

PHILIPPINE BIDDING DOCUMENTS

Electrification of Un-energized Schools and Modernization of Electrical Systems On-Grid Schools at Polo National High School

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 ad measurements (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
Department of Education

Region I

SCHOOLS DIVISION OFFICE OF ALAMINOS CITY

Bids and Awards Committee

INVITATION TO BID

Electrification of Un-energized Schools and Modernization of Electrical Systems On-Grid Schools at Polo National High School

1. The **Department of Education (DepED) Schools Division Office of Alaminos City, Pangasinan**, through the General Appropriations Act of FY 2024 intends to apply the sum of **Three Million Pesos (Php 3,000,000.00)** being the Approved Budget for the Contract (ABC) to payments under the contract for the above project. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The **DepED Schools Division Office of Alaminos City, Pangasinan** now invites bids for the above Procurement Project. Completion of the Works is required for the duration of **120 calendar days**. Prospective bidders must have a Registration Particulars SP-EE (Electrical Work) minimum Category A. Prospective bidders must have an experience of having completed at least one (1) contract that is similar to the contract to be bid, and whose value, adjusted to current prices using the NSO consumer price indices, must be at least fifty percent (50%) of the ABC to be bid. 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 at **DepED Schools Division Office of Alaminos City, Pangasinan** and inspect the Bidding Documents at the address given below from **Monday to Friday, 8:00 AM to 5:00 PM**.
5. A complete set of Bidding Documents may be acquired by interested Bidders on **April 23 to May 14, 2024** from the given address and website 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 **Five Thousand Pesos (P5,000.00)**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person or through the **Land Bank Account at DEPED ALAMINOS CITY DIVISION with Account Number 1272-1040-49**. Deposit slip should be scanned and emailed to the BAC Secretariat at

bac.alaminocity@deped.gov.ph. Only bidders who purchased the Bidding Documents will be allowed to submit bids.

6. The **DepED Schools Division Office of Alaminos City, Pangasinan** will hold a Pre-Bid Conference on **May 02, 2024 10:00 A.M.** at the **Schools Division Office of Alaminos City Educators' Hall, San Jose Drive, Poblacion, Alaminos City, Pangasinan** and/or through videoconferencing/webcasting via **MS Teams, Zoom or Google Meet, whichever is applicable**, which shall be open to prospective bidders. Link shall be provided upon request by the prospective bidder.

| Activity | Date & Time | Venue |
|---|--|---|
| Invitation to Bid (Advertisement/Posting) | April 23 – 30, 2024 | |
| Issuance of Bidding Documents | April 23 – May 14, 2024 | Schools Division Office of Alaminos City, San Jose Drive, Poblacion, Alaminos City, Pangasinan |
| Pre-Bid Conference | May 2, 2024 | 10:00 AM Schools Division Office of Alaminos City Educators' Hall, San Jose Drive, Poblacion, Alaminos City, Pangasinan |
| Deadline of Submission of Bids | May 14, 2024 | Until 5:00 PM, Schools Division Office of Alaminos City Records Office, Alaminos City, Pangasinan |
| Opening and Evaluation of Bids | May 15, 2024 | 9:00 AM Schools Division Office of Alaminos City Library Hub, San Jose Drive, Poblacion, Alaminos City, Pangasinan |
| Post Qualification | May 16-17, 2024 | |
| Issuance of Resolution to Award (RTA) | May 20, 2024 | Schools Division Office of Alaminos City, San Jose Drive, Poblacion Alaminos City, Pangasinan |
| Issuance of Notice to Award | To be declared upon issuance of Sub-ARO | Schools Division Office of Alaminos City, San Jose Drive, Poblacion Alaminos City, Pangasinan |
| Contract Preparation and Signing | | |
| Issuance of Notice to Proceed | | |

7. Bids must be duly received by the SDO Records Office and submitted to the BAC Secretariat through manual submission at the office address as indicated below on or before **5:00 o'clock** in the afternoon of **May 14, 2024**. 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 16.

9. Bid opening shall be on **May 15, 2024 at 9:00 o'clock** in the morning at the given address below and via link provided at www.depedalaminocity.com. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. Each Bidder shall submit one (1) copy original and two (2) hard copies of the first and second components of its bid. Soft Copy (Excel File) of the Financial Documents and Scanned Copy (PDF File Format) of Technical and Financial Documents, properly organized in a flash drive shall also be submitted.
11. **The award of contract for this procurement project shall be upon the release of a Sub-Allotment Release Order (Sub-ARO) for the said project.**
12. The **DepED Schools Division Office of Alaminos City, Pangasinan** 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.
13. For further information, please refer to:

Robe Rose S. Gubatan
Head, BAC Secretariat
DepED Schools Division Office of Alaminos City, Pangasinan
bac.alaminocity@deped.gov.ph

14. You may visit the following websites:

For downloading of Bidding Documents: www.depedalaminocity.com

WILFREDO E. SINDAYEN, CESO VI
BAC Chairperson

With hundred reasons to serve!



Address: San Jose Drive, Poblacion, Alaminos City, Pangasinan
Telephone Number: (075) 205 - 0644
Website: depedalaminocity.com
Email Address: alaminos.city@deped.gov.ph

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, **DepED Schools Division Office of Alaminos City, Pangasinan** invites Bids for the *Electrification of Un-energized Schools and Modernization of Electrical Systems On-Grid Schools at Polo National High School*, with Project Identification Number ***PB-Infra-2024-04-01***.

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 **2024 General Appropriations Act (GAA)** in the amount of **Three Million Pesos. (Php3,000,000.00)**.

2.2. The source of funding is:
FY 2024 Basic Educational Facilities Fund (BEFF)

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

The Procuring Entity has prescribed that Subcontracting is not allowed.

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 and through videoconferencing/webcasting 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 special PCAB License in case of Joint Ventures, 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 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 *September 11, 2024*. 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 one copy 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 15 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 | <p>Eligible Bidder 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></p> <p>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. The Bidder should indicate the following:</p> <p>Name of the completed contract with contract date, period and amount, corresponding to the required percentage of the ABC to be bid. (The value is adjusted to the current prices using the Philippine Statistics Authority consumer price indices, when necessary); The relevant period or delivery date when the said SLCC was completed; End user's certificate of completion and acceptance or official receipt(s) or sales invoice issued for the contract, if completed; and Definition or description of the similar project or major categories of work</p> | | | | | | | | | | | | | | | | | | | | | |
| 7.1 | <p>Subcontracts Subcontracting is not allowed.</p> | | | | | | | | | | | | | | | | | | | | | |
| 10.1 | <p>Documents Comprising the Bid: Eligibility and Technical Components</p> <p>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.</p> <p>Names of outstanding contracts with other contracting party, i.e., PE or private company allowed by the rules, contract date, period and amount or value; and categories of work and dates of delivery.</p> | | | | | | | | | | | | | | | | | | | | | |
| 10.3 | <p>PCAB License <i>Registration Particulars SP-EE (Electrical Work) minimum Category A.</i></p> | | | | | | | | | | | | | | | | | | | | | |
| 10.4 | <p>The key personnel must meet the required minimum years of experience set below:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Key Personnel</u></th> <th style="text-align: center;"><u>General Experience</u></th> <th style="text-align: center;"><u>Relevant Experience</u></th> </tr> </thead> <tbody> <tr> <td>Electrical Engineer</td> <td style="text-align: center;">at least 5 years</td> <td style="text-align: center;">at least 2 years</td> </tr> <tr> <td>Lineman/ Electrician</td> <td style="text-align: center;">at least 5 years</td> <td style="text-align: center;">at least 2 years</td> </tr> <tr> <td>Safety Officer</td> <td style="text-align: center;">at least 5 years</td> <td style="text-align: center;">at least 2 years</td> </tr> <tr> <td>Laborer</td> <td></td> <td></td> </tr> <tr> <td>Painter</td> <td></td> <td></td> </tr> <tr> <td>Helper</td> <td></td> <td></td> </tr> </tbody> </table> <p>The General Experience means total years of civil works experience (of any nature of construction [and engineering consultancy services]). If a proposed key personnel is an employee of the bidder and working on another project</p> | <u>Key Personnel</u> | <u>General Experience</u> | <u>Relevant Experience</u> | Electrical Engineer | at least 5 years | at least 2 years | Lineman/ Electrician | at least 5 years | at least 2 years | Safety Officer | at least 5 years | at least 2 years | Laborer | | | Painter | | | Helper | | |
| <u>Key Personnel</u> | <u>General Experience</u> | <u>Relevant Experience</u> | | | | | | | | | | | | | | | | | | | | |
| Electrical Engineer | at least 5 years | at least 2 years | | | | | | | | | | | | | | | | | | | | |
| Lineman/ Electrician | at least 5 years | at least 2 years | | | | | | | | | | | | | | | | | | | | |
| Safety Officer | at least 5 years | at least 2 years | | | | | | | | | | | | | | | | | | | | |
| Laborer | | | | | | | | | | | | | | | | | | | | | | |
| Painter | | | | | | | | | | | | | | | | | | | | | | |
| Helper | | | | | | | | | | | | | | | | | | | | | | |

| | during the bidding and implementation/construction of this project, the bidder shall submit a certification that: (1) the key personnel concerned shall be pulled-out from said on-going/another project once the bidder is awarded this project; or (2) the key personnel concerned shall be replaced with a personnel of equal or better qualifications, subject to the approval of the authorized Engineers of the Procuring Entity | | | | | | | | | | | | | | | |
|-------------------------------|---|------------------------|-----------------|------------------------|------------|--|--------------|------------------|--|---|------------------|--|--------------|-------------------------------|--|----------|
| 10.5 | <p>The minimum major equipment requirements are the following:</p> <table border="1"> <thead> <tr> <th><u>Equipment</u></th> <th><u>Capacity</u></th> <th><u>Number of Units</u></th> </tr> </thead> <tbody> <tr> <td>Hand tools</td> <td></td> <td>1 set/worker</td> </tr> <tr> <td>Truck with crane</td> <td></td> <td>1</td> </tr> <tr> <td>Electrical tools</td> <td></td> <td>1 set/worker</td> </tr> <tr> <td>Personal Protective Equipment</td> <td></td> <td>1/worker</td> </tr> </tbody> </table> | <u>Equipment</u> | <u>Capacity</u> | <u>Number of Units</u> | Hand tools | | 1 set/worker | Truck with crane | | 1 | Electrical tools | | 1 set/worker | Personal Protective Equipment | | 1/worker |
| <u>Equipment</u> | <u>Capacity</u> | <u>Number of Units</u> | | | | | | | | | | | | | | |
| Hand tools | | 1 set/worker | | | | | | | | | | | | | | |
| Truck with crane | | 1 | | | | | | | | | | | | | | |
| Electrical tools | | 1 set/worker | | | | | | | | | | | | | | |
| Personal Protective Equipment | | 1/worker | | | | | | | | | | | | | | |
| 11.1 | <p>Documents Comprising the Bid: Financial Component</p> <p>Bid prices in figures and in words; and The Bid price shall include the cost of all taxes, such as, but not limited to, value added tax, income tax, local taxes, and other fiscal levies and duties which shall be itemized in the bid form and reflected in the price schedule or detailed estimates.</p> <p>Original of duly signed and accomplished Price Schedule(s). (Soft copy in excel and PDF should be submitted in a flash drive)</p> <p>Prices indicated in the Price Schedule shall be entered separately in the manner, stipulated for Goods offered from within the PE’s country, and for goods offered from abroad.</p> | | | | | | | | | | | | | | | |
| 15.1 | <p>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</p> <ol style="list-style-type: none"> a. The amount of not less than Sixty Thousand Pesos (Php 60,000.00) <i>[two percent (2%) of ABC]</i>, 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 One Hundred Fifty Thousand Pesos (Php 150,000.00) <i>[five percent (5%) of ABC]</i> if bid security is in Surety Bond. | | | | | | | | | | | | | | | |
| 21 | 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. | | | | | | | | | | | | | | | |

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.drawings

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 | |
|------------|--|
| 6 | The site investigation reports are: <i>None.</i> |
| 7.2 | The warranty against Structural Defects/Failures is: <i>Two (2) years.</i> |
| 10 | No day works are applicable to the contract. |
| 11.2 | The amount to be withheld for late submission of an updated Program of Work is <i>None.</i> |
| 13 | The amount of the advance payment is: <i>not to exceed 15% of the total contract price and schedule of payment.</i> |
| 14 | Materials and equipment delivered on the site but not completely put in place shall not be included for payment. |
| 15.1 | The date by which operating and maintenance manuals are required is <i>after the receipt of Notice of Award.</i> The date by which “as built” drawings are required is <i>during Turn-over.</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>None.</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.

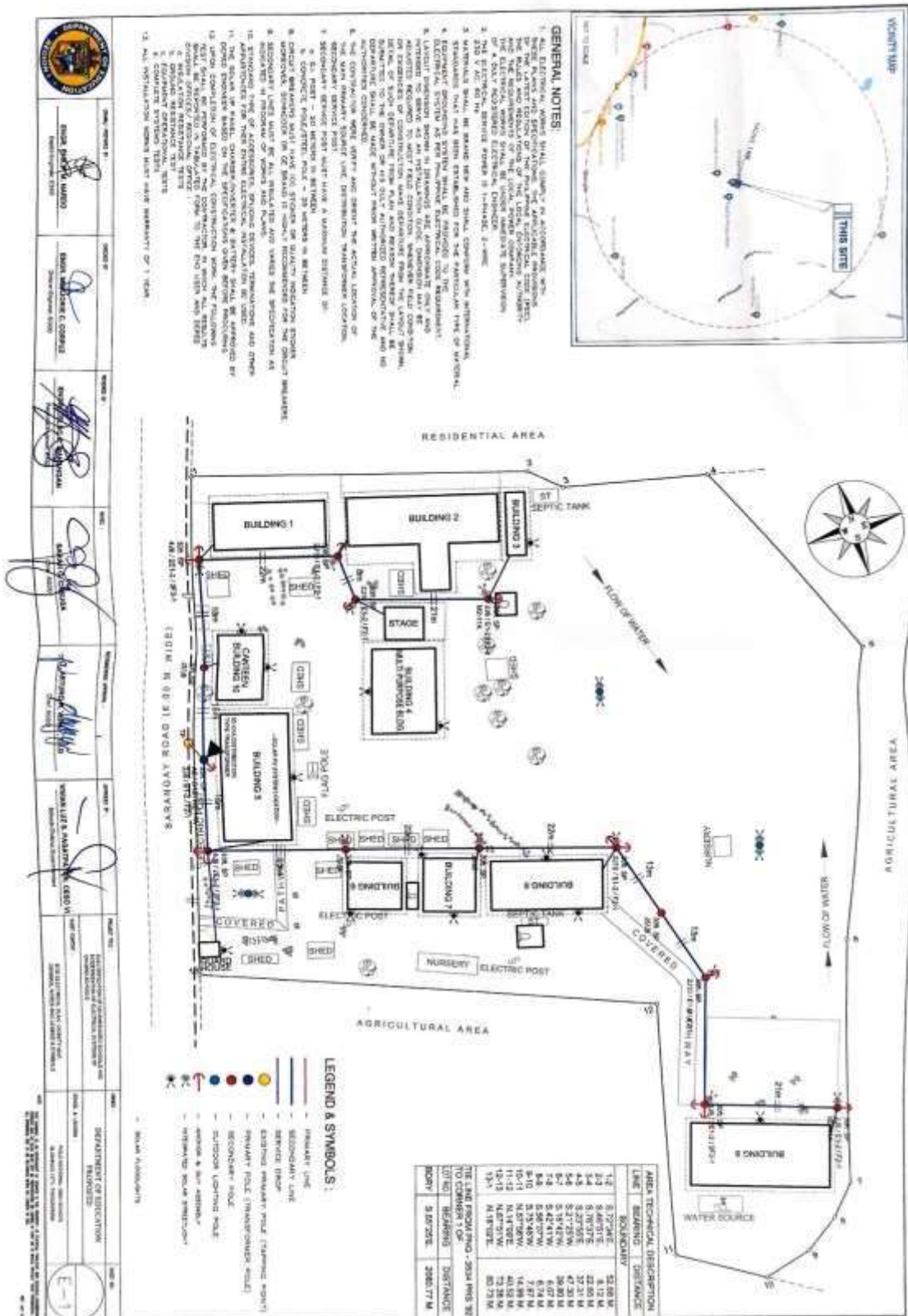
Sample Clause: Equivalency of Standards and Codes

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.

Section VII. Drawings

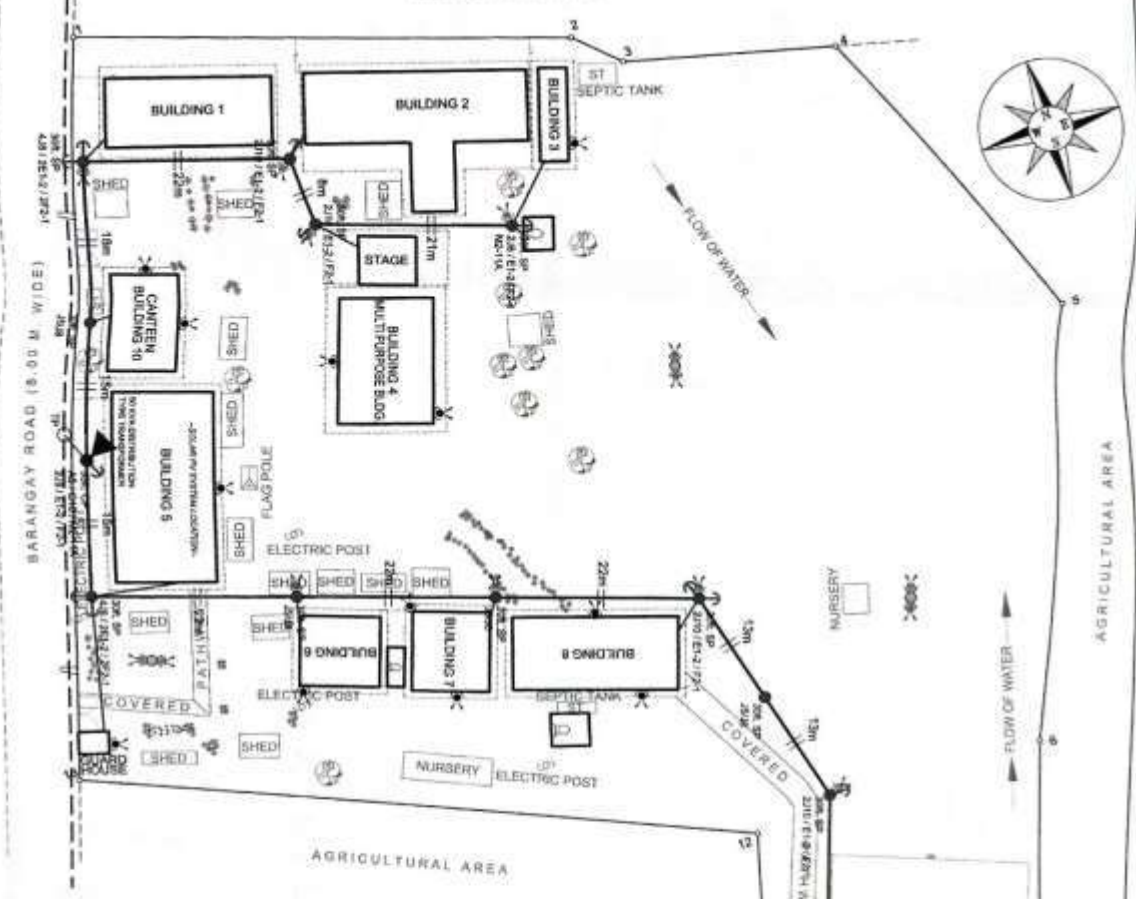




GENERAL NOTES:

1. ALL ELECTRICAL WORKS SHALL COMPLY WITH ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE (NEC) AS AMENDED BY THE RULES AND REGULATIONS OF THE LOCAL ELECTRICAL AUTHORITY AND THE REQUIREMENTS OF THE LOCAL POWER COMPANY. THE ELECTRICAL WORK SHALL BE UNDER DIRECT SUPERVISION OF A REGISTERED ELECTRICAL ENGINEER (R.E.E.).
2. THE ELECTRICAL SERVICE SHALL BE 1-PHASE, 3-WIRE, 230 V AC, 60 Hz.
3. MAINFOLD SHALL BE SAID NEW AND SHALL COMPLY WITH INTERNATIONAL STANDARDS THAT HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL.
4. EQUIPMENT GROUNDED SYSTEM SHALL BE PROVIDED TO THE ELECTRICAL SYSTEM AS PER PHASED ELECTRICAL CODE REQUIREMENT.
5. THE ELECTRICAL WORK IN DRAWING AND APPROXIMATE ONLY AND INTENDED TO BE USED AS A GUIDE ONLY. THE CONTRACTOR SHALL BE ADVISED TO MEET FIELD CONDITIONS, MODIFICATIONS, FIELD CONDITIONS OR EXPERIENCES OF CONSTRUCTION HAVE DEPARTURE FROM THE LAYOUT DRAWING, DETAIL OR SUCH DEPARTURE FROM PLAN AND REASON THEREOF SHALL BE SUBMITTED TO THE OWNER OR HIS DUTY AUTHORIZED REPRESENTATIVE AND NO ALTERATIONS SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL BY THE AUTHORIZED CONDUCTOR.
6. THE CONTRACTOR SHALL OBTAIN AND OBTAIN THE ACTUAL LOCATION OF THE MAIN FEEDER SERVICE LINE, DISTRIBUTION TRANSFORMER LOCATION, SECONDARY SERVICE POST.
7. SECONDARY SERVICE POST MUST HAVE A MINIMUM DISTANCE OF:
 - a. 01. POST - 20 METERS IN BETWEEN.
 - b. CONCRETE POLE/STEEL POLE - 25 METERS IN BETWEEN.
8. CONDUIT BREAKERS MUST HAVE TAG STRIPS OR QUALITY INDICATION STRIPS, THEREOF, SCHEDULED ON BE BRAND TO HIGHLY RECOMMENDED FOR THE CIRCUIT BREAKERS.
9. SECONDARY LINES MUST BE ALL ISOLATED AND VALVES THE PROTECTION AS REQUIRED IN PROGRAM OF WORKS AND PLANS.
10. APPROVED TYPE OF ACCESSORIES, SWITCH DEVICES, TERMINATIONS AND OTHER APPROVED TYPE OF MATERIALS SHALL BE USED.
11. ALL ELECTRICAL WORK SHALL BE APPROVED BY THE REGISTERED ELECTRICAL ENGINEER (R.E.E.) BEFORE COMMENCEMENT OF WORK.
12. UPON COMPLETION OF ELECTRICAL CONSTRUCTION, THE FOLLOWING SHALL BE REPORTED IN TABULATED FORM TO THE END USER AND SIGNED BY THE REGISTERED ELECTRICAL ENGINEER (R.E.E.):
 - a. EQUIPMENT OPERATIONAL TESTS
 - b. GROUNDED RESISTANCE TESTS
 - c. COMPLETE SYSTEM TESTS
13. ALL INSTALLATION WORKS MUST HAVE WARRANTY OF 1 YEAR.

RESIDENTIAL AREA



AGRICULTURAL AREA



LEGEND & SYMBOLS:

- PRIMARY LINE
- SECONDARY LINE
- SERVICE CONDUIT
- EXISTING PRIMARY POLE (TRAPPING POINT)
- PRIMARY POLE (TRANSFORMER POINT)
- SECONDARY POLE
- OUTDOOR LIGHTING POLE
- ANDERSON & GUY ARRESTOR
- ALTERNATIVE SOLAR STREET LIGHTING

| LINE NO. | BEARING | DISTANCE |
|----------|-----------|----------|
| 1-2 | S 77°34'E | 53.68 M |
| 2-3 | S 44°51'E | 4.32 M |
| 3-4 | S 20°37'E | 22.05 M |
| 4-5 | S 23°55'E | 37.31 M |
| 5-6 | S 21°25'W | 47.30 M |
| 6-7 | S 16°42'W | 39.50 M |
| 7-8 | S 42°41'W | 6.07 M |
| 8-9 | S 50°07'W | 6.74 M |
| 9-10 | S 75°45'W | 7.97 M |
| 10-11 | N 57°45'W | 14.98 M |
| 11-12 | N 14°05'E | 40.52 M |
| 12-13 | N 87°52'E | 71.36 M |
| 13-1 | N 19°02'E | 80.73 M |

THE LINE FROM PING - 3524 PPS 92 TO CORNER 1 ON BOPV

BOPV: 5.5625E, 2000.77 M

DEPARTMENT OF EDUCATION

REGISTERED ELECTRICAL ENGINEER

ENG. RICHARD K. HANRO

2000 Pines Drive, Dublin, Co. DU, D15 2E8

REGISTERED ELECTRICAL ENGINEER

ENG. ROBERT C. COBBINE

2000 Pines Drive, Dublin, Co. DU, D15 2E8

REGISTERED ELECTRICAL ENGINEER

ENG. DAVID C. O'NEILL

2000 Pines Drive, Dublin, Co. DU, D15 2E8

REGISTERED ELECTRICAL ENGINEER

ENG. DAVID O'CALLAHAN

2000 Pines Drive, Dublin, Co. DU, D15 2E8

REGISTERED ELECTRICAL ENGINEER

ENG. DAVID J. O'NEILL

2000 Pines Drive, Dublin, Co. DU, D15 2E8

REGISTERED ELECTRICAL ENGINEER

ENG. DAVID J. O'NEILL

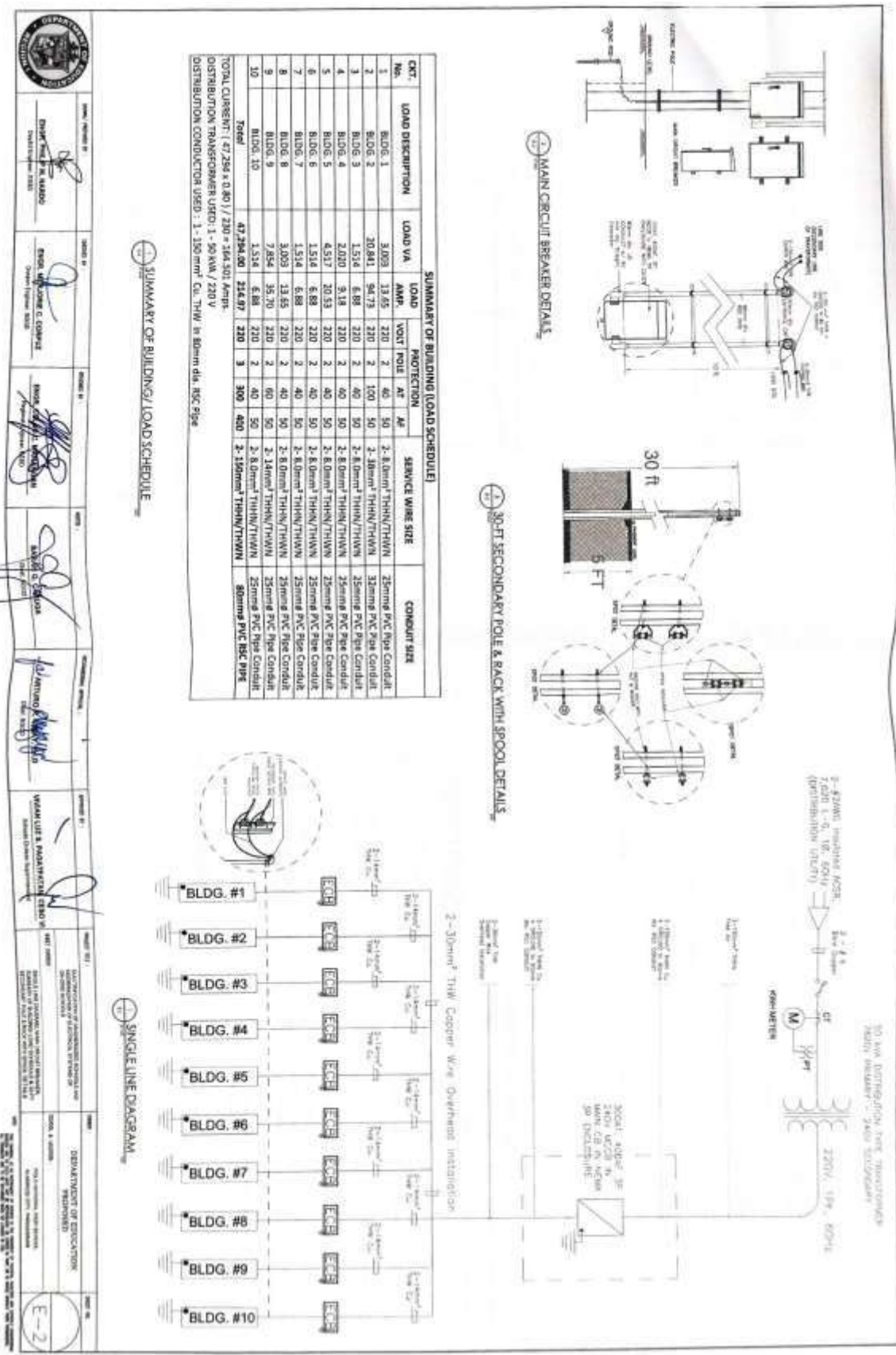
2000 Pines Drive, Dublin, Co. DU, D15 2E8

REGISTERED ELECTRICAL ENGINEER

ENG. DAVID J. O'NEILL

2000 Pines Drive, Dublin, Co. DU, D15 2E8





SUMMARY OF BUILDING LOAD SCHEDULE

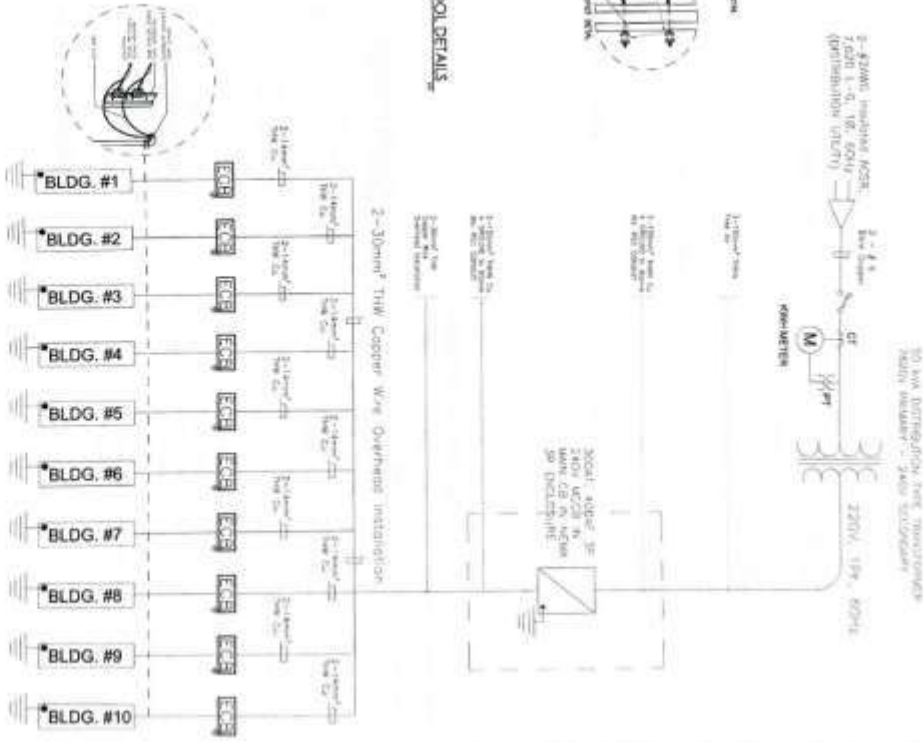
| CR. No. | LOAD DESCRIPTION | LOAD VA | LOAD | | PROTECTION | SERVICE WIRE SIZE | CONDUIT SIZE | | |
|---------|------------------|------------------|---------------|------------|------------|-------------------|--------------|--------------------------------------|--|
| | | | AMP | VOLT | | | | | |
| 1 | BLDG. 1 | 3,093 | 13.65 | 220 | 2 | 40 | 50 | 2-1.80mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| 2 | BLDG. 2 | 20,841 | 94.73 | 220 | 2 | 100 | 50 | 2-3.0mm ² THHN/THWN | 35mm ² PVC Pipe Conduit |
| 3 | BLDG. 3 | 1,516 | 6.88 | 220 | 2 | 40 | 50 | 2-1.80mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| 4 | BLDG. 4 | 2,020 | 9.18 | 220 | 2 | 40 | 50 | 2-1.80mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| 5 | BLDG. 5 | 4,517 | 20.53 | 220 | 2 | 40 | 50 | 2-1.80mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| 6 | BLDG. 6 | 1,516 | 6.88 | 220 | 2 | 40 | 50 | 2-1.80mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| 7 | BLDG. 7 | 1,516 | 6.88 | 220 | 2 | 40 | 50 | 2-1.80mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| 8 | BLDG. 8 | 3,093 | 13.65 | 220 | 2 | 40 | 50 | 2-1.80mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| 9 | BLDG. 9 | 7,854 | 35.70 | 220 | 2 | 60 | 50 | 2-3.0mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| 10 | BLDG. 10 | 1,516 | 6.88 | 220 | 2 | 40 | 50 | 2-1.80mm ² THHN/THWN | 25mm ² PVC Pipe Conduit |
| | TOTAL | 47,294.00 | 214.67 | 220 | 3 | 300 | 400 | 2-150mm² THHN/THWN | 80mm² PVC Pipe Conduit |

TOTAL CURRENT: $I = 254 \times 0.801 / 250 = 254.501$ AMPS
 DISTRIBUTION TRANSFORMER USED: 1 - 50 KVA / 220 V
 DISTRIBUTION CONDUCTOR USED: 1 - 150 mm² Cu THW in 80mm dia. RSC pipe

SUMMARY OF BUILDING/ LOAD SCHEDULE

30 FT SECONDARY POLE & BACK WITH SPOOL DETAILS

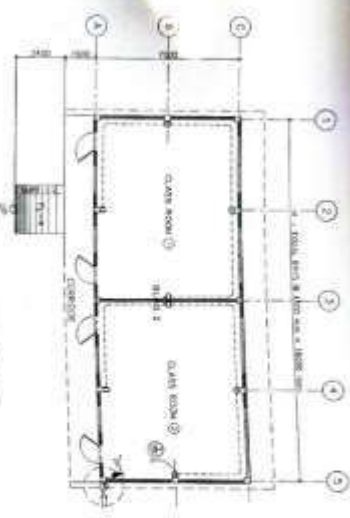
SINGLE LINE DIAGRAM



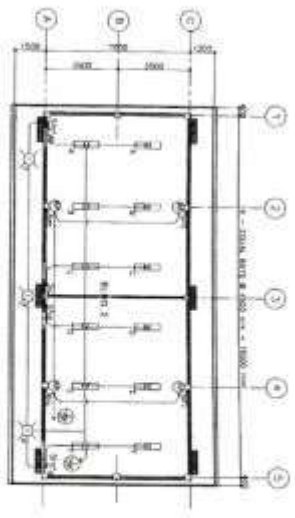
| | | | | | | |
|--|---|--|--|------------------------------|------------------------------|---------------------------|
| | DESIGNED BY CHRIS TAYLOR Electrical Engineer | CHECKED BY ERIN WILSON Project Engineer | APPROVED BY MARK J. HARRIS Project Engineer | DATE 08/20/2013 | PROJECT NO. 13-001 | SHEET NO. E-2 |
| DEPARTMENT OF EDUCATION DIVISION OF ELECTRICAL SERVICES | PROJECT TITLE WALKER LIAISON PROJECT | PROJECT LOCATION WALKER LIAISON PROJECT | PROJECT OWNER STATE OF NEW YORK | PROJECT NO. 13-001 | SHEET NO. E-2 | DATE 08/20/2013 |



| | | | |
|-----------------|----------|------|-------|
| DESIGNED BY | ENGINEER | DATE | SCALE |
| DR. H. H. H. H. | 1:1 | 2023 | 1:1 |
| CHECKED BY | ENGINEER | DATE | SCALE |
| DR. H. H. H. H. | 1:1 | 2023 | 1:1 |
| APPROVED BY | ENGINEER | DATE | SCALE |
| DR. H. H. H. H. | 1:1 | 2023 | 1:1 |



1 POWER LAYOUT



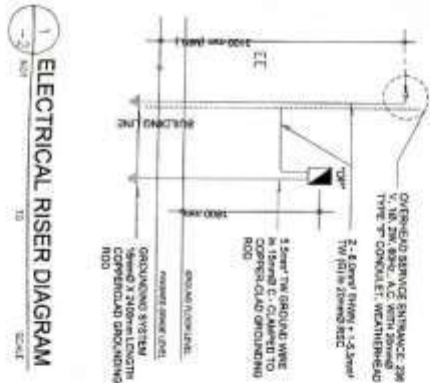
2 LIGHTING LAYOUT

| PROBOL | DESCRIPTION | REQUIREMENT |
|--------|---|--------------------------|
| 1 | ONE (1) 230V 60W AC COMPACT FLUORESCENT LAMP (CFL) SERVICE ENTRANCE MAIN RECESSED TYPE FOR CLASS ROOM | RECESSED CEILING MOUNTED |
| 2 | TWO (2) 230V 60W AC INCANDESCENT LAMP (IL) SERVICE ENTRANCE MAIN RECESSED TYPE FOR CLASS ROOM | RECESSED CEILING MOUNTED |
| 3 | ONE (1) 230V 60W AC INCANDESCENT LAMP (IL) SERVICE ENTRANCE MAIN RECESSED TYPE FOR CLASS ROOM | RECESSED CEILING MOUNTED |

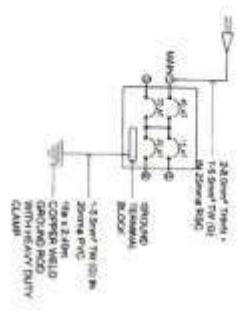
3 SCHEDULE OF LIGHTING FIXTURES AND LAMPS

| QTY | LOAD DESCRIPTION | VOLTS | PHASE | WATTAGE | REMARKS |
|-------|--------------------------|-------|-------|---------|-------------------------------|
| 1 | LIGHT OUTLET | 230V | 1Φ | 60W | 2 - 1.5 Amp TN (1Φ) THROUGH C |
| 2 | COMPACT FLUORESCENT LAMP | 230V | 1Φ | 60W | 2 - 1.5 Amp TN (1Φ) THROUGH C |
| 3 | INCANDESCENT LAMP | 230V | 1Φ | 60W | 2 - 1.5 Amp TN (1Φ) THROUGH C |
| TOTAL | | | | 360W | 3 Amp TN (1Φ) THROUGH C |

4 SCHEDULE OF LOADS

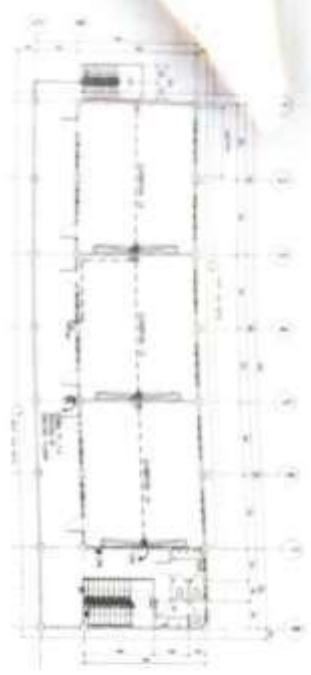


5 ELECTRICAL RISER DIAGRAM

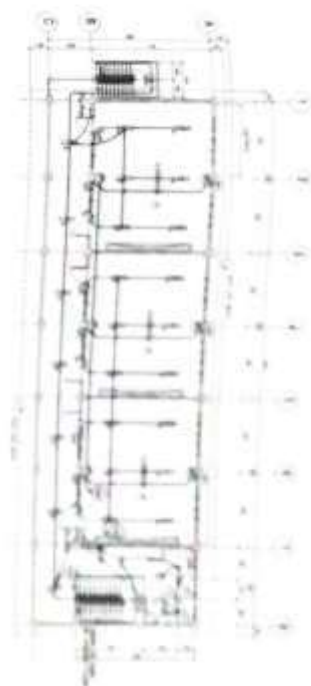


6 PANELBOARD DIAGRAM

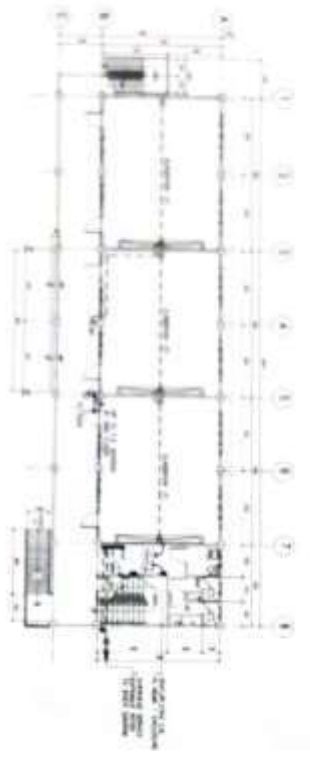
- ELECTRICAL SYMBOLS :**
- I: 230 WATTS, 230 VOLTS, 60W, FLUORESCENT LIGHTING FIXTURE
 - II: 18 WATTS COMPACT FLUORESCENT LAMP WITH MEDIUM BASE
 - III: 60 WATT TYPE INCANDESCENT LIGHTING FIXTURE
 - IV: WALL FAN CONTROL SWITCH
 - V: SINGLE POLE WALL SWITCH
 - VI: 2 SINGLE POLE WALL SWITCHES IN ONE SWITCH PLATE
 - VII: ELECTRICAL RISER
 - VIII: CONDUIT COMPENSATION OUTLET (GROUNDING TYPE 20A, 250V, 1/2")
 - IX: CONDUIT COMPENSATION OUTLET (NON-GROUNDING TYPE 20A, 250V, 1/2")
 - X: UNDERGROUND OR UNDER-COOR CONDUIT RUN
 - XI: CIRCUIT BREAKER
 - XII: DISTRIBUTION PANELBOARD
 - XIII: ELECTRIC SERVICE METER
 - XIV: ELECTRIC SERVICE ENTRANCE
 - XV: PULL BOX / JUNCTION BOX WITH COVER PLATE
 - XVI: GROUNDING SYSTEM



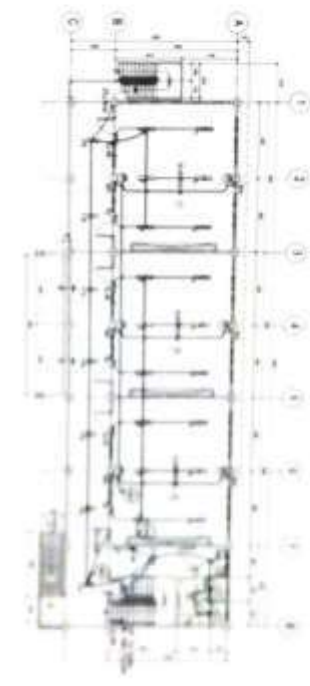
1
E2
SECOND FLOOR POWER LAYOUT



1
E2
SECOND FLOOR LIGHTING LAYOUT



1
E2
GROUND FLOOR POWER LAYOUT



1
E2
GROUND FLOOR LIGHTING LAYOUT



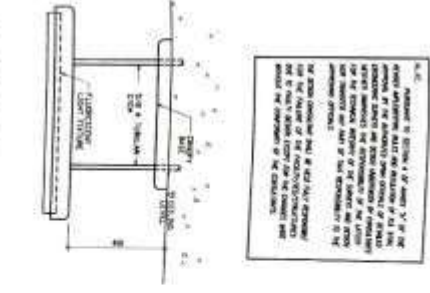
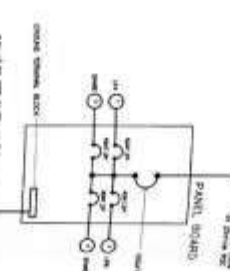
| | | | | | | | | |
|---|---|--|--|--|--|--|--|--|
|  ARCHITECT/ENGINEER |  CONTRACTOR |  INTERIOR DESIGNER |  ELECTRICAL ENGINEER |  LIGHTING DESIGNER |  MECHANICAL ENGINEER |  PLUMBING ENGINEER |  FIRE ENGINEER |  STRUCTURAL ENGINEER |
|---|---|--|--|--|--|--|--|--|

TABLE NO. 1
LOAD DATA
TABLE NO. 2
DISTRIBUTION

TABLE NO. 3
LOAD DATA
TABLE NO. 4
DISTRIBUTION

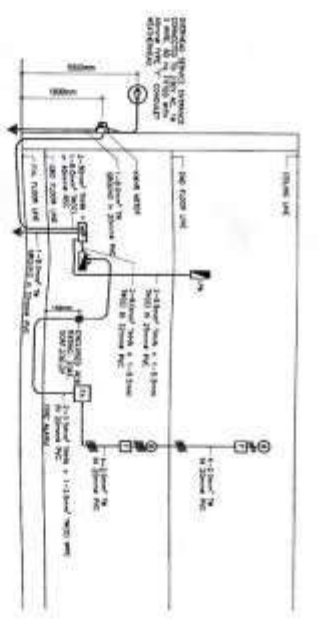
TABLE NO. 5
LOAD DATA
TABLE NO. 6
DISTRIBUTION

CONNECTED LOAD = 20871 VA = 25.84 kW
I_{max} @ 120V, 20871 VA = 208.10 A



2 PANEL BOARD DIAGRAM

3 FLUORESCENT LIGHT FIXTURE MOUNTING DETAIL



1 ELECTRICAL RISER DIAGRAM

GENERAL NOTES:

- 1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE LOCAL ORDINANCES...
2. THE ELECTRICAL SERVICE SHALL BE 120V, 1-PHASE, 3-WIRE, 20A...
3. ALL WIRING SHALL BE CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE LOCAL ORDINANCES...
4. ALL WIRING SHALL BE CONDUCTED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE LOCAL ORDINANCES...
5. ALL ELECTRICAL WORK SHALL BE DONE UNDER THE SUPERVISION AND CONTROL OF A LICENSED ELECTRICIAN...

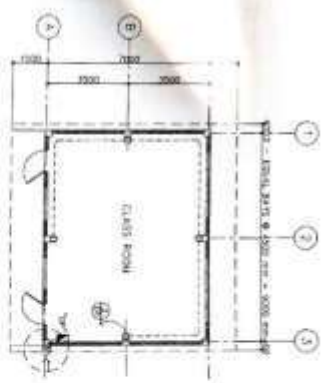
LEGEND

- 1. 1/2" SINGLE CONDUCTOR FLUORESCENT LIGHT FIXTURE WITH...
2. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
3. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
4. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
5. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
6. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
7. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
8. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
9. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
10. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
11. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...
12. 1/2" 3-WIRE FLUORESCENT LIGHTING FIXTURE WITH...

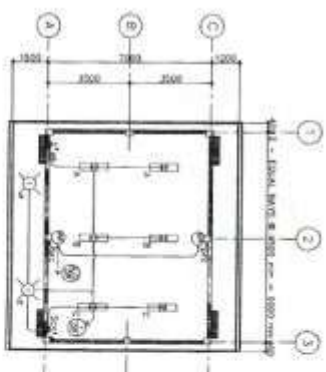
DEPARTMENT OF EDUCATION
SHEWATERTON, PENNSYLVANIA
SHEWATERTON AREA SCHOOL DISTRICT
SHEWATERTON AREA SCHOOL DISTRICT
SHEWATERTON AREA SCHOOL DISTRICT
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SHEWATERTON AREA SCHOOL DISTRICT



| | | | | | | | |
|--|---|--|--|---|---|--|---------------------|
| DESIGNED BY SHINE MARCO MANDO Civil Engineer (E-10) | CHECKED BY ENRIK MEDINA C. COMPAZ Professional Engineer (E-10) | APPROVED BY SHINE MARCO MANDO Civil Engineer (E-10) | APPROVED BY ENRIK MEDINA C. COMPAZ Professional Engineer (E-10) | APPROVED BY MARK D. CALIXTO Professional Engineer (E-10) | APPROVED BY WILHELM LUIS B. PADILLA Professional Engineer (E-10) | APPROVED BY DEPARTMENT OF EDUCATION PROCESSED | DATE 2024 |
|--|---|--|--|---|---|--|---------------------|



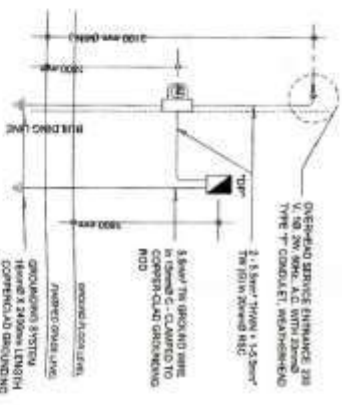
1 POWER LAYOUT
SCALE: 1:500



2 LIGHTING LAYOUT
SCALE: 1:500

ELECTRICAL SYMBOLS :

- 1. 230 VOLTS, 200 VA. TR. ONE-POLE SWITCH, LIGHTING FIXTURE BOX TYPE
- 2. 1-WAY SWITCH FLUORESCENT LAMP WITH NORMAL BASE, INCANDESCENT TYPE POSITION RECEIPTABLE OUTLET
- 3. WALL PAN 60 WATTS, 200V, 50Hz
- 4. WALL PAN CONTROL SWITCH
- 5. SINGLE POLE WALL SWITCH
- 6. 2 SINGLE POLE WALL SWITCHES IN ONE SWITCH PLATE
- 7. ELECTRICAL RISER
- 8. DIRECT CONNECTION OUTLET (GROUNDING TYPE) 30A SERVICE, 15 AMP, 250V, 50 HZ, 1-1/2" DIA. CONDUIT
- 9. TYPE DENOTES WEATHERPROOF OUTLET
- 10. UNDESIGNATED OR UNDESIGNATED CONDUIT RUN
- 11. CIRCUIT NUMBER
- 12. DISTRIBUTION PANEL BOARD
- 13. ELECTRIC SERVICE METER
- 14. ELECTRIC SERVICE ENTRANCE
- 15. PULL BOX / JUNCTION BOX WITH COVER PLATE
- 16. GROUNDING SYSTEM



3 ELECTRICAL RISER DIAGRAM
SCALE: 1:10

GENERAL NOTES :

1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NATIONAL ELECTRICAL CODE), NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL CODE AND WITH THE REQUIREMENTS OF THE LOCAL ORDINANCES.
2. THE TYPE OF SERVICE SHALL BE "TYPE 1" TO BE USED SHALL BE SINGLE-PHASE, 2-WIRE, 200V, 60 HZ, AC.
3. THE CONDUCTOR SHALL BE TYPE "THHN" AND SHALL BE INSTALLED IN CONDUIT TO THE POINT OF CONNECTION TO THE POWER SERVICE POINT.
4. UNLESS OTHERWISE SPECIFIED, THE MINIMUM SIZE OF WIRE AND TERMINATED WIRE SHALL BE AS SHOWN IN THE ELECTRICAL SYMBOLS.
5. ALL WIRING SHALL BE IN CONDUIT AND CONDUIT SHALL BE INSTALLED WITH NOT LESS THAN 25 mm MIN. CLEARANCE FROM ALL OBSTACLES.
6. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND SHALL BE INSTALLED IN CONDUIT TO THE POINT OF CONNECTION TO THE POWER SERVICE POINT.
7. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND SHALL BE INSTALLED IN CONDUIT TO THE POINT OF CONNECTION TO THE POWER SERVICE POINT.
8. ALL WIRING SHALL BE INSTALLED IN CONDUIT AND SHALL BE INSTALLED IN CONDUIT TO THE POINT OF CONNECTION TO THE POWER SERVICE POINT.
9. STANDARD TYPE OF ACCESSORIES, SWITCHES, TERMINALS AND OTHER APPURTENANCES FOR THE ELECTRICAL INSTALLATION SHALL BE USED.
10. ALL WALL OUTLETS SHALL BE INSTALLED AT THE FOLLOWING HEIGHTS ABOVE THE FINISHED FLOOR LEVEL:
 - a) WALL SWITCHES @ 1300mm
 - b) WALL CONNECTION OUTLETS @ 300 mm OR 1500mm ABOVE FINISHED FLOOR
 - c) WALL PAN OUTLET @ CONDUIT HEIGHT
11. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT AND IMMEDIATE SUPERVISION OF A QUALIFIED REGISTERED ELECTRICAL ENGINEER.

SCHEDULE OF LIGHTING FIXTURES AND LAMPS :

| SYMBOLS | DESCRIPTION | REGULATION/REMARKS |
|---------|--|-------------------------|
| ☐ | ONE (1) 1000 mm x 1000 mm FLUORESCENT LIGHTING FIXTURE WITH LED LAMP | INSTALLATION IN CONDUIT |
| ☐ | TWO (2) 1000 mm x 1000 mm FLUORESCENT LIGHTING FIXTURE, BOX TYPE | INSTALLATION IN CONDUIT |

SCHEDULE OF LOADS AND COMPUTATIONS :

| CMT NO. | LOAD DESCRIPTION | DISTRIBUTION PANELBOARD "1P" | | | SIZE OF CONDUIT (BASED ON CONDUIT) |
|---------|------------------|------------------------------|-----|-------|---|
| | | VOLTS | AMP | WATTS | |
| 1 | LIGHT OUTLETS | 230 | 50 | 115 | 2 - 1.5mm ² THN + 1 - 1.5mm ² THN (0.75" SERVICE) |
| 2 | CONDUIT RINGS | 230 | 90 | 207 | 2 - 1.5mm ² THN + 1 - 1.5mm ² THN (0.75" SERVICE) |
| TOTAL | | 1114 | | | 3 - 1.5mm ² THN + 1 - 1.5mm ² THN (0.75" SERVICE) |



1.1 LIGHTING & POWER LAYOUT

1.2 RISER & PANEL BOARD DE LAYOUT WIRING DETAIL

1.3 LOAD SCHEDULE

| OUT. No. | LOAD DESCRIPTION | No. of (Units) | VA | VOLT | PHASE | WIRING | GA. | CHRG. | WIRE SIZE | CONDUIT SIZE |
|----------|-----------------------|----------------|-------------|------|-------|--------|------|------------------------|------------------------|------------------------|
| 1 | STANDARD LIGHTING | 1 | 200 | 230 | 3 | 60 | 1.00 | 0.42 | 1.5mm ² PVC | 3/4" PVC |
| 2 | STANDARD POWER | 4 | 700 | 230 | 3 | 60 | 1.00 | 1.5mm ² PVC | 3/4" PVC | 1.5mm ² PVC |
| 3 | STANDARD TELEPHONE | 1 | 200 | 230 | 3 | 60 | 1.00 | 1.5mm ² PVC | 3/4" PVC | 1.5mm ² PVC |
| 4 | STANDARD DATA NETWORK | 1 | 1000 | 230 | 3 | 60 | 1.00 | 1.5mm ² PVC | 3/4" PVC | 1.5mm ² PVC |
| | TOTAL | | 2000 | | | | | | | |

TOTAL LOAD OF THIS FLOOR: 2000 VA
 MAIN CONDUIT SIZE: 1.5mm² PVC
 MINIMUM CONDUIT SIZE: 1.5mm² PVC

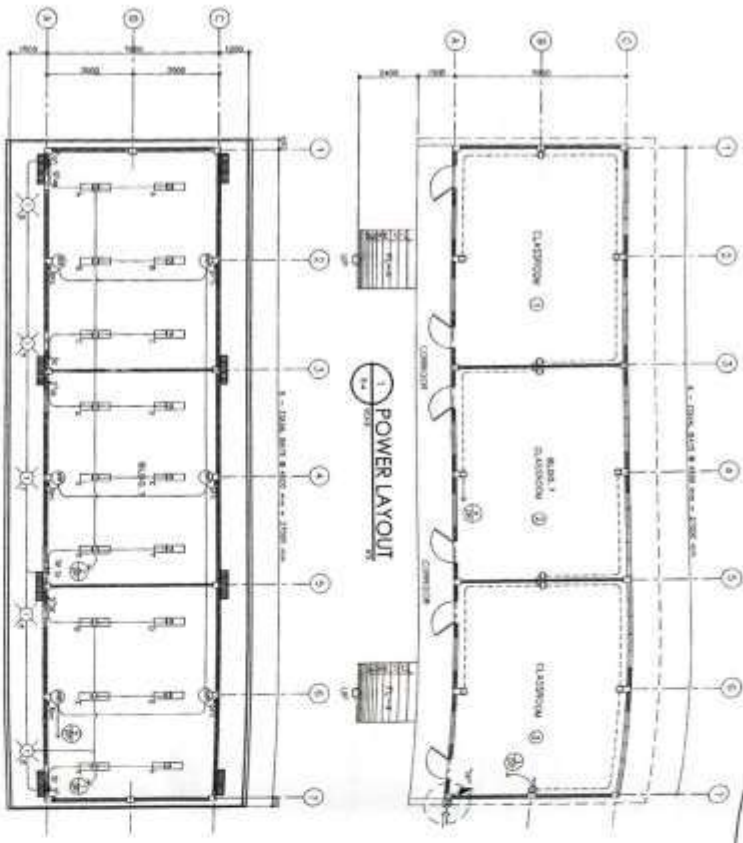
1.4 PANEL BOARD DE DIAGRAM

1.5 RISER/ SINGLE LINE DIAGRAM

1.6 RISER/ SINGLE LINE DIAGRAM

1.7 RISER/ SINGLE LINE DIAGRAM

| | | | | | |
|---|--|--|---|--|--|
| | TITLE: REPAIR OF ELECTRICAL SYSTEM PROJECT NO.: REPAIR OF ELECTRICAL SYSTEM | DESIGNER: ENRICO MENDOZA CHECKED BY: ENRICO MENDOZA | REVIEWER: ENRICO MENDOZA APPROVED BY: ENRICO MENDOZA | DATE: 2024-01-15 PROJECT NO.: REPAIR OF ELECTRICAL SYSTEM | CLIENT: DEPARTMENT OF EDUCATION - DIVISION OFFICE - MARIKINA CITY |
| DEPARTMENT OF EDUCATION - DIVISION OFFICE - MARIKINA CITY PROJECT NO.: REPAIR OF ELECTRICAL SYSTEM DATE: 2024-01-15 | | | | | |



| SYMBOL | DESCRIPTION | INSTALLATION |
|--------|--|---------------------------|
| ☐ | ONE (1) 70W 270V 80W ACCOMMODATE FLUORESCENT LIGHTING FIXTURE WITH MEDIAL/QUADRA-CEILING | WORKING |
| ☐ | BASE RECESSES TYPE PAPER/SLAN RECEPTACLE | WORKING |
| ☐ | TWO (2) 30W 270V 80W AC FLUORESCENT LIGHTING FIXTURE, RCP-TYPE | QUADRA-CEILING WORKING |

NOTE: ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH A HIGH-POWER FACTOR, PRE-HEAT WITH STARTERS AND THERMALLY PROTECTED BALLAST, COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRING AND HOUSING FOR USE.

1.1 SCHEDULE OF LIGHTING FIXTURES AND LAMPS

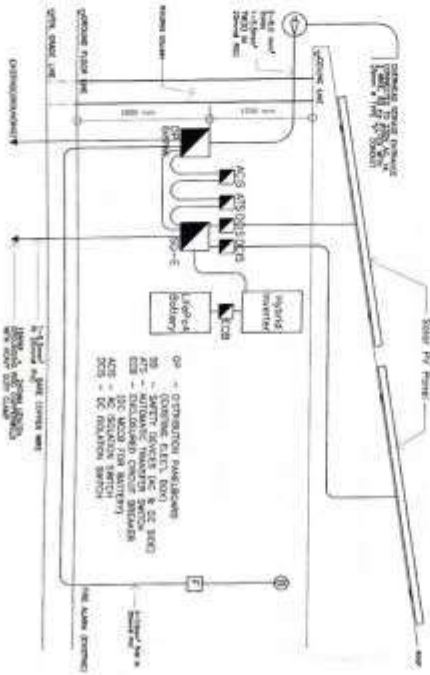
DISTRIBUTION PANEL BOARD (1P)

| CIR. NO. | LOAD DESCRIPTION | VOLTS | AMPERES | WATTAGE | TYPE OF WIRING |
|----------|---------------------|-------|---------|---------|---------------------------------------|
| 1 | LIGHT OUTLETS | 208 | 80 | 16640 | 1-350W/70W + 1-350W/70W (100W) (100W) |
| 2 | LIGHT OUTLETS | 208 | 80 | 16640 | 2-350W/70W + 1-350W/70W (100W) (100W) |
| 3 | CONVENIENCE OUTLETS | 208 | 80 | 16640 | 2-350W/70W + 1-350W/70W (100W) (100W) |
| 4 | CONVENIENCE OUTLETS | 208 | 80 | 16640 | 2-350W/70W + 1-350W/70W (100W) (100W) |
| 5 | CESILING FAN | 208 | 80 | 16640 | 2-350W/70W + 1-350W/70W (100W) (100W) |
| TOTAL | | 208 | 320 | 66560 | |

1.1 @ 100A (3P) (270V) (1.0) + 1.5KVA AMPERES

LOADS: 2-350W/70W + 1-350W/70W (100W) (100W)

1.2 LOAD SCHEDULE



1.3 RISER/SINGLE LINE DIAGRAM

| | |
|-------------------------------------|---|
| | TITLE: _____ DRAWN BY: _____ CHECKED BY: _____ DATE: _____ |
| ENGINEER: _____ ARCHITECT: _____ | PROJECT NO.: _____ SHEET NO.: _____ OF _____ |



DESIGNED BY:
ENGR. ENRIQUE B. MARDO
 Chief Engineer (E-10)

CHECKED BY:
ENGR. VICTOR C. COMEZA
 District Engineer (E-10)

DESIGNED BY:
ENGR. JACOB C. CRONIN
 Chief Engineer (E-10)

CHECKED BY:
ENGR. ANTONIO C. CRONIN
 District Engineer (E-10)

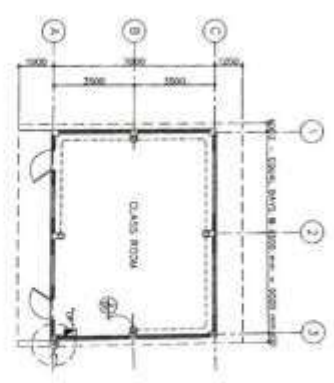
DESIGNED BY:
ENGR. VICTOR C. COMEZA
 District Engineer (E-10)

CHECKED BY:
ENGR. ANTONIO C. CRONIN
 District Engineer (E-10)

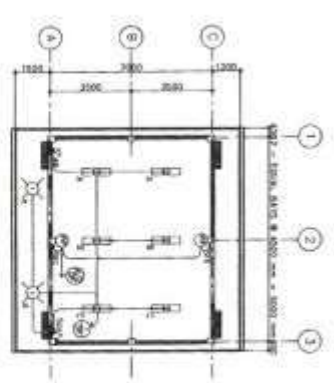
DESIGNED BY:
ENGR. VICTOR C. COMEZA
 District Engineer (E-10)

CHECKED BY:
ENGR. ANTONIO C. CRONIN
 District Engineer (E-10)

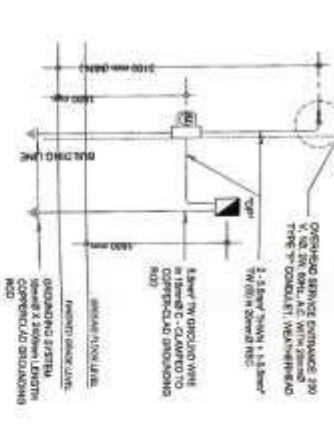
DESIGNED BY:
ENGR. VICTOR C. COMEZA
 District Engineer (E-10)



1 POWER LAYOUT
 SCALE 1:1000



2 LIGHTING LAYOUT
 SCALE 1:1000



3 ELECTRICAL RISER DIAGRAM
 SCALE NOT TO SCALE

- ELECTRICAL SYMBOLS :**
- 220 VOLT, 20 AMP, 60 Hz, FLUORESCENT LIGHTING FIXTURE
 - 15 WATT COMPACT FLUORESCENT LIGHTING FIXTURE
 - 15 WATT COMPACT FLUORESCENT LIGHTING FIXTURE
 - WALL SW. 60 WATT, 200 V, 60 Hz
 - WALL SW. CONTROL SWITCH
 - SINGLE POLE WALL SWITCH
 - ELECTRICAL RISER
 - CONVENIENCE OUTLET (GROUNDING TYPE) 150V, 20A, 1P, 1C
 - 1P-20A/150V/1C
 - UNDERGROUND OR UNDERFLOOR CONDUIT RUN
 - CONDUIT
 - DISTRIBUTION PANEL BOARD
 - ELECTRICAL SERVICE ENTRANCE
 - MAIN BOX / JUNCTION BOX WITH COVER PLATE
 - GROUNDING SYSTEM

- GENERAL NOTES :**
- ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, EXISTING AMENDMENTS, RULES AND REGULATIONS OF THE LOCAL GOVERNMENT AND WITH THE PROVISIONS OF THE LOCAL POWER COMPANY.
 - THE TYPE OF SERVICE POWER SUPPLY TO BE USED SHALL BE SINGLE-PHASE, 3-WIRE, 230V, 50 AMP, 4.5 TO THE CONTRACTOR SHALL VERIFY AND OBTAIN THE ACTUAL LOCATION OF SERVICE ENTRANCE AND CONNECTION TO THE POWER COMPANY SERVICE POINT.
 - ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, EXCEPT WHERE SHOWN OTHERWISE.
 - ALL UNDERFLOOR CONDUIT AND CONVENIENCE OUTLET SHALL BE INSTALLED WITH NOT LESS THAN 15 mm" IN SIZE.
 - WHERE REQUIRED AND NECESSARY, ALL OR JUNCTION BOXES SHALL BE INSTALLED AT CONVENIENT AND PROTECTED LOCATION, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN FOR INSTALLED IN THE EXPOSED ELECTRICAL INSTALLATION SHALL BE USED.
 - ALL NON-CARRYING CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 250 "GROUNDING" NATIONAL ELECTRICAL CODE, EXCEPT WHERE SHOWN OTHERWISE IN THE PLAN.
 - WALL SWITCHES & 1500mm
 - WALL CONVENIENCE OUTLET & 300 mm OR 1500mm ABOVE WORKABLE HEIGHT.
 - ALL ELECTRICAL WORK SHALL BE DONE UNDER THE DIRECT AND IMMEDIATE SUPERVISION OF A QUALIFIED REGISTERED ELECTRICAL ENGINEER.

SCHEDULE OF LIGHTING FIXTURES AND LAMPS :

| SYMBOL | DESCRIPTION | INSTALLATION |
|--------|--|--------------------------|
| □ | ONE (1) 15W, 200V, 60Hz, COMPACT FLUORESCENT LIGHTING FIXTURE WITH MEDIUM BASE (EXCEPT THE POWER COMPACT LIGHTING FIXTURE) | SURFACE MOUNTED |
| ○ | TWO (2) 60W, 200V, 60Hz, AC FLUORESCENT LIGHTING FIXTURE - BOX TYPE | RECESSED CEILING MOUNTED |

NOTE: ALL FLUORESCENT LIGHTING FIXTURES SHALL BE EQUIPPED WITH AN ANTI-FLICKER FACTOR AND A DIMMER WITH DIMMER AND THERMALLY PROTECTED BALLAST. COMPLETE WITH ALL NECESSARY ACCESSORIES, WIRING AND RELAY FOR USE.

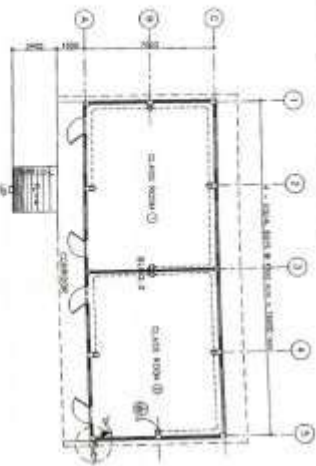
SCHEDULE OF LOADS AND COMPUTATIONS :

DISTRIBUTION PANEL BOARD - DP-1

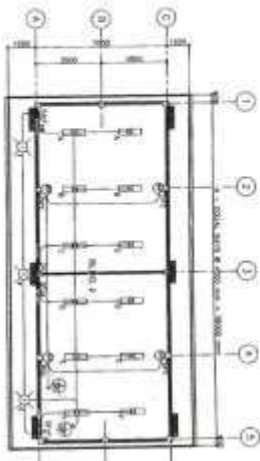
| CIR. NO. | LOAD DESCRIPTION | VA PER CIR. | | BRANCH CIR. BREAKER | | TYPE OF WIRING IN (WIRING IN CONDUIT) |
|--------------|-----------------------------------|-------------|-----|---------------------|----|---|
| | | AP | FP | AT | AT | |
| 1 | LIGHT OUTLETS | 614 | 228 | 50 | 5 | 2-1.5mm ² TW @ 1-1.5mm ² TW (50) IN BRANCH C |
| 2 | CONVENIENCE OUTLETS AND OVERHEADS | 800 | 240 | 50 | 5 | 2-1.5mm ² TW @ 1-1.5mm ² TW (50) IN BRANCH C |
| TOTAL | | 1414 | | 100 | | 3-1.5mm² TW @ 1-1.5mm² TW (50) IN BRANCH C |

1. @ 80% D.F. * (75%) L.D. * 4.5 AMPERES USE: 3 - 1.5mm² TW @ 1-1.5mm² TW (50) IN BRANCH C

E-9



1.1 POWER LAYOUT



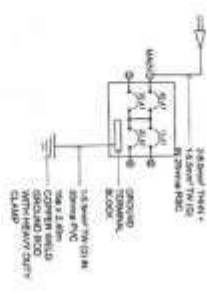
1.2 LIGHTING LAYOUT

1.3 SCHEDULE OF LOADS

Table with columns: LOAD DESCRIPTION, AREA, VOLTS, AMP, KW, and KVA. It lists loads for three classrooms, a total load, and a note about the number of conductors.

1.4 SCHEDULE OF LOADS

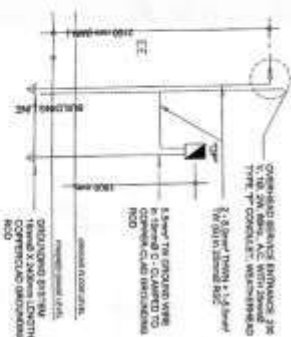
1.5 PANEL BOARD DIAGRAM



1.6 SCHEDULE OF LIGHTING FIXTURES AND LAMPS

| SYMBOL | DESCRIPTION | INSTALLATION |
|----------|---|--------------------------|
| (Symbol) | ONE (1) 20W, 20W, 50W AC COMPACT FLUORESCENT LIGHTING FIXTURE WITH UH/LEAD BALLAST AND TYPICAL RECEPTACLE | CLASS ROOM (A), (B), (C) |
| (Symbol) | TWO (2) 20W, 20W, 50W AC COMPACT FLUORESCENT LIGHTING FIXTURE WITH UH/LEAD BALLAST AND TYPICAL RECEPTACLE | CLASS ROOM (A), (B), (C) |

1.7 SCHEDULE OF LIGHTING FIXTURES AND LAMPS



1.8 ELECTRICAL RISER DIAGRAM

ELECTRICAL SYMBOLS :

- (Symbol) 200 WATTS, 200 VOLTS, 50W, FLUORESCENT LIGHTING FIXTURE BOX TYPE
- (Symbol) 15 WATTS COMPACT FLUORESCENT LAMP WITH MEDIAN BALL
- (Symbol) RECEPTACLE TYPE FOR CLASSROOM RECEPTACLE OUTLET
- (Symbol) WALL MAIN CONTROL SWITCH
- (Symbol) SINGLE POLE WALL SWITCH
- (Symbol) 3 SINGLE POLE WALL SWITCHES IN ONE SWITCH PANEL ELECTRICAL RISER
- (Symbol) DUPLEX CONVENIENCE OUTLET (GROUNDING TYPE, 250 AMP, 250V) WITH GROUNDING CONDUIT RUN
- (Symbol) UNDERGROUND OR UNDER-FLOOR CONDUIT RUN
- (Symbol) CIRCUIT IDENTIFIER
- (Symbol) DISTRIBUTION PANEL BOARD
- (Symbol) ELECTRIC SERVICE METER
- (Symbol) ELECTRIC SERVICE ENTRANCE
- (Symbol) MAIN ROL JUNCTION BOX WITH CONDUIT PLATE (GROUNDING SYSTEM)

Professional Engineer's Stamp and Signature Block. Includes the Philippine Professional Engineers' Board logo, the name 'ENGR. M. M. M. M.', and various fields for registration and project details.



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF EDUCATION
BUREAU OF TECHNICAL EDUCATION
MANILA OFFICE
1000

DESIGNED BY
ENRIL ABAYON C. CORONADO
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CHECKED BY
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APPROVED BY
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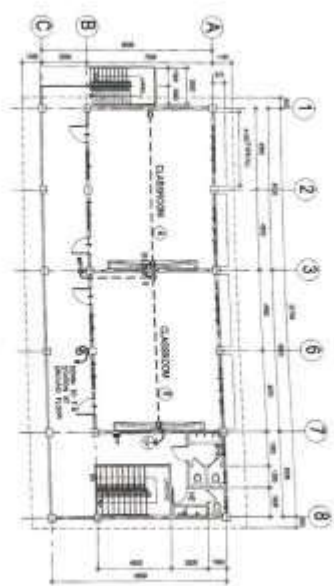
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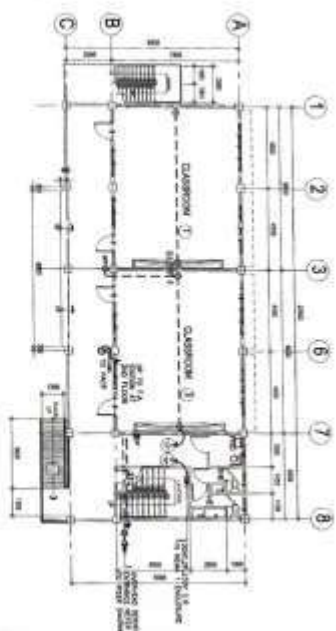
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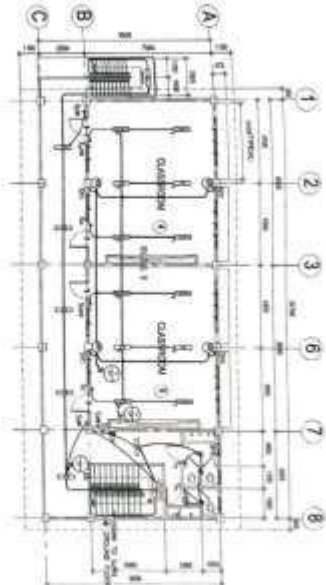
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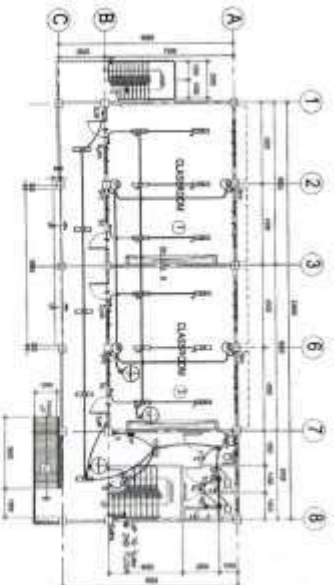
12 SECOND FLOOR POWER LAYOUT



11 GROUND FLOOR POWER LAYOUT



13 SECOND FLOOR LIGHTING LAYOUT



14 GROUND FLOOR LIGHTING LAYOUT

GENERAL NOTES :

1. ALL ELECTRICAL SYMBOLS SHALL COMPLY IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE ALARMS CODE (NFPA).
2. THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) SHALL BE REFERRED TO FOR THE LOCAL CODES.
3. ALL ELECTRICAL WORK SHALL BE UNDER THE IMMEDIATE SUPERVISION OF A QUALIFIED ELECTRICAL ENGINEER.
4. THE ELECTRICAL SERVICE POINT IS 1-Phase, 3-Wire, 230 V AC, 60 Hz.
5. WIRING METHODS SHALL BE AS FOLLOWS:
 - a. LIGHTING: POWER SCHEMATIC TYPE, CHANGES IN IS IN THE PRESENCE OF WORKS IN THE FIELD.
 - b. ALL WIRING SHALL BE CONFORM AND NEITHER PLASTIC INSULATED TYPE NOR UNLESS OTHERWISE INDICATED IN THE PLAN, THE WIRING SHALL BE INSULATED FOR THE ENTIRE LENGTH OF THE CIRCUIT.
 - c. THE WIRING SHALL BE CALIBRATED AND NO. 14 AWG.
 - d. ALL WIRING TO BE USED SHALL BE BRAND NEW AND APPROVED FOR THE PARTICULAR LOCATION AND PURPOSE.
 - e. DISCONNECT SWITCH SHALL BE PROVIDED TO ALL LIGHTING AND POWER CIRCUIT AS PER PHILIPPINE ELECTRICAL CODE REQUIREMENT.
 - f. MOUNTING HEIGHT OF WIRING DEVICES SHALL BE AS FOLLOWS:
 - 1. LIGHT A-FAN SWITCH - 1.20 M ABOVE FINISH FLOOR
 - 2. CONDUIT AND GUTTER - 0.30 M ABOVE FINISH FLOOR
 - 3. SAFETY SWITCH, PANELBOARD - 2.10 M ABOVE FINISH FLOOR
 - 4. ALL OTHER WIRING DEVICES - 1.80 M ABOVE FINISH FLOOR
 - g. AND OTHER REQUISITES FOR THEIR PROPER ELECTRICAL INSTALLATION, ETC. (NEC).
 - 6. THE SIZE OF PANEL, CHASIS/INVERTER & BATTERY SHALL BE APPROVED BY THE PROJECT ENGINEER BASED ON THE SPECIFICATIONS GIVEN HEREIN, INCLUDING:
 - 1. LOAD SCHEDULE
 - 2. PANELBOARD SPECIFICATION
 - 3. WIRING METHODS
 - 4. ELECTRICAL RISING DIAGRAM
 - 5. ELECTRICAL SCHEDULE
 - 6. ELECTRICAL SCHEDULE OF LIGHTING FIXTURES AND LAMPS

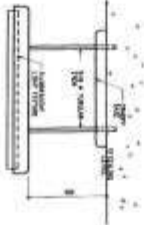
ELECTRICAL SYMBOLS :

- 1. LIGHTING FIXTURE
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- 100. LIGHTING FIXTURE

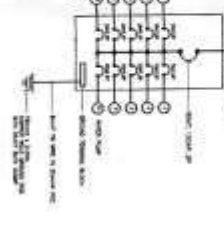
PANELBOARD SP

| CIR. NO. | LOAD DESCRIPTION | VA | WATT | FLUX | PHASE | WIRE SIZE | CONDUIT SIZE |
|----------|------------------|-------|-------|------|-------|-----------|--------------|
| 1 | GENERAL SERVICE | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 2 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 3 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 4 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 5 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 6 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 7 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 8 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 9 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| 10 | RECORDS | 1000 | 1000 | 1.0 | 1-Ø | 1.5 | 1.5" |
| TOTAL | | 10000 | 10000 | 10.0 | 1-Ø | 1.5 | 1.5" |

LOAD SCHEDULE



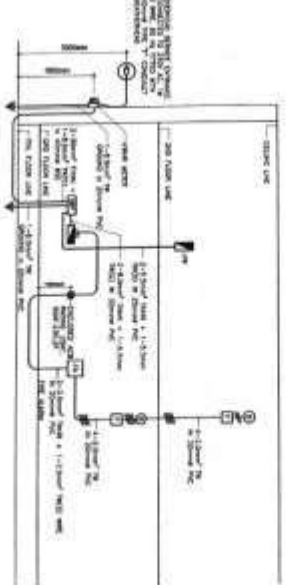
FL FIXTURES MOUNTING DETAIL



PANELBOARD DIAGRAM

SCHEDULE OF LIGHTING FIXTURES AND LAMPS

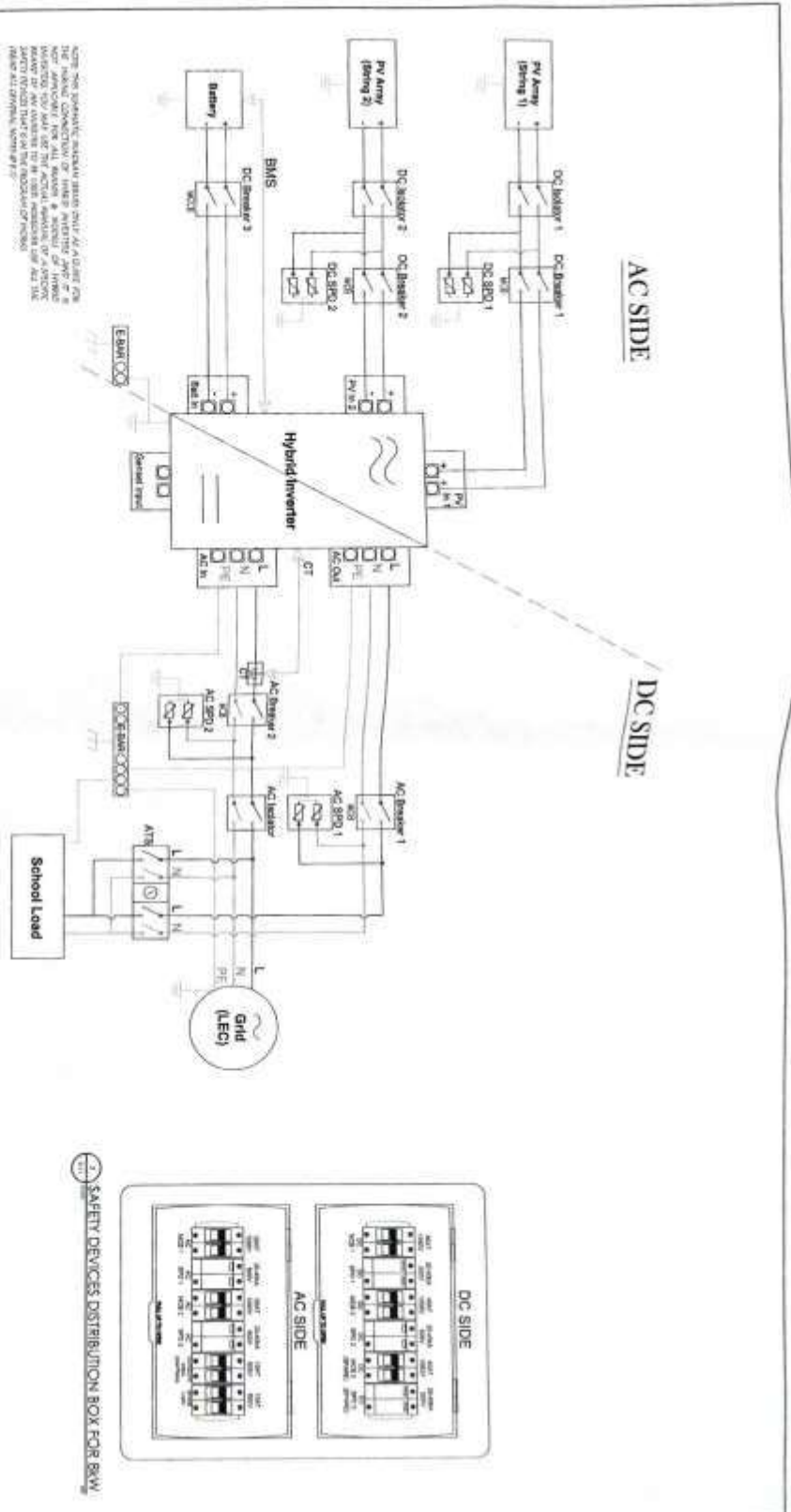
| NO. | DESCRIPTION | QUANTITY | WATTAGE |
|-----|------------------------------|----------|---------|
| 1 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 2 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 3 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 4 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 5 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 6 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 7 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 8 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 9 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |
| 10 | FLUORESCENT LIGHTING FIXTURE | 10 | 40 |



ELECTRICAL RISING DIAGRAM



| | | | | | |
|-------------|--------------|------------------|----------------|----------------|---------------|
| DESIGNER | DATE | CHECKED BY | DATE | APPROVED BY | DATE |
| [Signature] | | [Signature] | | [Signature] | |
| PROJECT NO. | PROJECT NAME | PROJECT LOCATION | PROJECT CLIENT | PROJECT STATUS | PROJECT VALUE |
| | | | | | |



SCHEMATIC DIAGRAM OF HYBRID SOLAR PV ENERGY SYSTEM FOR BUILDING 5

| | | | | | | | | |
|--|---|---|---|---|---|---|---|---|
| | ENG. A. K. SREEDHARAN Electrical Engineer | ENG. A. K. SREEDHARAN Electrical Engineer | ENG. A. K. SREEDHARAN Electrical Engineer | ENG. A. K. SREEDHARAN Electrical Engineer | ENG. A. K. SREEDHARAN Electrical Engineer | ENG. A. K. SREEDHARAN Electrical Engineer | ENG. A. K. SREEDHARAN Electrical Engineer | ENG. A. K. SREEDHARAN Electrical Engineer |
| | Date: 15/05/2024 Scale: 1:1 Project: Hybrid Solar PV Energy System for Building 5 | Date: 15/05/2024 Scale: 1:1 Project: Hybrid Solar PV Energy System for Building 5 | Date: 15/05/2024 Scale: 1:1 Project: Hybrid Solar PV Energy System for Building 5 | Date: 15/05/2024 Scale: 1:1 Project: Hybrid Solar PV Energy System for Building 5 | Date: 15/05/2024 Scale: 1:1 Project: Hybrid Solar PV Energy System for Building 5 | Date: 15/05/2024 Scale: 1:1 Project: Hybrid Solar PV Energy System for Building 5 | Date: 15/05/2024 Scale: 1:1 Project: Hybrid Solar PV Energy System for Building 5 | Date: 15/05/2024 Scale: 1:1 Project: Hybrid Solar PV Energy System for Building 5 |

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.

contractor's logo

**PROGRAM OF WORKS
BILL OF QUANTITIES**

| | |
|--|---|
| School: POLO NATIONAL SCHOOL | Approved Budget for Contract: PHP |
| School ID: 300240 | |
| Region: I | |
| Division: ALAMINOS CITY | |
| Project Title: MODERNIZATION OF ELECTRICAL SYSTEM OF ON-GRID SCHOOLS | Completion Period: 120 calendar days |
| Location: ALAMINOS CITY, PANGASINAN | Minimum Required Manpower: |
| | Electrical Engineer Safety Officer Painter |
| | General Foreman Laborer Helper |
| | Electrician |
| | Minimum Required Equipment: |
| | Hand Tools Electrical Tools |
| | Truck w/ Crane Personal Protective Equipm |

| Item I.D. | Item Description | % of Total | Unit | Quantity | Total Cost | Remarks |
|-------------|--|------------|------|----------|------------|---------|
| I. | DIRECT COST | | | | | |
| 1.00 | GENERAL REQUIREMENTS | | lot | 1.00 | | |
| 2.00 | PRIMARY LINES EXTENSION/CONVERTION | | lot | 1.00 | | |
| | Primary Pole and Accessories | | | | | |
| | Primary Pole Guying Accessories | | | | | |
| | Primary Pole Grounding Accessories | | | | | |
| 3.00 | DISTRIBUTION TRANSFORMERS | | lot | 1.00 | | |
| 4.00 | METERING ACCESSORIES | | lot | 1.00 | | |
| 5.00 | MAIN PROTECTION | | lot | 1.00 | | |
| 6.00 | SECONDARY LINE ACCESSORIES | | lot | 1.00 | | |
| | Secondary Pole and Insulator Accessories | | | | | |
| | Secondary Pole Guying Accessories | | | | | |
| | Secondary Line | | | | | |
| 7.00 | SERVICE LINE ACCESSORIES | | lot | 1.00 | | |
| 8.00 | PERIMETER AND AREA LIGHTINGS | | lot | 1.00 | | |
| 9.00 | INSTALLATION OF 8kW HYBRID SOLAR PV ENERGY SYSTEM (6kW PV PANEL) AT ADMIN. BUILDING | | lot | 1.00 | | |
| | Sub-Total | | | | | |
| | II. INDIRECT COST | | | | | |
| | III. TAX | | | | | |
| | IV. TOTAL CONSTRUCTION COST | | | | | |

Prepared by:

contractor

BILL OF QUANTITIES

Detailed Estimate

PROJECT MODERNIZATION OF ELECTRICAL SYSTEM OF ON-GRID SCHOOLS
 SCHOOL POLO NATIONAL SCHOOL
 LOCATION ALAMINOS CITY, PANGASINAN
 OWNER DEPARTMENT OF EDUCATION

| ITEM NO. | DESCRIPTION | UNIT | UNIT COST | | TOTAL COST | | GRAND TOTAL |
|-------------|---|------|-----------|-------|------------|-------|-------------|
| | | | MATERIAL | LABOR | MATERIAL | LABOR | |
| 1.00 | GENERAL REQUIREMENTS | | | | | | |
| | Mobilization/Utilities and Services/Demobilization / Standard Billboard/ | lot | 1.00 | | | | |
| | Security/ Bill Deposit | lot | 1.00 | | | | |
| | Testing and Commissioning | lot | 1.00 | | | | |
| | Safety and Health | lot | 1.00 | | | | |
| | Permits and other requirements | lot | 1.00 | | | | |
| | Sub-total | | | | | | |
| 2.00 | PRIMARY LINES EXTENSION/CONVERSION | | | | | | |
| | Primary Pole and Accessories | | | | | | |
| 2.01 | Concrete Pole (Transformer Pole) 35ft. Std. Class 5, 1000kg (Minimum Load Break) | pc | 1.00 | | | | |
| 2.02 | Clamp, Dead-end Strain, #2 ACSR | pc | 2.00 | | | | |
| 2.03 | Clevis, Secondary Swing, without Spool, Hot Dip Galvanized | pc | 2.00 | | | | |
| 2.04 | Insulator, Spool, 3", Porcelain, ANSI, Class 55-4 | pc | 2.00 | | | | |
| 2.05 | Clamp, Loop Dead-end, #1/0 ACSR | pc | 2.00 | | | | |
| 2.06 | Connector, Compression, YHO 150, Run #3 - #1/0-TAP #6 - #2 | pc | 2.00 | | | | |
| 2.07 | Bolt, Oval Eye 5/8" x 12", Hot Dip Galvanized. Forged | pc | 2.00 | | | | |
| 2.08 | Nut, Lock, MF Type, 5/8" | pc | 2.00 | | | | |
| 2.09 | Washer, Square, Flat, 2-1/4 x 2-1/4 x 3/16" | pc | 2.00 | | | | |
| | Sub-total | | | | | | |
| | Primary Pole Guying Accessories | | | | | | |
| 2.10 | Rod, Anchor, Thimble Eye, 5/8" x 7", Hot Dip Galvanized, Forged | pc | 1.00 | | | | |
| 2.11 | Anchor, Log, Wood 8" X 4" | pc | 1.00 | | | | |
| 2.12 | Shackle, Anchor, 5/8", Forge Steel, Hot Dip Galvanized | pc | 1.00 | | | | |
| 2.13 | Nut, Lock, MF Type, 5/8" | pc | 1.00 | | | | |
| 2.14 | Washer, Square, Flat, 2-1/4 x 2-1/4 x 3/16" | pc | 1.00 | | | | |
| 2.15 | Clamp, Guy Straight, 3 Bolt, Heavy Duty Steel, Hot Dip Galvanized | pc | 2.00 | | | | |
| 2.16 | Bolt, Carriage 3/8" x 5" Hot Dip Galvanized | pc | 6.00 | | | | |
| 2.17 | Wire, Guy, Steel, 3/8", 7-Strand, High Strength (Fe) | ft | 50.00 | | | | |
| | Sub-total | | | | | | |
| | Primary Pole Grounding Accessories | | | | | | |
| 2.18 | Rod, Ground Steel, Galvanized, 5/8" x 10', Hot Dip Galvanized | pc | 1.00 | | | | |
| 2.19 | Wire, Grounding, Galvanized, 3-Strand, 5/16" Dia. (Feet) | ft | 30.00 | | | | |
| 2.20 | Connector, Compression, YHO 100, Run #6 - #2 - TAP #6 - #2 | pc | 1.00 | | | | |
| 2.21 | Connector, Ground Rod (Clamp), 5/8" | pc | 1.00 | | | | |
| | Sub-total | | | | | | |
| 3.00 | DISTRIBUTION TRANSFORMERS | | | | | | |
| 3.01 | 75 kVA, Distribution Transformer, Conventional, Amorphous, Brand New, Pole Mounted Compact Type, oil immersed, 3200/7620 Kv, 120/240V Secondary, 60 Hz, Single Phase with Tap Changer 2 1/2 % above and below normal high voltage, 95 KV Primary BIL, self cooled. Present Factory Test and Warranty Certificate. | pc | 1.00 | | | | |
| 3.02 | Bracket, Transformer Pole Mounting, 1 Phase, Hot Dip Galvanized | set | 1.00 | | | | |
| 3.03 | Fuse Cut-out & Arrester Combination, 15 KV, Class 200 | set | 1.00 | | | | |
| 3.04 | Fuse link 6 Amps | PC | 1.00 | | | | |

| | | | | | | | | | |
|-------------|--|------|--------|--|--|--|--|--|--|
| 3.05 | Bracket, Mounting for Fuse Cut-Out & Arrester | pc | 1.00 | | | | | | |
| 3.06 | Conductor, 14.0 mm ² THW Wire, Stranded (for tapping) | m | 2.00 | | | | | | |
| 3.07 | Clamp, Hotline, #2 - #4/0 ACSR | pc | 1.00 | | | | | | |
| | Sub-total | | | | | | | | |
| 4.00 | METERING ACCESSORIES | | | | | | | | |
| 4.01 | Potential Transformer, 15KV, 70:1 | pc | 1.00 | | | | | | |
| 4.02 | Current Transformer 10/5, 15 KV Ratio, 1:1, Class C, 240V, 24V, 1000VA | pc | 1.00 | | | | | | |
| 4.03 | 3S, Electronic, Complete w/ TOU and Load | pc | 1.00 | | | | | | |
| 4.04 | Meter, Base Socket CL-200, 5 Jaw | pc | 1.00 | | | | | | |
| 4.05 | 3.5 mm ² Wire, Copper, Stranded, THHN | m | 40.00 | | | | | | |
| 4.06 | RSC 25mmØ x 10' | pc | 2.00 | | | | | | |
| 4.07 | Straight connector 1/2" dia. | pc | 2.00 | | | | | | |
| 4.08 | Band it Band | ft | 20.00 | | | | | | |
| 4.09 | Band it Buckle | pc | 4.00 | | | | | | |
| 4.10 | Elasto Seal | pc | 1.00 | | | | | | |
| 4.11 | Compression Connector #6-#10 | pc | 4.00 | | | | | | |
| 4.12 | Bolt, Machine 5/8" x 14", Hot Dip Galvanized | pc | 2.00 | | | | | | |
| 4.13 | Plastic Seal | pc | 1.00 | | | | | | |
| 4.14 | Washer, Square, Flat, 2-1/4" X 2-1/4" X 3/16" | pc | 2.00 | | | | | | |
| | Sub-total | | | | | | | | |
| 5.00 | MAIN PROTECTION | | | | | | | | |
| 5.01 | Nema 3R Enclosure, Outdoor, 600mm x 450mm x 250mm (HxWxD), 1.5mm thk, Powder Coated Finish w/ Pure Polyester Paint | set | 1.00 | | | | | | |
| 5.02 | 300 AT, MCCB, Bolt-on, 3-Pole, Industrial Type | set | 1.00 | | | | | | |
| 5.03 | RSC Pipe, 80mmØ | pc | 2.00 | | | | | | |
| 5.04 | LB Condulet 80 mm dia. | pc | 2.00 | | | | | | |
| 5.05 | Bushing w/ Lock Nut 80 mm dia. | pc | 4.00 | | | | | | |
| 5.06 | Service Entrance Cap 80 mmØ | pc | 2.00 | | | | | | |
| 5.07 | 150 mm ² Wire, Copper, Stranded 0.6 kV, THHN | m | 30.00 | | | | | | |
| 5.08 | Elasto Seal | pc | 1.00 | | | | | | |
| 5.09 | Connector, Solderless, Copper | pc | 4.00 | | | | | | |
| | Sub-total | | | | | | | | |
| 6.00 | SECONDARY LINE ACCESSORIES | | | | | | | | |
| | Secondary Pole and Insulator Accessories | | | | | | | | |
| 6.01 | Pole, Concrete, 30', Class 7A, 500 kgs (Minimum load Break) | pc | 13.00 | | | | | | |
| 6.02 | Clevis, Secondary Swinging Without Spool, Hot Dip Galvanized | pc | 34.00 | | | | | | |
| 6.03 | Insulator, Spool, 3", Porcelain, ANSI, Class 55-4 | pc | 34.00 | | | | | | |
| 6.04 | Bolt, Machine/Oval Eye 5/8" x 10", Hot Dip Galvanized | pc | 34.00 | | | | | | |
| 6.05 | Nut, Lock, MF Type, 5/8" | pc | 34.00 | | | | | | |
| 6.06 | Nut, Thimble Eye, 5/8" Single Eye, Hot Dip Galvanized | pc | 34.00 | | | | | | |
| 6.07 | Washer, Square, Flat, 2-1/4 x 2-1/4 x 3/16" | pc | 34.00 | | | | | | |
| | Sub-total | | | | | | | | |
| | Secondary Pole Guying Accessories | | 13 | | | | | | |
| 6.08 | Anchor, Expanding, 8-Ways, Hot Dip Galvanized | pc | 12.00 | | | | | | |
| 6.09 | Wire, Guy, Steel, 3/8", 7-Strand, High Strength (Feet) | ft | 480.00 | | | | | | |
| 6.10 | Anchor Rod, Threaded, Single eye 5/8x 7' | pc | 12.00 | | | | | | |
| 6.11 | Attachment Guy, Malleable Type with 1 1/16" Hole Diameter | pc | 24.00 | | | | | | |
| 6.12 | Clamp, Guy Straight, 3 Bolt, Heavy Duty Steel, Hot Dip Galvanized | pc | 24.00 | | | | | | |
| 6.13 | Bolt, Carriage 3/8" x 5" Hot Dip Galvanized | pc | 26.00 | | | | | | |
| 6.14 | Nut, Lock, MF Type, 3/8" | pc | 26.00 | | | | | | |
| | Sub-total | | | | | | | | |
| | Secondary Line | | | | | | | | |
| 6.12 | 60 mm ² Wire, Copper, Stranded 0.6 kV, THW | m | 480.00 | | | | | | |
| | Sub-total | | | | | | | | |
| 7.00 | SERVICE LINE ACCESSORIES | | | | | | | | |
| | Service Lines | | | | | | | | |
| 7.01 | 14 mm ² Wire, Copper, Stranded 0.6kV, THHN | m | 320.00 | | | | | | |
| 7.02 | Secondary Rack w/ Spool Insulator and dyna bolts, 1 3/4", 3W | pc | 9.00 | | | | | | |
| 7.03 | Connector, Compression, YHO 100, Run #6 - #2 - TAP #6 - #2 | pc | 18.00 | | | | | | |
| 7.04 | Connector, Compression, YHO 150, Run #3 - #1/0 TAP #6 - #2 | pc | 18.00 | | | | | | |
| 7.05 | Electrical Tape (3m) | roll | 8.00 | | | | | | |

| | | | | | | | | |
|-------------|---|------|-------|--|--|--|--|--|
| 7.06 | Rubber Tape | roll | 4.00 | | | | | |
| 7.07 | Electrical Conduit uPVC, 32mmØ | pc | 18.00 | | | | | |
| 7.08 | Service Entrance Cap 32mm dia | pc | 18.00 | | | | | |
| 7.09 | NEMA 3R, Enclosure Standard, Load Center | pc | 8.00 | | | | | |
| 7.10 | Circuit Breaker, 60A 2P, MCCB, Bolt-On | pc | 8.00 | | | | | |
| 7.11 | Connectors, clamps and other accessories 12mmØ | lot | 1.00 | | | | | |
| | Sub-total | | | | | | | |
| 8.00 | PERIMETER AND AREA LIGHTINGS | | | | | | | |
| 8.01 | Bracket Mounted LED Flood Lights SOLAR 150 watts with 5 meter wire, 5-year warranty | set | 12.00 | | | | | |
| | Sub-total | | | | | | | |
| 9.00 | INSTALLATION OF 8kW HYBRID SOLAR PV ENERGY SYSTEM (6kW PV PANEL) AT ADMIN. BUILDING | | | | | | | |
| | MAJOR PARTS | | | | | | | |
| 9.01 | PV Monocrystalline Panel, 500W, Including Cable/Wire, Railings, Accessories & Complete Roof Mounting Kit (6,000W Total PV Wattage) | set | 12.00 | | | | | |
| 0.01 | Solar Inverter/Charger - 8kW Hybrid Solar Inverter with 5kW EPS (Back-up), Single Phase, Charge/Discharge 190A/190A, Dual MPPT 100-500V 22A/22A, with CT+Limiter, Including Mounting Accessories - 5 years brand warranty | pc | 1.00 | | | | | |
| 9.02 | Lithium Ion Battery, 4.8kWh, Wall Mounted, Including Mounting Accessories | set | 2.00 | | | | | |
| | SAFETY DEVICES DC & AC SIDE | | | | | | | |
| 9.03 | AC Automatic Transfer Switch 32A | pc | 1.00 | | | | | |
| 9.04 | DC SPD, 20-40kA, 500V | pc | 3.00 | | | | | |
| 9.05 | AC SPD, 20-40kA, 500V | pc | 2.00 | | | | | |
| 9.06 | DC MCCB, 150AT, 2P, 125V Max | pc | 1.00 | | | | | |
| 9.07 | DC MCB, 20AT, 2P, 1000V | pc | 3.00 | | | | | |
| 9.08 | AC MCB, 32AT, 2P, 500V | pc | 2.00 | | | | | |
| 9.09 | AC MCB, 10AT, 2P, 500V - School Area Lightings | pc | 2.00 | | | | | |
| 9.10 | DC SISO Isolation Switch 2P 6-32A 1200V IP66 | pc | 2.00 | | | | | |
| 9.11 | AC SISO Isolation Switch 2P 32A 1200V IP66 | pc | 1.00 | | | | | |
| | ENCLOSURES, CONDUIT, WIRES AND MISCELLANEOUS | | | | | | | |
| 9.12 | Enclosure Box for MCCB, NEMA 3R, 250X300X140mm | set | 1.00 | | | | | |
| 9.13 | PV Combine/ Distribution Box, 24 Module/ 12 Breaker (2 x 6 Breaker) 24F | set | 1.00 | | | | | |
| 9.14 | Cable Tray, 40X40 | m | 2.00 | | | | | |
| 9.15 | MC4 Connectors Pair | set | 6.00 | | | | | |
| 9.16 | Electrical Conduit uPVC, 1/2" | pc | 3.00 | | | | | |
| 9.17 | Liquid tight Flexible Conduit Hose - Soft and Hard Type 1" | m | 5.00 | | | | | |
| 9.18 | Battery Cable, #2AWG with Closed Copper Terminal Lugs, Black | m | 1.50 | | | | | |
| 9.19 | Battery Cable, #2AWG with Closed Copper Terminal Lugs, Red | m | 1.50 | | | | | |
| 9.20 | 8.0 mm ² THHN Wire, Stranded, Any Color except Green & White | m | 20.00 | | | | | |
| 9.21 | 5.5 mm ² TW (Ground) Wire, Stranded, Green | m | 15.00 | | | | | |
| 9.22 | 3.5 mm ² THHN Wire, Stranded, Any Color except Green & White | m | 20.00 | | | | | |
| 9.23 | Grounding Rod, Copper, 2.4m x 16mm dia. | pc | 1.00 | | | | | |
| 9.24 | Ground Clamp (Copper) | set | 1.00 | | | | | |
| 9.25 | Liquid Tight Straight Connector, 1" | pc | 2.00 | | | | | |
| 9.26 | Cable Gland Connector, 1/2" | pc | 4.00 | | | | | |
| 9.27 | Crimps Insulated Electric Wire Connector Assorted Size, Color Black, Red & Green (30pcs) | pc | 1.00 | | | | | |
| 9.28 | Cable Tie, (20pcs) | set | 0.50 | | | | | |
| 9.29 | Roof Sealant, 1/2 Liter | pc | 1.00 | | | | | |
| 9.30 | Rubber Tape | pc | 1.00 | | | | | |
| 9.31 | Electrical Tape | pc | 1.00 | | | | | |
| | Sub-total | | | | | | | |
| I. | DIRECT COST | | | | | | | |
| II. | INDIRECT COST | | | | | | | |
| III. | TAX | | | | | | | |
| IV. | TOTAL CONSTRUCTION COST | | | | | | | |

Prepared by:

CONTRACTOR

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) in accordance with Section 8.5.2 of the IRR;

Technical Documents

- (b) 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**
- (c) 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**
- (d) Special PCAB License in case of Joint Ventures **and** registration for the type and cost of the contract to be bid; **and**
- (e) 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**
- (f) 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**
- (g) 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

- (h) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

- (i) 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

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

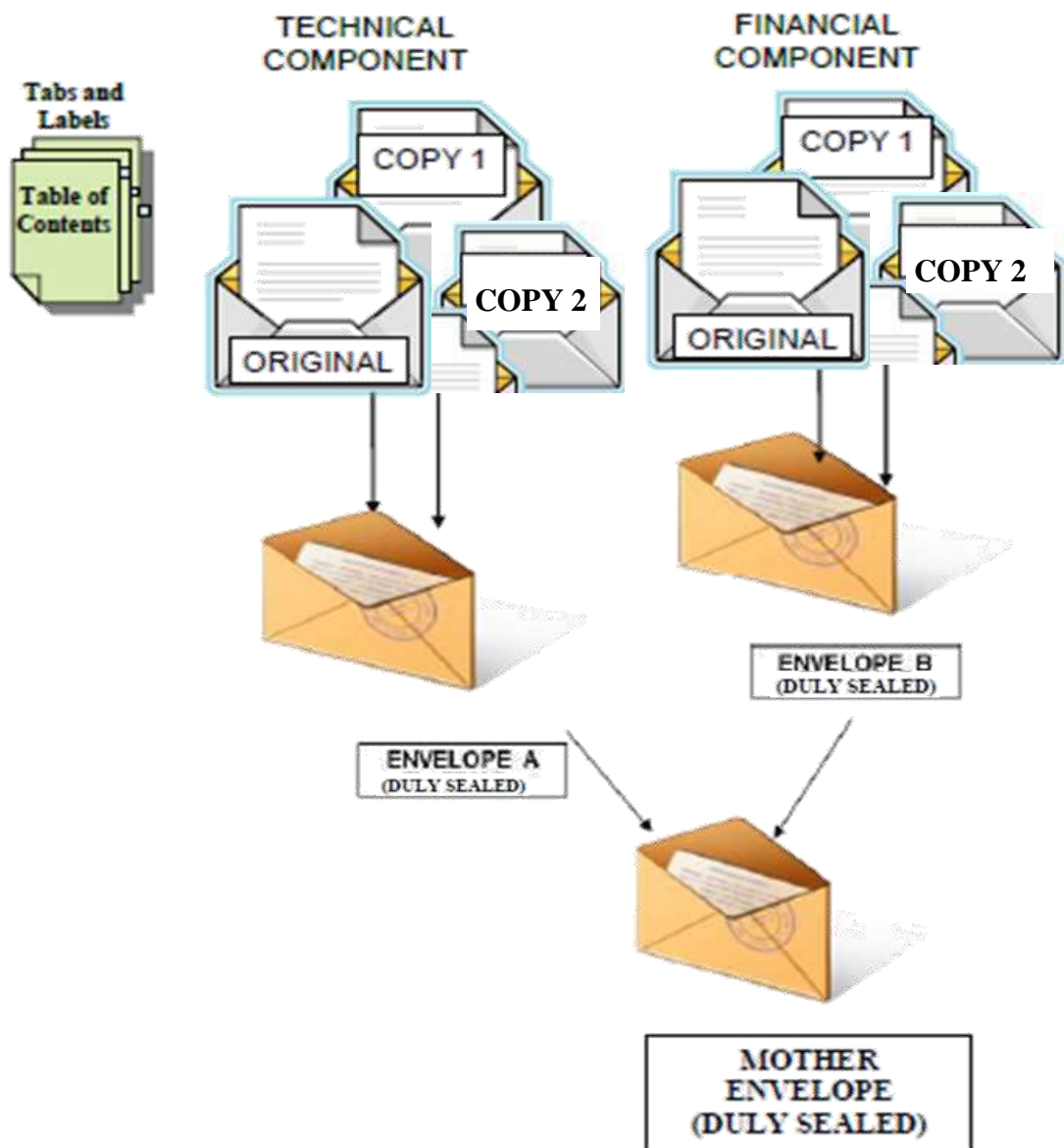
Other documentary requirements under RA No. 9184

- (k) Original of duly signed Bid Prices in the Bill of Quantities; **and**
- (l) 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**
- (m) Cash Flow by Quarter.

(Forms can be downloaded at <https://www.gppb.gov.ph/downloadable-forms>)

ENVELOPE SEALING ILLUSTRATION

(Two-Envelope System)



BIDDER'S COMPANY NAME:

OFFICE ADDRESS:

PUBLIC BIDDING: (PROJECT TITLE)

BIDDING FOR (No.) : (Item Description) [If Applicable]

THE CHAIRPERSON

BIDS AND AWARDS COMMITTEE

DEPARTMENT OF EDUCATION

SCHOOLS DIVISION OFFICE OF ALAMINOS CITY

San Jose Drive, Poblacion, Alaminos City, Pangasinan

