



Republic of the Philippines
DEPARTMENT OF SCIENCE AND TECHNOLOGY
Philippine Atmospheric, Geophysical and
Astronomical Services Administration (PAGASA)



BIDS AND AWARDS COMMITTEE PHILIPPINE BIDDING DOCUMENTS FOR THE

INFRASTRUCTURE PROJECT ENTITLED

**“Construction of PAGASA BOAC Synoptic
Station Building, Observer's Quarters,
Powerhouse, Perimeter Fence, Gate & Signage”**

PR 2024-12-0806 | IB 2024-73 INF

Approved Budget for the Contract: Php 7,230,112.73

**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 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.

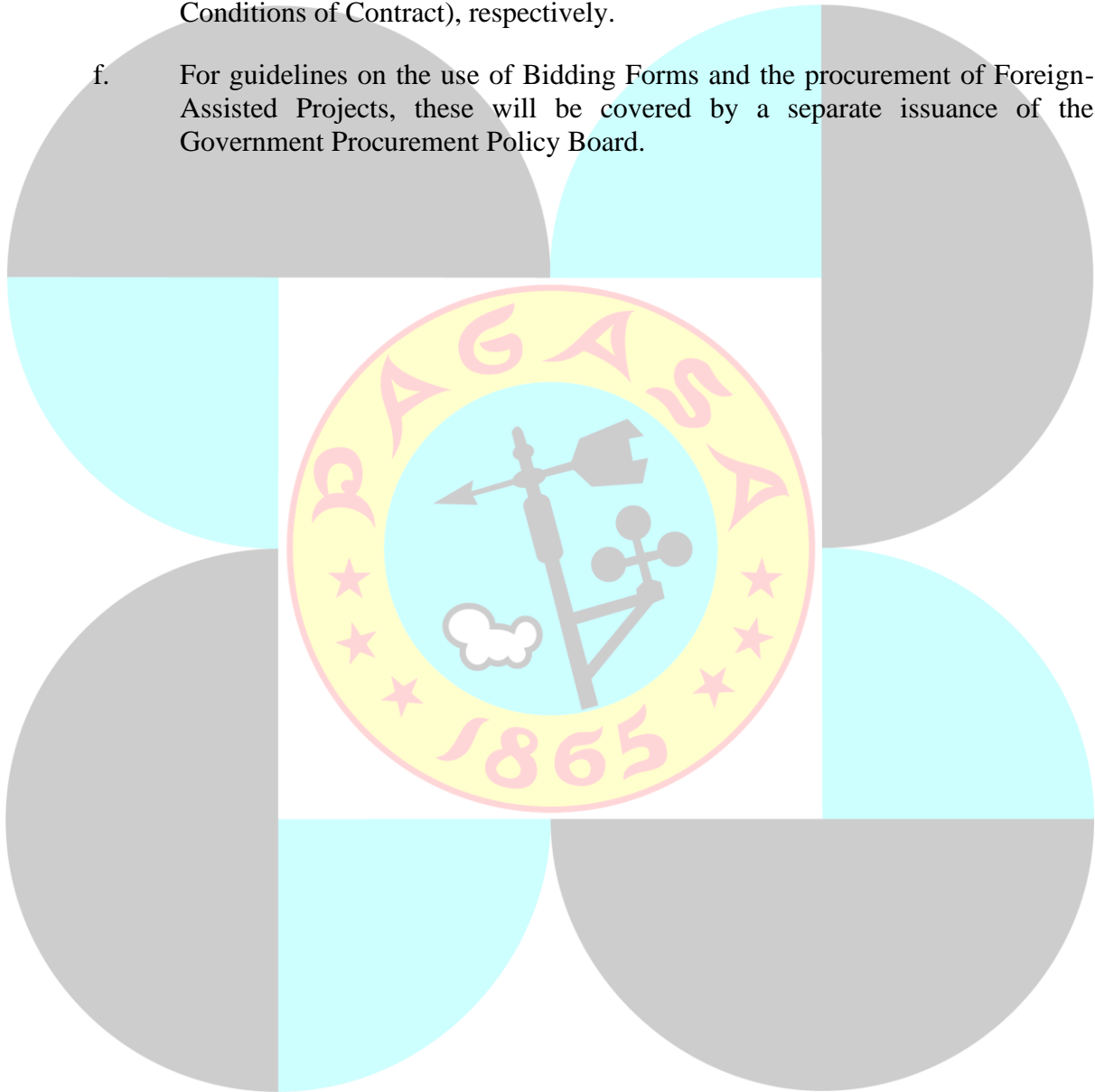
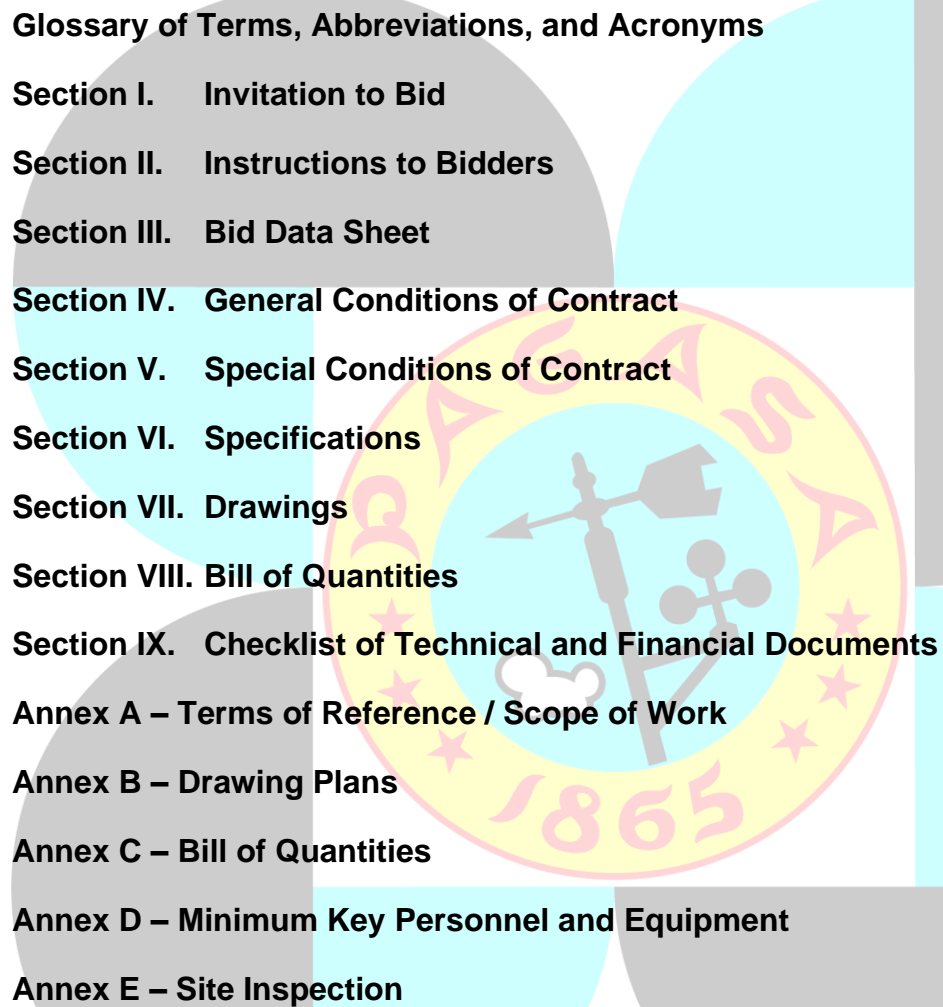


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Glossary of Terms, Abbreviations, and Acronyms

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.

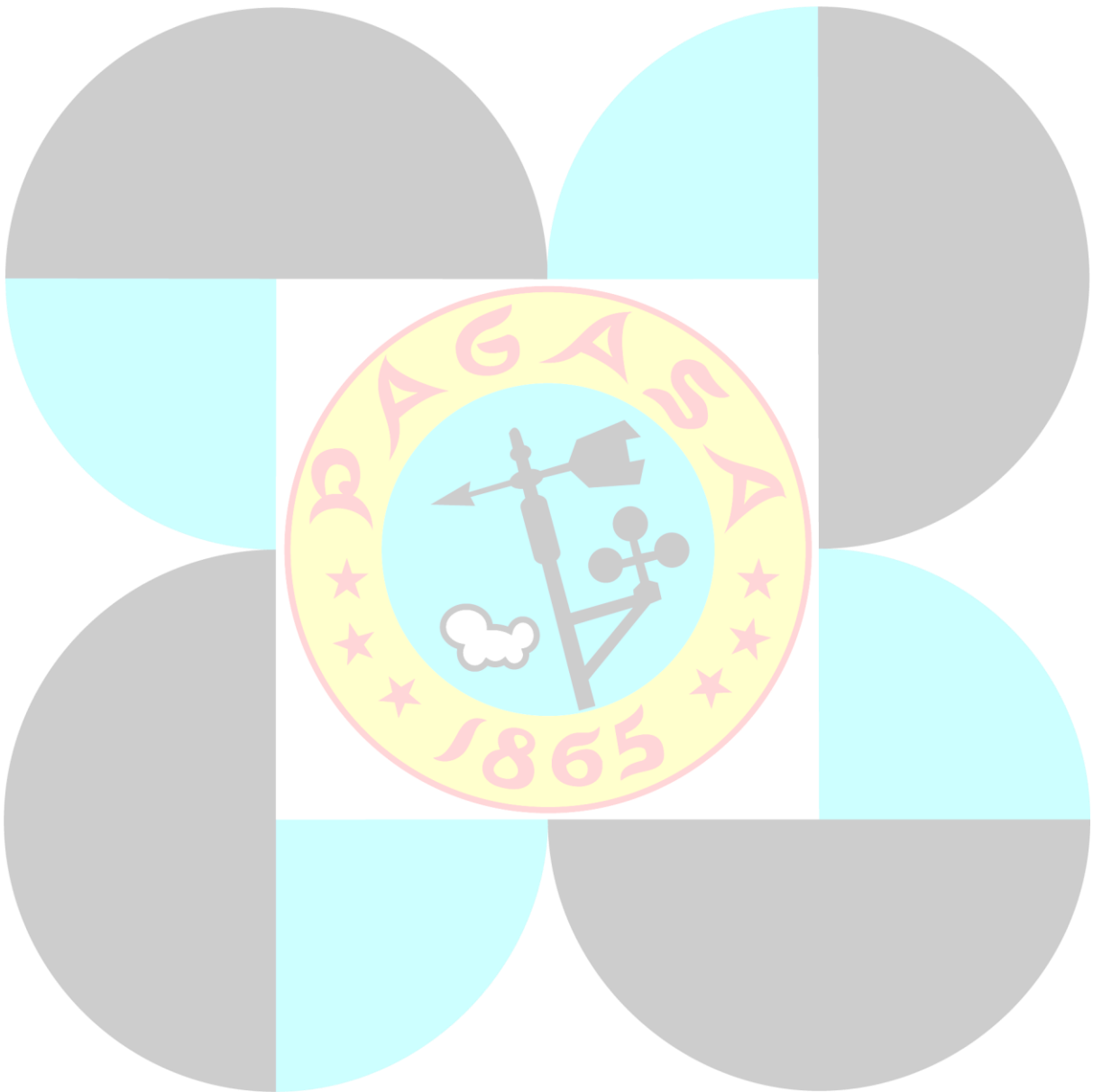
Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring 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.



INVITATION TO BID
FOR
**CONSTRUCTION OF PAGASA BOAC SYNOPTIC STATION BUILDING,
OBSERVER'S QUARTERS, POWERHOUSE, PERIMETER FENCE,
GATE & SIGNAGE**

1. The **Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)**, through the **2023 Continuing Appropriations** intends to apply the sum of **Seven Million Two Hundred Thirty Thousand One Hundred Twelve Pesos and 73/100 (Php 7,230,112.73) pesos only**, being the Approved Budget for the Contract (ABC) to payments under the contract for the **“Construction of PAGASA BOAC Synoptic Station Building, Observer's Quarters, Powerhouse, Perimeter Fence, Gate & Signage” PR 2024-12-0806 / IB 2024-73 INF**. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The **Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)** now invites bids for the above Procurement Project. Completion of the Works required is **one hundred eighty (180) calendar days** upon receipt of the Notice to Proceed (NTP). Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary *“pass/fail”* criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
 - a. Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA No. 5183
4. Interested bidders may obtain further information from **PAGASA-BAC Secretariat** and inspect the Bidding Documents at the address given below from **9:00 a.m. to 4:00 p.m.** It may also be downloaded at the PhilGEPS and PAGASA website free of charge.
5. A complete set of Bidding Documents may be acquired by interested bidders on **06 December 2024** from given address and website/s below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **Ten Thousand pesos (Php 10,000.00)**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person, by facsimile, or through electronic means.
6. The **Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)** will hold a Pre-Bid Conference¹ on **14 December 2024 10:00 AM** at the **Amihan Conference Room, 2/F PAGASA Central Office**² and/or through Zoom video conferencing which shall be open to prospective bidders. **Maximum of two (2) representatives per bidder shall be allowed during the said conference.**
7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below on or before **26 December 2024 10:00 AM**. Late bids shall not be accepted.

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

² Subject to Change

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 **26 December 2024 10:01 AM** at the given address below. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The complete schedule of bidding activities is summarized as follows:

Activities	Schedule / Time	Venue
1. Posting of Invitation to Bid	06 – 13 Dec 2024	N/A
2. Issuance of Bidding Documents	6 Dec 2024 (9:00 a.m.-4:00 p.m.) to 26 Dec 2024 (until 9:00 a.m. only) except on weekends and holidays	Records Management Section (RMS) 3/F PAGASA Central Office
3. Pre-Bid Conference	14 Dec 2024 10:00 AM	Amihan Conference Room² 2/F PAGASA Central Office
4. Submission of Bid Documents (Envelopes 1&2)	26 Dec 2024 on or before 10:00 AM	Records Management Section (RMS) 3/F PAGASA Central Office
5. Opening of Bids (Envelopes 1&2)	26 Dec 2024 10:01 AM	Amihan Conference Room² 2/F PAGASA Central Office

11. The Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) 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.
12. For further information, please refer to:

MA. ANNALYN S. NOLASCO
 Head, BAC Secretariat
 Records Management Section, 3/F PAGASA Main Building, Science Garden Complex,
 Sen. Miriam Defensor-Santiago Ave., Brgy. Central, Quezon City
Trunkline: (02) 8284-0800 loc.1357
Email address: pagasa.bac@gmail.com / bac@pagasa.dost.gov.ph
13. You may visit the Official website of PAGASA for downloading of the Bidding Documents at <https://bagong.pagasa.dost.gov.ph/index.php/news-and-events/bidding-and-shopping>

Date of Issue: 6 December 2024

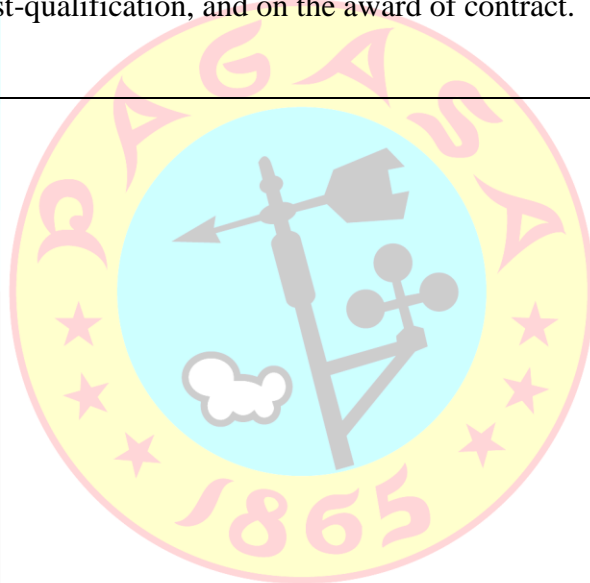
SHIRLEY J. DAVID
 Chairperson, PAGASA-BAC

² Subject to Change

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, **Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)** invites Bids for the **Construction of Kalinga Synoptic Station Building, Observer's Quarters, Powerhouse, Perimeter Fence, Gate & Signage** with Project Identification Number **PR 2024-10-0701 | IB 2024-49 INF**.

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 **CY 2024** in the amount of **Seven Million One Hundred Seventy-Eight Thousand One Hundred Eight and 60/100 (Php 7,178,184.39) pesos only**

2.2. The source of funding is:

The General Appropriations Act 2023 Continuing Appropriations

3. Bidding Requirements

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

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

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

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

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

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

5. Eligible Bidders

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

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

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

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that:

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/or through videoconferencing as indicated in **paragraph 6 and 10 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 **for One Hundred Twenty (120) calendar days from the date of the Opening of Bids**. 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 (1) original copy and two (2) photocopies 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.

(Indicate above if "Original"
"Copy 1" or "Copy 2")

TECHNICAL COMPONENT

BID FOR THE

IB No. _____

Company Name (in capital letters)
Company Address (in capital letter)

SHIRLEY J. DAVID

Chairperson

PAGASA BIDS AND AWARDS COMMITTEE

(PAGASA-BAC)

PAGASA Science Garden Complex, Senator Miriam Defensor Santiago Ave.,
Brgy Central, Quezon City

DO NOT OPEN BEFORE _____
(Indicate the Date and Time of Opening of Bids)

(Indicate above if "Original"
"Copy 1" or "Copy 2")

FINANCIAL COMPONENT

BID FOR THE

IB No. _____

Company Name (in capital letters)
Company Address (in capital letter)

SHIRLEY J. DAVID

Chairperson

PAGASA BIDS AND AWARDS COMMITTEE

(PAGASA-BAC)

PAGASA Science Garden Complex, Senator Miriam Defensor Santiago Ave.,
Brgy Central, Quezon City

DO NOT OPEN BEFORE _____
(Indicate the Date and Time of Opening of Bids)

Notes:

1. Bid envelopes that are not properly sealed and marked, and documents not properly tabbed, shall be accepted, provided that the bidder or its duly authorized representative shall acknowledge such condition of the bid as submitted. The BAC shall assume no responsibility for the misplacement of the contents of the improperly sealed or marked bid, or for its premature opening.
2. Bids that fail to include any requirement or are incomplete or patently insufficient shall be considered as “failed”.

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 and 10 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 and 10 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

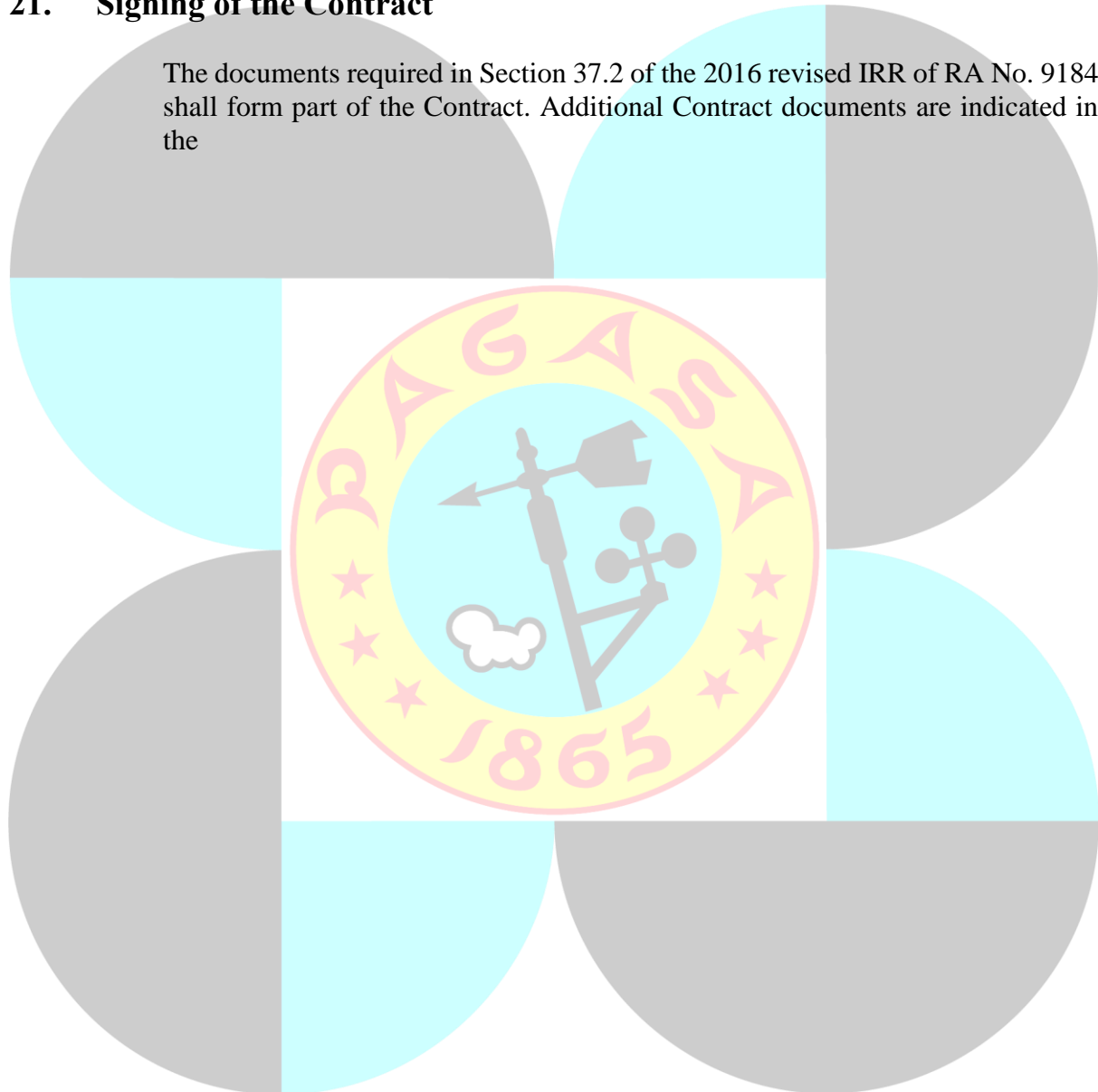
- 19.1. The Procuring Entity’s BAC shall immediately conduct a detailed evaluation of all Bids rated “*passed*” using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.
- 19.2. If the Project allows 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



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.

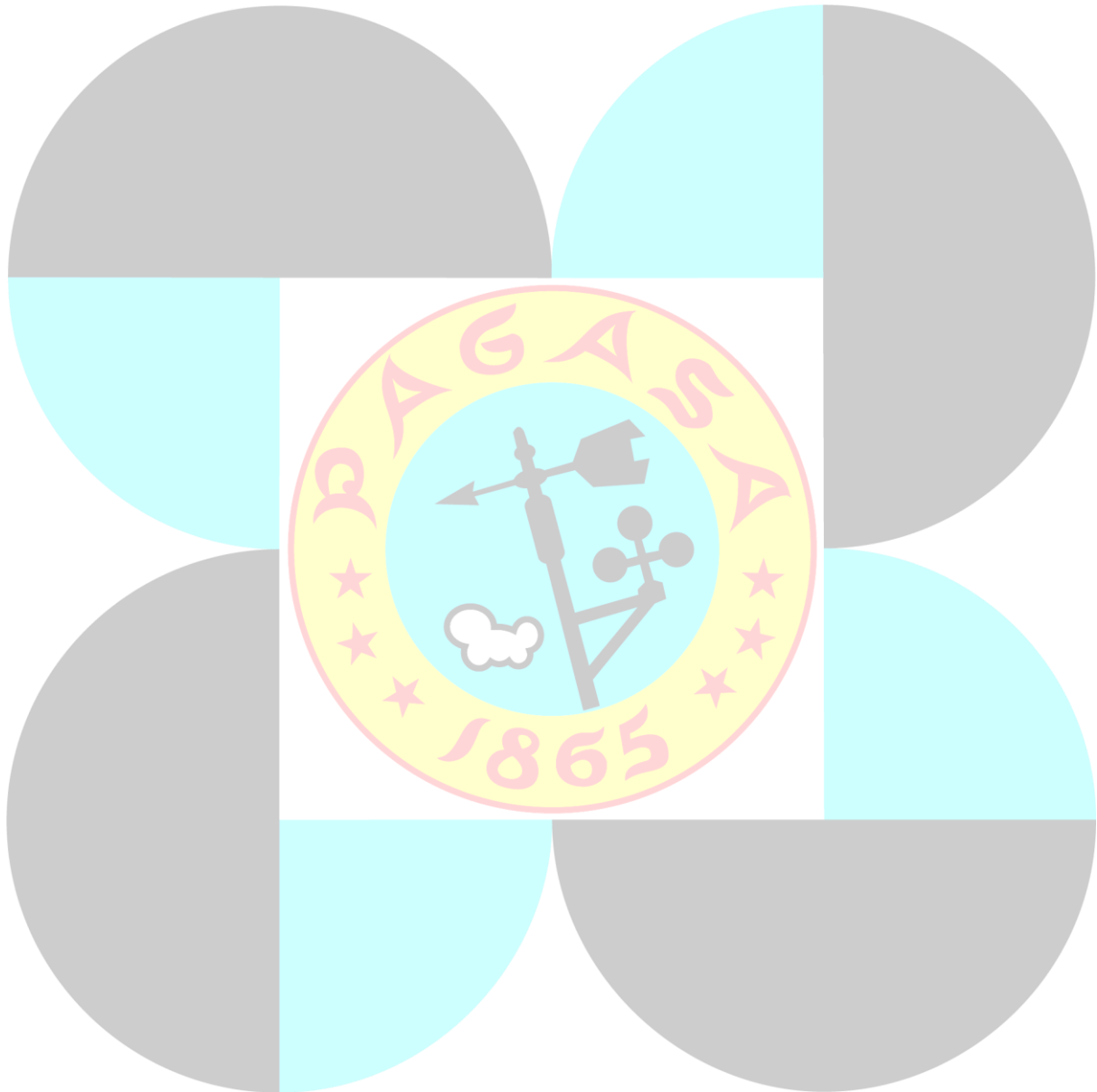
The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

- 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>For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be:</p> <p>Major Category/s of Work/s:</p> <p>a. Construction of Building, Powerhouse, Perimeter Fence, Gate</p> <p>b. Completed within five (5) years from the date of submission and receipt of bids</p>												
7.1	Sub-contracting is not allowed.												
10.3	Valid PCAB License with at least small B category												
10.4	<p>The key personnel must meet the required minimum years of experience set below:</p> <p>Kindly refer to Annex D for the detailed list</p> <table><tr><th><u>Key Personnel</u></th><th><u>General Experience (in years)</u></th><th><u>Relevant Experience (in years)</u></th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>	<u>Key Personnel</u>	<u>General Experience (in years)</u>	<u>Relevant Experience (in years)</u>									
<u>Key Personnel</u>	<u>General Experience (in years)</u>	<u>Relevant Experience (in years)</u>											
10.5	<p>The minimum major equipment requirements are the following:</p> <p>Kindly refer to Annex D for the detailed list</p> <table><tr><th><u>Equipment</u></th><th><u>Capacity</u></th><th><u>Number of Units</u></th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>	<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>									
<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>											
12	No further instructions.												
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> <p>a. The amount of not less than Php 143,563.69, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</p> <p>b. The amount of not less than Php 358,909.22 if bid security is in Surety Bond.</p>												
19.2	Partial bids are not allowed. The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.												

20	Permits from the local government units and other government agencies pertinent and relevant to the project must be made available to the Procuring Entity
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.

6. Site Investigation Reports

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

7. Warranty

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

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

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

11. Program of Work

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

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

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

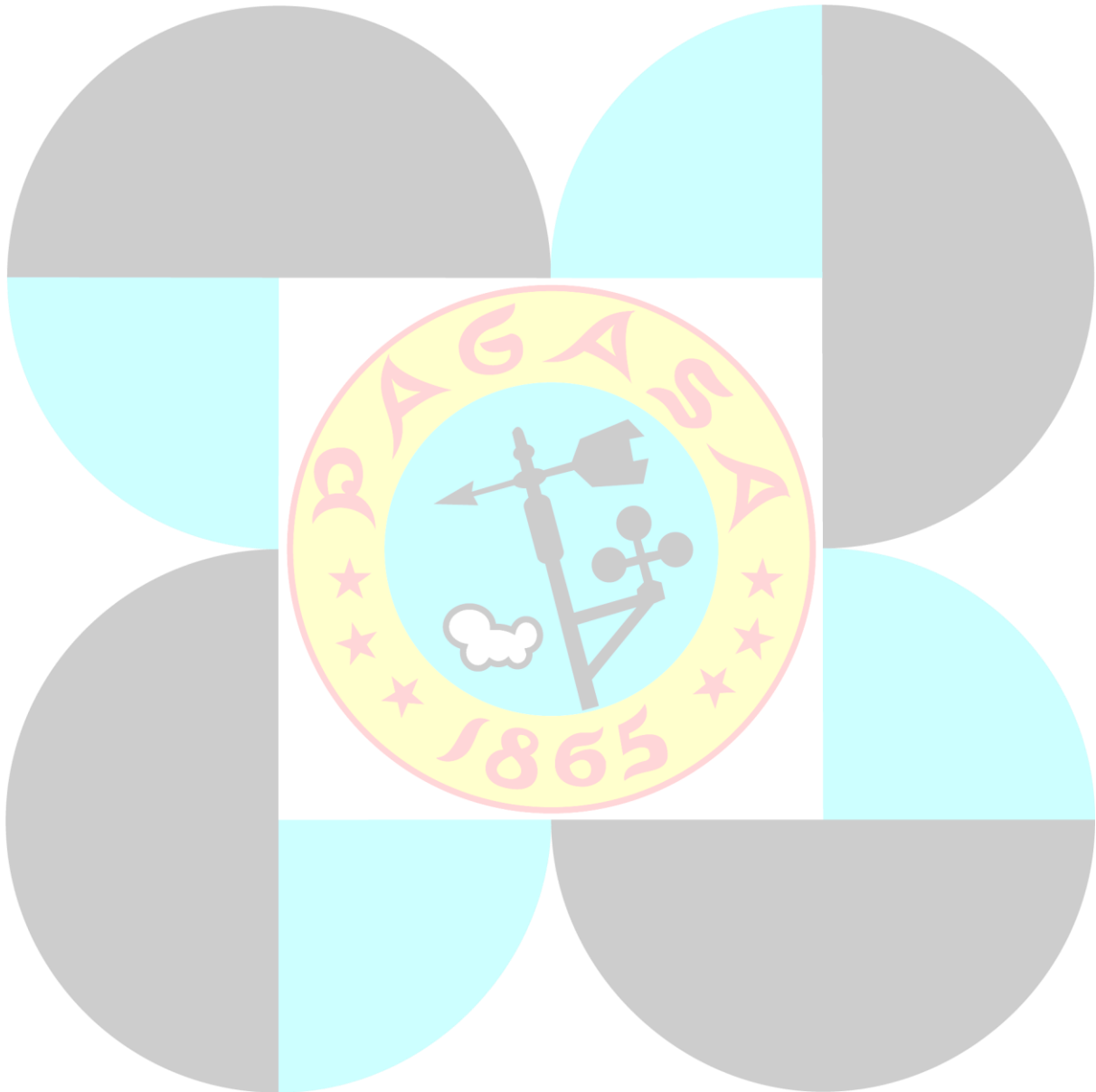
14. Progress Payments

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

15. Operating and Maintenance Manuals

15.1. If required, the Contractor will provide “as built” Drawings and/or operating and maintenance manuals as specified in the **SCC**.

- 15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.



Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

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

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

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

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

Special Conditions of Contract

GCC Clause	
2	The Intended Completion Date is one hundred and eighty (180) calendar days upon receipt of the Notice to Proceed. Note: The contract duration shall be reckoned five (5) calendar days from the receipt of the NTP.
4.1	The Procuring Entity shall give possession of all parts of the Site to the Contractor on the day of the commencement of the Project.
6	The Affidavit of Site Inspection should be submitted by the participating Bidder.
7.2	<i>[In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:]</i> Fifteen (15) years.
10	a. Dayworks are applicable at the rate shown in the Contractor's original Bid.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within ten (10) calendar days of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is Fifty Thousand Pesos (Php50,000.00) only.
13	The amount of the advance payment is 15% of the total contract price.
14	No further instructions.
15.1	The date by which "as built" drawings are required is on or before the final acceptance.
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 Twenty Thousand Pesos (Php20,000.00) only.

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.



Project Title: CONSTRUCTION OF PAGASA BOAC SYNOPTIC BUILDING, OBSERVER'S QUARTER, POWERHOUSE, FENCE GATE AND SIGNAGE

Project Location: Brgy. Tanza, Boac, Marinduque

SCOPE OF WORKS AND SPECIFICATIONS

SCOPE OF WORKS

- **Staking and Layout**
 - Stake out the building footprint as per architectural drawings.
 - Ensure accurate positioning of corners, walls, and other structural elements.
- **Building Permit Application**
 - Prepare and submit the building permit application.
 - Address any additional requirements as requested.
- **Site Preparation**
 - Clear the site of existing structures, vegetation, and debris.
 - Excavate, grade, and level the site.
 - Prepare the site for utility installation (water, electricity, sewage).
- **Foundation**
 - Excavate and prepare the foundation.
 - Install appropriate foundation systems (footings, tie beams).
 - Place and compact fill material.
 - Reinforce and pour concrete to form the foundation.
- **Structural Elements**
 - Erect structural walls and columns.
 - Install beams and roof supports.
 - Construct the roof structure (trusses, framing system).
- **Building Envelope**
 - Install exterior wall systems (masonry wall).
 - Construct the roof (roofing materials, insulation, drainage system).
 - Install windows, doors, and exterior openings.
- **Mechanical, Electrical, and Plumbing Systems**
 - Install plumbing systems (piping, fixtures, drainage).
 - Install electrical wiring, outlets, and lighting fixtures.
 - Install emergency lights.
- **Interior Finishes**
 - Install interior walls.
 - Install ceiling (framing system, ceiling board)
 - Apply finishes to walls (plastering, painting, tiles)
 - Install flooring materials (tiles)
 - Install interior doors, frames, and hardware.
 - Install cabinetry.
- **Exterior Work**
 - Complete exterior finishes (painting)
 - Install ceiling eaves

- Install Fascia board
- Install exterior fixtures (lighting, signage)
- Construct concrete bench.
- Construct pavements between the two buildings.
- Project Closeout
 - Perform final inspections and address any punch list items.
 - Prepare as-built drawings and documentation.

GENERAL REQUIREMENTS

- The Contractor shall provide all materials, equipment, tools, labor, and supervision required for the complete construction of the project.
- To ensure proper phasing or scheduling of work, the Contractor must coordinate all work with all parties.
- Contractor must provide end-user with complete specifications and a product sample for evaluation. Inspection of the Project-in-Charge shall be required prior to installation of any item/material during the construction.
- The Contractor shall promptly remove from the premises all trash, debris, and such weekly and after the completion of all works. Restore all areas that were damaged as affected by the construction works and leave the site clean to the satisfaction of the Project Inspector or his representative and the End-user.
- All materials removed from the unit shall be properly documented prior to turn-over to the End-user for proper safekeeping.
- Provision of Temporary Facility for workers shall be coordinated with the Project-in-Charge in order to provide a proper location and establish rules and regulations as the site consists of equipment and is on the premises of a workplace.
- To protect the building, create a temporary enclosure in each location. All of the building facilities must be adequately covered by such covers throughout the duration of the project.

- To ensure proper installation of all framing systems and protection of the area, the Contractor should provide, at its own expense, the necessary scaffoldings, board-ups, safety nets, and similar items.
- Construction requirements of each pay item must be in accordance with the DPWH “Standard Specifications for Public Works Structures Volume II”

UTILITY SERVICES

- For the Utility Services/Consumption such as water and electric power, provision of electric and water meter shall be provided by the Contractor. All utility consumption shall be provided with meters to limit the usage of such during the construction period. Payments of the bill shall be at the expense of the Contractor.

SITE MONITORING

- Site Monitoring shall be a must for the Contractor to effectively implement the Project. Any discrepancies in plans and on the actual site shall be properly coordinated with the Project Monitoring Engineer for verification.
- Regular coordination meetings shall be done between the Contractor or its representative and the Project Monitoring Engineer.
- Progress Photographs shall be documented by the Contractor
- A logbook shall be available at the site. It shall contain the daily activities on the site, including weather conditions, delivery, manpower, and other matter pertaining to the situation of the project. It will also serve as data for the Contractor and Project Monitoring Engineer.
- Existing conditions of the work site shall be documented by the contractor and photos shall be taken before the commencement of work to ensure such status. Any damage on the areas due to the contractor’s ongoing works shall be refurbished at his expense.

SPECIFICATIONS

Part B – OTHER GENERAL REQUIREMENTS

1. Project Billboard / Safety Signage

- The Contractor shall install two (2) Project Information Signs at/or near the beginning and the end of the project or at the discretion of the Engineer. The new billboard layout and dimensions are as follows:
 - Tarpaulin Dimensions: 1.22m x 2.44 m
 - Thickness of Marine Plywood: 5mm
 - Background: White

The billboard shall consist of the following data:

- ✓ Name of Project
- ✓ Location
- ✓ Name of Contractor
- ✓ Date Started
- ✓ Contract Completion Date
- ✓ Contract Cost
- ✓ Implementing Office
- ✓ Sources of Fund

2. Emergency Evacuation Signage

- The Contractor shall install four (4) Emergency/Fire Evacuation Plans: two (2) in the Office Area and two (2) in the Observer's Quarter. These plans shall be posted on every floor and in strategic areas of the building, prominently displayed on the door. The plans must clearly show the route from each room to the appropriate exits. The specifications are as follows:
 - ✓ Dimensions: 8.5 in x 13 in
 - ✓ Material: Arcylic base with a photoluminescent background
- The Contractor shall install three (3) Fire Exit Signs on doors leading to accessible exits. The specifications for the signs are as follows:
 - ✓ Dimensions: 4 in x 12 in x 3mm
 - ✓ Material: Red Arcylic base with a photoluminescent "Fire exit" label

3. Occupational Safety and Health Program

- This item covers the implementation of construction safety in all stages of project procurement, including requirements, provisions, and instructions for the guidance of the Engineer.

- The Contractor shall furnish their workers with protective equipment for eyes, face, hands, and feet, lifeline, safety belt/harness, protective shields, and barriers whenever necessary due to the hazardous work process or environment.
- For General Construction Work, the required basic PPEs for all workers shall be Safety Helmet, Safety Gloves, and Safety Shoes. Workers within the construction project site shall be required to wear the necessary PPE at all times. Moreover, all other persons who are either authorized or allowed to be at a construction site shall also wear appropriate PPEs.
- All Personal Protective Equipment (PPE) is subject to the approval of the Project Monitoring Engineer and should meet specified standard requirements:
 - The Safety Helmets/Hard hat shall meet the specifications contained in the technical guidelines issued by the Specialize department in accordance to international standards- OSHA or ANSI z89. Safety Helmets should be inspected by the safety officer to ensure that it is safe and reliable to use. It should be free from cracks and proper shock-absorbing lining of the helmet and should be in good condition.
 - Safety Shoes must meet the minimum requirements according to PNS ATM F2412:2016 and PNS ASTM F2413:2016 for the impact resistance and compression resistance at the toe area of the footwear
 - Impact Resistance – 75 ft-lbs (101.7 J)
 - Compression Resistance – 2500 lbs (11,121 N)

4. Mobilization / Demobilization

- This item includes the mobilization process, relocation/transfer of existing office furniture and equipment to the designated temporary location.
- The demobilization process shall include clearing the affected areas of all rubbish, debris, and all unnecessary building materials. It aims to restore all areas that were damaged by the works and leave the site clean to the satisfaction of the Project Monitoring Engineer and/or the End-user.

Part C – EARTHWORK

1. Item 803(1)a – Structure Excavation

- This Item shall consist of the necessary excavation for the foundation of the building. This Item shall include the removal of all materials of whatever nature encountered including all obstructions of any nature that would interfere with the proper execution and completion of the work.

Scope of Work

- Clearing and Grubbing of the area
- Foundation excavation
- Compaction of soil

Material Requirements

- The excavation of the following shall be in accordance to the measurements provided at the plan;
 - ✓ Column Footing
 - ✓ Wall Footing
 - ✓ Septic Tank
 - ✓ Concrete Canal

2. Item 804(1)a – Embankment

- This Item shall consist of the construction of an embankment using suitable materials of various compositions and compacted in accordance with this Specification and in conformity with the lines, grades, and dimensions shown on the Plans or established by the Project Monitoring Engineer.

Scope of Work

- Soil Embankment using suitable materials free from debris and shall be compacted.

Material Requirements

- Use suitable materials that is free from debris and shall be compacted.

3. Item 804(7) – Gravel Bedding / Gravel Fill

- This Item shall consist of the construction of embankment using gravel and compacted in accordance with this Specification and in conformity with the lines, grades, and dimensions shown on the Plans or established by the Project Engineer.

Scope of Work

- Gravel Fill shall be constructed below the original ground elevation.
- Compaction of Gravel Bedding

Material Requirements

- The compacted thickness for each bedding are as follows:
 - ✓ Column Footing: 100mm thick
 - ✓ Wall Footing: 100mm thick

- ✓ Grade Beam: 100mm thick
- ✓ Slab on Grade: 100mm thick
- ✓ Pavement: 100mm thick
- All subsequent layers shall be spread and compacted in a similar manner. Gravel fill shall be in accordance with the approved Plan and conform to the applicable requirements of earth embankment.

Part D – REINFORCED CONCRETE

- This Item shall consist of furnishing, placing, and finishing concrete in buildings and related structures in accordance with this Specification and conforming to the dimension shown on the Plans.

1. Item 900 – Structural Concrete

- The work to which this refers includes all operations necessary for the supply and delivery of all materials, labor, equipment, and all associated activities. This shall conform in the recommendations of the “National Structural Code for Buildings” published by the Association of Structural Engineers of the Philippines.

Scope of Work

- Concreting works of the following:
 - ✓ Footing
 - ✓ Wall Footing
 - ✓ Grade Beam
 - ✓ Column
 - ✓ Beams
 - ✓ Slab on Grade
 - ✓ Concrete Gutter
 - ✓ Concrete Bench
 - ✓ PWD Ramp

Material Requirements

- Class “A” Mixture Concrete
- 3000 psi Compressive Strength
- Cement to be used shall be Type I conforming to the ASTM C-150
- Fine and coarse aggregates shall be obtained from the approved source as determined by DPWH and shall conform to ASTM C-33

- Water shall be potable and free from deleterious amounts of acids, alkalis, oils or organic matters.
- The quality of concrete shall comply with Section 5.04 of the National Structural Code of the Buildings.
- Testing of samples from concrete pours shall be as required by Section 5.05 of the National Structural Code of Buildings.
- Should further testing of the finished concrete be necessary due to non-compliance of test specimens, as required by the Engineer. It shall be carried out in accordance with the approved procedure laid down in National Structural Code of Buildings, Section 5.04 clause(e).
- Hardened concrete that is deemed not to comply with the specifications above, but which the Engineer permits to be further tested, shall be tested for compressive strength.
- Any concrete will be rejected under the specifications above if the results fail to meet the requirements Section 5.03 of National Structural Code of Buildings.
- Hardened concrete may also be rejected for any one of the following conditions:
 - ✓ It is porous, segregated or honeycombed.
 - ✓ Its placing has been so interrupted that there is a construction or similar joint not in accordance with Section 5.03 clause (d) of the National Structural Code of Buildings.
 - ✓ The reinforcing steel it incorporates has been displaced.
 - ✓ Construction tolerances have not been met.
 - ✓ The required surface finish has not been met.
 - ✓ The concrete can be shown to be otherwise defective.
- When the above condition happened, the Engineer has the option to let the Contractor to demolish the rejected portion.

2. Item 900 – Reinforcing Steel

- This item shall consist of furnishing, cutting, bending, fabricating, welding, and placing of steel reinforcement with or without an epoxy coating of the type, size, shape, and grade required in accordance with this Specification and in conformity with the requirements shown on the Plans.

Scope of Work

- Reinforcement of the following
 - ✓ Footing
 - ✓ Wall Footing
 - ✓ Grade Beam
 - ✓ Column
 - ✓ Beams
 - ✓ Slab on Grade

- ✓ Concrete Gutter
- ✓ Concrete Bench
- ✓ Pavement
- ✓ Concrete Canal
- ✓ Septic Tank

Material Requirements

- All steel bars to be used during construction should be in accordance with the guidelines of the National Structural Code of Buildings.
- The support and tolerance in placing of reinforcement shall comply with section 5.07 of the National Structural Code of Buildings.
- Lap Splicing and/or welding of reinforcement shall comply with section 5.07 of the National Structural Code of Buildings.
- Welding of reinforcement shall not be carried out unless shown on the drawings, specified, or otherwise approved by the Project Monitoring Engineer.
- All reinforcing bars shall be high tensile strength (Grade 60) except for the lateral ties, stirrups, and any reinforcing bars with 12mm Ø and below which shall be a structural grade (Grade 40).

3. Item 903 – Formworks and False works

- This Item covers the furnishing, fabrication, installation, erection, and removal of forms and falseworks, including scaffoldings.
- Scaffoldings, comprising the frame, platform, and clamps, are included in this pay item.
- The contractor shall be responsible for the design, erection, and adjustment of all formworks, falseworks, and scaffoldings in accordance with Section 5.06 of the National Structural Code for Buildings.
- All materials used in the construction and support of formwork shall be of timber, with alternative materials only allowed upon approval by the Project Monitoring Engineer.
- The contractor is responsible for ensuring that the forms are placed to the shape, lines, and dimensions indicated on the drawings, with sufficient strength to withstand the pressure from concrete placement and vibration. They must also ensure that the forms and scaffoldings are rigidly maintained and sufficiently tight to prevent excessive leakage of mortar.
- All debris, particularly chipping, shavings, and sawdust, must be removed from the interior of the forms before concrete placement. All form surfaces shall be cleaned and thoroughly wetted before pouring concrete.
- Before the placement of any concrete, the Project Monitoring Engineer shall inspect the formworks and scaffoldings, and may reject any materials or setups that do not conform to these specifications.
- The deflection of forms between joints and/or studs shall not exceed one five-hundredth (1/500) of the joints or stud spacing.
- The recommended minimum stripping time for horizontal slabs is twenty-four (24) hours after approval by the Project Monitoring Engineer.

Part E – FINISHING AND OTHER CIVIL WORKS

Item 1000– Termite Control Work

- This Item shall consist of furnishing and applying termite control chemicals, including the use of equipment and tools performing such operations in accordance with this Specification.

Material Specifications:

- Proven effective against termites by providing a barrier
- Longer lasting protection
- Higher dilution rate
- Wider area coverage
- Less hazardous
- Assurance of high quality and proven efficacy

Item 1002– Plumbing

- This item shall consist of furnishing all materials, tools, equipment, and fixtures required as shown on the plans for satisfactory performance of the entire plumbing and fire protection system including installation in accordance with the latest edition of the Revised National Plumbing Code, Uniform Plumbing Code of the Philippines, The Fire Code of the Philippines, The National Building Code, and this Specification.

Scope of Works

- Installation of plumbing fixtures and fittings.
 - Water closet shall be vitreous china, free-standing toilet combination, elongated front, bottom outlet siphonic washdown bowl with push button, double flushing, concealed trapway, 4/6 liters per flush, measuring 705 x 400 x 775 mm with cover, complete with fittings and mounting accessories. Sample models and colors shall be submitted for approval prior to delivery at the job site by the Monitoring Engineer/End-user or unless otherwise specified on the plans. **(4 sets)**
 - Water Closet Bowl (4 sets) with seat cover , Tank with cover & fittings, Lavatory (4 sets) Wall Hang basin round white (4 sets) , Tissue holder white (4 sets), soap holder white (4 sets), Accessories 1 1/4 P-Trap w/ clean out (4 sets) , (4 sets) angle valve & supply pipe, (4 sets) lavatory bracket cast iron, pop-up w.swivel plate, (4 sets) SS304 Single Lever lavatory faucet.

- Lavatory shall be white ceramic with a single hole and complete fittings. Faucets shall be made of stainless steel. **(4 sets)**
- Kitchen Sink shall be stainless with a single hole with complete fittings. Gooseneck faucet shall be made of stainless steel. **(1 set)**

- Installation of Bathroom/Toilet Accessories;

- Shower head and fitting shall be movable, round hand shower and rain shower measuring 8 inches diameter with escutcheon arm complete with stainless steel shower valve and control lever, all exposed surface to be chromium finish. Faucets shall be made of stainless steel for interior use. **(2 sets)**
- Floor drains shall be made of stainless steel beehive type, measuring 4in x 4in, and provided with a detachable stainless strainer, expanded metal lath type. **(4 sets)**
- Bidet spray shall be 304 stainless steel with a 2-way angle valve with complete fittings. **(4 sets)**
- Vanity Wall Mirror shall be mounted on the wall measuring 500x700mm **(4 sets)**
- Steel Grab Bar shall be 304 stainless steel and wall mounted, measuring 1" dia. x 600mm with pipe flange cover. **(4 pcs)**
- Pipes laying for water lines. Pipes and fittings for water lines shall conform to PNS 65:1993 – Unplasticized Polyvinyl Chloride (uPVC) Pipes for Potable Water Supply.
- Tapping from an existing public water main of the site distribution to include supply & installation of the main water meter and sub-water meters.
- All pipes shall be cut accurately to measurements and shall be worked into place without springing or forcing. Care shall be taken so as not to weaken the structural portions of the building.
- Unplasticized Polyvinyl Chloride - Non-Potable Water (Sanitary and Sewer Line)
 - a. Pipes and fittings for sanitary lines shall conform to PNS 1950, Plastic piping system for soil and waste discharge (Low & High Temp.) inside buildings – Unplasticized Polyvinyl Chloride (PVC – U), conforming to specification requirements defined in ASTM D2729, Standard Specification for Polyvinyl Chloride (PVC) Sewer Pipe and Fittings for pipes, and ASTM D3311, Standard Specification for Drain, Waste and Vent (DWV) Plastic Fittings Patterns for fittings.

- b. Pipes and fittings for sanitary and sewer lines, sizes 57mm and larger shall be designed for solvent cement joining connection conforming to specification requirements defined in ASTM D2564.

- Septic Tank

- a. The septic tank shall be provided as shown on the plans including all pipe vents and fittings. The various construction materials such as concrete or masonry work shall conform to the latest edition of the Revised national Plumbing Code and Uniform Plumbing Code of the Philippines.

- Bathroom and Toilet Accessories

- a. Shower head and fitting shall be movable, cone type with escutcheon arm complete with stainless steel shower valve and control lever, all exposed surface to be chromium finish.
 - b. Grab bars shall be made of stainless steel pipe provided with safety grip and mounting flange.
 - c. Floor drains shall be made of stainless steel beehive type, measuring 100mm by 100mm, and provided with detachable stainless strainer, expanded metal lath type.
 - d. Toilet paper holder shall be vitreous china wall mounted. Color shall reconcile with adjacent fixture and facing tiles.
 - e. Soap holder shall be vitreous china wall mounted. Color shall reconcile with the adjacent tile works.
 - f. Faucet(s) shall be made of stainless steel.
 - g. Hose bib(s) shall be made of bronze cast finish.

- Special Plumbing Fixtures

- a. Kitchen Sink shall be made of stainless steel self-rimming, single compartment complete with supply fittings, strainer traps, dual control lever and other accessories or plastic made of a high quality polypropylene virgin material composition, with stainless steel strainer, lock-nut, rubber gasket and flexible connector unless otherwise specified on the plans.

- Roof Drains, Downspout, Overflow Pipe and Steel Grating

- a. The contractor shall provide, or install necessary drains with strainers, where shown on the plans. Each drain with strainer shall fit the size of the corresponding downspout (or roof leader) over which it is to be installed and in conformity with the following schedule:

- Construction Requirements

- a. The Contractor before any installation work is started shall carefully examine the Plans and shall investigate actual structural and finishing works condition affecting all his work. Where actual condition necessitates a rearrangement of the approved pipe layout, the contractor shall prepare Plan(s) of the proposed pipe layout for approval by the Engineer.

- Protection and Cleaning

- a. Thoroughly clean all fixtures and accessories to leave the work in polished condition.

- Inspection

- a. All pipes, fittings, traps, fixtures, appurtenances and equipment of the plumbing and drainage system shall be approved by the Engineer and inspected both by the Engineer and Contractor's duly designated representative (Licensed Master Plumber or Sanitary Engineer) to insure compliance with all requirements of all Codes and Regulations referred to in its Specification.

- Water Test on System

- a. Upon completion of the rough-in and before connecting fixtures the entire cold water piping system shall be tested at a hydrostatic pressure $1 \frac{1}{2}$ times the expected working pressure in the system during operation and remained tight and leak-proofed.
- b. The water test shall be applied to the drainage and vent systems either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system filled with water to the point of overflow.

- Defective Work

- a. The entire water distribution system shall be thoroughly flushed and treated with chlorine before it is operated for public use

- As-Built Drawings

- a. Upon completion of the work, the Contractor shall submit two (2) sets of prints with all as-built changes shown on the drawings in a neat workmanship manner. Such prints shall show changes or actual installation and conditions of the plumbing system in comparison with the original drawings.

- Method of Measurement

- a. The work done under this Item shall be quantified per length and/or number of units as provided in the Bill of Quantities, tested and accepted to the satisfaction of the Engineer. Plumbing Fixtures shall be measured by set, piece, square meter and/or lump sum.

Item 1003– Carpentry and Joinery

- The work under this Item shall consist of furnishing all required materials, fabricated woodwork, tools, equipment, and labor and performing all operations necessary for the satisfactory completion of all carpentry and joinery works in accordance with the Plans and this Specifications.

➤ **Ceiling 4.5mm thk Fiber Cement Board on Metal Furring, painted finish**

- On Metal Furring, puttied, sanded, and ready to receive paint primer coating
- Surface preparation for 4.50mm thk Fiber Cement Board Ceiling Panel on Metal Furring.
- Painting of new ceiling in latex paint
- Frame: 19mm x 50mm x 0.40mm thk. Double Metal Furring spaced at 400mm O.C. 12mm x 38mm x 0.8mm thk. Carrying Channel spaced at 1200mm O.C 25mm x 25mm x 0.50mm Wall Angle at every side, and angle of the wall
- Provide all the necessary preparation of the ceiling.
- Hanger rod with adjustable clip shall be 1.00m interval both ways but provide additional hanger and support on critical areas.
- Provide all the necessary accessories and framing for proper installation.
- Ensure adequate hanger and support at all the utilities on the area

➤ **Ceiling Eaves 4.5mm thk Fiber Cement Board on Metal Furring, painted finish**

- On Metal Furring, puttied, sanded, and ready to receive paint primer coating
- Surface preparation for 4.50mm thk Fiber Cement Board Ceiling Panel on Metal Furring.
- Painting of new ceiling in latex paint
- Framing: 19mm x 50mm x 0.40mm thk. Double Metal Furring spaced at 400mm O.C., 12mm x 38mm x 0.80mm thk. Carrying Channel spaced at 1200mm O.C., 25mm x 25mm x 0.50mm Wall Angle at every side, and angle of the wall.
- Provide all the necessary preparation of the ceiling.

- Hanger rod with adjustable clip shall be 1.00m interval both ways but provide additional hanger and support on critical areas.
- Provide all the necessary accessories and framing for proper installation.
- Ensure adequate hanger and support at all the utilities on the area.

➤ **Modular Kitchen Cabinet using Melamine Laminated Marine Plywood 3/4" (Dark Brown)**

- w/ Heavy Duty Hydraulic Soft-close Hinges (US Brand) & Heavy Duty Door Handles (Stainless Solid Pull handle) 192mm, 10mm dia
- Framing: 2"x2" Ecofor Lumber (smooth 4 sides)

➤ **Fascia Board, 9mm thk. x 10" Fiber Cement Board**

- On 2" x 4" x 1.2mm thk. C-Purlin, puttied, sanded, and ready to receive paint primer coating
- Surface preparation for 12.00mm thk Fascia Fiber Cement Board Ceiling Panel on C-Purlin.
- Painting of new ceiling in latex paint.

Item 1004– Hardware

- This Item shall consist of furnishing and installing all building hardware required to (1) ensure rigidity on joint/connections of different parts of the structure; and (2) equip in a satisfactory operating condition parts of the structure such as doors, windows, cabinets, lockers, drawers and other similar operating parts in accordance with the Plans and this Specification.

- **Lever-type Door Lockset – Bolt Thru Door Knob (D1,D2)**

- ✓ Material: Stainless Steel
- ✓ Flange diameter: 75mm
- ✓ Adjustable Backset: 60mm (2-3/8") to 70mm (2-3/4")
- ✓ Door Thickness: 35mm (1-3/8") to 45mm (1-3/4")
- ✓ Type: Tubular Lock (thumb turn bolt)
- ✓ Exterior keyed locking entry door
- ✓ 3 keys
- ✓ Meets ANSI Grade 3 Standards

- **Cylindrical Door Lockset - Privacy Door Knob (D3)**

- ✓ Material: Stainless Steel
- ✓ Flange diameter: 75mm
- ✓ Adjustable Backset: 60mm (2-3/8") to 70mm (2-3/4")
- ✓ Door Thickness: 35mm (1-3/8") to 45mm (1-3/4")
- ✓ Type: Tubular Lock (thumb turn bolt)
- ✓ Function: Privacy
- ✓ 3 keys
- ✓ Meets ANSI Grade 3 Standards

- **Single Cylinder Deadbolt (D5)**
 - ✓ Material: Stainless Steel
 - ✓ Adjustable backset 60/70mm
 - ✓ Suits door thickness: 35-45mm
 - ✓ 1.2mm stainless steel faceplate
 - ✓ 1.2mm stainless steel strike plate
 - ✓ 3 keys
 - ✓ Meets ANSI Grade 3 Standards
- **Stainless Steel Ball Bearing Hinges (D1,D2,D3)**
 - ✓ Size: 4" x 4" x 3mm
 - ✓ Material: Stainless Steel 304
 - ✓ Loose Pin
 - ✓ Knuckles with 4 ball bearings
 - ✓ Suitable for DIN left and right hand
 - ✓ Suitable for Wooden Flash Door
 - ✓ Comes with stainless screws
- **Door Stopper**
 - ✓ Material: Stainless
 - ✓ Protection for lockset
 - ✓ Prevent wall from damage
 - ✓ With hardened mounting screws
 - ✓ For wood and metal door applications
- **Cylindrical Hinges (Main Gate)**
 - ✓ Size: 5/8" (16mm) x 75mm
 - ✓ Material: Carbon Steel
 - ✓ Long Round Tube Shaft
 - ✓ Cylindrical Hinges Welding Gate Heavy Duty
- **Gate Lock / Barrel Bolt (Main Gate)**
 - ✓ Size: 12 inches
 - ✓ heavy-duty barrel bolt lock designed for maximum security and durability
 - ✓ Crafted from high-quality steel
- **Long Type Padlock (Main Gate)**
 - ✓ Material: Stainless steel
 - ✓ Size: 50MM
 - ✓ 3 keys
 - ✓ Heavy Duty Door Stainless Weatherproof

Item 1005– Steel Windows

- This Item shall consist of furnishing and installing steel windows (fixed, project-in, project-out, side hung-out or side hung-in) fully equipped with flying

accessories and locking devices in accordance with the Plans and this Specification.

- **Material Requirements:**

- **(W1) - 1300mm(H) x 2100mm(W), (W2) – 1300mm(H) x 1400(W), (W3) – 1300mm(H) x 700mm(W), (W5) – 650mm(H) x 750mm(W),**
 - ✓ Swing Type Casement
 - ✓ Steel Frame and grills w/ 6 mm thk. glass
 - ✓ Hinges and lock set
- **(W4) – 600mm(H) x 500mm(W), (W5) – 2400mm(H) x 600mm(W)**
 - ✓ Awning Type Casement
 - ✓ Steel Frame and grills w/ 6 mm thk. glass
 - ✓ Hinges and lock set
- **Louver Window**
 - ✓ Size: **W6- 0.90m W x 1.00m H x 1.2mm thk & W7- 0.45m W x 1.00m H x 1.2mm thk**
 - ✓ Fixed Louver Type
 - ✓ Framing: Rectangular Tubular 1"x2" – Blade
 - ✓ Framing: Rectangular Tubular 2"x3" - Frame
 - ✓ including louver, tubular frame, and screen

Item 1010– Wooden Doors

- This Item shall consist of furnishing all materials, hardware, plant, tools, labor and services necessary for complete fabrication and installation of wooden doors of the type and size in accordance with the Plans and this Specification and applicable Specifications of Item 1003, Carpentry and Joinery Works.
- **(D1) – 2.10m(H) x 0.90m(W)**
 - ✓ Flush Door Swing Type
 - ✓ With 2" x 4" Tanguile Door Jamb
 - ✓ 3 pairs of 4" x 4" x 3mm Stainless Steel Ball bearing hinge
 - ✓ 1 set of entrance lock lever type, Bolt thru door knob
 - ✓ Varnish Finish
- **(D2) – 2.10m(H) x 0.80(W)**
 - ✓ Solid Wood Panel Door Swing Type
 - ✓ With 2" x 4" Tanguile Door Jamb
 - ✓ 3 pairs of 4" x 4" x 3mm Stainless Steel Ball bearing hinge
 - ✓ 1 set of entrance lock lever type, Bolt thru door knob
 - ✓ Varnish Finish
- **(D3) – 2.10m(H) x 0.70(W)**
 - ✓ Solid Wood Panel Door Swing Type
 - ✓ With 2" x 4" Tanguile Door Jamb
 - ✓ 3 pairs of 4" x 4" x 3mm Stainless Steel Ball bearing hinge
 - ✓ 1 set of entrance lock lever type

- ✓ Varnish Finish

Item 1006– Steel Doors and Frames

- This item shall consist of furnishing and installing all fabricated steel doors and frames equipped with fixing accessories and locking devices in accordance with the Plans and Specifications.

- **(D5) – 2.10m(H) x 1.70m(W)**
 - ✓ Double Swing Type
 - ✓ Steel Louver Door and Frames
 - ✓ 3 pairs of 4" x 4" x 3mm Stainless Steel Ball bearing hinge
 - ✓ 1 set of entrance lock , single cylindrical dealbolt

Item 1007– Glass Door and Frame

- This item shall consist of furnishing and installing all fabricated glass doors and frames equipped with fixing accessories and locking devices in accordance with the Plans and Specifications.

- **(D4) – 2.10m(H) x 0.9m(W)**
 - ✓ Double Swing Type
 - ✓ Analok Framed
 - ✓ ¼" thick clear tempered glass
 - ✓ Automatic door closer hinge
 - ✓ Handle bar

Item 1013– Metal Roofing Accessory

- This Item shall consist of furnishing all pre-painted metal sheet materials, tools, equipment, and plant including labor required in undertaking the proper installation complete in accordance with the plans and this Specifications.

- **Fabricated Metal Roofing, Pre-painted, Ridge Roll**
 - ✓ Thickness: Gauge (0.60mm)
- **Fabricated Metal Roofing, Pre-painted, Wall Flashing**
 - ✓ Thickness: Gauge (0.60mm)
- Gutters, valleys, flashing ridge, and hip rolls shall be fastened where indicated on the Plans by self-tapping screws or galvanized iron straps and rivets. Always begin flashing installation from the bottom and work up, so that flashings are lapped on top of the lower

flashings. This will prevent moisture from leaking under the flashings and into the structures.

Item 1014 & 1047– Pre-painted Metal Sheets & Structural Steel Trusses

- This Item shall consist of furnishing all equipment, tools, materials, and labor required to properly install and complete the corrugated metal roofing, together with the related accessories such as ridge/hip rolls, valleys, gutters, and flashing in accordance with the Plans and this specification.
 - **Pre-painted Metal Sheets, Gauge 24 (t = 0.6mm.), Rib Type, Long span**
 - Materials Requirements:
 - ✓ Panels: Ga. # 24 (0.60mm) thick. Pre-painted Rib-type roof, Long-span
 - ✓ Roof Trusses for Synoptic and Quarters Building: A36 Top and Bottom Chord (Double Angle Bar 2L) 2" x 2" x ¼" mm thick.
 - ✓ Plates for Synoptic and Quarters Building: A36 Gusset 4.5mm. thick and A36 Base Plate 6mm thick. x 200mm. x 200mm.
 - ✓ Web Members for Synoptic and Quarters Building: A36 1 ½" x 1 ½" x ¼" mm thk. (Double Angle Bar 2L)
 - ✓ Purlins for Synoptic Building: 100mm.x 50mm. x 15mm.x 2.0mm. thick LC-Purlins
 - ✓ A36 Sagrods: 10mmØ x 0.65m. w/ standard nuts and washers
 - ✓ Insulations: 10mm thick. Double Sided P.E Foam Insulation.
 - Steel Connections shall be fully welded. Welding electrodes shall be E60 series of ASTM Specifications A233.
 - Provide all necessary accessories for proper installation.
 - Verify plans for necessary details.
 - All structural steel frames shall be applied with Acrylic epoxy paint.
 - All Steel sections shall be primed and painted two coats with final coating colors as to be specified by Project Monitoring Engineer and End-user

Item 1016– Waterproofing

- This Item shall consist of furnishing all waterproofing materials, labor, tools equipment, and other facilities in undertaking the proper installation works required in accordance with this Specification.
 - **Item 1016(1)a – Waterproofing, Cement-base**
 - Material Requirements for the waterproofing:
 - Superior water impermeability
 - Flexible and fiber-reinforced
 - Most compatible to concrete substrates (being cementitious)
 - High water vapor transmission
 - UV Resistant (high-grade polymer plus cement)

- Monolithic
- Guaranteed water protection; virtually a “waterproofed concrete skin”
- Excellent adhesion to concrete (chemical & mechanical bonding)
- Releases retained water vapors in concrete; prevents blistering.
- Longer service life of waterproofing film

Scope of Works

- Waterproofing of the concrete gutter, septic tank, and second-floor toilets.
- Clean the area to be applied with waterproofing. All laitance, contaminants, dust, oil, and previous coatings shall be removed
- Wet the application area with water until water absorption is none to minimal with no water ponding.
- Brush on one (1) coat of waterproofing primer to the substrate to ensure all pores are sealed off.
- Once the primed surface is dry to touch, apply the waterproofing cement-base mixture. Allow the first coat to cure from 1-2 hours, then apply the second mixture over the first coat (applied on the opposite direction).
- Let dry for 24 hours before flood testing.

Item 1018– Ceramic Tiles

- This Item shall consist of furnishing and installing ceramic tiles materials including cementitious/adhesive materials, tools, and equipment including labor required in the proper installation of floor, wall, and countertop as shown on the Plans and in accordance with these Specifications.
 - **Unglazed Tiles**
 - Unglazed tiles shall be hard dense tiles of homogeneous composition.
 - ✓ T&B Floor Tiles: 30cm x 30cm Unglazed Tiles
 - ✓ Hallway Floor Tiles: 40cm x 40cm Non-skid Tiles
 - ✓ Stair Tiles: 40cm x 40cm Non-skid Tiles with stair nosing
 - **Glazed Tiles and Trims**
 - Glazed Tiles and trims shall have an impervious face of ceramic materials fused onto the body of the tiles.
 - ✓ T&B Wall Tiles : 30cm x 30cm Glazed Tiles
 - ✓ Floor Tiles for Office and Radio Room: 40cm x 40cm Glazed Tiles
 - ✓ Kitchen countertop – Synthetic granite slab with trims
 - **Stone Cladding Tiles**

- Masonry tiles shall be hard dense tiles of homogeneous composition.
- Outdoor wall tiles (Signage Wall)
- Size: 30x45cm

Note:

- The contract must submit a design sample of tile selection for approval of the end user or Project monitoring engineer.

Item	1027-	Cement	Plaster	Finish
	<ul style="list-style-type: none">This Item shall consist of furnishing all cement plaster materials, labor, tools, and equipment required in undertaking cement plaster finish accordance with the Plans and Specifications			
	<u>Scope of Works</u> <ul style="list-style-type: none">Cement Plaster for Interior and Exterior Wall			
	<u>Material Requirements</u> <ul style="list-style-type: none">✓ Class "B" Mixture✓ 20mm thick plaster			
Item 1032– Painting, Varnishing, and Other Related Works				
	<ul style="list-style-type: none">This Item shall consist of furnishing all paint materials, varnish and other related products, labor, tools, equipment required and undertaking the proper application of painting, varnishing and related works in accordance with the Plans and this Specification.Number of coats, where specified, is minimum. The contractor shall apply as many as required to meet specifications for a solid, uniform appearance. Where film thickness in mils is specified, spot checks will be made to determine compliance with the specified thickness.Submit 2 samples of each and every color or finish (including all coats). Where the same color or finish is to be applied over different materials, samples of each shall be submitted.All works fittings, furniture, etc., are to be suitably protected during the execution of the work. Splashes on floors, walls, etc. are to be removed during the progress of work and on the whole, left clean and perfect upon completion.All defective or damaged work shall be restored to its initial condition.All voids, cracks, nicks, etc., will be repaired with proper patching material and finished flush with surrounding surfaces.Marred or damaged shop coats on metal shall be spot-primed with appropriate metal primer.			

- Upon completion of the project, the Contractor shall remove all paint spots from all finished work, remove all empty cans and leave the entire premises free from rubbish or other debris caused by his work. They shall remove their equipment from the premises. They shall clean off all glass free from paint spots and smears and shall present the work clean and free from all types of blemishes.
- For Surface Preparation: Allow new concrete to dry for 14-28 days under normal weather conditions before painting. Surface to be painted should be clean and dry, free from oil, grease, dust, dirt, contaminants, and all loose grit and mortar.
- Painting Schedule:

➤ Masonry Surfaces
Exterior Surfaces

- Smooth finish (Flat, Semi-gloss). Using a 100% acrylic water based elastomeric wall paint that is especially formulated to bridge micro/hairline cracks and crevices thus providing good waterproofing and protection from rain, carbon dioxide or other acidic gases (acid rain).
- New Painting:
 - 1st coat: Treat with masonry neutralizer.
 - 2nd coat: Concrete Primer and Putty spot
 - 3rd Coat: Flat Latex – 1 coat
 - 4th Coat: Acrylic water based elastomeric wall paint – 2 coats

Interior Surfaces

- 1st coat: Treat with masonry neutralizer.
- 2nd coat: Concrete Primer and Putty spot
- 3rd Coat: Flat Latex – 1 coat
- 4th Coat: Acrylic water based elastomeric wall paint – 2 coats

➤ Ceiling, Fiber Cement Board

- Smooth finish (Flat, Semi-gloss).

New Painting:

1st coat: Prime bare substrate with Flat latex (100% Acrylic Water-based) w/ putty and mesh on the joint and minor surface imperfections with Joint Compound. Let dry for one (1) hour. Spot-primed puttied portions.

2nd and 3rd Coat: Finish with two (2) coats of Latex Paint with low-odor water-based coating. Let dry for one (1) hour

in between coats.

➤ Metal Surfaces

- Gloss Finish (Epoxy type) for window frames, metal railings, canopies and stair railings.

Primer: Epoxy Primer Red oxide

1st and 2nd Coat: Water-based Acrylic Epoxy paint (Black)

➤ Varnishing, Wood, Doors and Jamb

- Gloss Finish (Gloss Lacquer)
- Sand the surfaces thoroughly
- All the cracks and wood imperfections shall be applied with putty and wood paste filler.
 - Application of oil wood stain (maple)
 - Application of lacquer sanding sealer sanded lightly before topcoat application.
 - Final coat: Clear Gloss Lacquer

Note: Choice of Color

The End-user or Project Monitoring engineer must first be consulted after he/she has given the color scheme. No painting job shall be done unless it has met the approval of the end user or Project Monitoring engineer regarding the color.

Item 1038 – Reflective Insulation

- This Item shall consist of furnishing all thermal insulation materials of one or more low emittance surfaces bounding one or more enclosed air spaces, tools, and equipment, plant including labor required in undertaking the proper installation complete in accordance with the Plans, and this Specification.
- The reflective insulation specified shall be 10mm double-sided P.E. foam insulation.

Item 1046- Masonry Works

- This Item shall consist of furnishing all necessary materials, tools, equipment, and labor necessary to complete the execution of the masonry works as shown on the Plans.

Scope of Works

- Construction of Interior Wall
- Construction of Exterior Wall
- Construction of Signage Wall
- Wall Plastering

Material Requirements

- Interior Wall

- ✓ 4" Concrete Hollow Blocks, shall be standard manufacture, machine vibrated, and shall have fine and even texture, and well defined edges.
 - ✓ Provide 10mmØ Vertical deformed round bars at 0.60m on centers and 10mmØ Horizontal deformed round bars at every 3 layers of CHB.
- Exterior Wall
 - ✓ 6" Concrete Hollow Blocks, shall be standard manufacture, machine vibrated, and shall have fine and even texture, and well defined edges.
 - ✓ Provide 10mmØ Vertical deformed round bars at 0.60m on centers and 10mmØ Horizontal deformed round bars at every 3 layers of CHB.
- For Mortar, Filler, Plastering, Deformed Round Bar, Tie Wire
 - ✓ Mortar, filler and plastering shall be Class "B".
 - ✓ Use Portland cement which conforms to the requirements of ASTM C-150 Type for normal Portland Cement.
 - ✓ Use fine aggregates which shall be free from injurious amount of clay loam and deleterious materials and shall conform to ASTM C-33 or C-330.
 - ✓ Deformed steel bars shall conform to ASTM A-305. It shall be clean and free from loose, rust, scales and any coatings that will reduce the bond.
 - ✓ #16 G.I tie wires shall be used for reinforcing bar connectors
 - ✓ Provide the plastering at 20mm thick using Class "B" mixture.

Item 1047 - Metal Structures

- This work shall consist of furnishing, fabricating, hauling, erecting, welding and painting of metal structure and accessories constructed in accordance with the Plans and this Specifications.

Scope of Works

- Fabrication and Installation of Canopy Framing
- Fabrication and Installation of Gate
- Fabrication and Installation of Stairs

Material Requirements

- Canopy Framing
 - ✓ 2" x 3" x 1.5mm thk. G.I Tubular
 - ✓ 2" x 4" x 1.5mm thk. G.I Tubular
 - ✓ 4" x 8" x 12mm thk. Base Plate
 - ✓ 5/16" Anchor Bolt

- Gate
 - ✓ 1" x 1" x 1.5mm thk. G.I Tubular
 - ✓ 2" x 4" x 1.5mm thk. G.I Tubular
 - ✓ 4" x 8" x 12mm thk Base Plate

- Stairs
 - ✓ Stringer – 2" x 6" x 20mm thk. G.I Tubular
 - ✓ 1" x 3" x 1.5mm thk. G.I Tubular for Handrailing
 - ✓ 1" x 1" x 1.5mm thk. G. I Tubular for railings
 - ✓ 2" x 2" x 6.0mm thk. Angle Bar
 - ✓ 10" x 10" x 20mm thk. Base Plate
 - ✓ 5/16" Anchor Bolt

Item 1051 - Railings

- This Item shall consist of furnishing, fabricating, and installing of railings for buildings and other similar structures of the material or combination of materials in accordance with this Specifications and in conformity with the Plans.

Scope of Works

- Fabrication and Installation of Railings

Material Requirements

- Railings
 - ✓ 1" x 2" x 1.5mm thk. G.I Tubular
 - ✓ 2" x 2" x 1.5mm thk. G.I Tubular
 - ✓ 1" x 3" x 1.5mm thk. G.I Tubular
 - ✓ 4" x 8" x 12mm thk. Base Plate
 - ✓ 3" x 4" x 12mm thk. Base Plate
 - ✓ 5/16" Anchor Bolt

Item A.1.1 (11) – Provision of Furniture for PAGASA Personnels

- The field offices, laboratories, and living quarters shall have at least the floor area prescribed on the Plans and shall contain sufficient furniture/fixtures, equipment, appliances, apparatus, and publications specified in the Contract. If the Contractor cannot provide or intends to supply an equivalent substitute, the Contractor shall secure the approval of the Engineer.

Synoptic Station Office

- 700 mm x 1400 mm x 740 mm, Light Gray Office Table with center drawer and mobile pedestal cabinet – **4 sets**
- Office Chair, Ergonomic office chair with headrest and armrest, High back – **4 sets**

Observer's Quarter

- Double Deck Steel Bed Single Size (Black) – **2 sets**
- Foam Urethane Mattress (Single) – **4 sets**
- Gentle Bounce Pillows – **4 sets**
- Stand fan 16inch w/ thermal fuse, 65watts – **2 sets**
- 4 Seater Rectangular Table Dining Set – **1 set**

○ Measurement:

Table

Width: 120 cm

Depth: 60 cm

Height: 75 cm

Chair

Width: 40 cm

Depth: 43 cm

Height: 84 cm

Seat Height: 44.5 cm

○ Materials:

Panels: 15 mm thick MDF with PVC cover

Frame & legs: Metal tube in powder coated finish

○ Weight Capacity:

Table: 50 kgs

Chair: 80 kgs

Stainless Steel Logo and Letters

Scope of Works

- Supply and Installation of 300x300mm Stainless steel PAGASA logo and DOST logo.
- Supply and Installation of 2.5-3inhes Stainless steel letters.
- Supply and Installation of 5 inches Stainless steel letters.

Fencing Chain link (Cyclone wire galvanized 4" Gauge 10)

Scope of Works

- Layout and installation of 4' galvanized cyclone wire (gauge 10) for the perimeter fence.
- The wire must be welded onto 38mm diameter G.I. steel pipes.

Fencing Post

Scope of Works

- Layout and installation of 38mm diameter, schedule 40 G.I. steel pipes for the perimeter fence.

Flagpole

- This work shall consist of furnishing, fabricating, hauling, erecting, welding, and painting of metal structure and accessories constructed in accordance with the Plans and Specifications.

Scope of Works

- Construction of Flag pole
- Construction of flagpole pedestal and concrete platform shall conform with the specifications under Item Nos. 803(1)a, 804(4), 1705, 900, 902(1), 903(2) and 1027(1).

Material Requirements

- Tapered Flagpole
 - ✓ Hot-dip galvanized.
 - ✓ Thickness = 3.0mm.
 - ✓ Top diameter = 3"
 - ✓ Bottom diameter = 6"
 - ✓ Height = 6.0m.
 - ✓ Base plate, anchor rods with nuts and washer, pulley holder, pulley
- Philippine Flag

- ✓ Fabric Material: Nylon
 - ✓ 2 feet x 4 feet
 - ✓ Stars and Sun are sewn/patched
 - ✓ With non-rust eyelet ready for hanging
- Rope
 - ✓ 7mm. dia. x 10m. Vinylon rope

Part F - ELECTRICAL

Item 1100 – Conduits, Boxes and Fittings

- This item shall consist of furnishing and installation of the complete conduit work consisting of electrical conduits; conduit boxes; conduit fittings and other electrical materials in accordance with the Plans and this Specification.

Scope of Works

- All conduits, conduit boxes, conduit fittings, pull boxes and other electrical materials base on the Plans and Specification shall be installed including furnishing.
- All conduits and boxes shall be embedded in concrete unless otherwise specified on the plan.
- All Junction boxes shall install covers.
- Where a conduit enters a box, fitting, or other enclosure, a locknut and bushings shall be installed to protect the wire from abrasion unless the design of the box, fitting, or enclosure is such as to afford equivalent protection.
- Installation of pull-boxes above and below the panel boards.
- Installation of Rigid Steel Conduit in service entrance post.
- All conduits buried underground shall be at least 300mm depth and with electrical warning mesh tape.
- All lighting outlet shall have 1.5m flexible metal conduit connected to metal straight connector to metal cover.
- Installation of service entrance conduit for telecommunication cabling in radio room.
- The contractor shall laid and buried 2 – 50mm dia. PVC from Service Entrance Post to Gen. Set room and to Synoptic Building.
- The contractor shall provide 25mm dia RSC pipe with 20mm dia. weatherhead at service entrance post for Auxiliary System.

- Installation of 20mm dia. conduits for perimeter fencing and signage and trenching to MDP shall be done by the contractor, refer to the plan.
- Testing of all items mention above.

Specifications

- Threadless couplings and connectors shall not be used in threaded conduit ends unless listed for the purpose.
- Exposed conduit in Service Entrance Post shall be Rigid Steel Conduit (RSC).
- RSC shall be made of steel with protective coatings, aluminium, red brass or stainless steel.
- Markings in each length of RSC shall be clearly and durably marked at least every 3000mm with the letters RSC. Each length shall be marked as required in Subsection 1.10.1.21 (A) of Article 1.10, Requirements for electrical installations of PEC, Part I.
- The standard length of RSC shall be 3000mm, including an attached coupling, and each end shall be threaded.
- RSC shall be having a minimum size of metric designator 16 (trade size ½) and a maximum size of metric designator 103 (trade size 4).
- PVC Conduit shall be made of rigid (non-plasticized) polyvinyl chloride (PVC).
- PVC conduit and fittings shall be composed of suitable non-metallic material that is resistant to moisture and chemical atmosphere.
- Markings in each length of PVC conduit shall be clearly and durably marked at least every 3000mm as required in Subsection 1.10.1.21 (A) of Article 1.10, Requirements for Electrical Installations of PEC, Part I.
- The physical and mechanical properties of PVC conduit shall conform to the requirements of PNS 14:2005, Unplasticized Polyvinyl Chloride (uPVC) electrical conduit – Specification.
- PVC shall have a minimum size of metric designator 16 (trade size ½) and a maximum size of metric designator 155 (trade size 6).
- Pull boxes shall be grey coated and shall have cover.
- Service entrance conduit for telecommunication cables in radio room shall be 50mm dia. PVC and with weatherhead including conduit layout embedded in concrete. Height of the conduit shall be just below the ceiling. Inside the radio room shall have pull box with a height from finish floor line shall 300mm. Pull box shall have cover.
- All conduits that will cross the line canal shall be in concrete encasement without compromising the flow of water in line canal.

Item 1101 – Wires, Cables and Wiring Devices

- This item shall consist of furnishing and installation of all wires and wiring devices consisting of electric wires and cables, wall switches, convenience receptacles, heavy duty receptacles and other devices in accordance with the approved Plans and this Specification.

Scope of Works

- All wires and wiring devices specified in the plan shall be installed including furnishing.
- All branch circuits and main feeder shall have grounding wire from Panel Boards to electrical devices.
- The contractor shall have labelled all electrical devices such as convenience outlets and switches with corresponding branch circuit in the Panel Board for easy troubleshooting. Refer to schedule of loads.
- The contractor shall allot 150mm minimum extension of wire for switch boxes and convenience outlet boxes.
- The contractor shall allot minimum of 1500mm extension of wire for lighting fixture junction boxes inside a flexible conduit.
- All wires shall be terminated to wiring devices and to circuit breakers according to the plan.
- All wires going in panel board shall be neat and tidy.
- Installation of power source to Intermediate Distribution Panel (IDP).
- Testing all items mention above.

Specifications

- All wires shall be Phelps Dodge Thermoplastic High Heat-Resistant Nylon-Coated (THHN) copper wires rated 600V.
- All wires shall be stranded type.
- All branch circuits and main feeder shall have grounding wire from Panel Boards to electrical devices.
- The minimum diameter size of conductors shall be 2.0mm² for copper
- Switches shall have LED indicator.
- Receptacles shall be 3-pin socket (grounding type).
- All electrical devices shall be high quality that will last for long.

Item 1102 – Panel Boards and Other Overcurrent Protection Devices

- This Item shall consist of furnishing and installation of the distribution panel boards at the location shown on the approved Plans complete with circuit breakers, all accessories completely wired and ready for service.

Scope of Works

- Installation of panel boards shall be embedded in wall concrete.
- Main and branch circuit breakers for panel boards shall have the rating, capacity and number of poles as shown on the approved Plans.
- Panel boards, main and branch circuit breakers shall be labelled accordingly to the schedule of loads.
- The contractor shall provide decorative electrical panel board cover to hide the panel board in a wall. Probably painting with wood frame.
- The body of the metal panel boards shall be properly grounded.
- The contractor shall provide grounding terminal in each panel board.
- Installation of panel boards of lighting and power outlets.
- The contractor shall submit a proposal of preliminary Test and Inspection Plan.

Specifications

- Panel Boards shall be NEMA 1 enclosure and shall be grey coated unless otherwise specified in the plan.
- Circuit Breakers shall be Schneider Electric.
- Main circuit breaker shall be 2-pole single phase and branch circuit breaker are 2-pole single phase according to the schedule of loads.
- Panel boards shall have busbar capacity more than the full-load current accordingly to the Plan.

Item 1103 – Lighting Fixtures and Lamp

- This Item shall consist of furnishing all lighting fixtures, accessories and fixings necessary for installation as shown on the Plans and in accordance with this Specifications. A light fixture or luminaire is an electrical device to create artificial light that serves as a tool to direct light using reflective and shielding materials.

Item 1103 – Lighting Fixtures and Lamp

- This Item shall consist of furnishing all lighting fixtures, accessories and fixings necessary for installation as shown on the Plans and in accordance with this Specifications. A light fixture or luminaire is an electrical device to create artificial light that serves as a tool to direct light using reflective and shielding materials.

Scope of Works

- Installation of LED panels recessed type, surface type and suspended type (accordingly to the Plan) shall be fit into ceiling, properly reinforced the mounting and properly grounded. Refer to the Plan.
- Installation of downlight fixture, surface type, recessed type. Refer to the Plan.
- Installation LED Emergency light at corresponding location. Refer to the Plan.
- Provide individual power outlet for emergency light.
- All lighting fixture body shall be properly grounded.
- LED panel in generator room shall be suspended type.
- Installation of lighting fixtures in perimeter fence and signage shall in accordance to the plan.
- Installation of LED bulbs in all lighting fixtures.
- Upon completion of installation of lighting fixtures and after circuitry has been energized, electrical energy shall be applied to demonstrate capability and compliance with requirements. When possible, malfunctioned units at the Project Site shall be rectified, then retested to demonstrate compliance; otherwise, defective items shall be removed and replaced with new units and another test shall be conducted.

Specifications

- LED panel light **120cm x 30cm surface type** shall be 60Watts with LED driver and color temperature shall be 6000k.
- LED panel light **120cm x 30cm suspended type** shall be 60Watts with LED driver and color temperature shall be 6000k.
- 6" vertical downlight fixture surface type and recessed type shall be aluminium material, water proof and color black. The color temperature of bulbs shall be 3000k 9watts. Refer to the Plan for location.

- LED emergency light shall be 3.6V 900mAh Ni-CD battery with overcharge and discharge protection. Injection-moulded thermoplastic ABS housing. Adjustable Headlamps. 3000k color temperature.
- Wall lamp shall be modern, upside down lighting, 2 bulbs, IP65 waterproof, aluminium material, black in color, E27 socket with 3watts LED bulb.
- Floodlight/Spot light shall be LED, 220V input, warmwhite in color temp., 20Watts each, outdoor waterproof, aluminium material, black in color.

Item 1104 – Auxiliary System

- This Item shall consist of furnishing and installation of all materials, components and equipment to complete the requirements for Auxiliary System in accordance with the Plans and this Specification.

Scope of Works – CATV System

- Installation of wall plate CATV outlet (See specified plan).
- Installation of conduits for Co-axial cable shall be embedded in concrete. Refer to the Plan.
- Installation of Co-axial cable and termination of cables.
- Installation of outdoor CATV box.
- Labelling of CATV outlet is a must.
- At the completion of the installation works, the entire installation shall be subject to the test before final placing in service under the full responsibility of the Contractor. Unless otherwise specified, all test shall be carried out in conformity with the requirement of Philippine Electrical/Electronics Code or with this Specification.
- After each test, the contractor shall immediately submit copies of a test report to the Engineer.
- Testing certificates shall be provided by the speciality contractor prior to final turnover.

Specification – CATV System

- CATV Outlet shall be single port, with wall plate cover unless otherwise specified on the plan.
- Co-axial cable shall be RG-6.

- Outdoor CATV panel box shall be place outside the building (See plan for location).
- Conduit, boxes and fittings shall conform to the requirements if **Item 1100**.
- Cable and wiring devices shall conform to the requirements of **Item 1101**.

Description – Network and Cabling System

- This Item shall consist of furnishing and installation of Network Cabling, equipment and associated components to form a complete coordinated system ready for operation in accordance with the Plans and Specifications.

Scope of Works – Network and Cabling System

- Installation and layout of conduits for UTP cable shall be embedded in concrete.
- Installation of UTP cable in every data outlet/port is directly from Main Distribution Frame (MDF). Splicing is strictly prohibited.
- Installation of Data outlet/port with grid and plate.
- Managed switch, patch panel and Intermediate Distribution Frame (IDF) shall install by the contractor.
- Termination of UTP and STP cables in every port and to managed switched/patch panel shall be done by the contractor.
- Configuration of the network system shall be done by the contractor.
- Installation of WIFI access point shall be done also by the contractor.
- Provide pull boxes for MDF.
- STP Outdoor Cabling shall be installed from service entrance post to MDF.
- All cables and hardware shall be 100% tested for defects in installation and to verify cable performance under installed conditions. All conductors of each installed cable shall be verified useable by the Contractor prior to system acceptance.
- All UTP and fiber optic cable field testing shall be.
- and shall all result to PASS remarks channel or permanent link.
- All field tester shall be factory calibrated each calendar year by the field test equipment manufacturer.

Specifications – Network and Cabling System

- Conduit, boxes and fittings shall conform to the requirements if **Item 1100**.
- Cable and wiring devices shall conform to the requirements of **Item 1101**.
- UTP cable shall be CAT6.

- Data outlet shall be single port with grid and plate.
- WIFI access point shall be 300Mbps ceiling mounted.
- IDF shall be complete set (power outlets, brackets and other accessories, etc.).
- POE injector shall be 8 port for LAN and 8 port for POE.
- Manage Switch shall meet the specifications below:
 - **Power consumption:** Max Power (w/o PoE): 33W
 - **Input Voltage:** 100-127 VAC / 200-240 VAC
 - **External I/O Ports:** 24x ports 10/100/1000BASE-T ports 4x 1G SFP ports
 - **Latency:** 1 Gbps: 1.5 µSec
 - **Routing Capabilities:** Static
 - **Switching Capacity:** 56 Gbps
 - **Throughput:** 41.6 Mpps
 - **Memory and Processor:** Dual Core ARM Cortex A9 @ 1016 Mhz 8 GB DDR3, maximum, depending on model 16 GB eMMC
 - **PoE Capability:** non-PoE model
 - **Warranty Standard Statement:** Limited Lifetime Warranty
 - **Weight (imperial):** 5.78 lbs
 - **Weight (metric):** 2.6 kg
 - **Product Dimensions (imperial):** 1.73 x 17.4 x 7.92 in
 - **Product Dimensions (metric):** 4.4 x 44.2 x 20.1 cm
 - **Operating Temperature:** 32°F to 113°F (0°C to 45°C) up to 5000 ft (1.5 km) derate -1°C for every 1000 ft (305 m) from 5000 ft (1.5 km) to 10000 ft (3.0 km)

Item 1109 – Grounding System

1109.1 Description

This item shall consist of furnishing all grounding system materials, labor, tools, equipment and others in undertaking the proper installation works required in accordance with the Plans and this Specification.

Scope of Works

- Trenching and excavation shall be done by the contractor.
- Installation of ground rod and conductors shall be done by the contractor.

- The contractor shall inform and ask on where to install the air terminal.
- Exothermic weld connector shall be done by the contractor.
- Base supports, air terminal braces and single spool rack shall be included at the installations.
- Chemical grounding rod, grounding enhance material, grounding busbar terminal and ground rod copper clad shall be delivered and install by the contractor.
- Sealing gum shall be use whenever it is needed.
- Terminal lugs shall be install by the contractor.
- Access well or test well of chemical ground rod shall be install by the contractor.
- Ground resistance test shall be done by the contractor and with PAGASA personnel for witness.

Specifications

- Copper clad ground rod shall be 3 meters in length and 18mm in diameter, and must be UL listed.
- Conventional lightning arrester shall have its base, shall be copper and UL listed.
- Chemical grounding rod shall be 1.2 meters in length and 50mm in diameter.
- Ground bus bar shall be 6mm x 50mm x 250mm in size, wall mounted with 12 terminal positions, insulator and mounting bracket.
- Down conductor from air terminal shall be 50mm² THHN copper wire.
- Bare copper wire must be 30mm² in size.
- Exothermic powder shall be #45 and #90 for WX and GET connections.
- Exothermic mold shall be SSS 35 for straight connection, GTS 14235 for cable to ground rod and DRS 1635 for cable to rebar.
- Ground enhancement terminal shall maintain constant resistance for the life of the system once in its set form, performs in all soil conditions even during dry spells, does not require periodic charging treatments or placement, does not require the continuous presence of water to maintain its conductivity, fully sets within 3 days, fully cures within 28 days, does not dissolve, decompose, or leach out with time, non-corrosive, exceeds IEC®

62561-7 which sets the benchmark for corrosion, leaching, sulfur content, and other environmental regulations.

- Terminal lugs shall be ring type, 35-8.
- Hangers and support shall be well built and sturdy.
- Minimum requirements for ground resistance shall be less than 1ohm.

Item 1111 – Miscellaneous Electrical/Civil Works

- This item shall consist of construction of pedestal poles, manhole, concrete encasement, handhole, wire trench, furnishing and installation of cable tray, mounting bolts/ eye bolts, and spool insulator wire rack and shall conform to the alignment, grades, design, dimensions and details in accordance with Plans and Specifications.

Scope of Works

- Construction of service entrance post shall be in accordance with the plans and specifications.
- Trench excavation from service entrance post to generator room and to synoptic building. Refer to the plan.
- Hand hole shall be located according to the plan.
- Installation of electrical warning mesh tape above the trenching.
- Installation of 3 spool insulator spool secondary rack base on the plan.
- Installation of Loop hangers and threaded rod for 50mm dia. PVC pipe, for instruments cables.

Specifications

- Service entrance post shall be in accordance to the plan.
- Service entrance post, encasement and handholes shall be in accordance with the applicable requirements of Item 900, Structural Concrete.
- Handhole shall be 500mm x 500mm x 600mm.
- Other materials to be used shall be in accordance with Section 3.14.2.16, Handhole Enclosures and Section 1.10.5, Manholes and Other Electric Enclosures Intended for Personnel Entry of the Philippine Electrical Code (PEC), Part 1.
- Trench excavation shall be minimum of 300mm in depth.

- Insulator post strut shall be rounded to ensure that the spool insulator will not be damaged while being strung. All components of secondary rack shall be hot-dip galvanized conforming to the requirements of ATSM A123, Zinc (hot-dip galvanized) coatings on iron and steel products.

Part G. MECHANICAL

Fire Extinguisher

- Fire Extinguisher shall be installed in accordance with section 10.2.6.7, Portable and Wheeled Fire Extinguisher of Fire Code of the Philippines and NPFA 10, Chapter 6, Installation of Portable Fire Extinguisher.

Scope of Works

- Supply of four (4) sets of 4.54 kg ABC dry chemical refillable multipurpose fire extinguisher with bracket.
- It must be verified for compliance with safety standards and installed in a suitable, easily accessible location within the premises, following fire safety guidelines.

Item 1200 – Air Conditioning and Ventilating System

- This Item shall consist of furnishing and installation of air conditioning, refrigeration and ventilation systems, inclusive of necessary electrical connections, ductworks, grilles, pipes and condensate drains and all other necessary accessories, ready for service in accordance with the Plans and this Specification.

Scope of Works

- Installation and layout of conduits for window type ACU and Exhaust Fans shall be embedded in concrete. Refer to the Plan.
- Installation of exhaust fan wall mounted type. Refer to the Plan.
- Providing individual power outlet for each exhaust.
- The Contractor shall provide metal brackets, housing or casing of all ACU units.
- The Contractor shall provide power supply at the pull box installed beside ACU and shall furnish and install the main circuit breaker with suitable ratings and

capacities, conduits, wirings, fittings, devices and all other equipment and electrical connections needed to complete the electrical installation of the system. Refer to schedule of loads of ACU.

- Air conditioning equipment shall be tested for 8hr per day for three (3) consecutive days or longer when so directed, under the supervisions of manufacturers qualified and authorized representative, who will make necessary adjustments and instruct designated operating personnel for each operation and maintenance of refrigerating equipment and controls.
- Test of air flow, temperature and humidity shall be made to demonstrate that each complies with the requirements as indicated in the manufacturer's specifications.

Specifications

- 2HP window type inverter ACU shall be with free bracket, 14.3 EER rating, 4 fan level, R410A refrigerant, auto swing, sleep mode, LCD remote, cycle function, dehumidifying feature, econo feature, turbo function, run our timer, slide out chassis, blue fin protection, energy saving plug, 8in1 air filter system, sensor error warning, hydrophilic evaporator, 24Hr On and Off timer, over temperature protection, under/over voltage protection, condenser grill protection, cool-dry-fan operation modes.
- 1/2HP window type non-inverter ACU shall be with free bracket, 12.0 EER rating, 12hr timer, energy saving plug, econo and sleep mode, multi-pore filter, R410a refrigerant, sleek modern design, at least P1.94/hour power consumption.
- The Contractor shall supply, deliver, install and conduct testing of Air Conditioning Units mentioned above.
- Exhaust fan shall be 220V, 12in x 12in dimension, color white.

Section VII. Drawings

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

See Annex “B” for Drawings



Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

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

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

Daywork Schedule

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

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

Provisional Sums

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

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

sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.

Signature Box

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

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

See Annex “C” for Bill of Quantities



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 REQUIREMENTS
(INFRASTRUCTURE PROJECTS)

Title of Project	: Construction of PAGASA BOAC Synoptic Station Building, Observer's Quarters, Powerhouse, Perimeter Fence, Gate & Signage	
Reference	: 2024-12-0806	: 2024- 73 INF
ABC	: Php 7,230,112.73	
Date of Evaluation	:	
Name of Bidder	:	

ENVELOPE NO.1: TECHNICAL COMPONENTS

PLEASE SUBMIT THE FOLLOWING DOCUMENTS IN TRIPLICATE COPIES, ARRANGED IN ORDER, WITH LABEL AND DULY TABBED, AND USING ONLY THE PRESCRIBED BIDDING FORMS:

I. TECHNICAL COMPONENT ENVELOPE			
DESCRIPTION			TAB
CLASS “A” DOCUMENTS			
LEGAL DOCUMENTS			
<input type="checkbox"/>	PhilGEPS Certificate of Registration and Membership under Platinum category.		A
TECHNICAL DOCUMENTS			
<input type="checkbox"/>	Statement of all ON-GOING government and private contracts within the period of five (5) years , unless otherwise stated in the BDS , including contracts awarded but not yet started, if any, WHETHER SIMILAR OR NOT SIMILAR in nature and complexity to the contract to be bid. This statement shall be supported by ANY ONE of the following documents: <input type="checkbox"/> Copy of the Contract; or , Purchase Order (PO); or , Notice of Award (NOA); or , Notice to Proceed (NTP)		B B-1 ... n
<input type="checkbox"/>	Statement of bidder’s Single Largest Completed Contract (SLCC) similar in nature to the Contract to be bid within the period of five (5) years , unless otherwise stated in the BDS . Such statement shall be supported with complete documentary evidence, enumerated below: <input type="checkbox"/> i. Copy of the Contract or Purchase Order (PO); <input type="checkbox"/> ii. Copy of Certificate of Completion or Sales Invoice; and <input type="checkbox"/> iii. Copy of Certificate of Acceptance or Official Receipt (OR) / Collection Receipt.		C C-1 C-2 C-3
Note by Bidders: The PAGASA-BAC, however, reserves the right to examine and require the submission of other documents pertaining to the bidders' statement during the post-evaluation stage.			
<input type="checkbox"/>	Special PCAB License in case of Joint Ventures and registration for the type and cost of the contract to be bid		D
<input type="checkbox"/>	Original copy of Bid Security payable to the Procuring Entity. 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;		E
	FORM OF BID SECURITY	AMOUNT (Equal to Percentage of the ABC)	
	<ul style="list-style-type: none">Cash or cashier’s/manager’s check issued by a Universal or Commercial Bank; or,Bank Draft/Guarantee or Irrevocable Letter of Credit issued by a Universal or Commercial Bank; <i>Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank</i>	2%	Php 144,602.25
	<ul style="list-style-type: none">Surety bond callable upon demand accompanied by a certification by the Insurance Commission that the surety or insurance company is authorized to issue such instruments; orBid Securing Declaration (GPPB Resolution No. 03-212)	5%	Php 361,505.64

Project Requirements, which shall include the following:	F
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<input type="checkbox"/>	<input type="checkbox"/> Organizational Chart for the Contract to be Bid; <input type="checkbox"/> 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, together with the personnel's <input type="checkbox"/> Curriculum Vitae or Bio-Data <input type="checkbox"/> Certificate of Employment <input type="checkbox"/> Contractor's Letter-Certificate to Procuring Entity <input type="checkbox"/> Individual PRC License of the (professional) personnel <u>and</u> Applicable Certification of Training or Accreditation attended by the Contractor's personnel issued by the accrediting government agency <input type="checkbox"/> Manpower Utility Schedule <input type="checkbox"/> 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 <input type="checkbox"/> Equipment Utilization Schedule <input type="checkbox"/> Construction Schedule and S-Curve	F-1 F-2 F - 2.1 F - 2.2 F - 2.3 F - 2.4 F - 2.5 F-3 F - 3.1 F - 3.2
<input type="checkbox"/>	<input type="checkbox"/> Original duly signed Omnibus Sworn Statement (OSS) and if applicable, <input type="checkbox"/> 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.	G
FINANCIAL DOCUMENTS		
<input type="checkbox"/>	Computation of Net Financial Contracting Capacity (NFCC)*; or , Credit Line Certificate (CLC) issued by a Universal or Commercial Bank in favor of the bidder, if awarded the contract for the project. <i>* The constant NFCC's K factor is set at 15, regardless of contract duration.</i>	H
CLASS "B" DOCUMENTS		
<input type="checkbox"/>	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.	I
<input type="checkbox"/>	Complete Bidding Documents for the Project (Sections I-V) including all Annexes, and Supplemental Bid Bulletin (SBB), if any.	J

REMARKS:

[] PASS

[] FAIL

Checked by:

BAC / TWG Member



ENVELOPE NO. 2: FINANCIAL COMPONENT

PLEASE SUBMIT THE FOLLOWING DOCUMENTS IN TRIPLICATE COPIES, ARRANGED IN ORDER, WITH LABEL AND DULY TABBED, AND USING ONLY THE PRESCRIBED BIDDING FORMS:

FINANCIAL REQUIREMENTS		
DESCRIPTION		TAB
<input type="checkbox"/>	Financial Bid Form.	A
<input type="checkbox"/>	Duly signed Bid Prices in the Bill of Quantities	B
<input type="checkbox"/>	Scope of Works of the Project	B-1
<input type="checkbox"/>	Plans, Drawings, and Designs	B-2
<input type="checkbox"/>	Duly signed Detailed Cost Breakdown including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid	C
<input type="checkbox"/>	Detailed Unit Price Analysis (DUPA)	D
<input type="checkbox"/>	Cash Flow by Quarter	E
<input type="checkbox"/>	DIGITAL COPY of <ul style="list-style-type: none">Detailed Scope of Works, Plans, Drawings, and Designs (PDF format);Detailed Cost Breakdown, Bill of Quantities, and Detailed Unit Price Analysis (DUPA) (Excel format);All the bidding documents submitted (scanned in PDF format) All files saved in USB drive/flash drive. PDF files must be the exact replica of the original copy submitted.	F

NOTE: Additional Instructions

- Each and every page of the prospective bidder's Eligibility and Technical Components, whether original or certified true copy, including the brochures and manufacturer's unamended literature shall be signed/countersigned by the Bidder or his/her duly authorized representative/s. The countersignature must appear at the lower right portion of each of the pages in the bidding documents submitted using any color of pen except BLACK. To determine the bidder's compliance to said specific requirement, the duplicate copies, i.e., Copy 1 & 2, must be the exact replica of the Original Copy submitted.
- The notarization of any documentary requirement, if so required, shall comply with the 2004 Rules on Notarial Practice. As such, prospective bidders or their duly authorized representative/s are required to indicate their competent evidence of identity in any document that needs notarization. The phrase "competent evidence of identity" shall refer to the identification of an individual based on any of the following: (i) identification documents issued by an official agency bearing the photograph and signature of the individual, i.e., passport, driver's license, PRC ID, SSS ID, GSIS e-card, NBI clearance Postal ID, Voter's ID, Tax Identification Number (TIN) issued by the BIR, Barangay certification, Philhealth card, Senior Citizen's ID, OWWA ID, OFW ID, Alien Certificate of Registration/Immigration Certificate of Registration, and Government Office ID. Community Tax Certificate or "cedula" shall not be considered as competent evidence of identity.
- Use the prescribed bidding forms as provided in the bidding documents. For this purpose, PAGASA's prescribed bidding form shall be identified as bearing a watermark of the Agency's Official Logo.
- All blank spaces shall be filled in with the information requested.
- Bidders shall complete the appropriate Price Schedules included herein, stating the unit prices, total price per item, the total amount and the expected countries of origin of the Goods to be supplied under this Project, if applicable..
- Bidders shall indicate in the Detailed Cost Breakdown the rates and prices for all items/components of the Goods and/or Services described in the Schedule of Prices, if applicable, including cost of all applicable taxes. Bids not addressing or providing all of the required items in the Bidding Documents including, where applicable, Schedule of Prices, shall be considered non-responsive and, thus, automatically disqualified. Bidders may refer to item no. 15 (15.1 to 15.5), Instructions to Bidders for further information on the matter.
- ANY MISSING or UNSIGNED or NOT COUNTERSIGNED DOCUMENT or NON-COMPLIANCE IN THE ABOVE-MENTIONED CHECKLIST AND INSTRUCTIONS MAY BE A GROUND FOR OUTRIGHT DISQUALIFICATION USING THE NON-DISCRETIONARY "PASS/FAIL" CRITERIA.
- The PAGASA reserves the right to examine and require the submission of other documents pertaining to the bidders' statement during the post evaluation stage.
- These additional requirements and instructions shall form part of the BDS and Instructions to Bidders.

REMARKS: [] PASS [] FAIL

Checked by: _____
BAC Member

