 3000mm Copper Clad steel. Use stainless rods for marine and corrosive environment. Use only UL listed ground rods. Ground test point or ground test pit shall be made available.
- 10.02.2 Provide a solid copper ground bus bar terminal in each panel board, distribution board, switchgear, and motor control center and alike. The ground bus bar shall be have a main terminal for the incoming ground conductor, and one terminal for each present and future outgoing circuit.
- 10.02.3 Provide a grounding lug bonded to the enclosure for each item of switchgear, switchboard, panel board, transformer, bus duct, motor control center, motor controller and disconnected switch, Main and Intermediate Distribution Frames, UPS, Raised-floor Pedestals, raceways etc.
- 10.02.4 Each wiring devices shall be furnished with a grounding screw connected to the metallic devices frame.
- 10.02.5 Grounding connector shall be copper, configured for hydraulic, mechanical or exothermic connection processes, as indicated on the drawings.
- 10.02.6 Provide a clean earthing connections of all IT and Communications equipment to the separate common earthing riser through ground lugs. Bond this to the Electrical ground rod or ground ring.

10.03 TESTING AND COMMISSIONING

- 10.03.1 Inspection wiring system junction point locations for proper grounding. Verify connections of grounding; note type of connection, i.e. mechanical, hydraulic or

exothermic. Verify proper connection to all components of building service entrance grounding system. Note all system components that are interconnected and type of connection. Indicate depth of grounding mats and ground rods.

10.03.2 Upon completion of installation of grounding system, test the resistance-to-ground of

the ground grid network. Utilize the "fall-of-potential" of resistance testing per ANSI/IEEE 81. Instrumentation utilized shall be specifically designed for ground impedance testing. Provide sufficient spacing so that the plotted curve flattens in the

62% area of the distance between the item under test and, take appropriate action to reduce resistance to 5 ohms or less, by driving additional, properly spaced ground rods. Upon completion of the complete grounding system conduct continuity testing and forward test documentation to the Engineer. Reset to demonstrate compliance.

Submit test documentation to the Engineer

11.0 FIELD TEST AND ADJUSTMENTS:

- A. Test reports : typewritten, listing equipment used, person or persons performing the tests, date tested and results of test

- B. Insulation resistance test, general:

Perform insulation resistance tests on equipment and cables listed herein. Test equipments furnished by contractor or owner

Resistance measured line to ground

- C. Continuity test : test all socket outlet and control circuits to determine continuity of wiring and connections. Submit written statement that this test has been performed.

- D. Phase relationship: Check connections to all equipment for proper phase relationship if ever, may the owner purchased a three phase equipments

- E. Correction of defects:

If test disclose any unsatisfactory workmanship, wiring or equipment

furnished under this contract, Contractor shall repair or replace at his expense, such defects in an approved manner.

If any wiring or equipment is damaged by test, Contractor shall repair or replace, at his expense, such wiring or equipment in and approved manner.

***** END OF SPECIFICATION *****

Section VII. Drawings

[Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section, or annexed in a separate folder.]

(PLEASE SEE ATTACHED PLANS/DRAWINGS)

Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

- a. to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and
- b. when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and brief as possible.

Daywork Schedule

A Daywork Schedule should be included only if the probability of unforeseen work, outside the items included in the Bill of Quantities, is high. To facilitate checking by the Entity of the realism of rates quoted by the Bidders, the Daywork Schedule should normally comprise the following:

- a. A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.
- b. Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the SCC should state the manner in which they will be used, and under whose authority (usually the Procuring Entity's Representative's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Procuring Entity to select such specialized contractors. To provide an element of competition among the Bidders in respect of any facilities, amenities, attendance, etc., to be provided by the successful Bidder as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.

Signature Box

A signature box shall be added at the bottom of each page of the Bill of Quantities where the authorized representative of the Bidder shall affix his signature. Failure of the authorized representative to sign each and every page of the Bill of Quantities shall be a cause for rejection of his bid.

These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final documents.

BILL OF QUANTITIES

Project Title: Electrical Upgrading of CNU Main Campus (CTE Building Phase 2, Administrative Building, ASAB Building and ILS Building)
 Location: Osmeña Boulevard, Cebu City
 Mode of Implementation: Contract

Electrical Upgrading of CNU Main Campus					
Item No.	QTY.	Unit	Item Description	Unit Cost	Total Cost
A.			Lot 1 - CTE Building Phase 2		
I.			Direct Cost		
			ELECTRICAL WORKS		
A.a.			ROUGHING-INS		
	25	lgts	IMC Pipe 75mmdia		
	1	lot	Conduit fittings		
			3M Terminal crimp type lugs		
	27	pcs	250mmsq 1-hole		
	6	pcs	200mmsq 1-hole		
	1	lot	Standard Hangers and supports		
	1	lot	Consumables & miscellaneous:		
A.b.			WIRES AND CABLES		
	90	mtrs	Stranded cu wires 5.5mm ²		
	45	mtrs	Stranded cu wires 38mm ²		
	30	mtrs	Stranded cu wires 200mm ²		
	600	mtrs	Stranded cu wires 250mm ²		
			Grounding		
	16	mtrs	Stranded cu wires 14mm ²		
	10	mtrs	Stranded cu wires 22mm ²		
	200	mtrs	Stranded cu wires 30mm ²		
B.			ELECTRICAL WORKS		
B.a.			ROUGHING-INS		
	112	lgts	PVC Pipe 20mmdia.		
	158	lgts	PVC Pipe 25mmdia.		

	53	lgts	PVC Pipe 32mmdia.		
	10	lgts	PVC Pipe 63mmdia.		
	5	lgts	PVC Pipe 90mmdia.		
	1	lot	Conduit fittings		
	2	assy	Wire Gutters L-type (1-2600x300x300, 2-2500x300x300mm)		
			3M Terminal crimp type lugs		
	6	pcs	200mmsq 1-hole		
	12	pcs	100mmsq 1-hole		
	6	pcs	38mmsq 1-hole		
	12	pcs	30mmsq 1-hole		
	8	pcs	14mmsq 1-hole		
	8	pcs	8.0mmsq 1-hole		
	2	pcs	5.5mmsq 1-hole		
	1	lot	Standard Hangers and supports		
	1	lot	Consumables & miscellaneous:		
B.b.			WIRES AND CABLES		
	147	mtrs	Stranded cu wires 3.5mm ²		
	1690	mtrs	Stranded cu wires 5.5mm ²		
	724	mtrs	Stranded cu wires 8.0mm ²		
	58	mtrs	Stranded cu wires 14mm ²		
	33	mtrs	Stranded cu wires 30mm ²		
	30	mtrs	Stranded cu wires 38mm ²		
	81	mtrs	Stranded cu wires 100mm ²		
	30	mtrs	Stranded cu wires 200mm ²		
			Grounding		
	735	mtrs	Stranded cu wires 2.0mm ²		
	334	mtrs	Stranded cu wires 3.5mm ²		
	7	mtrs	Stranded cu wires 5.5mm ²		
	7	mtrs	Stranded cu wires 8.0mm ²		
	9	mtrs	Stranded cu wires 14mm ²		
	33	mtrs	Stranded cu wires 30mm ²		
C.			ELECTRICAL WORKS		
C.a.			ROUGHING-INS		
	128	lgts	PVC Pipe 20mmdia.		
	180	lgts	PVC Pipe 25mmdia.		
	60	lgts	PVC Pipe 32mmdia.		
	8	lgts	PVC Pipe 63mmdia.		
	3	lgts	PVC Pipe 90mmdia.		
	1	lot	Conduit fittings		
	2	assy	Wire Gutters L-type (1-2600x300x300, 2-2500x300x300mm)		

			3M Terminal crimp type lugs		
	18	pcs	100mmsq 1-hole		
	12	pcs	30mmsq 1-hole		
	12	pcs	14mmsq 1-hole		
	8	pcs	8.0mmsq 1-hole		
	4	pcs	5.5mmsq 1-hole		
	1	lot	Standard Hangers and supports		
	1	lot	Consumables & miscellaneous:		
C.b.			WIRES AND CABLES		
	105	mtrs	Stranded cu wires 3.5mm ²		
	2452	mtrs	Stranded cu wires 5.5mm ²		
	170	mtrs	Stranded cu wires 8.0mm ²		
	28	mtrs	Stranded cu wires 14mm ²		
	27	mtrs	Stranded cu wires 30mm ²		
	144	mtrs	Stranded cu wires 100mm ²		
			Grounding		
	1218	mtrs	Stranded cu wires 2.0mm ²		
	84	mtrs	Stranded cu wires 3.5mm ²		
	16	mtrs	Stranded cu wires 5.5mm ²		
	7	mtrs	Stranded cu wires 8.0mm ²		
	45	mtrs	Stranded cu wires 30mm ²		
			TOTAL DIRECT COST A		
II.			MOBILIZATION / DEMOBILIZATION COST		
			Total Mobilization/Demobilization Cost (1% of TDC)		
III.			INDIRECT COST		
			OCM (12% of TDC)		
			CONTRACTOR'S PROFIT (8% of TDC)		
			VAT (7% OF TDC+OCM+PROFIT)		
			Total Indirect Cost (TIC)		
			TOAL PROJECT COST A		
B.			Lot 2 - ADMINISTRATIVE BUILDING		
I.			Direct Cost		
			ELECTRICAL WORKS		
B.a.			ROUGHING-INS		
	387	lgts	PVC Pipe 20mmdia.		
	1,257	lgts	PVC Pipe 25mmdia.		
	26	lgts	PVC Pipe 40mmdia.		
	16	lgts	PVC Pipe 50mmdia.		
	22	lgts	PVC Pipe 63mmdia.		
	10	lgts	PVC Pipe 75mmdia		

	36	lgts	PVC Pipe 90mmdia.		
	1	lot	Concrete Pedestal		
	1	lot	Conduit fittings		
	7	assy	Cable Tray 400mmx100mmx2400mm		
	2	assy	Cable Tray Vertical Elbow 400mmx100mm		
	1	assy	Cable Tray Horizontal Elbow 400mmx100mm		
	2	assy	Wire Gutters (sized as per actual)		
	1	lot	Standard Hangers and supports		
	1	lot	Consumables & miscellaneous:		
B.b.			WIRES AND CABLES		
	2,941	mtrs	Stranded cu wires 3.5mm ²		
	5,920	mtrs	Stranded cu wires 5.5mm ²		
	2,200	mtrs	Stranded cu wires 8.0mm ²		
	160	mtrs	Stranded cu wires 30mm ²		
	100	mtrs	Stranded cu wires 38mm ²		
	240	mtrs	Stranded cu wires 60mm ²		
	90	mtrs	Stranded cu wires 100mm ²		
	600	mtrs	Stranded cu wires 200mm ²		
			Grounding		
	3,992	mtrs	Stranded cu wires 2.0mm ²		
	1,100	mtrs	Stranded cu wires 3.5mm ²		
	80	mtrs	Stranded cu wires 8.0mm ²		
	50	mtrs	Stranded cu wires 14mm ²		
	80	mtrs	Stranded cu wires 22mm ²		
	240	mtrs	Stranded cu wires 30mm ²		
			3M Terminal crimp type lugs		
	33	pcs	200mmsq 1-hole		
	12	pcs	100mmsq 1-hole		
	18	pcs	60mmsq 1-hole		
	4	pcs	38mmsq 1-hole		
	19	pcs	30mmsq 1-hole		
	6	pcs	22mmsq 1-hole		
	2	pcs	14mmsq 1-hole		
	2	pcs	8.0mmsq 1-hole		
B.c.			WIRING DEVICES		
	11	sets	Aircon Outlet, 1-Gang 3Prong grounding type		
	62	sets	Duplex Conv. Outlet, 2-Gang 3Prong grounding type		
	17	sets	1 - Gang switch		
	9	sets	2 - Gang switch		

	10	sets	3 - Gang switch		
B.d.			LIGHTING FIXTURES		
	78	sets	2x36 Watts Fluorescent lamps with reflector		
B.e.			ELECTRICAL PANELBOARDS & APPARATUS		
	1	assy	PANEL: MDP/ MTS		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Free standing type, with over and undervoltage relay		
			Main breaker : 2-1000AT, 3P, 50kAIC, Bolt-on type MCCB		
			Branches : 1-400AT, 3P, 36kAIC, Bolt-on MCCB		
			1-300AT, 3P, 36kAIC, Bolt-on MCCB		
			3-160AT, 3P, 25kAIC, Bolt-on MCCB		
			1-125AT, 3P, 25kAIC, Bolt-on MCCB		
			2-100AT, 3P, 25kAIC, Bolt-on MCCB		
			1-125AT, 2P, 25kAIC, Bolt-on MCCB		
			3-100AT, 2P, 25kAIC, Bolt-on MCCB		
			2-60AT, 2P, 25kAIC, Bolt-on MCCB		
			2-Spaces, 250AF, 3P		
	1	assy	PANEL: GPB-LP		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-160AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 24-16AT, 2P, 10kAIC, Bolt-on MCB		
	1	assy	PANEL: GPB-PP		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-160AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 24-20AT, 2P, 10kAIC, Bolt-on MCB		
	1	assy	PANEL: GPB-PL		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-160AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 14-20AT, 2P, 10kAIC, Bolt-on MCB		
			Branches : 4-32AT, 2P, 10kAIC, Bolt-on MCB		
	1	assy	PANEL: GPB-ACU1		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-300AT, 3P, 36kAIC, Bolt-on MCCB		
			Branches : 4-40AT, 2P, 10kAIC, Bolt-on MCCB		

			Branches : 14-30AT, 2P, 10kAIC, Bolt-on MCCB		
	1	assy	PANEL: GPB-ACU2		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-400AT, 3P, 36kAIC, Bolt-on MCCB		
			Branches : 13-40AT, 2P, 25kAIC, Bolt-on MCCB		
			Branches : 5-30AT, 2P, 25kAIC, Bolt-on MCCB		
			NEMA 3r ENCLOSED CIRCUIT BREAKER		
	14	assy	40AT/100AF, 2Pole, 10kAIC, MCCB		
	5	assy	30AT/100AF, 2Pole, 10kAIC, MCCB		
B.f.			GROUNDING SYSTEM		
	6	lengths	Copper clad ground rod, 20mm dia x 3 mtrs		
	12	points	Exothermic connection		
	1	pc	Inspection/earth pit with cover		
	5	bags	Ground Enhancement Materials (GEM)		
	1	assy	Grounding Busbar 2"x3/8"x12"		
	50	mtrs	Bare copper wire #4/0		
	1	lot	Conduit riser & fittings		
	1	lot	Miscellaneous & consumables		
			TOTAL DIRECT COST B		
II.			MOBILIZATION / DEMOBILIZATION COST		
			Total Mobilization/Demobilization Cost (1% of TDC)		
III.			INDIRECT COST		
			OCM (12% of TDC)		
			CONTRACTOR'S PROFIT (8% of TDC)		
			VAT (7% OF TDC+OCM+PROFIT)		
			Total Indirect Cost (TIC)		
			TOAL PROJECT COST B		
C.			Lot 3 - ASAB BUILDING		
I.			Direct Cost		
			ELECTRICAL WORKS		
C.a.			ROUGHING-INS		
	966	lgts	PVC Pipe 20mmdia.		
	744	lgts	PVC Pipe 25mmdia.		
	58	lgts	PVC Pipe 40mmdia.		
	15	lgts	PVC Pipe 50mmdia.		
	17	lgts	PVC Pipe 63mmdia.		
	105	lgts	PVC Pipe 90mmdia		
	24	lgts	IMC Pipe 75mmdia		
	1	lot	Conduit fittings		
	4	assy	Wire Gutters (sized as per actual)		

	1	lot	Standard Hangers and supports		
	1	lot	Consumables & miscellaneous:		
C.b.			WIRES AND CABLES		
	3450	mtrs	Stranded cu wires 3.5mm ²		
	5700	mtrs	Stranded cu wires 5.5mm ²		
	600	mtrs	Stranded cu wires 8.0mm ²		
	150	mtrs	Stranded cu wires 22mm ²		
	250	mtrs	Stranded cu wires 30mm ²		
	130	mtrs	Stranded cu wires 38mm ²		
	150	mtrs	Stranded cu wires 60mm ²		
	1100	mtrs	Stranded cu wires 150mm ²		
			Grounding		
	4050	mtrs	Stranded cu wires 2.0mm ²		
	300	mtrs	Stranded cu wires 3.5mm ²		
	250	mtrs	Stranded cu wires 8.0mm ²		
	45	mtrs	Stranded cu wires 14mm ²		
	50	mtrs	Stranded cu wires 22mm ²		
	350	mtrs	Stranded cu wires 30mm ²		
			3M Terminal crimp type lugs		
	45	pcs	150mmsq 1-hole		
	12	pcs	60mmsq 1-hole		
	12	pcs	38mmsq 1-hole		
	39	pcs	30mmsq 1-hole		
	10	pcs	22mmsq 1-hole		
	4	pcs	14mmsq 1-hole		
C.c.			WIRING DEVICES		
	37	sets	Aircon Outlet, 1-Gang 3Prong grounding type		
	14	sets	Special purpose outlet, 3Prong grounding type		
	36	sets	Duplex Conv. Outlet, 2-Gang 3Prong grounding type		
	12	sets	Single Conv. Outlet, 3Prong grounding type		
	10	sets	1 - Gang switch		
	23	sets	2 - Gang switch		
	7	sets	3 - Gang switch		
	6	sets	2 - Gang 3 - Way switch		
	6	sets	Emergency Light		
	6	sets	Exit Light		
C.d.			LIGHTING FIXTURES		
	221	sets	1x28 Watts Fluorescent lamps Open type		

	12	sets	9W LED Downlight		
C.e.			ELECTRICAL PANELBOARDS & APPARATUS		
	1	assy	PANEL: MDP/ MTS		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Free standing type, with over and undervoltage relay		
			Main breaker : 2-800AT, 3P, 42kAIC, Bolt-on type MCCB		
			Branches : 2-160AT, 3P, 36kAIC, Bolt-on MCCB		
			2-125AT, 3P, 25kAIC, Bolt-on MCCB		
			4-100AT, 3P, 25kAIC, Bolt-on MCCB		
			1-60AT, 3P, 25kAIC, Bolt-on MCCB		
			1-30AT, 3P, 25kAIC, Bolt-on MCCB		
			4-100AF Spaces, 3Pole		
	1	assy	PANEL: GPB-LPP		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1 - 100AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 10 - 16AT, 2P, 10kAIC, Bolt-on MCB		
			5 - 20AT, 2P, 10kAIC, Bolt-on MCB		
			3 - 63AF, Spaces, 2Pole		
	1	assy	PANEL: GPB-ACU		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1 - 160AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 6 - 40AT, 2P, 25kAIC, Bolt-on MCCB		
	1	assy	PANEL: 2PB-LPP		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1 - 100AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 10 - 16AT, 2P, 10kAIC, Bolt-on MCB		
			6 - 20AT, 2P, 10kAIC, Bolt-on MCB		
			2 - 63AF, Spaces, 2Pole		
	1	assy	PANEL: 2PB-ACU		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-125AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 12-30AT, 2P, 25kAIC, Bolt-on MCCB		
	1	assy	PANEL: 3PB-LPP		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		

			Main breaker : 1-100AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 9 - 16AT, 2P, 10kAIC, Bolt-on MCB		
			9 - 20AT, 2P, 10kAIC, Bolt-on MCB		
	1	assy	PANEL: 3PB-ACU		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-125AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 12-30AT, 2P, 25kAIC, Bolt-on MCCB		
	1	assy	PANEL: 4PB-LPP		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-100AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 9 - 16AT, 2P, 10kAIC, Bolt-on MCB		
			9 - 20AT, 2P, 10kAIC, Bolt-on MCB		
	1	assy	PANEL: 4PB-ACU		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1 - 160AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 14 - 30AT, 2P, 25kAIC, Bolt-on MCCB		
			4 - 100AF, Spaces, 2Pole		
			NEMA 3r ENCLOSED CIRCUIT BREAKER		
	1	assy	800AT/800AF, 3Pole, 42kAIC, MCCB		
	4	assy	40AT/100AF, 2Pole, 25kAIC, MCCB		
C.f.			GROUNDING SYTEM		
	6	lengths	Copper clad ground rod, 20mm dia x 3 mtrs		
	12	points	Exothermic connection		
	1	pc	Inspection/earth pit with cover		
	5	bags	Ground Enhancement Materials (GEM)		
	1	assy	Grounding Busbar 2"x3/8"x12"		
	50	mtrs	Bare copper wire #1/0		
	1	lot	Conduit riser & fittings		
	1	lot	Miscellaneous & consumables		
			TOTAL DIRECT COST C		
II.			MOBILIZATION / DEMOBILIZATION COST		
			Total Mobilization/Demobilization Cost (1% of TDC)		
III.			INDIRECT COST		
			OCM (12% of TDC)		
			CONTRACTOR'S PROFIT (8% of TDC)		
			VAT (7% OF TDC+OCM+PROFIT)		
			Total Indirect Cost (TIC)		

			TOAL PROJECT COST C		
D.			LOT 4 - ILS BUILDING		
I.			Direct Cost		
			ELECTRICAL WORKS		
D.a.			ROUGHING-INS		
	30	lgts	PVC Pipe 20mmdia.		
	410	lgts	PVC Pipe 25mmdia.		
	82	lgts	PVC Pipe 50mmdia.		
	30	lgts	PVC Pipe 63mmdia.		
	12	lgts	IMC Pipe 65mmdia		
	1	lot	Conduit fittings		
	3	assy	Wire Gutters (sized as per actual)		
	1	lot	Standard Hangers and supports		
	1	lot	Consumables & miscellaneous:		
D.b.			WIRES AND CABLES		
	1200	mtrs	Stranded cu wires 3.5mm ²		
	3450	mtrs	Stranded cu wires 5.5mm ²		
	600	mtrs	Stranded cu wires 8.0mm ²		
	320	mtrs	Stranded cu wires 38mm ²		
	300	mtrs	Stranded cu wires 60mm ²		
	660	mtrs	Stranded cu wires 125mm ²		
			Grounding		
	2400	mtrs	Stranded cu wires 2.0mm ²		
	300	mtrs	Stranded cu wires 3.5mm ²		
	150	mtrs	Stranded cu wires 14mm ²		
	100	mtrs	Stranded cu wires 22mm ²		
	220	mtrs	Stranded cu wires 30mm ²		
			3M Terminal crimp type lugs		
	6	pcs	125mmsq 1-hole		
	12	pcs	60mmsq 1-hole		
	24	pcs	38mmsq 1-hole		
	2	pcs	30mmsq 1-hole		
	4	pcs	22mmsq 1-hole		
	8	pcs	14mmsq 1-hole		
D.c.			WIRING DEVICES		
	10	sets	Aircon Outlet, 1-Gang 3Prong grounding type		
	75	sets	Duplex Conv. Outlet, 2-Gang 3Prong grounding type		
	45	sets	1 - Gang switch		

	48	sets	2 - Gang switch		
D.d.			LIGHTING FIXTURES		
	221	sets	1x28 Watts Fluorescent lamps Open type		
	18	sets	9W LED Downlight		
D.e.			ELECTRICAL PANELBOARDS & APPARATUS		
	1	assy	PANEL: MDP/ MTS		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Free standing type, with over and undervoltage relay		
			Main breaker : 2-500AT, 3P, 42kAIC, Bolt-on type MCCB		
			Branches : 2-160AT, 3P, 36kAIC, Bolt-on MCCB		
			4-125AT, 3P, 25kAIC, Bolt-on MCCB		
			4-40AT, 2P, 25kAIC, Bolt-on MCCB		
	1	assy	PANEL: GPB-LPP		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-125AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 4-32AT, 2P, 10kAIC, Bolt-on MCB		
			6-20AT, 2P, 10kAIC, Bolt-on MCB		
			8-16AT, 2P, 10kAIC, Bolt-on MCB		
	1	assy	PANEL: GPB-ACU		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-125AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 10-30AT, 2P, 10kAIC, Bolt-on MCCB		
	1	assy	PANEL: 2PB-LPP		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-125AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 4-32AT, 2P, 10kAIC, Bolt-on MCB		
			6-20AT, 2P, 10kAIC, Bolt-on MCB		
			8-16AT, 2P, 10kAIC, Bolt-on MCB		
	1	assy	PANEL: 2PB-ACU		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-160AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 12-30AT, 2P, 10kAIC, Bolt-on MCCB		
	1	assy	PANEL: 3PB-LPP		
			Assembled in nema 1 enclosure wall mounted powder coated		

			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-125AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 3-32AT, 2P, 10kAIC, Bolt-on MCB		
			7-20AT, 2P, 10kAIC, Bolt-on MCB		
			8-16AT, 2P, 10kAIC, Bolt-on MCB		
	1	assy	PANEL: 3PB-ACU		
			Assembled in nema 1 enclosure wall mounted powder coated		
			with terminal crimp type lugs and grounding bus bar		
			Main breaker : 1-160AT, 3P, 25kAIC, Bolt-on MCCB		
			Branches : 12-30AT, 2P, 10kAIC, Bolt-on MCCB		
			NEMA 3r ENCLOSED CIRCUIT BREAKER		
	14	assy	30AT/100AF, 2Pole, 10kAIC, MCCB		
	10	assy	32AT/100AF, 2Pole, 10kAIC, MCB		
D.f.			GROUNDING SYTEM		
	6	lengths	Copper clad ground rod, 20mm dia x 3 mtrs		
	12	points	Exothermic connection		
	1	pc	Inspection/earth pit with cover		
	5	bags	Ground Enhancement Materials (GEM)		
	1	assy	Grounding Busbar 2"x3/8"x12"		
	50	mtrs	Bare copper wire #4/0		
	1	lot	Conduit riser & fittings		
	1	lot	Miscellaneous & consumables		
			TOTAL DIRECT COST D		
II.			MOBILIZATION / DEMOBILIZATION COST		
			Total Mobilization/Demobilization Cost (1% of TDC)		
III.			INDIRECT COST		
			OCM (12% of TDC)		
			CONTRACTOR'S PROFIT (8% of TDC)		
			VAT (7% OF TDC+OCM+PROFIT)		
			Total Indirect Cost (TIC)		
			TOAL PROJECT COST D		
			OVER ALL TOTAL PROJECT COST		

PROGRAM OF WORK

Project Title: Electrical Upgrading of the University (CTE BLDG. PHASE 2)
 Location: Osmeña Blvd., Cebu City
 Subject: Electrical Works
 Project Cost: **3,624,588.63**
 Duration: 150 Calendar Days
 Mode of Implementation: **CONTRACT**

ITEM	SCOPE OF WORKS	% Wt.	QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
I.	CTE BUILDING PHASE 2					
A	ELECTRICAL WORKS					
A.a.	ROUGHING-INS		1	lot		
A.b.	WIRES AND CABLES		1	lot		
B.	ELECTRICAL WORKS					
B.a.	ROUGHING-INS		1	lot		
B.b.	WIRES AND CABLES		1	lot		
C.	ELECTRICAL WORKS					
C.a.	ROUGHING-INS		1	lot		
C.b.	WIRES AND CABLES		1	lot		
TOTAL OF DIRECT COST						
BREAK DOWN OF ESTIMATED PROJECT COST						TOTAL CONSTRUCTION COST
I. DIRECT COST						
	LABOR, MATERIAL, TOOLS/EQUIPMENT COST					
SUB-TOTAL (I)						
II. MOBILIZATION / DEMOBILIZATION COST						
	TOTAL MOBILIZATION/ DEMOBILIZATION COST					
SUB-TOTAL (II)						
III. INDIRECT COST						

		Overhead, Contingencies and miscellaneous (12% of TEDC)					
		Contractor's profit (8% of TEDC)					
		VAT (7% of TEDC+OCM+PROFIT)					
SUB-TOTAL (III)							
TOTAL PROJECT COST							

PROGRAM OF WORK

Project Title: Electrical Upgrading of the University
 (ADMINISTRATIVE BLDG.)
 Location: Osmeña Blvd., Cebu City
 Subject: Electrical Works
 Project Cost: **7,584,289.99**
 Duration: 150 Calendar Days
 Mode of Implementation: **CONTRACT**

ITEM	SCOPE OF WORKS	% Wt	QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
I.	ADMIN BUILDING					
	ELECTRICAL WORKS					
A	ROUGHING-INS		1	lot		
B	WIRES AND CABLES		1	lot		
C	WIRING DEVICES		1	lot		
D	LIGHTING FIXTURES		1	lot		
E	ELECTRICAL PANELBOARDS & APPARATUS		1	lot		
F	GROUNDING SYTEM		1	lot		
TOTAL OF DIRECT COST						
BREAK DOWN OF ESTIMATED PROJECT COST						TOTAL CONSTRUC TION COST
I. DIRECT COST						
	LABOR, MATERIAL, TOOLS/EQUIPMENT COST					
SUB-TOTAL (I)						
II. MOBILIZATION / DEMOBILIZATION COST						
	TOTAL MOBILIZATION/ DEMOBILIZATION COST					
SUB-TOTAL (II)						
III. INDIRECT COST						
	Overhead, Contingencies and miscellaneous (12% of TEDC)					
	Contractor's profit (8% of TEDC)					
	VAT (7% of TEDC+OCM+PROFIT)					
SUB-TOTAL (III)						

TOTAL PROJECT COST					
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<h1>PROGRAM OF WORK</h1>						
Project Title:		Electrical Upgrading of the University (ASAB BLDG.)				
Location		Osmeña Blvd., Cebu City				
Subject		Electrical Works				
Project Cost:		6,828,585.01				
Duration:		150 Calendar Days				
Mode of Implementation:		CONTRACT				
ITEM	SCOPE OF WORKS	% Wt.	QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
I.	ASAB BUILDING					
	ELECTRICAL WORKS					
A	ROUGHING-INS		1	lot		
B	WIRES AND CABLES		1	lot		
C	WIRING DEVICES		1	lot		
D	LIGHTING FIXTURES		1	lot		
E	ELECTRICAL PANELBOARDS & APPARATUS		1	lot		
F	GROUNDING SYTEM		1	lot		
TOTAL OF DIRECT COST						
BREAK DOWN OF ESTIMATED PROJECT COST						TOTAL CONSTRUCTION COST
I. DIRECT COST						
	LABOR, MATERIAL, TOOLS/EQUIPMENT COST					
SUB-TOTAL (I)						
II. MOBILIZATION / DEMOBILIZATION COST						
	TOTAL MOBILIZATION/ DEMOBILIZATION COST					
SUB-TOTAL (II)						
III. INDIRECT COST						
	Overhead, Contingencies and miscellaneous (12% of TEDC)					
	Contractor's profit (8% of TEDC)					

	VAT (7% of TEDC+OCM+PROFIT)					
SUB-TOTAL (III)						
TOTAL PROJECT COST						

PROGRAM OF WORK

Project Title: Electrical Upgrading of the University (ILS BLDG.)
 Location: Osmeña Blvd., Cebu City
 Subject: Electrical Works
 Project Cost: **5,437,536.37**
 Duration: 150 Calendar Days
 Mode of Implementation: **CONTRACT**

ITEM	SCOPE OF WORKS	% Wt.	QTY	UNIT	UNIT PRICE	TOTAL AMOUNT
I.	ASAB BUILDING					
	ELECTRICAL WORKS					
A	ROUGHING-INS		1	lot		
B	WIRES AND CABLES		1	lot		
C	WIRING DEVICES		1	lot		
D	LIGHTING FIXTURES		1	lot		
E	ELECTRICAL PANELBOARDS & APPARATUS		1	lot		
F	GROUNDING SYTEM		1	lot		
TOTAL OF DIRECT COST						
BREAK DOWN OF ESTIMATED PROJECT COST						TOTAL CONSTRUCTION COST
I. DIRECT COST						
	LABOR, MATERIAL, TOOLS/EQUIPMENT COST					
SUB-TOTAL (I)						
II. MOBILIZATION / DEMOBILIZATION COST						
	TOTAL MOBILIZATION/ DEMOBILIZATION COST					
SUB-TOTAL (II)						
III. INDIRECT COST						
	Overhead, Contingencies and miscellaneous (12% of TEDC)					

		Contractor's profit (8% of TEDC)					
		VAT (7% of TEDC+OCM+PROFIT)					
SUB-TOTAL (III)							
TOTAL PROJECT COST							

Omnibus Sworn Statement (Revised)
[shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

I, [Name of Affiant], of legal age, [Civil Status], [Nationality], and residing at [Address of Affiant], after having been duly sworn in accordance with law, do hereby depose and state that:

1. [Select one, delete the other:]
[If a sole proprietorship:] I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];
[If a partnership, corporation, cooperative, or joint venture:] I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];
2. [Select one, delete the other:]
[If a sole proprietorship:] As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;
[If a partnership, corporation, cooperative, or joint venture:] I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable)];
3. [Name of Bidder] is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;
4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. [Name of Bidder] is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. [Select one, delete the rest:]
 [If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;
 [If a partnership or cooperative:] None of the officers and members of [Name of Bidder] is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;
 [If a corporation or joint venture:] None of the officers, directors, and controlling stockholders of [Name of Bidder] is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. [Name of Bidder] complies with existing labor laws and standards; and

8. [Name of Bidder] is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:
 - a. Carefully examining all of the Bidding Documents;
 - b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
 - c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
 - d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the [Name of the Project].

9. [Name of Bidder] did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

10. In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of ____, 20__ at _____, Philippines.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

The prescribed documents in the checklist are mandatory to be submitted in the Bid, but shall be subject to the following:

- a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or
- b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

The BAC shall be checking the submitted documents of each Bidder against this checklist to ascertain if they are all present, using a non-discretionary “pass/fail” criterion pursuant to Section 30 of the 2016 revised IRR of RA No. 9184.

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class “A” Documents

Legal Documents

- ☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);
or
- ☐ (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;
and
- ☐ (c) Mayor’s or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;
and
- ☐ (e) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Technical Documents

- ☐ (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**
- ☐ (g) Statement of the bidder’s Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules;
and
- ☐ (h) Philippine Contractors Accreditation Board (PCAB) License;
or
Special PCAB License in case of Joint Ventures;
and registration for the type and cost of the contract to be bid; **and**
- ☐ (i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;
or
Original copy of Notarized Bid Securing Declaration; **and**
- ☐ (j) Project Requirements, which shall include the following:
 - ☐ a. Organizational chart for the contract to be bid;
 - ☐ b. List of contractor’s key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;
 - ☐ c. List of contractor’s major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**
- ☐ (k) Original duly signed Omnibus Sworn Statement (OSS);

and if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

- ☐ (l) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**
- ☐ (m) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

- ☐ (n) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence;
or
duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE

- ☐ (o) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

- ☐ (p) Original of duly signed Bid Prices in the Bill of Quantities; **and**
- ☐ (q) Duly accomplished Detailed Estimates Form, including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid; **and**
- ☐ (r) Cash Flow by Quarter.

