

PHILIPPINE BIDDING DOCUMENTS

**PROCUREMENT OF
IMPROVEMENT/
REHABILITATION OF
PASSENGER TERMINAL
BUILDING AT ITBAYAT
AIRPORT**

Government of the Republic of the Philippines

BID NO. 24-042-06 ALPHA

**Sixth Edition
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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



Invitation to Bid for **IMPROVEMENT/REHABILITATION OF PASSENGER TERMINAL BUILDING AT ITBAYAT AIRPORT**

Bid No. 24-042-06 ALPHA

1. The Civil Aviation Authority of the Philippines, through the APP FY 2024 CAAP Corporate Fund intends to apply the sum **SEVEN MILLION TWO HUNDRED SEVENTY-ONE THOUSAND THREE HUNDRED FORTY-FIVE AND 71/100 PESOS (Php 7,271,345.71)** being the Approved Budget for the Contract (ABC) to payments under the contract for **IMPROVEMENT/REHABILITATION OF PASSENGER TERMINAL BUILDING AT ITBAYAT AIRPORT (Bid No. 24-042-06 ALPHA)**. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The Civil Aviation Authority of the Philippines now invites bids for the above Procurement Project. Completion of the Works requires **ONE HUNDRED TWENTY (120) CALENDAR DAYS inclusive of SEVENTEEN (17) rainy/unworkable days**. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary “*pass/fail*” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Interested bidders may obtain further information from the Civil Aviation Authority of the Philippines, BAC Office and inspect the Bidding Documents at the address given below from 08:00 AM to 05:00 PM from Monday to Friday.
5. A complete set of Bidding Documents may be acquired by interested bidders on **27 June 2024 until deadline of submission of bid** 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 **PHP 11,200 (inclusive of 12% VAT)**. The Procuring Entity shall allow the bidder to present its proof of payment of the fees by presenting the official receipt in person.
6. The Civil Aviation Authority of the Philippines will hold a Pre-Bid Conference¹ on **09 July 2024 @ 9:30 AM** through videoconferencing/webcasting via Jitsi/Zoom/Google Meet, which shall be open to prospective bidders.

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.

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below on or before **23 July 2024 @ 9:30 AM**. Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.
9. Bid opening shall be on **23 July 2024 @ 9:30 AM** at the given address below and/or Jitsi/Zoom/Google Meet. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The Civil Aviation Authority of the Philippines reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

ENGR. LEANDRO R. VARQUEZ

Head, BAC Secretariat

BAC Office

3rd Floor Supply, Procurement Building

Civil Aviation Authority of the Philippines

MIA Road corner Ninoy Aquino Avenue

1300 Pasay City, Metro Manila

Telephone number – (02) 8246-4988 loc. 2236

Email: bac@caap.gov.ph

12. You may visit the following websites:

For downloading of Bidding Documents: www.caap.gov.ph

CAPTAIN EDGARDO G. DIAZ

Chairperson, BAC-Alpha

Section II. Instructions to Bidders

1. **Scope of Bid**

The Procuring Entity, Civil Aviation Authority of the Philippines invites Bids for the **IMPROVEMENT/REHABILITATION OF PASSENGER TERMINAL BUILDING AT ITBAYAT AIRPORT**, with Project Identification Number: **Bid No. 24-042-06 ALPHA**.

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 APP CY 2024 CAAP CORPORATE FUND in the amount of **SEVEN MILLION TWO HUNDRED SEVENTY-ONE THOUSAND THREE HUNDRED FORTY-FIVE AND 71/100 PESOS (Php 7,271,345.71)**.

2.2. The source of funding is GOCC and GFIs, the Corporate Operating Budget.

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 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/webcasting as indicated in paragraph 6 of the **IB**.

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

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

11. Documents Comprising the Bid: Financial Component

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

12. Alternative Bids

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and

specifications. Unless there is a value engineering clause in the **BDS**, alternative Bids shall not be accepted.

13. Bid Prices

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

14. Bid and Payment Currencies

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

14.2. Payment of the contract price shall be made in Philippine Pesos.

15. Bid Security

15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

15.2. The Bid and bid security shall be valid until *[indicate date]*. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

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

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 15 shall be submitted for each contract (lot) separately.

19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

20. Post Qualification

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

21. Signing of the Contract

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

Section III. Bid Data Sheet

Bid Data Sheet

ITB Clause			
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be:		
	Category	ABC	
	1. BUILDING CONSTRUCTION/ IMPROVEMENT/ REHABILITATION/REPAIR	Php 7,271,345.71	
7.1	Subcontracting is not allowed.		
10.3	Valid PCAB License or a valid special PCAB License in case of Joint Ventures, and registration for the type and cost of the contract for this Project. Small B - License Category C & D (Building and Industrial Plant) No other contractor license or permit is required.		
10.4	The key personnel must meet the required minimum years of experience set below:		
	<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>
	Project (Civil) Engineer	Five (5) years in	Three (3) years in
	Electrical Engineer	General	<i>BUILDING</i>
	Master Electrician	Engineering	<i>CONSTRUCTION/</i>
	Construction Foreman		<i>MPROVEMENT/</i>
			<i>REHABILITATION</i>
			<i>/REPAIR</i>
	Use Annex “B” Forms 3, 4a, 4b & 4c		
10.5	The minimum major equipment requirements are the following:		
	<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>
	Welding Machine	4.5 KVA (10- 200 amperes)	One (1)
	Portable Generator Set	10KVA	One (1)
	Boom Truck		One (1)
	Use Annex “B” Form 5		
12	No further instructions.		
15.1	The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:		
	a. The amount of not less than two percent (2%) of ABC, if bid security is in cash, cashier’s/manager’s check, bank draft/guarantee or irrevocable letter of credit;		
	b. The amount of not less than five percent (5%) of ABC if bid security is in Surety Bond.		

19.2	Partial bid is 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	<p>The Bidder with the Lowest Calculated Bid (LCB) that complies with and is responsive to all the requirements and conditions shall submit its</p> <ul style="list-style-type: none"> a) Updated Valid PhilGEPS Certificate of Registration; b) Latest income and business tax returns filed through the Electronic Filing and Payment System (EFPS); c) Key personnel licenses; d) Updated status of all ongoing contracts, including contracts awarded but not yet started, issued by the government agency or private concerned; <p>Failure to submit any of the post-qualification requirements on time, or a finding against the veracity thereof, shall disqualify the bidder for award. Provided, that in the event that a finding against the veracity of any of the documents submitted is made, it shall cause the forfeiture of the Bid Security in accordance with Section 69 of the IRR of RA 9184.</p>
21	<p>The following relevant project documents are required to be submitted by the successful bidder who submitted the LCRB as part of the Contract Agreement during its signing:</p> <ul style="list-style-type: none"> a) Construction schedule b) Bar Chart & S-curve c) PERT/CPM Network Diagram d) Manpower schedule e) Construction methods f) Equipment utilization schedule <p>Construction safety & health programs approved by the Department of Labor & Employment (IMPROVEMENT/REHABILITATION OF PASSENGER TERMINAL BUILDING AT ITBAYAT AIRPORT)</p>

Section IV. General 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

Special Conditions of Contract

GCC Clause	
2	Not applicable.
3.1	The CIVIL AVIATION AUTHORITY OF THE PHILIPPINES shall give possession of all parts of the Site to the Contractor upon receipt of the Notice to Proceed.
5	In addition to the Performance Security, winning bidder shall submit Contractor's All Risks Insurance (CARI) prior to signing of Contract.
6	None.
7.2	Fifteen (15) years.
10	Dayworks are applicable to the contract.
11.1	Not applicable.
11.2	Not applicable.
13	The amount of the advance payment shall not exceed 15% of the total contract price.
14	No further instructions.
15.1	<p>The date by which operating, and maintenance manuals are required is upon completion of the project.</p> <p>The date by which "as built" drawings are required is upon completion of the project.</p> <p>PDF/AutoCAD File of the "as built" plans shall include as attachment to the required hard copy of the same upon completion of the project.</p>
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 percent (2.00%) of the Contract price.

Section VI. Specifications and Scopes of Work

SCOPE OF WORK

Name of Project : IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING

Location : Itbayat Airport, Batanes

Duration : One Hundred Twenty (120) Calendar Days
(Inclusive of 17 rainy/unworkable days)

The details of work are at best enumerated below, but be noted that the Contract includes all works and services although not specifically mentioned herein, but are needed to fully complete the Project:

The project covers the supply of labor, materials, mobilization/demobilization, tools/equipment's, and construction related permits necessary for IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING with the following scope of works which shall be done in accordance with the approved plans, specifications, and provision of contract to wit: (Work shall include but is not limited to the following)

SPL-1 MOBILIZATION/DEMOBILIZATION

This work includes mobilization and demobilization of the contractor's resources and equipment necessary for performing the work required under the contract.

A. Mobilization shall include all activities and associated costs for transportation of contractor's manpower, equipment, and operating supplies to the site, establishment of offices, buildings, and other necessary general facilities for the contractor's operations at the site.

B. Demobilization shall include the disassembly of offices and other facilities on the site, equipment, as well as the removal and hauling of debris and rubbish materials.

REHABILITATION OF PASSENGER TERMINAL BUILDING

CIVIL/STRUCTURAL WORKS

1.01 Site Works

The work includes the supply of labor and equipment necessary to complete the demolition of the existing ceiling and roofing and cleaning of existing flooring and exterior walls as indicated on the approved plans. The Contractor must provide equipment for hauling and disposal of demolished materials and site cleanup.

Total area for demolition of existing ceiling = 574.66 sq.m.

Total linear meter for demolition of existing roofing = 263.11 ln.m.

Total area for cleaning of existing flooring = 555.40 sq.m.

Total area of cleaning of exterior walls = 428.09 sq.m.

1.02 Roofing Works

The work includes all materials, labor, and tools/equipment needed to complete the installation of GA #26 Colored Spanish Type Long Span Roofing Sheet, C-purlins, flashing, ridge roll, one sided insulation and painting of steel members using 2-coats of epoxy paint as indicated on the approved plans. Materials to be used and workmanship must be approved by the Project In-Charge assigned by CAAP.

Total Area of Roof = 263.11 sq.m.

1.03 Waterproofing

The work includes all materials and labor needed to complete the waterproofing as indicated on the approved plans.

Total Area of waterproofing = 301.38 sq.m.

2.00 ARCHITECTURAL WORKS

2.01 Tile Works

The work includes the supply of labor, materials, tools, and equipment needed to complete the installation of tiles using 10mm x 300mm x 300mm Homogeneous Porcelain Floor Tile Matte Finish, 8mm x 300mm x 300mm Homogeneous Porcelain Wall Tile Polished Finish, and 10mm x 300mm x 600mm Non-Skid Outdoor Homogeneous Porcelain Tiles on areas included in the approved plans. The installation of tiles and other accessories must have the approval of the Project in-Charge based on the approved plans prior to purchase and installation.

Total Area of Tile Works = 172.5 sq.m.

2.02 Carpentry Works

The work includes the supply of labor, materials, tools, and equipment needed to complete the carpentry works using 4.5mm thk. 4' x 8' Fiber Cement Board and ½ thk. X 4' x 8' Marine Plywood on areas included in the approved plans and other accessories must have the approval of the Project-in-Charge based on the approved plans prior to purchase and installation.

Total Area of Carpentry Works = 574.66 sq.m.

2.03 Painting Works

The work includes all materials, labor, and equipment/tools to complete the painting works of the ceiling, interior wall, exterior wall and jamb of doors and windows as indicated on the approved plans. Materials to be used and workmanship must be approved by the Project In-Charge.

Total Area of Painting Works = 1,744.76 sq.m.

3.00 ELECTRICAL WORKS

3.01 Lighting and Power Conduits and Fittings

The work includes all materials, labor, and equipment/tools for the installation of 745.00 linear meters of lighting and power conduits including conduit fittings, pullwire, utility boxes, junction boxes, pull boxes, hangers, supports and other hardware and accessories to complete the installation. Routing of conduits shall be for approval of the CAAP Project In-Charge. All conduits and fittings shall be Underwriters Laboratories (UL) Listed.

3.02 Lighting and Power Conductors

The work includes all materials, labor, and equipment/tools for the installation of 1,900.00 linear meters of lighting and power conductors including termination accessories to complete the installation. All conductors shall be Underwriters Laboratories (UL) Listed and shall be tested and pass the Insulation Resistance Test prior to energization. Conductors shall be color coded as follows:

Line : Red

Neutral : Black

Ground : Green

3.03 Lighting Fixtures and Wiring Devices

The work includes all materials, labor, and equipment/tools for the installation of 174.00 sets of lighting fixtures and electrical wiring devices including standard accessories and other hardware to complete the installation. All lighting fixtures and wiring devices should be tested and commissioned.

3.04 Panel Board and Metering

The work includes all materials, labor, and equipment/tools for the installation of Panel Boards, Manual Transfer Switch, Enclosed Circuit Breaker, Digital Kilowatt-hour Meter, and 15Kva Silent Type Generator Set including other hardware and standard accessories to

complete the installation. All Panel Boards, Circuit Breakers, Metering, and Generator Set should be tested and commissioned.

3.05 Feeder Conduits and Fittings

The work includes all materials, labor, and equipment/tools for the installation of 102 linear meters of feeder conduits including conduit fittings, hangers, supports and other hardware and accessories to complete the installation. Routing of conduits shall be for approval of the CAAP Project In-Charge. All conduits and fittings shall be Underwriters Laboratories (UL) Listed.

3.06 Feeder Conductors

The work includes all materials, labor, and equipment/tools for the installation of 300.00 linear meters of feeder conductors including ground rod, termination accessories and other hardware to complete the installation. All conductors shall be Underwriters Laboratories (UL) Listed and shall be tested and passed the Insulation Resistance Test prior to energization. Feeder Conductors shall be color coded as follows:

Line : Red

Neutral : Black

Ground : Green

4.00 MECHANICAL WORKS

4.01 Exhaust Fan and Accessories

The work includes supply of materials, labor, and equipment/tools necessary for the installation of 4 sets 12” Ceiling Mounted Type Exhaust Fan including ducting, vent caps, and other accessories to complete the system. Exhaust Fans should be tested and commissioned.

4 sets – 12” Ceiling Mounted Type Exhaust Fan, 240-240 V, 60 Hz, 1Ph complete with standard fittings and accessories.

4.02 Evaporative Air Cooler

The work includes supply and delivery of 11 units of Evaporative Air Cooler complete with standard accessories.

11 units – Evaporative Air Cooler, Heavy Duty type, Floor Standing with caster wheels and complete accessories (remote control, auto shut-off water pump, water supply inlet)

Power : 350 watts

Airflow : 8,000 cu.m./hr.

Water Tank Capacity : 40 L

4.03 FDAS & Portable Fire Extinguisher

The work includes supply of materials, labor, and equipment/tools necessary for the installation of Fire Detection & Alarm System (FDAS) devices and portable fire extinguishers with a total coverage area of 322.57 sq.m. as indicated on the approved plans. The work includes the installation of smoke detectors, fire alarm horn w/ strobe & manual pull station with wiring and portable fire extinguishers with wall hanger.

8 sets – 10 lbs ABC Dry Chemical Portable Fire Extinguisher with wall hanger

11 sets – Photoelectric Smoke Detector w/ built-in sounder and Alkaline batteries

3 sets – Fire Alarm Horn w/ Strobe, 15-110cd (candela) with complete accessories

3 sets – Manual Pull Station, 24-30 Vdc

5.00 PLUMBING WORKS

5.01 Fixtures and Accessories

This item covers the provision and installation of the following plumbing fixtures with complete fittings, hardware and accessories as indicated on the approved plans.

FIXTURE QUANTITY

Lavatory vitreous - pedestal type with lever faucet mechanism with complete accessories and fittings 4.00 sets

Bidet spray w/ complete accessories, Chrome ABS body, flexible hose 1200 x 1/2 x 1/2 w/ max working pressure of 75psi; spray head 102mmL x 62mmW & hand spray wall holder 35mm dia 4.00 sets

Soap Dispenser 4.00 pcs.

Tissue Holder w/ cover - Brass, Chrome Finished, 5"H x 5.5"L x 3"D 4.00 pcs.

Frameless glass mirror with beveled sides and metal back plate 4.00 pcs.

The abovementioned fixtures must be delivered new and in good quality condition on the site. These materials must be stored indoors, protected from damage, dirt, moisture and weather. All plumbing fixtures must be installed properly and be tapped or connected to all necessary supply lines, waste and vent piping. (Materials to be used and workmanship must be approved by the Project In-Charge assigned by CAAP).

6.00 PROVISION OF 4-SEATER GANG CHAIR

6.01 Purchase of Gang Chair

The work includes the supply, delivery and assembly of 4-seater gang chair needed to complete the project using 4-seater gang chair. The 4-seater gang chair must have the approval of the Project-in-Charge based on the approved plans prior to purchase and delivery.

CONSTRUCTION OF POWERHOUSE

CIVIL/STRUCTURAL WORKS

1.01 Site Works

The work includes the supply of labor and equipment necessary to complete the excavation for the construction of column footings, and wall footings. This also includes the backfilling works and provision of gravel bedding conforming to the required thickness as indicated on the approved plans. The Contractor must provide equipment for hauling and disposal of excavated materials and site cleanup.

Total Volume for Excavation = 5.09 cu.m.

Total Volume for Gravel Bedding = 1.00 cu.m. (delivered on site)

Total Volume for Backfill = 4.00 cu.m

1.02 Concreting Works

The work includes the supply of materials and labor necessary to complete the concreting of column footing, wall footings, columns, slab on fill, beams, girders, deck and parapet wall as indicated on the approved plans. The strength of concrete will be 4000psi. on footing, concrete pad, slab and parapet wall, 3500psi on column and beam Materials to be used and workmanship must be approved by the Project In-Charge assigned by CAAP.

Total Volume = 12.48 cu.m.

1.03 Masonry Works (Including Plastering)

The work includes materials, labor, equipment/tools for the laying of 150mm thick concrete hollow block (CHB) for exterior walls including mortar, ¾" thick plastering on both sides (Rough Finish) prior to application of skim coat & installation of reinforcing steel bars as indicated on the approved plans. Materials to be used and workmanship must be approved by the Project In-Charge.

Total Area of Masonry Works = 45.60 sq.m.

1.04 Waterproofing

The work includes all materials and labor needed to complete the waterproofing as indicated on the approved plans.

Total Area of waterproofing = 23.84 sq.m.

2.00 ARCHITECTURAL WORKS

2.01 Painting Works

The work includes all materials, labor, and equipment/tools to complete the painting works of the wall; Elastomeric Paint, Flat Latex Paint, and Semi-Gloss Latex Paint as indicated on the approved plans. Materials to be used and workmanship must be approved by the Project In-Charge.

Total Area of Painting Works = 108.23 sq.m.

2.02 Doors and Windows

The work includes all materials, labor and tools for installation of doors and windows complete with hardware and accessories including jamb and header as indicated on the approved plans. Materials to be used and workmanship must be approved by the Project In-Charge assigned by CAAP.

Number of doors = 2 sets

Number of windows = 2 sets

3.00 PLUMBING WORKS

3.01 Storm Drainpipe

The work includes the supply of labor, materials, tools, and equipment needed to complete the installation of storm drainpipe on areas included in the approved plans. The installation of storm drainpipes and other accessories must have the approval of the Project in-Charge based on the approved plans prior to purchase and installation drains reflected on the approved Plumbing and Architectural Plans. (Materials to be used and workmanship must be approved by the Project In-Charge assigned by CAAP).

Total Length of Storm Drain = 21.60 mtrs.

4.00 SIGNAGES

4.01 Built Up Signages

The work includes all materials and labor needed to complete the built up signages as indicated on the approved plans.

Total set of signage = 2 Sets

SPL- 2 TEMPORARY FACILITIES

The following provisions must be delivered within ten (10) days upon receipt of the Notice to Proceed (NTP).

1.0 STAFF HOUSE

This item covers the Contractor's provision of PMO Staff House on rental basis. The Facility shall be provided with air-con including the supply of kitchen utensils, gas and stove, beds and bedding, and dining sets for the exclusive use of CAAP-PMO in supervising the project. The Contractor shall be responsible for the payment of utility bills (water and electricity) for the whole duration of the project.

All scopes of work for this item must be in accordance with the approved plans and specifications. Quality and types of materials must conform to specifications and must be approved by the Project In-Charge of the CAAP prior to installation.

The contractor shall be responsible for providing a safety fence, personal protective equipment (PPE) for staff and workers, and Safety Inspectors or Safety Engineers on site while construction is ongoing. Regular safety reports should be accomplished.

The contractor shall be responsible for all laboratory, material testing, building and safety permits, survey instruments, energization of the building and tapping of waterline to main necessary in the project implementation. All expenses shall be incorporated in the contractor's overhead cost and shall not be considered as pay item.

GENERAL PROVISIONS

Provisions for staff house, service vehicles, laptops, printers, cameras, plotters, furniture and other materials, devices and equipment under Special Item or Temporary Facilities shall not include OCM & CP.

The contractor shall be responsible for providing safety perimeter fence or security fences, personal protective equipment (PPE) for staffs and workers on site while construction is ongoing. Safety reports should be prepared regularly.

The contractor shall be responsible for all laboratory, material testing, building and safety permits and survey instruments necessary in the project implementation. These expenses shall be incorporated in the contractor's overhead cost and shall not be considered as pay item.

SPECIFICATIONS

Section 105 Mobilization

105-1 Description. This item shall consist of work and operations, but is not limited to, work and operations necessary for the movement of personnel, equipment, material and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

105-1.1 Posted notices. Prior to commencement of construction activities the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster “Equal Employment Opportunity is the Law” in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL “Notice to All Employees” Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

**

The Owner may include additional posted notices as required by local and State law.

**

105-2 Basis of measurement and payment. Based upon the contract lump sum price for “Mobilization” partial payments will be allowed as follows:

- a. With first pay request, 25%.
- b. When 25% or more of the original contract is earned, an additional 25%.
- c. When 50% or more of the original contract is earned, an additional 40%.

d. After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by 90-11, the final 10%.

**

Item Mobilization may be added to project at Owner’s discretion. Rather than paying Contractor 100% of mobilization on first pay request, many Sponsors have found a payment schedule to be an effective way to reimburse Contractor for mobilization and demobilization. It is not required but it is recommended that the final 10% of this bid item not be paid until the Contractor has cleaned

up the project staging area. The payment schedule can be altered, e.g., on small projects may not be appropriate to have more than two (2) payments.

**

END OF SECTION 105

2. ARCHITECTURAL WORKS

2.1 CARPENTRY AND JOINERY WORKS

SCOPE OF WORK

The work to be done under this Item 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 strict accord with applicable drawings, details and these Specifications.

A. MATERIAL REQUIREMENTS

1. Lumber

Lumber of the different species herein specified for the various parts of the structure shall be well seasoned, sawn straight sun-dried or kiln-dried and free from defects such as loose and unsound knots, pitch, pockets, sapwood, cracks and other imperfections impairing its strength, durability and appearance.

2. Grades of Lumber and Usage

- a) **Stress grade lumber** is seasoned, close-grained and high quality lumber of the specified specie, free from defects and suitable for sustaining heavy load.
- b) Stress grade limber shall be used for wooden structural members subject to heavy loads, and for sub-floor framing imbedded or in contact with concrete and masonry.
- c) **Select grade lumber** of the specified specie is generally of high quality of good appearance, without waste due to defects and suitable also for natural finish.
- d) Select grade lumber shall be used for flooring, sidings, fascia and base boards, trims, molding, millwork, railings, stairs, cabinet work, shelves, doors, windows and frame of openings.

- e) **Common grade lumber** has minimum tight medium knot not larger than 25 mm in diameter, with minimal imperfections, without sapwood, without decay, insect holes, and suitable for use with some waste due to minor defects and suitable also for paint finish.
- f) Common grade lumber shall be used for light framework for walls and partitions, ceiling joists and nailers.

3. Lumber Species and Usage

Unless otherwise specified on the Plans, the following lumber species shall be used as indicated:

- a) Yacal (*stress grade*) for structural member such as posts, girders, girts, sleeper door and window frames set or in contact with concrete or masonry.
- b) Guijo (*select grade*) for door and window frames set in wooden framework, for stair, for roof framing supporting ceramic or cement tiles, for floors and other wooden structural parts.
- c) Apitong (*common grade*) for roof framing supporting light roofing materials such as galvanized iron, aluminum or asbestos sheet, for wall framing, ceiling joists, hangers and nailers.
- d) Tanguile (*select grade*) for doors and windows, fascia and base boards, trims, mouldings, mill work, railings, stairs, cabinet work, shelves, floorings and sidings.
- e) Narra (*select grade*) for stair railings, flooring boards, cabinet, work millwork, doors and windows when indicated as such in the plans.
- f) Dao (*selected grade*) for parts of the structure as enumerated or when indicated in the plan.

4. Moisture Content

- a) Rough Lumber for framing and siding boards shall be air-dried or sun-dried such that its moisture content shall not exceed 22 percent.
- b) Dressed lumber for exterior and interior finishing for doors and windows, millwork, cabinet work and flooring boards shall be kiln dried having no moisture content in excess of 14 percent at the time of its installation.

5. Substitution in Lumber Specie

- a) Any lumber equally good for purpose intended may be substituted for the specified kind subject to the prior approval of the supervising Architect or Engineer. Provided that the substitution shall be have equal or better specie acceptable to the supervising Architect.

- b) In case of substitution with better specie, no additional cost therefore shall be allowed to the Contractor.

6. Plywood

Plywood shall be of good grade and made of laminated wood strips bonded together with water resistant resin glue.

- a) The laminated glue core shall be finished both faces with select grade tan guile, red lauan veneers or equivalent not less than 2mm thick, similarly bonded to the core.
- b) The plywood of not less than 19 mm thick shall be free from defects such as split in veneer, buckling or warping and shall conform to the requirements of the Philippine Trade Standard 631-02
- c) Thickness of a single layer of laminae shall not be less than 2m. The laminae shall be superimposed in layers with grains crossing at right angles in successive layers to produce stiffness.
- d) The face veneers shall be rotary cut from selected grade timber. The laminae and face veneers shall be bonded with water resistant resin glue, hot pressed and pressure treated.
- e) Ordinary tan guile, red lauan, palosapis, or equivalent grade with good quality face veneers, 6 mm thick shall be used for double walling and ceiling not exposed to moisture.
- f) Waterproof or marine plywood shall be used for ceiling exposed to moisture such as at toilets and eaves, and ceiling to be finished with acrytex.

7. Lawanit or Hardiflex

- a) Lawanit or Hardiflex when required in the plan shall be 6 mm and 8 mm thick respectively, tempered or oil impregnated for moisture/ water resistance.
- b) Texture of Lawanit or Hardiflex shall be subject to the approval of the supervising Architect or Engineer.

8. Materials Other than Lumber

a) Plastic Sheet

When required for counter top, plastic sheet such as Formica shall not be less than 1.50 mm thick and shall have hard, durable and glossy surface resistant to stain, abrasion and . Color and design shall be as selected from the manufacturer's standard and approval by the supervising Architect or Engineer.

b) Glue

Shall be from water resistant resins which, upon hardening, shall not dissolve nor lose its bond or holding power even when soaked with water for extended period. Glue in powder form shall be sealed container shall be without evidence of lumping or deterioration in quality.

c) Fasteners

Nails screw; bolts and straps shall be provided and used where suitable for fixing carpentry and joinery works. All fasteners shall be brand new and of adequate size to ensure rigidity of connections.

Nails of adequate size shall be steel wire, diamond-pointed, ribbed shank and bright finish.

Screw of adequate size shall be cadmium or brass plated steel with slotted head.

Lag Screw of adequate size, for anchoring heavy timber framing in concrete or masonry, shall be galvanized steel.

Bolts and nuts shall be of steel having a yield point of not less than 245 Mpa. Bolts shall have square heads and provided with standard flat steel washers and hexagonal nuts and provided with standard flat steel washers and hexagonal nuts.

Threads shall conform to American coarse thread series. The threaded portion shall be long enough such that the nut can be tightened against the bolted members without any need for blocking.

Wrought Iron Straps or Angles, when required in conjunction with bolts or lag screws to provide proper anchorage shall be of the shape and size shown on Plans.

B. CONSTRUCTION REQUIREMENTS

1. Quality of Materials

All materials to be incorporated in the carpentry and joinery works shall be of approved quality as specified. Before using all materials shall have been inspected and accepted by the supervising Architect or Engineer.

2. Storage and Protection of Materials

- a) Lumber and other materials shall be protected from dampness during and after delivery at the site.
- b) Materials shall be delivered well in advance of actual need and in adequate quantity to preclude delay in the work.
- c) Lumber shall be piled in orderly stack at least 15.0 cm. above the ground and at sheltered place where it will be of least obstruction to work.

3. Shop Drawing

Complete Shop Drawings with essential dimensions and details of construction, as may be required by the supervising Architect or Engineer in connection with carpentry and joinery work, shall be submitted for approval before proceeding with the work.

4. Rough Carpentry

and Rough carpentry covers timber structural framing for roof, flooring, siding, partition and ceiling.

- a) Framing shall be *stress grade or common grade lumber* of the specie specified. Rough carpentry shall be done true to lines, levels and dimensions. It shall be squared, aligned, plumbed and well fitted at joints
- b) Trusses and other roof framing shall be assembled, fitted and set to exact location and slope indicated on the Plans.
- c) Fasteners, connectors and anchors of appropriate type, size and number shall be provided and fitted where necessary.
- d) Members damaged by such cutting or boring shall be reinforced by means of specifically formed and approved steel plates or shapes. Otherwise, damaged structural members shall be remove and replaced to the satisfaction of the Architect or Engineer.
- e) Timber framing in contact with concrete or masonry shall be treated with termite proofing solution and after drying coated with bituminous paint.

5. Finished Carpentry

Finished carpentry covers work on flooring, siding and ceiling boards, stairs, cabinets, fabricated woodwork, millwork and trims.

- a) Framing lumber shall be select grade, free from defects and where exposed in finished work, shall be selected for color and grain.
- b) Joints of framing shall be tenoned, mortised or doweled where suitable, closely fitted and secured with water resistant resin glue. Exterior joints shall be mitered and interior angles coped.
- c) Panels shall be fitted to allow for construction or expansion and insure that the panels remain in place without warping, splitting and opening of joints.
- d) Exposed edges of plywood or plywood for cabinets shall provided with selected grade hardwood strips, rabbeted as necessary, glued in place and secured with finishing nail. To prevent splitting, hardwood for trims shall be drilled before fastening with nails or screws.
- e) Fabricated woodwork shall be done preferably at the shop. It shall be done true to details and profiles indicated on the Plans.
- f) Where set against concrete or masonry, woodwork shall be installed after curing is completed.
- g) Exposed wood surfaces shall be free from disfiguring defects such as raised grains, stains, uneven planing, sanding, tool marks and scratches.
- h) Exposed surfaces shall be machine or hand sanded to an even smooth surface, ready for finish.

6. Fasteners

- a) Nails shall not be driven closer together than one half their length unless driven in bored holes, or closer to the edge of the timber than one quarter their length.
- b) Nails shall penetrate by at least half their length into the timber farthest from the head. End distance, edge distance and spacing of nails shall be such as to avoid splitting of the wood.
- c) Lag Screw shall be set into pre-bored lead holes and not driven. The lead hole for the hank shall have the same diameter as the shank and the same depth as the unthreaded portion of the shank.
- d) The lead hole for the threaded portion shall have the same diameter equal to about 75% of the diameter of the shank and the same length as the threaded portion.

- e) Lengths of bolts shall be enough to extend through the nut and an allowance for nut tightening.
- f) Bolts shall be set into drill holes suitably sized enough for snug fit.

7. Pressure Treated Lumber and Plywood.

- a) Lumber, plywood and ply board specified a treated with wood preservative shall be pressure treated with water borne preservatives as Wolman Salt, Boliden Salt or Tanalith H-R.
- b) Pressure treatment shall meet the standards set by the American Wood Preservers Association per publication C 2-77, or the Philippines Trade Standards PTS 243-02.00 as to penetration and amount of chemicals retained in the treated lumber.
- c) Final retention of chemicals in the wood shall be a minimum of 5.6 kg/m³.
- d) Pressure treated lumber shall be accompanied by a certification of pressure treatment from the wood preserving plant as to the pressure treatment, sizes and quantity of wood treated.
- e) Notwithstanding the presentation of said certification, the supervising Architect or Engineer may require physical inspection and undertake borings to ascertain penetration of preservative into the wood.
- f) Each boring should show penetration of not less than 2.5 centimeters.

8. Rat Proofing

- a) Enclosed hollow spaces between wooden flooring and ceiling and between double sidings or partitions shall be made rat proof in accordance with Department of Health Requirements
- b) Hollow space between wooden flooring and ceiling shall be rendered rat-proof by laying continuous strips of galvanized iron sheet or 10 mm wire mesh, about 25 cm. wide and centered along floor plates or sills of partitions and exterior walls.
- c) The rat proofing strips shall be sandwiched between floor joists/plates and sills of partitions or sidings. The strips shall be nailed to the top of joists as well as to underside of sills and floor boards.

- d) This part of the rat proofing may be omitted whenever it is clear that an equally effective protection is provided by concrete or tile floors or by the upper surface of reinforced concrete or steel directly supporting the sidings.
- e) all exterior openings between adjoining floor joist and girders or beam that might give rats direct access into the hollow space inside, shall when not closed by fascia board or the like, be covered with strips of the same rat proofing material or sufficient size to close entirely the opening in question.
- f) Double sidings or partitions as well as furred posts are made rat proof by lining the inner face of the board or panel sheeting with continuous vertical strips of the aforementioned rat proofing material up to height of at least 30 cm from the base of the partition, siding or furred post. The lower edge of the rat proofing sheet shall be in contact with floor throughout its entire length.

9. Measurement and Payment

- a) Carpentry and Joinery Work shall be measured per complete item supplied, installed and accepted.
- b) Payment shall be based on the measured quantity of each completed item and the Unit Bid Price as quoted in the Bid Proposal.
- c) Such unit bid price shall be inclusive of all plant, materials, labor, overhead, profit and other incidental expenses in connection with the finished work.
- d) Structural timber framework for roofing, flooring, partition and siding shall be measured on the basis of lumber board feet involved and paid for based on the quoted bid price per board foot. Such bid price shall be inclusive of fasteners needed to complete the framework.
- e) Flooring and siding boards, base and fascia boards, solid panels, stairs, handrails and trim shall be measured on the basis of number of board feet involved and paid for based on the corresponding quoted unit bid price per board foot.
- f) Double walling for partitions and sidings shall be measured on the basis of the area involved in square meters and paid for based on the quoted unit bid price per square meter.
- g) Ceiling boards shall be measured based on the area involved in square meters. Payment shall be based on the quoted unit bid price per square meter. Such unit bid price shall be inclusive of the cost of nailers, hangers and fasteners.

- h) Cabinets shall be measured based on the number of units completed, installed and accepted. Payment shall be based on the number of units completed and the unit bid price per unit.
- i) Incidental work for the main items on carpentry and joinery work such wood preservation, rat proofing and any other items necessary to complete the work but not specifically mentioned in the Bill of Quantities contained in the Bid Proposal shall be deemed to be covered by the unit or lump sum prices quoted for the other items of work listed in said Bill of Quantities

Pay item Number	Description	Unit of Measure
Item – 1 -----	Structural timber framework -----	Bd. Ft.
Item – 2 -----	flooring, and siding boards, Base and fascia board shall	
	Panels, stair, handrails and trims -----	Bd. Ft.
Item – 3 -----	Double walling -----	Sq. M.
Item – 4 -----	Ceiling Boards -----	Sq. M.
Item – 5 -----	Cabinets -----	Each

2.2 HARDWARE

SCOPE OF WORK

This Item shall consist of furnishing and installing all building hardware required to ensure rigidity of joints or connections of the different parts of the structure such as door, windows, cabinets, lockers, drawers and other similar operating parts as indicated on the plans in accordance with this Specifications.

A. GENERAL CONDITIONS

1. The contractor shall provide all rough hardware required for the completion of the work, including nails, spikes, bolts, log screws, etc., and shall provide and fit in place all finishing hardware hereinafter specified – put on in the most improved manner with screws to match the finish.
2. The contractor shall provide and fit in place all hardware not herein specifically mentioned but necessary to leave the work complete. All such hardware should there be any, shall conform in every respect to the balance of the hardware herein specified.
3. Finishing hardware, suitable to the service required to fully equip in the most satisfactory operative condition, for all doors, windows transom sashes, screen doors

and windows, closet, built-in cabinets counters, drawers, lockers and other operating members throughout the project shall be furnished and installed or fitted by the Contractor.

4. Where the exact types of hardware specified are not adoptable to the finishing, shape or size of members requiring the hardware, suitable types having as applicable the same operation and quality as the corresponding individual types specified shall be furnished.

B. MATERIAL REQUIREMENTS

1. Rough Hardware

All rough hardware such as nails, screw, lag screws, bolts and other related fasteners required for carpentry work shall be first class quality and locally available.

2. Finishing Hardware

All finishing hardware consisting of locksets, latches, bolts, and other devices, door closers, knobs, handles, hinges and other similar hardware shall be first class quality available locally and conforming with the following Specifications.

a) Door Locksets

Door locks appropriate for particular functions shall be of durable construction, preferably the product of reputable manufacturer for consistent quality and master keying.

b) Door Closer

- i. All door closer shall be cast bronze provided with a key valve or cap valve for making necessary adjustment.
- ii. The following table shall serve as guide in determining door closer sizes.

Door Maximum Width	Size of Closer
76 cm. -----	Size 2
90 cm. -----	Size 3
107 cm. -----	Size 4
120 cm. -----	Size 5
137 cm. -----	Size 6

Use larger size where unusual conditions exist.

c) Hinge

Hinge unless otherwise indicated on the Plans shall be brass coated wrought iron steel for interior doors and wrought bronze for exterior doors with non rising loose steel pins with button tips and mounting screws of the same materials.

d) Sliding Door Hardware

- i. Track is of rolled steel formed or extruded aluminum.
- ii. Bearing is of plain steel balls or steel rollers
- iii. Wheels to be steel, brass, rubber or plastic as the case maybe.

e) Make

- i. The plate numbers herein given designates the quality and style as to the type, design, operation, materials and finish of hardware designated.
- ii. Any other hardware equally good, may be substituted only in cases of urgent necessity and subject to the written approval of the supervising Architect or Engineer.

f) Finish

Unless otherwise shown or specified on the plans, exposed surfaces shall have the following Standard Finishes.

- i. *Polished, bright brass or Bronze.* Bronze surfaces exposed on exterior of building not specified to have US 26 finish.
- ii. *US 26 polished chromium plated over nickel or brass.* Brass or bronze surfaces exposed on toilets, lavatory and shower rooms and all others in the interior of the building.
- iii. *USP Prime coated for painting.* Ferrous metal surfaces unless zinc coated.

g) Fastenings

Fastenings of suitable size, quality and type shall be provided to secure hardware in position. Machine screws and expansion shields shall be provided for securing items of hardware concrete, brick tile or masonry instead of wood screws.

h) Exposed Items of Hardware

- i. After hardware has been properly fitted, all exposed items such as knobs platers, pulls, locks, etc., shall be removed until final coat of painters finish has been applied, and then hardware installed.
- ii. Other items of hardware, unless to be painted over that are not to be removed before painting shall be properly marked or completely covered until final coat of painter's finish has been applied, after which such protective shall be removed.

C. PLACING ORDER OF HARDWARE

1. The contractor shall place his order for all hardware early in order to avoid delay in the job.
2. No request for extension of time shall be entertained by the Owner due to this delay an

3. No substitution of hardware shall be allowed due to negligence of contractor on this matter.

D. CONSTRUCTION REQUIREMENTS

1. Door Knobs, and Latch Strikes

- a) All lock and latch strikes shall be installed in door frames at the same height from the floor.
- b) Door knobs shall be located so that the center of the knob is 95 centimeters from the finished floor and or as directed by the supervising Architect or Engineer.

2. Butt Hinges

- a) Each panel of hinged doors shall be hung on two butts for doors 1.50 m. or less in height.
- b) Three butts, over 1.50 m. high and not over 2.10 m. four butts above 2.10 m, in height.
- c) Doors of a greater height than 2.10 m. unless otherwise specified shall be hung on additional one butt for each 65 centimeters or fraction thereof.
- d) Where the size of the butt hinges is not sufficient to allow door to clear door trim in open position, same shall be increased.

3. Counters, Shelves, Cabinets, Lockers, etc.

- a) Other hardware not covered by previous specifications for all wooden counters, shelves, cabinets, drawers, cabinet doors, closet doors, cupboard, or wall cabinets, glass showcases, storage shelves, work tables, lockers and all other woodwork and interior finishing of similar nature indicated on plans are included in this contract.
- b) It shall be done in accordance with detail drawings and full size details which shall be requested by the Contractor from the supervising Architect or Engineer, well ahead of their installation.
- c) The Contractor shall furnish and install all necessary hardware for all the above work, complete and suitable to the service required to fully equip them in very satisfactory of the Specifications and the applicable drawings.

- d) All modifications in hardware required by reason of construction indicated, shall be made to provide specific operative functional requirements.
- e) All hinges that are needed shall be steel brass plated and of the size suitable for the purpose. Use Hager, Stanley, Kwikset or Corbin or an approved equivalent.
- f) All necessary hardware for all woodwork specified above such as bolts, automatic catches, cylinder locks, drawer pulls, cabinet and closet door pull knots, push or cover plates, strikes, holder, indicators, push or pull bars, drawer locks, etc., shall be cast bronze or brass chromium finished in accordance with the specifications.
- g) Their sizes shall be suitable for the purpose approved by the Owner or in accordance with those shown and specified in the full size details.
- h) Schedule of all hardware to be purchased by the Contractor shall be submitted first to the supervising Architect or Engineer for approval before ordering them.
- i) All hardware shall be brought to the job in original package. Samples shall accompany schedules.

4. Butt Hinges Make

For all doors on Butt Hinges, unless otherwise specified use button stop butts, Hager, Sanley, Kwikset or approved equivalent highly polished and plated with non raising pin for door opening outside.

5. Bar Doors

Provide and fit a set "Lawson Universal" gravity pivot type hinges No. 4604 nickel polished finish for each bar door in all toilet rooms. Approved equivalent, locally made of this type will be acceptable.

6. Cabinet Door Catch and Pull

- a) Each cabinet door sash shall be provided with a door pull, Corbin No. 4347, extruded brass, chrome finish, or approved equivalent.
- b) Cabinet doors with locks shall be provided with elbow-catches, Corbin No. 01623 cast bronze or approved equal on the inactive sash.
- c) Cabinet doors not provided with locks shall be provided and fitted with fraction catches.

- d) Siding cabinet doors shall be provided with drawer pulls of the flush type, cast brass or bronze.

7. Drawer Pull and Locks

- a) Each drawer shall be provided with pulls of the type specified for cabinet doors.
- b) The contractor shall provide and set complete, ready for operation, one pin tumbler cylinder lock of the medium of standard type, for each door in accordance with the schedule below.
- c) U.S. Standard finishes as specified shall apply to all locks used “*Russwin, Yale, Corbin, Weiser, Schlage*” Standard type, of the approved equivalent.
- d) The trade mark and plate numbers given herein are to designate only the quality, type, operation, materials and style or design required.
- e) Schedule of Lockets: (in this Item, specify the name of door lock as to the brand, serial number, color and what particular door is to be installed such as:main door, bed room, toilet, etc.)

8. Master Key and Grand Master Key

- a) All door lock shall be Master keyed as stated on the above schedule of lockset and grand master keying for the whole building.
- b) Before placing the purchase order for door locks, it shall comply with the manufacturers requirements regarding the master keying for the locks.
- c) The keying for this project shall be in accordance with the requirement of the Owner:

Supply of Keys:

- D- 1 Grand Master Key ----- 6 each
- D-2 Master Key ----- 3 each
- D-3 Keys for each lock ----- 3 each

As specification writer, you can make your own specification as to the number, quality and type. This is only a guide on how you will prepare your specifications.

- d) Other doors not included in this schedule, but necessary to leave the works complete, shall be provided and fitted complete, by the Contractor with one lockset suitable to the

service required and depending under which type and finish of each door lock, shall be classified by the Architect or Engineer.

2.3 ALUMINUM GLASS DOORS AND WINDOWS

DOORS

SCOPE OF WORK

This Item shall consist of furnishing all aluminum glass door and window materials, labor, tools and equipment required in undertaking the proper installation as shown on the Plans and in accordance with this Specification.

A. MATERIAL REQUIREMENTS FOR DOOR

1. Frames and panel members shall be furnished from extruded aluminum sections true to details with clean, straight, sharply defined profiles and free from defects impairing strength, durability and appearance.
2. Extruded aluminum sections shall conform to the specification requirements of ASTM B-211.
3. Screws, nuts, washers, bolts, rivets and other miscellaneous fastening devices shall be made of non-corrosive material such as aluminum and stainless steel.
4. Hardware for fixing and locking devices shall be closely matched to the extruded aluminum section and adaptable to the type and method of opening.
5. Vinyl weather strip shall be first class quality flexible vinyl forming an effective seal and without adverse deformation when installed.
6. Pile weather strip shall be silicon treated and free from residual wetting agents and made of soft fine hair as on wool, fur, etc.
7. Glazing shall conform to the requirement specified in Item Glass and Glazing Specifications.

B. CONSTRUCTION REQUIREMENTS

1. For all assembly and fabrication works, the cut ends shall be true to line and accurately joined, free of burrs and rough edges.
2. Cut-out recesses, mortising, grinding operation for hardware shall be accurately made and properly reinforced when necessary.

3. Main frame shall consist of head, sill and jamb stiles specifically designed and machined to inter-fit and be joined at corners with self-threading screws.
4. Frame sill shall be stepped and sloped with offset weep holes for efficient drainage to the exterior.
5. Door panel shall be accurately joined at corners assembled and fixed rigidly to the exterior.
6. Aluminum glass door and main frame shall be installed in a prepared opening to be set plumb, square, level and true details.
7. All joints between metal surface and masonry shall be fully caulked to ensure weather tightness.
8. Sliding type door panel shall be equipped with concealed roller overhead tracks with bottom guide.
9. Double action type door panel shall be equipped with heavy duty hinges that will control the door leaf in a close or open position.
10. Weather strip shall be furnished on edges at the meeting stiles of doors.
11. Where aluminum is to be in contact with steel, concrete, cinder, block, tile, plaster or other similar masonry construction, the aluminum surface shall be back painted before erection with a bituminous paint.
12. Exposed aluminum surface shall be electro type hard coats.
13. Protection
 - a) All aluminum parts shall be protected adequately to ensure against damaged during transit and construction operations.
 - b) Aluminum parts in contact with steel members shall be properly insulated by a coat of zinc chromate primer applied to the steel or by application of bituminous paint.
14. Cleaning
 - a) The Contractor shall protect all entrance units during construction and shall be responsible for removal of protection materials and cleaning of all aluminum surfaces.

- b) Aluminum shall be thoroughly cleaned with plain water with kerosene or gasoline and then wipe surfaces using clean cotton fabric. No abrasive cleaning agents shall be permitted.

C. MEASUREMENT AND PAYMENT

1. Aluminum glass door, fully equipped with fixing accessories and locking devices shall be measured in square meters based on actual in place installed as shown on the Plans accepted to the satisfaction of the supervising Architect or Engineer Architect or Engineer.
2. The area in square meters of aluminum glass doors installed including main frame and ready for service as provided in this Specifications shall be the basis of payment based on the Unit Bid Price or Contract Price.

WINDOWS

SCOPE OF WORK

The scope of work under this item is the same as that of Aluminum Glass Doors and also the Material and construction Requirements of Section 11-1 and 11-2 of this chapter respectively.

A. MATERIAL REQUIREMENTS

1. Window Panel

Window Panel shall be connected at corners which miter joint fixed rigidly to ensure weather tightness.

2. Sliding Windows

- a) Sliding windows shall be provided with nylon sheave.
- b) Sliding panels shall be suspended with concealed roller overhead tracks with bottom guide pitch outward and slotted for complete drainage.
- c) The sliding panels shall be provided with interior handles.
- d) The locking devices shall be a spring loaded extruded latch that automatically engages special frame hips.

3. Casement Window

- a) Casement window type shall be provided with two hinges fabricated from extruded aluminum alloy. They shall open on stay arms having adjustable sliding friction shoes to control window panel operations.

- b) Locking device shall be one arm action handle for manual operations complete with strike plate.
- c) All joints between metal surface and masonry shall be fully and neatly caulked.
- d) Aluminum parts in contact with steel members shall be properly insulated by a coat of zinc chromate, primer/bituminous paint applied to the steel surface.
- e) Weather strip shall be furnished on edges at the meeting stiles.
- f) Exposed aluminum surfaces shall be electrotype hard coats such as anodize, satin, etc.
- g) All aluminum parts shall be protected adequately to ensure against damage during transit and construction phase.

4. Cleaning

- a) The Contractor does not only protect all entrance units during the construction phase but shall also be responsible for removal of protective materials cleaning the aluminum surface including glazing before work is accepted by the supervising Architect or Engineer.
- b) Aluminum shall be thoroughly cleaned with kerosene or gasolines diluted with water and then wipe surface using clean cloth rags.
- c) No abrasive cleaning materials shall be permitted in cleaning aluminum surfaces.

B. MEASUREMENT AND PAYMENT

1. Aluminum glass window fully equipped with fixing accessories and locking devices shall be measured in square meters actually installed in place and accepted to the satisfaction of the supervising Architect or Engineer.
2. The area of aluminum glass window in square meters ready for service as provided in the Bill of Quantities shall be the basis of payment based on the Unit Bid Price which price and payment.

GLASS AND GLAZING

SCOPE OF WORK

This Item consists of furnishing all glass and glazing materials, labor, tools, plant and equipment required in undertaking the proper installation as shown on the Plans and in accordance with this Specifications.

1. MATERIAL REQUIREMENTS

All glass and glazing shall be delivered at jobsite with labels affixed indicating quality, make, type and thickness. Each glass in glazed position shall resist a design pressure of 244 kilograms per square meter.

1. Plate Glass

Plate glass shall be manufactured from float glass that is mechanically rounded and polished and sealed with a coating of silver and a uniform film of electrolytic copper plating, then applied with protective coating of paint to seal our moisture from the silver. Use where good vision is required.

2. Float Glass

These basic types of glass shall be manufactured by floating continuous ribbon of molten glass into a bath of molten tin where it is reheated to obtain a flat fire polished finish and annealed slowly to produce a transparent float glass eliminating grinding and polishing.

Variation of these basic types is:

Graded AA – Intended for use were superior quality is required.

Grade A – Intended for selected glazing.

Grade B –Intended for general glazing.

Greenhouse quality – Intended for greenhouse glazing where quality is not very important.

3. Glazing Materials

a) Glazing materials for glass installation may be:

- i. Bulk compound such as mastic that are elastic and non skinning compound.

- ii. Putties – wood sash putty, or metal sash quality.
 - iii. Sealant – shall be chemically compatible with setting blocks, edge blocks and sealing tapes.
- b) Performed Sealant such as:
- i. Synthetic polymer – shall be base sealant that is resilient or non-resilient type.
 - ii. Performed Gasket – shall be compression or structural type.
- c) Setting and Edge Blocks shall be made of lead or neoprene, chemically compatible with sealant.
- d) Accessories like glazing clips, shims spacer strips etc. shall be made from non-corroding metal accessories.

4. Schedule of Glass and Mirrors

- a) Use 5.6 mm (7/32”) thick sheet glass locally manufactured clear quality for the following: (*unless otherwise indicated on the Plans as frosted*).
- i. Aluminum windows and doors, notwithstanding plate glass indicated elsewhere.
 - ii. Jalousie window glass salts.
 - iii. Fixed glass louvers.
 - iv. Glass panels for partitions and counter door panels, if any.
 - v. Sliding glass doors for cabinets.
- b) All glass panels for cabinets, except sliding doors shall be clear glass of locally manufactured float glass quality, 4.7 mm (3/16”) thick.
- c) They shall be clear, except where indicated on the Plans as frosted, diffused or opaque. Same shall be used for wooden sashes.
- d) Unless otherwise noted, clear glass that are locally manufactured shall be used for steel windows.

Use 3.1 mm – 1/8” thick for areas exceeding .60 m²
 Use 4.7 mm thick for areas exceeding .60 m²

- e) All comfort rooms whether shown or not, the Contractor shall provide and fit securely in place at the most convenient height above each lavatory one mirror, made from local glazing quality polished plate glass 6 mm thick with beveled edges and brass chromium plated frame 12 mm thick waterproof tanguile marine plywood backing, all in accordance with full size details. Sizes are as follows:
 - i. Over single lavatories - - - 60 cm. x 75 cm
 - ii. For two lavatories - - - - 120 cm. x 75 cm
 - iii. For three lavatories - - - - 180 cm. x 75 cm

2. CONSTRUCTION REQUIREMENTS

- a) Safety precaution and procedure shall be observed in determining the sizes and in providing the required clearances by measuring the actual opening to receive the glass.
- b) Movable items or parts shall be kept in a closed and locked position until after the glazing compound has thoroughly set.
- c) All glass sheets shall be bedded, back puttied, secured in place and face puttied. Secure glass in aluminum frame with non-corrosive clips except where glazing bead are required.
- d) Apply putty in a uniformly straight lines, with accurately formed bevels and clean cut corners, then remove excess putty from glass frames.
- e) Set glass in hollow metal doors and in metal frames of interior partitions in felt channel insets or bedded in putty to prevent any rattle.
 - i. Secure glass in wood doors and wooden frames in putty glazing stops.
 - ii. Secure stops on doors with screws.
- f) Glass breakage caused in executing that work or by faulty installation shall be replaced by the Contractor without extra cost.
- g) Improperly installed glass which does not fully meet the requirements of its grade, will not be accepted and shall be replaced without extra cost.

- h) The contractor shall provide and install complete set ready or use mirrors in all comfort rooms and elsewhere shown the Plans. The size and location for each mirror shall be as indicated on the Plans or as directed by the Architect.

1. Workmanship

- a) All glass shall be accurately cut to fit openings and set with equal bearing on the entire width of plane.
- b) Putty shall be neatly run in straight lines parallel with inside of glazing rebate.
- c) Corners shall be carefully made. All excess putty shall be removed and surfaces left clean.
- d) Apply a thin layer of putty to rebate and set glass.
- e) Place spring wire or angle glazing clips and run face putty. Remove excess putty from other side flush with edge of rebate.

2. Cleaning

Clean all glass both sides after putty has been applied completely. Do not disturb edge of putty with scraper. At completion of work leave glass and glazing works free from cracks and rattles and clean on both sides.

3. Samples

The Contractor shall submit for approval duplicate sample (15 cm. x 25 cm.) of each type of glass bearing manufacturer's label and a can of each type of putty.

C. MEASUREMENT AND PAYMENT

1. This Item shall be measured by actual area of glass sheets installed respective of the quality type and thickness in square meters.
2. The quantified unit of measurement shall be those accepted to the satisfaction of the Owner.
3. The quantities as measured shall be paid for the Unit Bid Price which payment constitute full compensation for all glass and glazing materials, labor and other facilities, and incidentals necessary to complete the work.

2.4 TILES

VINYL FLOOR TILES

SCOPE OF WORK

This item shall consist of furnishing all vinyl tiles and fitting accessories, adhesive materials, labor, tools, equipment and the satisfactory performance in undertaking the proper installation of vinyl tile flooring as shown on the Plans and in accordance with this Specifications.

A. MATERIAL REQUIREMENTS

1. Vinyl Tiles

Vinyl tiles shall be of first grade quality measuring 30 x 30 cm. x 3 mm thick, fully homogeneous, flexible, resilient and resistant to alkali moisture, grease and oil. The color and design pattern of vinyl tile shall be uniformly distributed throughout the thickness of the tile.

2. Adhesive

Adhesive shall be best suited for tropical application and compatible with the vinyl to be installed.

3. Seal Polish

Seal polish shall be plastic emulsion suited for the particular type of floor as recommended by the vinyl tile manufacturer.

B. CONSTRUCTION REQUIREMENTS

1. Installation

Installation of the tiles shall not commence until the work of other trade, including painting has been completed.

- a) The contractor shall carefully examine all surfaces over which the tiles are to be set.
- b) Floor surfaces that are to receive vinyl tile shall be clean, thoroughly dry; smooth; firm and sound; free from oil, paint, wax, dirt, and any other damaging materials.

2. Tile Laying Design

- a) The tile design shall be indicated on Plans and in the colors selected and approved by the Architect for each area.
- b) All joints shall be parallel to wall lines except otherwise indicated on plan.
- c) Where line patterns of tile run perpendicular to lines of other tiles, they shall be laid truly at right angles.

3. Adhesive

- a) Adhesive shall be applied in accordance with the adhesive manufacturer's printed directions unless specified or directed otherwise.
- b) Smoking, the use of open flames, and other sources of ignitions are strictly prohibited in the area where solvent containing adhesives are being used or laid.

4. Application of the Tiles

- a) Start in the center of the room or work area and work from the center towards the edges.
- b) Keep tile lines and joints square, symmetrical, tight and even and keep each floor in a true, level plane, except where indicated as sloped.
- c) Vary edge width as necessary to maintain full size tiles in the field but no edge tile shall be less than one half the field tile size, except where irregular shaped rooms make it impossible.

5. Cutting

- a) Cut vinyl floor tile to fit around all permanent fixtures, pipes and outlets.
- b) Cut edges, fit and scribe to walls and partition after flooring has been applied.

6. Edge Strips

- a) Provide edging strips where flooring terminates at points higher at doorways where thresholds are provided.
- b) Edge strip shall be extruded aluminum butt type and beveled at exposed edges.
- c) The top surface of the metal strips shall be finished flush with the tiles.
- d) Secure strips at the end and between at about 20 cm. apart with screws.
- e) Submit samples of metal strips for approval before application and installation.

7. Cleaning and Waxing

After the vinyl tiles and accessories are laid and set, it shall be cleaner as recommended by the manufacturer and a coat of approved seal polish.

8. Protection

After the floor has been waxed, they shall be carefully protected against damage, either with heavy building paper or by keeping traffic off the floors until the area is ready for use.

C. MEASUREMENT AND PAYMENT

1. All works performed under this section shall be measured in square meters/linear meters or actual number of vinyl floor tiles installed completes with accessories and ready for service.
2. The actual area in square or linear meters or number of quantities shall be the basis of payment based on the Unit Bid or Contract Unit Price.

CERAMIC TILES

SCOPE OF WORK

This Item shall consist of furnishing all Ceramic Tiles and cementitious materials, tools and equipment including labor required in undertaking the proper installation of walls and floor tiles as shown on the Plans and in accordance with these Specifications.

A. MATERIAL REQUIREMENTS

1. Ceramic Tiles

- a) Ceramic Tiles and trims shall be made of clay, or a mixture of clay and other materials which is called the body of the tile classified by ASTM C-242 as to their degree of water absorption.
- b) Ceramic Tiles and trims are manufactured either by dust pressed process or by plastic in which the clays are made plastic by mixing with water, shaped by extrusion or in molds and then fired.

2. Glazed Tiles and Trim

- 1) Glazed tiles and trims shall have an impervious face of ceramic materials fused on to the body of the tiles and trims.
- 2) The glazed surface may be clear white or colored depending on the color scheme approved by the Architect.
- 3) Standard glaze may be bright (glossy) semi-matte (less glossy) matte (dull) or crystalline (mottled and textured) good resistance to abrasion.
- 4) Glazed tiles shall be used for walls. Crystalline glazed tiles may be used for floors provided that these are used as light duty floors.

3) Unglazed Tiles and Trims

- a) Unglazed tiles shall be hard dense tile of homogeneous composition. Its color and characteristics are determined by the materials used in the body, the method of manufacture and the thermal treatment. Unless otherwise specified, used unglazed tiles for all floors as indicated on the Plan.
- b) Trims are manufactured to match wall tile color, texture and to coordinate with it in dimension.
- c) These are shaped in various ceramic trim units such as caps, bases, coves, bull-nose, corners, angles, etc. that are necessary for edging or making a transition between intersecting surfaces.

B. CONSTRUCTION REQUIREMENTS

Tile work shall not be started until roughing-ins for plumbing, electrical and other trades have been completed and tested. The work of all other trades shall be protected from any kind damages.

1. Surface Preparation

- a) Mortar mix for scratch coat and setting bed shall consist of one part Portland cement $\frac{1}{4}$ part lime and 3 parts sand by volume.
- b) Surface to receive tile must be level, true to elevation, dry, free from dirt, oil and other kinds of ointments.
- c) Allow at least seven days curing of scratch coat and setting bed. Installation work shall not be allowed to proceed until satisfactory conditions are corrected.
- d) Thoroughly dampen surfaces of masonry or concrete before scratch coat is applied.
- e) On masonry surface apply first a thin coat with pressure, then bring it out sufficiently to compensate for the major irregularities of the surface to a thickness not less than 10 mm at any point.
- f) Evenly rake the scratch coat to provide good mechanical key before the mortar mix has fully hardened.

2. Installation of Ceramic Glazed Wall Tiles

Ceramic tiles shall be soaked in cleaned water prior to installation for a minimum of one hour.

- a) Determine and mark layout of ceramic tiles as to joint location, position of trims and fixtures so as to minimize cutting less than one half size of the tile.
- b) Thoroughly dampen surface of wall but not to saturate the surface.
- c) Apply a bond coat mix with consistency of cream paste 1.5 mm thick to the wall surface or to the back of the tile to be laid.
- d) Lay the tiles true to profile then exert pressure and tamp tile surface before the bond coat mix has initially set.
- e) Continue with the next full tile to be laid and pressed firmly upon the setting bed tamped until flush and in place of the other tiles.
- f) Intersections and returns shall be formed accurately using the appropriate trim.
- g) All lines shall be kept straight and true to profiles, plumbed and internal corners rounded using the appropriate trims.

3. Installation of Vitrified Unglazed Floor Tiles

- a) Before tile is laid to the floor, surface shall be tested for levelness or uniformity of slope by flooding it with water. Area where water ponds are filled and leveled, shall be tested again before the setting bed is applied.
- b) Establish the lines of borders and center of the walls at the field work in both directions to permit the pattern to be laid with a minimum cutting of tiles.
- c) Clean concrete sub-floor then moisten but do not soak. Then, sprinkle dry cement over the surface and spread the mortar on the setting bed.
- d) Apply and spread mortar mix for setting bed and tamp to assure good bond over the entire area to be laid with tile.
- e) Pitch floor to drain as shown on Plans or as directed by the Architect or Engineer.
- f) Allow the setting bed to set sufficiently, then spread a bond coat over the surface and lay the tile.

4. Grouting and Pointing

- a) Before grouting joints, tiles shall have been laid in place for at least 24 hours. Grouting mortar shall be white Portland cement or blended with pigments to acquire the color appropriate for the ceramic tiles.
- b) Grouting mortar shall be applied over the tile by float or squeegee stroked diagonally across the joints.
- c) Remove excess mortar with a wet sponge stroked diagonally or in a circular motion after 12-15 minutes.
- d) Follow with a barely damp or dry sponge to remove remaining haze while smoothing all grouted joints.

5. Cleaning

- a) Clean ceramic tiles surface thoroughly as possible upon completion of grouting.
- b) Remove all grout haze observing tile manufacturer's instructions as to the use of acid or chemical cleaners.
- c) Rinse tile thoroughly with clean water before and using chemical cleaners.
- d) Polish surface of tile with soft cloth.

6. Protection

- a) Apply a protective coat of neutral cleanser solution diluted with water in the proportion of 1.4 or one liter cleanser concentrate to one gallon of water.
- b) In addition, cover tile flooring with heavy duty non-staining construction paper, taped in place.
- c) Just before final acceptance of the work, remove paper and rinse the protective coat of neutral cleaner from the tile surface.
- d) Don not let protective paper get torn or removed.

C. MEASUREMENT AND PAYMENT

- 1. All works performed under this Item shall be measured in square meters for areas actually laid with ceramic tiles and accepted to the satisfaction of the Architect or Engineer.

2. Ceramic tile work determined and provided in the Bill of Quantities shall be paid for based on the Unit Bid Price which price and payment constitute full compensation for furnishing all materials, tools, equipment and other incidentals necessary to complete this Item.

2.5 PAINTING AND VARNISHING

SCOPE OF WORK

This item shall consist of furnishing paints, enamels, varnishes and other products to be used including labor, tools and equipment required as shown on the Plans and in accordance with this Specification.

A. MATERIAL REQUIREMENTS

1. All paint materials shall meet the requirements of the Standard Specifications of the Standardization Committee on supplies.
2. All paint materials shall be delivered on the job site in their original containers with labels and seals unbroken.
3. Manufacture or brand of painting materials to be used shall either be Dutch Boy, Davies, Boysen or any equivalent approved by the designing Architect.
 - a) Kind of Paint
 - b) Tinting Color
 - c) Patching Compound
 - d) Natural Wood Paste Filler
 - e) Wood Stain
 - f) Varnish
 - g) Lacquer
 - h) Sanding Sealer
 - i) Glazing Putty
 - j) Concrete Neutralizer
 - k) Silicon Water Repellant

B. CONSTRUCTION REQUIREMENTS

The Contractor prior to commencement of the work shall examine the surfaces to be applied with paints, enamels, varnishes, lacquers, sanding sealers and other related products in order not to jeopardize the quality and appearance of painting or finishing work.

1. SURFACE PREPARATION

- a) Surface Examination.
- b) Preparation
- c) Interior Woodwork
- d) Plaster or Masonry
- e) Metals
- f) Concrete and Brick Surface
- g) Cleaning Methods
 - i. Sun blasting – there are 3 general methods in used in sun blasting:

Conventional Dry Sandblasting

Vacuum Sandblasting

Wet Sandblasting

- ii. Wire Brushing and Scraping
 - iii. Power Tools
 - iv. Water Blasting
 - v. Acid-etching
 - vi. Paint Remover
 - vii. Alkali Cleaning
- h) Surface Conditioning
- i) Application
- j) Workmanship
- k) Mixing and Thinning
- l) Storage
- m) Cleaning

C. MEASUREMENT AND PAYMENT

1. The quantity to be paid shall be total area in Square Meters of the various concrete, wood and metal surfaces painted complete as shown on the Plans as specified and accepted by the Architect or Engineer.
2. The accepted work shall be paid at the Unit Bid Price, which price and payment shall constitute full compensation for furnishing all materials, equipment, labor, tools and incidentals necessary to complete this Item.

3. ELECTRICAL

SCOPE OF WORK

The work under this Division consist of furnishing all materials, equipment, tools, labor and all other services necessary to complete and make ready for operation the Electrical Power and Lightning System described below and or indicated in the Electrical Plans in accordance with the latest edition of the Philippine Electrical Code and this Specifications and General Conditions of the Contract.

A. CONSTRUCTION REQUIREMENTS

1. Furnishing and installation of underground service entrance, conduits and conductors, and all items required by local utility power company's policy, rules and regulations.
2. Furnishing and installation of panel boards at location indicated on the plan and electrical riser layout, including all accessories required.
3. Furnishing and installation of feeder and branch circuit conductors with the necessary conduits, approved type of fittings and devices as indicated in the electrical plans.
4. Furnishing and installation of all types of utilization devices, outlets and wall switches with properly installed cover plate.
5. Furnishing of all lighting fixtures, conduits, including service entrance duct, terminal cabinet and utility boxes.

B. CODES, REGULATIONS AND STANDARDS

1. The installation and equipment shall conform to good engineering practices and in particular comply with the requirements laid down in the following documents or its equivalent which are mandatory and modified only by specific agreement.

Philippine Electrical Code - - - - - PEC
Underwriter's Laboratory, Inc - - - - - UL
National Electric Manufacturers
Association - - - - - NEMA
Local Utility Power Company - - - - - LUPC

2. In addition to the requirements of these Codes and the Utility Power Company's requirements, local government regulations and suppliers Specifications if any, shall be followed.

C. DRAWING AND SPECIFICATIONS

1. The drawings and Specifications are meant to be complementary to each other, and what is called for by one shall be binding as if called for both.
2. Any apparent conflict between the drawings and specifications, and any controversial or unclear points in either shall be referred to the supervising Architect or Engineer for final interpretation and decisions.
3. On one copy of the plans, have a record showing all deviations that happened during the construction
4. Upon completion of work as described herein, the Contractor at his own expense shall furnish the Owner 6 copies of the "As Built" plan for future references and maintenance purposes.

D. CORRELATION OF WORK

1. The Electrical Contractor shall confer with the General Contractor and Architect to determine how and where his work fits with that of other crafts, after familiarizing himself with the plans and specifications.
2. This shall be done at the beginning of construction. Should there be any existing doubts at any point, ruling shall be secured from the supervising Architect or Engineer who shall be given time to inspect the work covering this point and to prepare a detail in the form of drawings and written instructions as required.

E. PERMITS AND INSPECTION

1. The Contractor shall obtain at his own expense, all the necessary permits and certificate of Electrical Inspection from the proper government authorities required for both the performance of his work involved and the proper operation of the system upon completion of the work.
2. The Contractor shall at his expense, reproduce the electrical plans for his work to the necessary requirements as required by the government authorities concerned in issuing permits and Certificate of Electrical Inspection.

F. EXAMINATION OF PREMISES

1. Prospective bidder is required to examine the architectural, structural, and electrical plans of the project, to visit the site and carefully take note of all the conditions thereat to have personal informed under which the electrical work is to be done.
2. No allowance will subsequently be made in his behalf of any error on his part. He will be deemed to have done this before submitting his proposal and no subsequent claims on the ground of inadequate or inaccurate information will be entertained.

G. LAYOUT OF WORK

1. Electrical system layout indicated on the drawings are generally diagrammatic and the location of outlets, devices, apparatus and equipment are only approximate.
2. The exact routing of conduits, location of outlets, devices apparatus and equipment shall be governed by structural and architectural conditions and limitations.
3. For the exact location, consult the supervising Architect or Engineer. This does not mean to permit redesigning of the systems. All outlets are to be interconnected as indicated in the drawings.
4. The Owner reserves the right to make any reasonable change in location of outlet and equipment prior to rough-in, without involving additional expense.
5. The Contractor shall be responsible and pay changes for cutting and patching for piping lines where sleeves or slots were not installed or where incorrectly located.

H. MATERIAL AND WORKMANSHIP

1. All materials to be installed shall be unused, brand new and shall conform with the standards of the Underwriters Laboratories, Inc. in every case where such a standard has been established for the particular type of materials to be used.
2. Only skilled workmen using proper tools and equipment shall be employed during the entire course of installation work.
3. All workmanship shall be of the best practices of the trade involved. The same job foreman shall be assigned and maintained at the job site during the entire course of the job.

I. UNDERGROUND SERVICE ENTRANCE

1. The Electrical Contractor shall furnish and install 220 volt current rating, 3- Phase line underground service entrance connection.
2. The service entrance conductors shall be thermoplastic type THW standard copper conductors, stranded, whose number and size are indicated on the plans and electrical riser diagram.
3. The underground service entrance shall be laid at least 60 cm. below the finish grade line and shall be installed to make the joints entirely watertight.
4. The conductor shall then be encased with concrete at least 8 centimeters thick.

J. SERVICE METERING FACILITIES

1. The Contractor shall furnish and install a concrete pedestal pole size 30 cm x 30 cm x 5.50 m in the location shown in the plan and electrical diagram including line accessories and hardware in accordance with the local power company's standards.
2. It shall be the duty of the Contractor to request the local power company to install a proper type and size of service metering instruments and all other necessary accessories, materials, equipment, devices and fittings.

K. PANEL BOARDS

1. The Contractor shall furnish and install the necessary panel boards multi-breaker type including the breakers as indicated in the drawings.
2. Circuit breakers shall be tropical of the magnetic thermal type with ratings and number of poles as indicated in the drawings.
3. All panel boards to be used shall be flush mounted when located in areas that are visible to the general public and may be surface mounted when located in machine room or areas where they are not visible to the public.
4. All panel boards shall be set plumb and symmetrical with the surrounding objects. Panel boards shall be installed in a perfectly fit cabinet of appropriate size provided with a stop in-door trim and good quality cylinder lock.

L. CONDUIT WORK

1. Standard PVC conduit pipe system is required for this project.

2. Conduit runs shall be concealed in drop ceiling and or embedded in concrete structure where concealment is not possible.
3. No conduit of less than 15 mm normal diameter shall be installed for this project. Two or more conduits shall not be installed in lieu of a larger size.
4. Conduit run shall be continuous from outlet and no running thread shall be in any conduit run. Conduit shall be cut square and properly reamed.
5. All joints shall be screwed enter knockouts of conduit boxes, pull boxes, panels and cabinet squarely. Lock-nuts shall be screwed tight to insure continuity of raceway grounding.
6. Bonds and offset shall be avoided where possible, but where necessary it shall be made with approved conduit bending apparatus.
7. Conduits which have been deformed or crushed in any manner should not be installed.
8. The Contractor shall plug with lead or closed with approved pipe caps the ends of all conduit boxes so as to prevent the entrance of white ants and dirt within the conduit system.
9. This lead or cap shall be placed that can be easily removed when so desired and at the same time serve the purpose intended.
10. Pull wire shall be inserted in the empty ducts before they are closed with lead or caps and shall be left therein for future use.
11. When not shown on the plans, conduit sizes shall correspond to the conduit sizes on tables of the Philippine Electrical Code latest edition.

M. FEEDERS AND FEEDER DUCTS

1. Feeder shall be laid out in accordance with the on-line diagram shown in the drawings.
2. Unless otherwise specified or shown on the drawings, type THW wires shall be used for feeder runs. The wires and conduit shown in the drawings shall be the minimum size to be used for feeder runs.

N. WIRING METHODS

1. Wiring for all systems shall be type THW or TW conductors using plastic conduit pipes. Other types of conductor shall be as indicated in the drawings.
2. Conduit shall be embedded in columns, walls and toppings of floors slabs to allow flush connection and lighting system which may be exposed between joints in case a drop ceiling is installed.
3. Proper fittings shall be provided at ends of conduits.
4. All conduit and conduit fittings shall be PVC and shall conform with the U.S. Underwriter's Laboratories Inc. Standard and Codes.
5. The minimum size of conduit to be used shall be 13 mm diameter. Sizes larger than 13 mm diameter shall be indicated in the drawings.
6. Smallest size of conductor to be used shall be 2.0 mm² type TW or THW. TW wire shall be indicated in the drawings.
7. Circuit homeruns for lighting shall be 3.5 mm² and 5.5 mm² for the power or otherwise indicated on the plans.
8. All splices, tape and junctions for all systems using conductor up to 14 mm² shall be accomplished by using electrical friction of rubber shapes.
9. Proper type of connections shall be employed to accommodate all splices and solder less type terminals to be used for connection to Busbar.
10. Taps and splices shall be properly protected with both plastic and friction electrical tapes to proper insulation and protection for 600 volts.
11. Wiring from ceiling outlets to lighting fixtures recessed in dropped ceilings shall be done using type TW conductors in RS or PVC conduits.
12. Proper size of boxes shall be used for switch and outlet receptacles
13. Necessary fittings such as bushing, locknuts and antishort fiber bushing shall be used at proper places required.\
14. When not shown on the Plans, conduit sizes shall correspond to the conduit sizes as prescribed in the Philippine Electrical Code table for "Size of Conduit Pipes".

O. OUTLETS AND SWITCHES

1. All boxes for outlets and switches shall be PVC or galvanized iron approved products of reputable manufacturers.
2. Enamel coating used in lieu of zinc coating shall not be permitted.
3. All ceiling outlet boxes intended for lighting outlets shall be of the 10 cm. octagonal box larger boxes when required shall be 5.3 cm deep.
4. Convenience and wall switch outlet boxes shall be of the 10 cm by 5.3 rectangular deep flush type or 100 square cm junction box with gang raised cover as required to accommodate the wires therein.
5. All junction boxes, pull boxes and blank boxes shall be fitted with standard flat metal or plastic box cover.
6. All boxes including junction and pull boxes shall be of sufficient size to provide free space for all conductors enclosed in the box, in addition to the fittings such as switch mechanism and receptacles that may be placed therein.

P. WALL SWITCHES AND RECEPTACLES

1. Suitable single pole, two-gang, three-gang and three-way switches of the flush tumbler type and receptacles with proper Bakelite cover plates shall be furnished and installed as indicated in the drawings.
2. Wall switches intended to control lights on the 230 volts system shall be rated 15 amp. 250 volts.
3. Convenience outlets shall be flushed duplex type rated 20 amperes 230 volts 60 Hz, AC.

Q. GROUNDING INSTALLATION

1. The Contractor shall furnish and install all ground cables, connection ground rods and all other materials required to provide a permanent effective grounding system.
2. Grounding, in general, shall conform with the provisions of the National Electrical Code and as recommended by the equipment manufacturer.

3. All enclosures for electrical equipment regardless of voltage shall be grounded, including metal frames of switchboard, motors, generators and steel poles. Each shall be grounded in a separate grounding system.
4. Grounding cables shall be bare, copper suitable size and of approved type. Ground rods shall be copper clad steel with diameter of 16 mm and length of 2.0 m.
5. Ground clamps shall be of high compression, solderless cast design frame of high copper alloy bronze with minimum thickness of 4.7 mm and hardware made from silicon bronze.
6. The clamps shall be of a shape and size to fit the points of application and type of connection to be made from cable to rod, pipe and curved or flat surfaces.

R. LIGHTING OUTLETS

All ceiling outlets shall be 10 cm x 5 cm octagonal boxes. Connection from fixtures to boxes shall be accomplished by using type TW conductors on a flexible conduit.

S. LIGHTING FIXTURES

All lighting fixtures shall be furnished and installation by the contractor. They shall be as shown on the drawings or specified on the schedule of lighting fixtures. For other details as to the types and model, consult the Architect or the Engineer.

T. TEST AND GUARANTEE

1. The Contractor shall furnish all apparatus to be used in making tests of all wiring system for shorts and grounds after the electrical work is completed.
2. The Contractor guarantees all work installed under the Contract to be free from all defects for a period of one year after acceptance of the works.
3. The Contractor also agree to repair and make good at his own expense any and all defects which may develop in his work during the time if said defects arise due to poor workmanship.

U. POWER LOAD CENTER

This Item shall consist of furnishing and installation of power load center unit substation or low voltage switch-gear and distribution panel boards at the location shown on the Plans complete with transformer, circuit breakers, cabinets and all accessories, completely wired and ready for service.

1. Material Requirements

All materials shall be brand new and shall be of the approved type. It shall conform with the requirements of the Philippine Electrical Code and shall bear the Philippine Standard Agency mark.

2. Power Load Center Unit Substation

The contractor shall furnish and install an indoor type power load center unit substation at the location shown on the approved Plans if required. It shall be totally metal enclosed dead front and shall consist of the following coordinated component parts. High Voltage Primary incoming line section consisting of the following parts and related accessories.

- a) One air filled Interrupter Switch, 2- position (open-close) installed in a suitable air filled metal enclosure and shall have sufficient interrupting capacity to carry the electrical load. It shall provided with key interlock with the cubicle for the power fuses to prevent access to the fuse unless the switch is open.
- b) Three power fuses mounted in separate compartments within the switch housing and accessible by hinged door.
- c) One set of high voltage potheads or 3-conductor cable or three single conductor cables.
- d) Lightning arresters shall be installed at the high voltage cubicle if required.

Note: Item 1 and 2 could be substituted with a power circuit breaker with the correct rating and capacity.

3. Transformer Section

- a) The Transformer section shall consist of a power transformer with ratings and capacities as shown on the Plans.
- b) It shall be oil liquid filled non-flammable type and designed in accordance with the latest applicable standards.
- c) The transformers shall be provided with 4 approximately 2.5% rated KVA taps on the primary winding in most cases above and 3 below rated primary voltage to be changed by means of externally gang-operated manual tap changer only when the transformer is deenergized.

- d) The following accessories shall be provided with the transformer, namely: drain valve, sampling, sampling device, filling connection, oil liquid level gauge, ground pad, top filter press connection, lifting lugs diagrammatic nameplate relief valve, thermometer and other necessary related accessories.
- e) The high voltage and low voltage bushing and transition flange shall be properly coordinated to field connection to the incoming line section and low voltage switchboard section, respectively.

4. The Low Voltage Switchboard Section

The low voltage switchboard shall be standard modular unitized units, metal built dead front, safety type construction and shall consist of the following.

- Switchboard Housing
- Secondary Metering Sections
- Main Circuit Breaker
- Feeder Circuit Breakers
- Low Voltage Switchgear
- Grounding System
- Panel Board and Cabinets

V. CONSTRUCTION REQUIREMENTS

The Contractor shall install the Power Load Center Unit Sub-station or Low Voltage Switchgear and Panel boards at the locations shown on the approved Plan.

W. METHODS OF MEASUREMENT

The work under this Item shall be measured either by set and pieces actually placed and installed as shown on the Plans.

4. MECHANICAL

4.1 AIR CONDITIONING

REFRIGERATION SYSTEM

SCOPE OF WORK

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.

A. MATERIAL REQUIREMENTS

The types, sizes, capacities, quantities and power characteristics of the compressor, evaporator, condenser water pump shall be as specified or as shown on the Plans.

1. Refrigerant Pipes

- a) Refrigerant pipes shall be copper tubing, type L or K or black steel pipe, Schedule 40 for size of 10 cm diameter and smaller. Pipes over 10 cm diameter shall be black steel pipe schedule 40.
- b) Black steel pipe shall be standard seamless, lap-welded or electric resistant welded for size 50 mm diameter and larger, screw type for size 38 mm diameter and smaller, fitting for copper tubing shall be cast bronze fitting designed expressly for bracing.

2. Pipes for Cooling Water

- a) Chilled and condenser cooling water pipes shall be black steel pipe Schedule 40.
- b) Pipes and fittings for size 50 mm diameter and smaller shall be screwed type. Pipes and fittings for 62 mm diameter and larger shall be welded or flanged type.

3. Pipe Insulation

- a) Pipe insulation shall be pre-formed fiberglass or its equivalent. The insulating material shall be covered with 10 mm x 13 mm thick of polyethylene film which shall be overlapped not less than 50 mm.
- b) Pipe insulation shall be adequately protected at point of support by means of suitable metal shield avoid damage from compression.

- c) Insulated pipes, valves and fittings located outdoors shall be provided with metal jackets.

4. Duct Works

Duct shall be galvanized steel sheet of not less than the following gauges:

- a) No. 26 for 300 mm wide and smaller
- b) No. 24 for 350 mm to 750 mm wide.
- c) No. 22 for 775 mm to 1500 mm wide
- d) No. 20 for 1525 mm to 2250 mm wide.
- e) No. 18 for 2275 mm to 2500 mm or larger
- f) For aluminum sheets use one gauge higher.

Joints and Stiffeners of duct using slip joints shall be as follows:

- a) 300 mm wide and smaller, without bracing.
- b) 325 mm to 750 mm wide, brace with 25 mm x 25 mm x 3 mm steel angles.
- c) 774 mm to 1500 mm, brace with 31 x 31 x 3 mm steel angles.
- d) 1525 mm up, brace with 38 x 38 x 3 mm steel angles.

Stiffeners shall be located not more than 12.0 cm. from each joint.

5. Duct Work Insulation

- a) The application insulation materials shall be rigid board made of styropor or equivalent 25 mm thick for ground and top floor, 13 mm thick for intermediate floor.
- b) Galvanized metal bands shall be secured and spaced 30.0 cm minimum center to center distance and corners protected with galvanized metal angles.

6. Diffusers

- a) The type, shape, capacity, size and location shall be as shown in the Plans. Diffusers shall be complete with frame and gasket, equalizing deflector and volume control as indicated or specified and shall have factory-applied prime coat of paint.
- b) Samples of supply and return air diffusers shall be submitted for approval before mass fabrication and installation.

7. Dampers

- a) Dampers shall be of same materials as duct, at least one gauge thicker and in accessible location complete with locking device for adjusting and locking damper in position.
- b) Where necessary, splitters, butterflies and louvers damper deflecting vanes for control of air volume and direction and for balancing system shall be provided whether or not they are indicated on the Plans.

8. Fire Damper

- a) Main duct shall be provided with proper fire dampers of fusible link actuated type.
- b) Access door shall be provided in ductwork for renewal of fusible link and to reset damper.

9. Equivalent Foundation

- a) Foundation shall be provided and shall conform to the recommendation of the manufacturer of the equipment. Equipment shall be leveled on foundation by means of jacks or steel wedges.
- b) All spaces between equipment bases and concrete foundation shall be filled with cement mortar.

10. Electrical Works

- a) Power supply shall be provided by the Contractor at the pull box installed inside the machine room and shall furnish and install the main circuit breaker and starter with suitable ratings and capacities, conduits, wirings, fittings, devices and all other equipment and electrical installation of the system.
- b) All electrical works shall comply with the latest edition of the Philippine Electrical Code, with the applicable ordinance of the local government and all the rules and requirements of the local power company.

B. CONSTRUCTION REQUIREMENTS

- a) The air conditionings system shall be entirely automatic in operation and shall not require the presence of an attendant except for periodic inspection for lubrication.

- b) All equipment and materials shall be inspected upon delivery and shall be tested after installation.
- c) Piping shall not be buried, concealed or insulated until it has been inspected, tested and approved.
- d) Walls, floors and other parts of the building and equipment damaged by contractor in the prosecution of this mechanical work shall be replaced and restored to its original conditions as shown on the Plans.

1. Operating Tests

- a) Refrigerating equipment shall be tested for 8 hours per day for 3 consecutive days or longer when so directed, under the supervisions of manufacturer's qualified and authorized representative, who will make necessary adjustments and instruct designated plant operating personnel for each operation maintenance of refrigerating equipment and controls.
- b) Operating test of complete air conditioning system shall be 6 hours minimum for each system. Test of air flow, temperature and humidity shall be made to demonstrate that each unit complies with the requirements of the Plans and Specifications.

2. Guarantee and Service

All equipment, materials and workmanship shall be guaranteed for a period of one year from the date of acceptance at any time within the period of guarantee and upon notification; the Contractor shall repair and rectify the deficiencies, including replacement of parts or entire unit.

3. Miscellaneous

- a) The Owner shall be provided with 3 bound copies of "As-Built" diagrams, shop drawings, part lists, serial number and inventory of equipment including manufacturer's operating and maintenance manuals.
- b) All standard tools and equipment shall be furnished for proper and regular maintenance of installed equipment.

C. MEASUREMENT AND PAYMENT

1. The work under this Item shall be measured either by set, price, length, square meter actually placed and installed as shown on the Plans.
2. Compressor, condenser and evaporator shall be measured by set, grilles, diffusers and valve by piece, pipe by length, duct and insulation by square meter.
3. All work performed and measured shall be paid for the Unit Bid or Contract Price which payment constitute full compensation including labor, materials, tools and incidentals necessary to complete this item.

4.2 WATER PUMPING SYSTEM

SCOPE OF WORK

This Item consist of furnishing and installation of water pumping system, inclusive of all piping and pipe fitting connections, valves, controls, electrical wirings, tanks and all accessories ready for service in accordance with the approved Plans and Specifications.

A. MATERIAL REQUIREMENTS

1. Water Pump

The type, size, capacity, location, quantity and power characteristics shall be as specified or shown on the Plans.

2. Overhead Tank

Overhead tank shall be provided with manholes, cover, drain pipes, distribution pipe outlet, overflow pipes and air vent.

3. Pneumatic Tank

Tank shall be designed for twice the maximum total dynamic pressure required and shall have the following accessories.

- a) Suitable pressure switch to stop pump if pressure required is attained.
- b) Air volume control device to maintain correct air volume inside the tank.

- c) Pressure relief valve should be installed on top of the tank.
- d) Electrode to be connected in the motor pump control to control the water level.
- e) Air compressor shall be provided for tank of 3.785 liters to maintain air pressure inside the tank.

4. Pipes and Fittings

All piping 10 cm and larger shall be welded or flanged while smaller sizes shall be screwed.

5. Valves

A gate valve followed by a check valve shall be placed between discharge of pump and tank to prevent back flow of water when pump is in stop.

B. CONSTRUCTION REQUIREMENTS

Exposed piping shall be provided with concrete saddle or steel clamps or hangers to secure them firmly to the building structures. Pipe threads shall be lubricated by white lead, red lead, Teflon tape or other approved lubrication before tightening.

C. MEASUREMENT AND PAYMENT

The work under this item shall be measured either by set, length and piece actually placed as indicated on the Plans Equivalent shall be measured by set, pipes by length, valves and fittings by piece.

4.3 AUTOMATIC WATER SPRINKLER

SCOPE OF WORK

This Item shall consist of furnishing and installation of Automatic Water Sprinkler System, inclusive of all piping and pipe fitting connections, valves, controls, electrical wiring connection and all other accessories ready for service in accordance with the Plans and Specifications.

A. MATERIAL REQUIREMENTS

1. Fire Pump

- a) The type, size, capacity and quantity and power characteristics shall be specified or as shown on the Plans.
- b) The fire pump shall be diesel engine driven and capable of delivering a minimum of residual pressure of 103 kPa at the top-most and remotest sprinkler.
- c) The pump unit shall be supplied with relief valve, suction gauge and discharge pressure gauge. The diesel engine shall be designed specifically intended for an automatic water sprinkler protection system.
- d) A drop in system pressure due to the operation of one sprinkler pressure shall be triggered a series of automatic operations that will result in the instantaneous operation of the engine to drive the fire pump with the aid of a battery automatic controller.
- e) The required accessories are:
 - Tachnometer
 - Oil Pressure gauge
 - Temperature gauge and control panel
- f) A diesel fuel day tank shall be provided to supply the engine for a minimum of 2 hours running time.
- g) The fuel storage tank shall be asphalt coated with necessary piping and fittings for connection.

2. Jockey Pump

Jockey pump shall be electric motor driven, 220 v. 3-phase, 60 hertz Power connection. The capacity to be supplied shall not less than that indicated on the Plans.

3. Sprinkler Head

- a) Type-spray unit, pendant and upright unit
- b) Flow capacity, 83 LPM per head
- c) Pressure Rating
- d) Residual pressure – 103 kPa minimum
- e) Maximum pressure – 1035 kPa
- f) Temperature rating – fusing at 57.5⁰ C to 74⁰ C

- g) Finish – chrome-pendant-chrome or brass upright
- h) Pipe thread – 13 mm nominal
- i) Stock of extra heads and tools required

4. Alarm Check Valve and Fire Alarm System

- a) The alarm assembly shall be constructed and installed that any flow of water from the sprinkler system equal to or greater than that from the single automatic head shall result in an audible and visual signal in the vicinity of the building.
- b) The alarm apparatus shall be substantially supported and so located and installed that all parts shall be readily accessible for inspection, removal and repair.
- c) The actual water flow, through the use of a test connection, shall be employed to test the operation of the sprinkler alarm units as a whole.
- d) An approved identification sign shall be installed near the outdoor alarm device in a conspicuous position.

5. Alarm and Supervisory System

The alarm and supervisory system of the automatic water sprinkler shall include the monitoring of the following:

- a) Water flow switch of each floor of the building
- b) Fire pump and jockey pump running condition and power supplies.
- c) Level of water in the reservoir
- d) Control valves

The water flow switches on each floor of the building shall be connected to the fire alarm system and annunciator in such a manner that the operation of any sprinkler system will activate the fire alarm system, with the location of the operating water flow switch simultaneously indicated in the annunciator panel.

6. Pipes and Fittings

- a) Pipes shall be Black Iron Schedule 40
- b) Screw fitting shall be used for inside piping
- c) Welding and touch cutting shall not be allowed
- d) Piping shall be painted with metal primer and red enamel paint.

7. Siamese Twin

The Siamese twin shall be 64 x 64 x 102 mm, 90° C female coupling national standard thread, swivel type, with protective coupling cap and joint lug.

8. Pipe Hangers

Pipe hangers shall be steel bars 3 mm minimum thickness, with corrosion protection.

- a) *Anchorage in concrete* – expansion shield preferably be used in a horizontal position in the sides of concrete beams.
- b) *Expansion shield in vertical position.* When pipes 1—mm and larger are supported entirely by expansion shield in the vertical position, the supports shall be spaced not more than 3.0 meters apart.
- c) For pipe running through concrete beams use sleeves at least 2 sizes larger than the piping.

B. CONSTRUCTION REQUIREMENTS

1. Acceptance Tests

- a) System operation and maintenance chart shall be submitted to the Owner upon completion of the Contract. This shall include the locations of control valves and care of the new equipment.
- b) Marked instructions and identifications sign boards shall be made of NO. 14 gauge black iron sheet with baked enamel finish paint and letter instructions are shown on the Plans
- c) Sign boards shall be mounted on the equipment or wall nearest the equipment easy identification and reading.
- d) Additional sign boards as may be required and not specified herewith shall be furnished at no extra cost.

2. Conduct of Tests

- a) Test shall be by the Sprinkle System conducted in the presence of an inspector or authority having jurisdiction.

- b) Flushing of Underground Connections to remove foreign materials which may have entered the piping during installation of same as required before sprinkler piping is connected.
- c) Hydraulic Test shall be conducted as follows:
 - i. **The Pressure** - all systems, including piping shall be tested hydrostatically at no less than 1378 kPa pressure for 2 hours or at 345 kPa in excess of the maximum static pressure when the maximum static pressure is in excess of 1033 kPa.
 - ii. **Operating Test** – all control valves shall be fully closed and opened under water pressure to insure proper operation. Use clean, non-corrosive water.
 - iii. **Fire Department Connection** – piping between the check valve in the fire department inlet pipe and the outside connection shall be tested the same as the balance of the system.
- d) *Tests of Drainage Facilities* – Test of the drainage facilities shall be made while the control valve is wide open. The main drain valve shall be opened and remain open until the system pressure stabilizes.
- e) *Test Certificate* – Upon completion of work, inspection and tests made by the Contractor and witnessed by the Owner’s representative. A test certificate shall be filled out and signed by both representatives.

C. MAINTENANCE SERVICE

1. The Contractor shall provide free of charge, maintenance service of the system for a period of at least one year reckoned from the date of acceptance of the work.
2. Upon completion of the work and after all tests, the services of one or more qualified engineers shall be provided by the Contractor for a period of not less than 5 working days to instruct and train the representative of the Owner in the operation and maintenance of the fire protection system.

Guarantee and Service

All equipment, materials, and workmanship shall be guaranteed for a period of 1 year from the date of acceptance at any time within the period of guarantee and upon notification, the Contractor shall repair and rectify and deficiencies, including replacement of parts or entire units.

5. PLUMBING

SCOPE OF WORK

This Item shall consist of furnishing all materials, tools equipment and fixtures required as shown on the Plans for the satisfactory performance of the entire plumbing system including installation in accordance with the latest edition of the National Plumbing Code, and these Specifications.

A. MATERIAL REQUIREMENTS

All piping materials, fixtures and appliances fitting accessories whether specifically mentioned or not but necessary to complete this Item shall be furnished and installed.

1. Plastic Pipes

- a) Unless otherwise specified or shown on drawings all tube pipes to be use in this project shall be plastic or synthetic materials.
- b) For rigid type of connections, the following shall be used: Polyvinyl Chloride (PVC); Chlorinated Polyvinyl Chloride (CPVC); Unplasticized Polyvinyl Chloride (uPVC); Acrylonitrile Butadiene Styrene (ABS); Polypropylene (PP) and Styrene Rubber Plastic (SR).
- c) For flexible connections either of the following shall be used: Polyethylene (PE) and Polybutylene (PB).
- d) The PE and PB tubes are in coil form available up to 150 meters long in coil form shall be used for underground water connections.
- e) Plastic pipe shall be of quality made by reputable manufacturers free from defects, and shall be true, smooth and cylindrical, their inner and outer surfaces being as nearly concentric, their inner and outer surfaces being as nearly concentric as practicable.
- f) They shall be in all aspect, sound and perfectly molded free from laps, pin holes or other imperfections and shall be neatly dressed with its end finished reasonably square to their axes.
- g) Pipes and fittings for sanitary and potable water lines as approved alternate shall be unplasticized Polyvinyl Chloride Pipes and fittings (Upvc)

- h) Pipes and fittings shall be made of virgin materials conforming to Specification requirements defined in ASTM D-2241 and PS 65: 1986.
- i) Fittings shall be molded type and designed for solvent cement joint connection for water lines and rubber O-ring seal joint for sanitary lines.

2. Septic Tank

- a) The septic tank shall be provided as shown on the Plans including all pipe vents and fittings.
- b) Various construction materials such as concrete masonry work shall conform to the corresponding Items of this Specification.
- c) Inlet and outlet pipes shall conform to the latest edition of the National Plumbing Code.

3. Plumbing Fixtures and Fittings

- a) All fittings and trimmings for fixtures shall be chromium plated and polished brass unless otherwise approved.
- b) Exposed traps and supply pipes for fixtures shall be connected to the roughing-in, piping system at the wall unless otherwise indicated on the Plans.
- c) Built in fixtures shall be watertight with provision of water supply and drainage outlet, fittings and trap seal.
- d) Unless otherwise specified, all plumbing fixtures shall be made of vitreous china complete with fittings.

4. 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 tubular stainless steel pipe provided with safety grip and mounting flange.
- c) Floor drains shall be made of stainless steel beehive type, measuring 10 cm x 10 cm. and provided with detachable stainless strainer, expanded metal lath type.

- d) Toilet paper holder shall be vitreous china wall mounted. Color shall reconcile with the adjacent fixture and facing tiles.
- e) Soap holder shall be vitreous china wall mounted. Color shall reconcile with the adjacent tile works.
- f) Faucets shall be made of stainless steel for interior use.
- g) Hose bibs shall be made of bronze cast finish.

5. 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.
- b) Laboratory sink shall be made of cast iron metal with white porcelain finish with single compartment, flat rim edge, 75 x 53 cm. complete with supply fittings, strainer, trap and other accessories,
- c) Scrub up sink shall be made of cast iron white porcelain finish with 3 compartment X – ray processing tank, drain plug, open sanding drain 19 mm inlet spud complete with stand and mounting accessories.
- d) Built in appliances such as urinal, lavatory and slope sink shall be installed as indicated on the Plans. Exposed surfaces to be tile wainscoating complete with fitting accessories required as practiced in this specialty trade.
- e) Squat Bowl(s) shall be vitreous china, wash down with integral foot treads, pail flush type. Color, make and type to be approved by the designing Architect.
- f) Grease Traps shall be made of cast bronze with detachable cover and mounting accessories.

6. Roof Drains, Overflow Pipes and Steel Grating

- a) The Contractor shall provide fit and or install necessary drains with strainers where shown on the Plans.
- b) 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.

7. Fire Protection System

- a) Fire house cabinets shall be locally available consisting of 38 mm diameter valve hose rack 30 mm nipple rubber hose cable with square nozzle 38 mm diameter brass, chromium plated.
- b) Fire Standpipe system shall consists of risers and hose valves. Standpipe shall be extra strong black iron.
- c) Valves to be used shall be high grade cast bronze mounted with standing 79.40 kg. working pressure.
- d) Fire extinguisher shall be portable, suitable for Class A, B, C, fires, mounted inside the cabinet. Cabinet shall be full flush mounting door with aluminum trim for glass plate.
- e) Frame and box shall be made of gauge 14 galvanized iron sheets with white interior and red exterior baked enamel finish over the well prepared primer.
- f) Cabinet shall be wall mounted and size to accommodate the defined components.
- g) Yard hydrant where shown on the Plans shall match the Integrated Fire Department requirements. Outlet shall be single 63 mm diameter gate valves with chain connected caps.
- h) Built in appliances such as urinal, lavatory and slope sink shall be installed as indicated on the Plans. Exposed surfaces to be tile wainscoting complete with fitting accessories required as practiced in this specialty trade.

B. CONSTRUCTION REQUIREMENTS

The Contactor before any installation work is started shall carefully examine the Plans and investigate actual structural and finishing work 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 supervising Architect or Engineer.

1. Installation of Soil, Waste, Drain and Vent Pipes

- a) **Soil Pipe** – all soil and drainage pipes shall be sloped at 2% or 2 cm. per 1.0 meter run but in no case flatter than one (1%) percent.
- b) **Horizontal lines** shall be supported by well secured heavy strap hangers.
- c) **Vertical lines** shall be secured strongly by hooks to the building frame a suitable brackets or chairs shall be provided at the floor from which they start.

- d) All main **Vertical Soil** and **Waste Stacks** shall be extended full size to and above the roof line to act as vents, except otherwise indicated on the Plans.
- e) **Vent Pipes** in roof spaces shall be run as close as possible to underside of roof with horizontal piping slope down to stacks without forming traps. Vertical vent pipes may be connected into one main vent riser above the highest vented fixtures.
- f) Where an end or circuit vent pipe from any fixtures is connected to a vent line serving other fixtures, the connections shall be at least 120 cm. above the floor on which the fixtures are located.
- g) Horizontal waste line receiving the discharge from two or more fixtures shall be provided with end vents unless separate venting of fixtures is note 1 on the Plan.
- h) All changes in pipe sizes such as soil and waste lines shall be made with reducing fittings or recessed reducers.
- i) All changes in directions shall be made by appropriate use of 45⁰ degrees Y; half Y; long sweep; quarter bends or elbows for soil and waste lines where the change in direction of flow is from the horizontal to the vertical and discharges from water closet.
- j) Where it becomes necessary to use short radius fittings in other locations, the approval of the supervising Architect or Engineer shall be obtained prior to installation of said fittings.
- k) **Cleanouts** at the bottom of each soil stack, waste stack, interior downspout, and where else indicated shall be the same size as the pipe lines.
- l) **Vent pipes** shall be flashed and made water tight at the roof with ferrule as the pipe lines.
- m) **Trap** – Each fixtures and place of equipment requiring connection to the drainage system except fixtures and continuous water shall be equipped with a trap. Each trap shall be placed as near to the fixtures as possible.

2. Water Pipes, Fittings and Connections

- a) The water supply piping shall be extended to all fixtures, outlets, and equipment from the gate valves installed in the branch near the riser.

- b) The cold water system shall be installed with a slope towards a main shutoff valve and drain. Ends of pipe and outlets shall be capped or plugged and left ready for future connections.
- c) All pipes shall be cut accurately to measurements and shall be worked into place without springing or forcing.
- d) All piping above the ground shall be run parallel with the lines of the building unless otherwise indicated on the Plan.
- e) All service pipes, valves and fittings shall be kept at sufficient distance from other work to permit finished covering not less than 12 mm from such work or from finished covering on the different service.
- f) No water piping shall be buried in floors, unless specifically indicated on the Plan. Changes in pipe directions shall be made with reducing fittings.
- g) Pipe drain indicated on the drawings shall consist of 12 mm globe valve with renewable disc and installed at low points on the cold water piping so that all piping shall slope 10 cm in 30 meters.
- h) All pipes to be threaded shall be reamed before threading. All screw joints shall be made with graphite and oil or with an approved graphite compound applied to make threads only.

3. Fire Standpipe System

Fire standpipe system shall consist of risers and hose valve. Standpipe shall be extra strong black iron. Valves shall be of high grade cast bronze quality approved by the Underwriter's specifications.

4. Valves and Hose Bibs

Valves shall be provided in all supplied fixture as herein specified.

- a) The cold water connections to the domestic hot water heater shall be provided with gate valves and the return circulation connection shall have gate and check valve.
- b) All connection to domestic hot water heaters shall be equipped with unions between valve and tanks.
- c) Valve shall not be installed with its stem below the horizontal elevation. All valves shall be gate valves unless otherwise indicated on the plans.

- d) Valves up to 50 mm diameter shall be threaded ends, rough bodies and finish trimmings, except those on chromium plated brass pipe.
- e) Valves 63 mm in diameter and larger shall have iron bodies, brass mounted and shall have either screws or flange ends.
- f) Hose bibs shall be made of brass with 12 mm inlet threads hexagonal shoulders and 19 mm male.

5. Fixtures, Equipment and Fastening

- a) All fixtures and equipment shall be supported and fastened in a safe and satisfactory workmanship as practiced.
- b) All fixtures required to be wall mounted on concrete or concrete hollow block wall shall be fasten with brass expansion bolts.
- c) Expansion bolts shall be 6 mm diameter with 20 mm threads into solid concrete, fitted with tubing sleeves of proper length to acquire extreme rigidity.
- d) Inserts shall be rigidly secured, anchored and properly concealed and flushed into the walls.
- e) Bolts and nuts shall be horizontally mounted and exposed. It shall be provided with washers and chromium plate finish.

6. Pipe Hangers, Inserts and Supports

- a) Pipe hangers shall be wrought iron malleable iron pipe spaced not more than 1.50 meters apart for horizontal runs of pipe.
- b) Chains, straps, perforated turn-buckles or other approved means of adjustment except the turn-turn-buckles may be omitted for hangers on soil or waste lines or individual toilet rooms to maintain stacks when spaced does not permit.
- c) Trapeze hangers may be used in lieu of separate hangers on pipe running parallel to and closed to each other.
- d) Inserts shall be cast steel of the type to receive machine bolt or nut after installation. Insert permit adjustment of the bolts in one horizontal direction and shall be installed before the pouring of concrete.
- e) Wrought iron clamps or collars to support vertical runs of pipe shall be spaced not more than 3.0 m apart or as indicated on the Plan.

7. Plates and Flashing

- a) Plates to cover exposed pipes passing through floor finished, walls, or ceiling shall be fitted with chromium plated cast brass plates or chromium plated cast iron or steel plates on ferrous pipes.

- b) Plates shall be large enough to cover and close the hole around the area where pipes pass. It shall be properly installed to insure permanence.
- c) Roof areas penetrated by vent pipes shall be rendered water tight by lead sheet flashing and counter flashing. It shall extend at least 15 cm. above the pipe and 30 cm along the roof.

8. Protection and Cleaning

- a) During installation of fixtures and accessories and until final acceptance, fixtures shall not be protected with strippable plastic or other approved means to maintain fixtures in perfect conditions.
- b) All exposed metal surface shall be polished clean and free of grease, dirt or other foreign materials after the completion.
- c) Upon completion, thoroughly clean all fixtures and accessories to leave the work in a polished condition.

9. Inspection, Warranty Test and Disinfection

All pipes, fittings, traps, fixtures, appurtenances and equipment of the plumbing and drainage system shall be inspected and approved by the supervising Architect or Engineer to assure compliance with all requirements of applicable Codes and Regulations referred to in these Specifications.

10. Drainage System Test

- a) The entire drainage and venting system shall have all the necessary openings which can be plugged to permit the entire system to be filled with water to the level of the highest stack vent above the roof.
- b) The system shall hold this water for a full 30 minutes during which time there shall be no drop greater than 10 mm.
- c) Where only a portion of the system is to be tested, the test shall be conducted in the same manner as described for the entire system.
- d) If and when the Architect or Engineer decides that an additional test is needed, such as air to smoke test on the drainage system, the Contractor shall perform such test without any additional cost.

11. 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 1-1/2 times the expected working pressure in the system during operation and remained tight and leak proofed.
- b) Where piping system is to be concealed, the piping system shall be separately in manner similar to that described for the entire system and in the presence of the Architect or Engineer or his duly designated representative.

12. Defective Work

- a) All defective work, materials replaced and tested will be repeated until satisfactory performance is attained.
- b) Any material replaced for the satisfactory performance of the system made shall be at the expense of the Contractor.
- c) Caulking of screwed joints or holes will not be permitted.

13. Disinfection

- a) The entire water distribution system shall be thoroughly flushed and treated with Chlorine before it is operated for human use.
- b) Disinfection materials shall be liquid Chlorine or Hypochlorite and shall be introduced in a manner approved as practiced for water distribution system.
- c) After contact period of not less than 16 hours, heavily chlorinated water shall be flushed from the system with portable water.
- d) Valves for the water distribution system shall be opened and closed several times during the 16 hours Chlorination treatment period.

14. As-Built Drawings

- a) Upon completion of the work, the Contractor shall submit two sets of prints with all As-Built changes shown on the drawings in a neat workmanship manner.

Such points shall show changes or actual installation and conditions of the plumbing system in comparison with the original drawings.

SPECIFICATIONS

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.]

Section VIII. Bill of Quantities

Bill of Quantities, Summary of Bid Proposal & Detailed Estimate should be submitted together with the Annex “C” Form 4 to 7.

Non-attachment of Annex “C” Form 1 to 7 shall be automatically disqualified.

{ATTACH COMPANY LETTERHEAD/LOGO}

BILL OF QUANTITIES

PROJECT: IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING AT ITBAYAT AIRPORT

LOCATION: Itbayat, Batanes

ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	TOTAL COST	UNIT COST
SPL -01	MOBILIZATION & DEMOBILIZATION	1.00	lot		
	Pesos _____ Amount in Words _____ and _____ _____ centavos				
SPL-02	TEMPORARY FACILITIES	1.00	lot		
	Pesos _____ Amount in Words _____ and _____ _____ centavos				
A.	IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING				
1.00	Civil/Structural Works				
1.01	Site Works	1,821.26	sq.m.		
	Pesos _____ Amount in Words _____ and _____ _____ centavos				
1.02	Roofing Works	263.11	ln.m.		
	Pesos _____ Amount in Words _____ and _____ _____ centavos				
1.03	Waterproofing	301.38	sq.m.		
	Pesos _____ Amount in Words _____ and _____ _____ centavos				

2.00	Architectural Works				
2.01	Tile Works	172.50	sq.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
2.02	Carpentry Works (Ceiling)	574.66	sq.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
2.03	Painting Works	1,744.76	sq.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
3.00	Electrical Works				
3.01	Lighting and Power Conduits and Fittings	745.00	li.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
3.02	Lighting and Power Conductors	1,900.00	li.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
3.03	Lighting Fixtures and Wiring Devices	174.00	sets		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
3.04	Panel Board and Metering	4.00	assy		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				

3.05	Feeder Conduits and Fittings	102.00	li.m		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
3.06	Feeder Conductors	300.00	li.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
4.00	MECHANICAL WORKS				
4.01	Exhaust Fan and Accessories	4.00	sets		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
4.02	Evaporative Air Cooler	11.00	units		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
4.03	FDAS & Portable Fire Extinguisher	322.57	sq.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
5.00	Plumbing Works				
5.01	Fixtures and Accessories	8.00	sets		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
6.00	Provision of 4-Seater Gang Chair				
6.01	Purchase of Gang Chair	20.00	sets		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				

B.	CONSTRUCTION OF POWER HOUSE				
1.00	Civil/Structural Works				
1.01	Site Works	10.09	cu.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
1.02	Concrete Works	12.48	cu.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
1.03	Masonry Works	45.60	sq.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
1.04	Waterproofing	23.84	sq.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
2.00	Architectural Works				
2.01	Painting Works	108.23	sq.m.		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				
2.02	Doors and Windows	4.00	sets		
	Pesos _____ Amount in Words				
	_____ and _____				
	_____ centavos				

3.00	Plumbing Works				
3.01	Storm Drain Pipe	21.60	mtrs.		
	Pesos _____ Amount in Words				

	_____ and _____				

	centavos				
4.00	Signages				
4.01	Built Up Signages	2.00	sets		
	Pesos _____ Amount in Words				

	_____ and _____				

	centavos				
TOTAL AMOUNT					

Signature: _____
Printed Name: _____
Position: _____
Name Company: _____
Date: _____

**APPROVED BUDGET FOR THE CONTRACT
IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING**
Ibbayat, Batanes

ITEM NO.	DESCRIPTION OF WORK	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN PERCENT		TOTAL MARK-UP VALUE		TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	Profit	%	VALUE			
SPL-01	MOBILIZATION & DEMOBILIZATION										
SPL-02	TEMPORARY FACILITIES										
A.	IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING										
1.00	Civil/Structural Works										
1.01	Site Works	1,821.26	sq.m.								
1.02	Roofing Works	263.11	li.m.								
1.03	Waterproofing	301.38	sq.m.								
2.00	Architectural Works										
2.01	Tile Works	172.50	sq.m.								
2.02	Carpentry Works (Ceiling)	574.66	sq.m.								
2.03	Painting Works	1,744.76	sq.m.								
3.00	Electrical Works										
3.01	Lighting and Power Conduits and Fittings	745.00	li.m.								
3.02	Lighting and Power Conductors	1,900.00	li.m.								
3.03	Lighting Fixtures and Wiring Devices	174.00	sets								
3.04	Panel Board and Metering	4.00	assy								
3.05	Feeder Conduits and Fittings	102.00	li.m.								
3.06	Feeder Conductors	300.00	li.m.								

Signature: _____
Printed Name: _____
Position: _____
Name Company: _____
Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
				QUANTITY	UNIT
				1.00	lot
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
SPL-01	Mobilization and Demobilization				
C	Equipment	# of EQPT	DUR. (DAYS)	RATE/DAY	
	VARIOUS EQUIPMENTS NEEDED FOR THE PROJECT	1.00	lot		
			Equipment Cost	.....
C	TOTAL EQUIPMENT				
D	TOTAL DIRECT COST				
INDIRECT COSTS					
1. OCM (0% of TDC)					
2. CONTRACTOR'S PROFIT (0% of TDC)					
E. TOTAL OCM & CONTRACTOR'S PROFIT of D					
F. VALUE ADDED TAX, (VAT) 5.0% of (D + E)					
G. TOTAL ESTIMATED INDIRECT COST (E + F), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT		: IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION		: Itbayat Airport, Batanes			
SUBJECT		: Bill of Materials & Cost Estimate		QUANTITY	UNIT
				1.00	lot
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
SPL-2	TEMPORARY FACILITIES				
A.	Material				
	Staff House, fully furnished, including electric and water utilities	4.00	mos.		
		Material Cost			
		Temporary Facility Material Cost			
		Temporary Facility Equipment Cost/ Cost			
		Temporary Facility SUB-TOTAL			
A	TOTAL MATERIAL COST				
D	TOTAL DIRECT COST				
INDIRECT COSTS					
1. OCM (0% of TDC)					
2. CONTRACTOR'S PROFIT (0% of TDC)					
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)				5.0%	of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
				QUANTITY	UNIT
				1,821.26	sq.m.
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
1.00	CIVIL/STRUCTURAL WORKS				
1.01	Site Works (Requires Labor Only)				
	Demolition of Existing Ceiling, 574.66 sq.m				
	Demolition of Existing Roofing, 263.11 sq.m				
	Cleaning of Existing Flooring (Departure and Arrival Area), 555.40 sq.m				
	Cleaning of Exterior Walls (Departure and Arrival), 428.09 sq.m				
A	Material				
	Cleaning Solution (Acid Base)		gal.		
	Brush		pcs.		
	Rugs		kgs.		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Common Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)		of Estimated Direct Cost			
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)		of Estimated Direct Cost			
E. TOTAL OCM & PROFIT		of D			
F. VALUE ADDED TAX, (VAT)		5.0%	of (D + E)		
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				263.11	In.m.
				UNIT COST	AMOUNT
1.00	CIVIL/STRUCTURAL WORKS				
1.02	Roofing Works				
A	Material				
	GA #26 Colored Spanish Type Long Span Roofing Sheet		In.m.		
	Polyethylene foam w/ one side aluminum (10mm x 1m x50m)		rolls		
	100mm x 50mm x 1.5mm C-Purlins		pcs.		
	0.60mm Pre-painted G.I. Flashing		In.m.		
	0.60mm Pre-painted Ridge Roll		In.m.		
	Welding rod E6011		boxes		
	Teksrew		pcs.		
	Roof Sealant		tubes		
	Epoxy Top Coat		gals		
	Red Oxide Primer		gals		
	Rust Converter		gals		
	Pan		pcs.		
	Paint Brush 2"		pcs.		
	Material Cost			.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
	Labor Cost			.....
C	Equipment-Rental	QTY	DUR. (DAYS)	RATE/DAY	
	Welding Machine, 4.5kva (10 to 200 Amperes)				
	Portable Generator Set, 10 kVA				
	Electric Grinder				
	Electric Drill				
	Equipment Cost			.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)		of Estimated Direct Cost			
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)		of Estimated Direct Cost			
E. TOTAL OCM & PROFIT		of D			
F. VALUE ADDED TAX, (VAT)		5.0%	of (D + E)		
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
				QUANTITY	UNIT
				301.38	sq.m.
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
1.00	CIVIL/STRUCTURAL WORKS				
1.03	Waterproofing				
A	Material				
	Cementitious Waterproofing		gals.		
	Paint Brush 4"		pcs		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)		of Estimated Direct Cost			
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)		of Estimated Direct Cost			
E. TOTAL OCM & PROFIT		of D			
F. VALUE ADDED TAX, (VAT)		5.0%	of (D + E)		
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate		QUANTITY	UNIT
				172.50	sq.m.
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
2.00	ARCHITECTURAL WORKS				
2.01	Tile Works				
A	Material				
	10mm x 300mm x 300mm Homogeneous Porcelain Floor Tile Matte Finish		pcs.		
	8mm x 300mm x 300mm Homogeneous Porcelain Wall Tile Polished Finish		pcs.		
	10mm x 300mm x 600mm Non-Skid Outdoor Homogeneous Porcelain Tiles		pcs.		
	Tile Adhesive (25kgs)		bags		
	Tile Grout (2kg)		bags		
	Tile Cutting Disk, 4"		pcs.		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
C	Equipment	QTY	DUR. (DAYS)	RATE/DAY	
	Electric Grinder				
			Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%		of (D + E)	
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				574.66	sq.m.
				UNIT COST	AMOUNT
2.00	ARCHITECTURAL WORKS				
2.02	Carpentry Works (Ceiling)				
A	Material				
	Ceiling				
	4.5mm thk. Fiber Cement Board in Painted Finish		pcs.		
	1/2' thk x 4' x 8' Marine Plywood		pcs.		
	Metal Furring, 50mm x 19mm x 0.6mm x 5m		pcs.		
	Carrying Channel, 38mm x 12mm x 5m x 0.6mm thk.		pcs.		
	Suspension Rod 5mm dia x 3600mm		pcs.		
	Suspension G.I. Clip		pcs.		
	Rod Joiner		pcs.		
	Welding Rod		boxes		
	Self Drilling Screw		pcs.		
	Paper tape 500ft		pcs.		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
C	Equipment	QTY	DUR. (DAYS)	RATE/DAY	
	Electric Drill				
			Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)		of Estimated Direct Cost			
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)		of Estimated Direct Cost			
E. TOTAL OCM & PROFIT		of D			
F. VALUE ADDED TAX, (VAT)		5.0%	of (D + E)		
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature:

Printed Name:

Position:

Name Company:

Date:

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				1,744.76	sq.m.
				UNIT COST	AMOUNT
2.00	ARCHITECTURAL WORKS				
2.03	Painting Works				
A	Material				
2.03.01	Elastomeric Paint Finish (Ceiling) (574.66 sq.m.)				
	Flat Latex Paint		gals.		
	Elastomeric Paint		gals.		
	Skim Coat (20 kgs)		bags		
	Paint Roller with pan 9"		pcs.		
	Paint Roller 9" refill		pcs.		
	Paint Brush 4"		pcs.		
	Putty knife		pcs.		
	Rugs		kgs.		
	Abrasive Sand Paper #100 for masonry		pcs.		
2.03.02	Semi Gloss Paint Finish (Re-painting of Interior Wall) (710.33 sq.m.)				
	Semi-Gloss Latex Paint		gals.		
	Masonry Putty		gals.		
	Paint Roller with pan 9"		pcs.		
	Paint Roller 9" refill		pcs.		
	Putty knife		pcs.		
	Paint Brush 3"		pcs.		
	Rugs		kgs.		
	Sand Paper #120		pcs.		
2.03.03	Clear Coat Finish (Exterior Wall) (482.09 sq.m.)				
	Acrylic Solvent-based coating		gals.		
	Pan		pcs.		
	Paint Brush 4"		pcs.		
	Rugs		kgs.		
2.03.04	Re-Painting of Doors and Window (31.69 sq.m.)				
	Solvent-based coating		gals.		
	Pan		pcs.		
	Paint Brush 4"		pcs.		
	Rugs		kgs.		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Materials & Cost Estimate					
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				745.00	li.m.
				UNIT COST	AMOUNT
3.00	ELECTRICAL WORKS				
3.01	Lighting and Power Conduits and Fittings				
A	Materials				
	20mm diameter x 3m uPVC Electrical Pipe, Thick Wall, UL Listed		pcs		
	20mm diameter uPVC Flexible Hose		li.m		
	20mm diameter uPVC Electrical Coupling		pcs		
	20mm diameter uPVC Electrical Female Adapter with Locknut		pcs		
	25mm diameter x 3m uPVC Electrical Pipe, Thick Wall, UL Listed		pcs		
	25mm diameter uPVC Elbow		pcs		
	25mm diameter uPVC Electrical Coupling		pcs		
	25mm diameter uPVC Electrical Female Adapter with Locknut		pcs		
	PVC Solvent Cement, 400cc		cans		
	G.I. Tie Wire, Gauge 16		kg		
	PVC Utility box, 4"x2" Gauge 16, Deep type		pcs		
	PVC Junction box with cover, 4" Gauge 16, Deep type		pcs		
	Metal Pull Box with cover, 0.30m x 0.30m x 0.10m, Gauge 16		pcs		
	Metal Pull Box with cover, 0.60m x 0.60m x 0.15m, Gauge 16		pcs		
	6mm diameter x 3m Round bar		pcs		
	Expansion Shield		pcs		
	Conduit hanger clamp		pcs		
			Materials Cost	.....
B	Labor	QTY.	DUR. (DAYS)	RATE/DAY	
	Master Electrician				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
C	Equipment	QTY.	DUR. (DAYS)	RATE/DAY	
	Rental of Scaffolding (G.I), 2 H-Frame (1.7 x 1.8 x 1.25); 2 Cross Brace and 4 Joint Pins				
	Catwalk				
			Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of TDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of TDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%	of (D + E)		
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Materials & Cost Estimate					
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				1,900.00	li.m.
				UNIT COST	AMOUNT
3.02	Lighting and Power Conductors				
A	Materials				
	3.5 mm ² THHN/THWN-2 Copper Wire, Lead Free Type, UL Listed x 150m		rolls		
	8.0 mm ² THHN/THWN-2 Copper Wire, Lead Free Type, UL Listed		li.m		
	Electrical Tape, 0.16mm x 19mm x 16m		pcs		
			Materials Cost	.....
B	Labor	QTY.	DUR. (DAYS)	RATE/DAY	
	Master Electrician				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
C	Equipment	QTY.	DUR. (DAYS)	RATE/DAY	
	Rental of Scaffolding (G.I), 2 H-Frame (1.7 x 1.8 x 1.25); 2 Cross Brace and 4 Joint Pins				
	Catwalk				
			Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of TDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of TDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Materials & Cost Estimate					
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				174.00	sets
				UNIT COST	AMOUNT
3.03	Lighting Fixtures and Wiring Devices				
A	Materials				
	6 inches recessed type vertical lamp downlight with full grosted glass cover, powder coated white finish steel housing and mirrorized aluminum reflector with 1-12Watts LED bulb	99.00	sets		
	18 Watts LED Batten Fixture, 220-240V, 6500K Daylight, 1980 Lumens	4.00	sets		
	Heavy Duty Dual Optics Emergency Lamp, 2x5Watts LED Bulb 6500K, Adjustable Lamp Heads, with High Quality 4V 4.0Ah Sealed Lead Acid Battery	11.00	sets		
	Simplex Universal Convenience Outlet with Ground, 16A, 250V, Wide Series, with Device Plate Cover	11.00	sets		
	Duplex Universal Convenience Outlet with Ground, 16A, 250V, Wide Series, with Device Plate Cover	26.00	sets		
	One-Gang Switch, 16A, 250V, Wide Series, with Device Plate Cover	7.00	sets		
	Two-Gang Switch, 16A, 250V, Wide Series, with Device Plate Cover	10.00	sets		
	Three-Gang Switch, 16A, 250V, Wide Series, with Device Plate Cover	6.00	sets		
			Materials Cost	.....
B	Labor	QTY.	DUR. (DAYS)	RATE/DAY	
	Master Electrician				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
C	Equipment	QTY.	DUR. (DAYS)	RATE/DAY	
	Rental of Scaffolding (G.I), 2 H-Frame (1.7 x 1.8 x 1.25); 2 Cross Brace and 4 Joint Pins				
	Catwalk				
			Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of TDC)		of Estimated Direct Cost			
2. CONTRACTOR'S PROFIT (0% - 8% of TDC)		of Estimated Direct Cost			
E. TOTAL OCM & PROFIT		of D			
F. VALUE ADDED TAX, (VAT)		5.0%	of (D + E)		
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/ Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/ Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Materials & Cost Estimate					
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				4.00	assy
				UNIT COST	AMOUNT
3.04	Panel Board and Metering				
A	Materials				
	PANEL LPP	1.00	assy		
	Main: 100AT, 100AF, 2P, 230V, 60Hz 25KAIC MCCB Bolt-on type				
	Branches: 9 - 20AT, 100AF, 2P, 230V, 60Hz MCCB Bolt-on type				
	2 - 30AT, 100AF, 2P, 230V, 60Hz MCCB Bolt-on type				
	1 - 40AT, 100AF, 2P, 230V, 60Hz MCCB Bolt-on type				
	With Grounding Bus Bar, Terminal Lugs and Bolted Dead Front				
	Enclosure: NEMA-1 Gauge 16, Powder coated gray finish				
	Manual Transfer Switch	1.00	assy		
	100 Amperes Manual Transfer Switch, 2x100AT, 2-pole, 25KAIC, 230V				
	60Hz MCCB with Metering, Pilot Light, with Grounding Terminal Lugs,				
	and Powder Coated Color Gray Finish in NEMA-1 Gauge 16 Enclosure				
	Enclosed Circuit Breaker	1.00	assy		
	100AT, 2-Pole, 230V, 60Hz 25KAIC MCCB Bolt-on type				
	with Grounding Bus Bar, Terminal Lugs and Bolted Dead Front				
	Enclosure : NEMA-3R, Powder Coated Gray Finish				
	Digital Kilowatt-Hour Meter, 2-Wire, Single Phase with outdoor enclosure	1.00	assy		
	Generator set	1.00	assy		
	15kVA 230 Volts 60Hz Single-Phase Outdoor Silent Type Diesel Engine Generator Set		Material Cost	.....
	with mounted tropical radiator, skidbase with anti-vibration mounts, skid-based				
	disel tank, exhaust silencer, batteries with cables, toolkit and operational manual.				
	Parameter:				
	Voltage : 230 Volts				
	Frequency : 60 Hz, 1800 RPM				
	Power Factor : 1.0				
	Insulation Grade : H				
	Engine:				
	Heavy load durable, four-stroke, water cooled engine				
	Four valves per cylinder, stainless steel crankshaft, bolt, cast iron steel				
	24 DC safe isolate valve				
	Dual spin-on paper element fuel filter				
	Genset equipped with dual flexible fuel union pipe				
	Alternator:				
	Brushless, four-pole revolving field, single bearing and drop proof screen protected				
	Class H insulation				
	High-quality lubrication sealed for long life bearing				
	Automatic Voltage Regulator (AVR)				
	Control System:				
	Standard Digital Panel				
	Complete genset parameter display				
	Emergency stop button and with auto starting				

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

B	Labor Master Electrician Skilled Laborer Common Laborer	QTY.	DUR. (DAYS)	RATE/DAY	
				Labor Cost	.....
				Equipment Cost	.....
C	Equipment Boom Truck	QTY.	DUR. (DAYS)	RATE/DAY	
				Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of TDC)					of Estimated Direct Cost
2. CONTRACTOR'S PROFIT (0% - 8% of TDC)					of Estimated Direct Cost
E. TOTAL OCM & PROFIT					of D
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Materials & Cost Estimate					
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				102.00	li.m.
				UNIT COST	AMOUNT
3.05	Feeder Conduits and Fittings				
A	Materials				
	32mm diameter x 3m Intermediate Metal Conduit, UL Listed		pcs		
	32mm diameter IMC Locknut and Bushing		pcs		
	32mm diameter Service Entrance Cap		pc		
	40mm (1-1/4") diameter PVC Electrical Pipe Thick Wall, UL Listed		pcs		
	40mm (1-1/4") diameter PVC Elbow		pcs		
	40mm (1-1/4") diameter PVC Coupling		pcs		
	40mm (1-1/4") diameter uPVC Electrical Female Adapter with Locknut		pcs		
	PVC Solvent Cement, 400cc		pcs		
	G.I. Tie Wire, Gauge 16		kgs		
			Materials Cost	.....
B	Labor	QTY.	DUR. (DAYS)	RATE/DAY	
	Master Electrician				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
C	Equipment	QTY.	DUR. (DAYS)	RATE/DAY	
	Rental of Scaffolding (G.I), 2 H-Frame (1.7 x 1.8 x 1.25); 2 Cross Brace and 4 Joint Pins				
	Catwalk				
			Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of TDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of TDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Materials & Cost Estimate					
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				300.00	li.m.
				UNIT COST	AMOUNT
3.06	Feeder Conductors				
A	Materials				
	8.0 mm ² THW Copper Wire, Lead Free Type, UL Listed		li.m.		
	30 mm ² THW Copper Wire, Lead Free Type, UL Listed		li.m.		
	3/4" diameter Copper Clad Steel Ground rod, with Ground Clamp		li.m.		
			Materials Cost	.....
B	Labor	QTY.	DUR. (DAYS)	RATE/DAY	
	Master Electrician				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
C	Equipment	QTY.	DUR. (DAYS)	RATE/DAY	
	Rental of Scaffolding (G.I), 2 H-Frame (1.7 x 1.8 x 1.25); 2 Cross Brace and 4 Joint Pins				
	Catwalk				
			Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of TDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of TDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Materials & Cost Estimate					
ITEM	DESCRIPTION	QUANTITY	UNIT	QUANTITY	UNIT
				4.00	sets
				UNIT COST	AMOUNT (P)
4.00	MECHANICAL WORKS				
4.01	Exhaust Fan and Accessories				
A	Materials				
	12" Ceiling Mounted Type Exhaust Fan, 220-240 V, 60 Hz, 1 Ph complete with standard fittings and accessories	4.00	sets		
	100 mm dia. x 3.0 m PVC Pipe (Exhaust Duct)		pcs		
	100 mm dia. Coupling		pc		
	100 mm dia. Elbow		pc		
	Stainless Steel Vent Cap with insect screen (100mmØ applicable pipe)		sets		
				Material Cost	
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
				Labor Cost	
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
	1. OCM (0% - 12% of TDC)			of Estimated Direct Cost	
	2. Contractor's Profit (0% - 8% of TDC)			of Estimated Direct Cost	
E	TOTAL MARK-UPS			of D	
F	VALUE ADDED TAX, (VAT)	5.0%		of (D + E)	
G	TOTAL ESTIMATED INDIRECT COST (E + F), P				
H	TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit				
	TOTAL ESTIMATED COST (D + G), P				
	TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit				

SUBMITTED BY:

Signature:

Printed Name:

Position:

Name Company:

Date:

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
				QUANTITY	UNIT
				11.00	units
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT (P)
4.02	Evaporative Air Cooler				
A	Materials				
	Evaporative Air Cooler, Heavy Duty type, Floor Standing with caster wheels and complete accessories (remote control, auto shut-off water pump, water supply inlet) (VAT Inclusive) Power : 350 watts Airflow : 8,000 cu.m./hr. Water Tank Capacity : 40 L <i>Note: Materials shall be delivered on site Materials price is VAT Inclusive</i>	11.00	units		
				Material Cost	
A	Total Material Cost				
D	Total Direct Cost				
INDIRECT COSTS					
	1. OCM (0% of TDC)				
	2. Contractor's Profit (0% of TDC)				
E. TOTAL MARK-UPS					
F. VALUE ADDED TAX, (VAT)					
G. TOTAL ESTIMATED INDIRECT COST (E + F), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature:

Printed Name:

Position:

Name Company:

Date:

NAME OF PROJECT :		IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING			QUANTITY		UNIT
LOCATION :		Itbayat Airport, Batanes			322.57		sq.m.
SUBJECT :		Bill of Materials & Cost Estimate			UNIT COST		AMOUNT (P)
ITEM	DESCRIPTION	QUANTITY	UNIT				
4.03	FDAS & Portable Fire Extinguisher						
A	Materials						
	10 lbs ABC Dry Chemical Portable Fire Extinguisher with wall hanger	8.00	sets				
	Photoelectric Smoke Detector w/ built-in sounder and Alkaline batteries	11.00	sets				
	Fire Alarm Horn w/ Strobe, 15-110cd (candela) with complete accessories	3.00	sets				
	Manual Pull Station, 24-30 Vdc	3.00	sets				
	15mm x 10mm x 2.44m PVC Moulding		pcs				
	1.25 mm ² TF Twisted Pair Copper Wire (UL Listed)		li.m.				
						Material Cost	
B	Labor	QTY	DUR. (DAYS)			RATE/DAY	
	Construction Foreman						
	Skilled Laborer						
	Common Laborer						
						Labor Cost	
A	Total Material Cost						
B	Total Labor Cost						
D	Total Direct Cost						
INDIRECT COSTS							
1. OCM (0% - 12% of TDC)				of Estimated Direct Cost			
2. Contractor's Profit (0% - 8% of TDC)				of Estimated Direct Cost			
E. TOTAL MARK-UPS				of D			
F. VALUE ADDED TAX, (VAT)		5.0%		of (D + E)			
G. TOTAL ESTIMATED INDIRECT COST (E + F), P							
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit							
TOTAL ESTIMATED COST (D + G), P							
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit							

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
				QUANTITY	UNIT
				8.00	sets
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
5.00	PLUMBING WORKS				
5.01	Fixtures and Accessories				
A	Material				
	Lavatory vitreous - pedestal type with lever faucet mechanism with complete accessories and fittings	4.00	sets		
	Bidet spray w/ complete accessories, Chrome ABS body, flexible hose 1200 x 1/2 x 1/2 w/ max working pressure of 75psi; spray head 102mmL x 62mmW & handspray wall holder 35mm dia	4.00	sets		
	Soap Dispenser	4.00	pcs		
	Tissue Holder w/ cover - Brass, Chrome Finished, 5"H x 5.5"L x 3"D	4.00	pcs		
	Frameless glass mirror with beveled sides and metal back plate	4.00	pcs		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%	of (D + E)		
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
LOCATION :		Itbayat Airport, Batanes			
SUBJECT :		Bill of Materials & Cost Estimate			
				QUANTITY	UNIT
				20.00	sets
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
6.00	Provision of 4-Seater Gang Chair				
6.01	Purchase of Gang Chair				
A	Material				
	4-seater SSA 19 Stainless Gang Chair with Armrest Stainless Armrest and Base with individual armrests Powder Coated	20.00	sets		
	<i>Note: Materials shall be delivered on site Materials price is VAT Inclusive</i>				
			Material Cost	.....
A	Total Material Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% of EDC)					
2. CONTRACTOR'S PROFIT (0% of EDC)					
E. TOTAL OCM & PROFIT					
F. VALUE ADDED TAX, (VAT)					
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING					
DESCRIPTION : CONSTRUCTION OF POWER HOUSE					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Quantities				QUANTITY	UNIT
				10.90	cu.m
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
1.00	CIVIL/ STRUCTURAL WORKS				
1.01	Site Works (Requires Labor Only)				
	Excavation, 5.09 cu.m				
	Gravel Bedding, 1.00 cu.m				
	Backfill, 4.00 cu.m				
A	Material				
	Gravel (Delivered On Site)				
			Material Cost		
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Common Laborer				
			Labor Cost		
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT		: IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
DESCRIPTION		: CONSTRUCTION OF POWER HOUSE			
LOCATION		: Itbayat Airport, Batanes			
SUBJECT		: Bill of Quantities			
				QUANTITY	UNIT
				12.48	cu.m
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
1.00	CIVIL/ STRUCTURAL WORKS				
1.02	Concrete Works				
A	Material				
	Portland Cement		bags		
	Sand		cu.m.		
	Gravel		cu.m.		
	16mm DSRB, 6m, G60		pcs.		
	12mm DSRB, 6m, G40		pcs.		
	10mm DSRB, 6m, G40		pcs.		
	#16 G.I Tie Wire		kgs.		
	1/2" x 4' x 8' Ordinary Plywood		pcs.		
	Form Lumber		bd.ft.		
	Assorted CWN		kgs.		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
C	Equipment-Rental	QTY	DUR. (DAYS)	RATE/DAY	
	One Bagger Mixer				
	Concrete Vibrator				
	Manual Bar Cutter				
			Equipment Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
C	Total Equipment Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING					
DESCRIPTION : CONSTRUCTION OF POWER HOUSE					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Quantities				QUANTITY	UNIT
				45.60	sq.m
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
1.00	CIVIL/ STRUCTURAL WORKS				
1.03	Masonry Works				
A	Material				
	150mm thk CHB		pcs		
	Portland Cement		bags		
	Sand		cu.m.		
	12mm DSRB, 6m		pcs		
	#16 G.I Tie Wire		kg.		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING				QUANTITY	UNIT
DESCRIPTION : CONSTRUCTION OF POWER HOUSE				23.84	sq.m
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Quantities					
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
1.00	CIVIL/ STRUCTURAL WORKS				
1.04	Waterproofing				
A	Material				
	Cementitious Waterproofing		gals.		
	Paint Brush 4"		pcs		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)		of Estimated Direct Cost			
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)		of Estimated Direct Cost			
E. TOTAL OCM & PROFIT		of D			
F. VALUE ADDED TAX, (VAT)		5.0%	of (D + E)		
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT :		IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING			
DESCRIPTION :		CONSTRUCTION OF POWER HOUSE			
LOCATION :		Itbody Airport, Batanes			
SUBJECT :		Bill of Quantities			
				QUANTITY	UNIT
				108.23	sq.m
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
2.00	ARCHITECTURAL WORKS				
2.01	Painting Works	108.23	sq.m.		
A	Material				
	Masonry Putty		gals		
	Semi-Gloss Latex Paint		gals		
	Elastomeric Sealer		gals.		
	Elastomeric Paint		gals.		
	Paint Thinner		gal		
	9" Paint Roller with Pan		pcs		
	4" Paint Brush		pcs		
	Rugs		kgs.		
	Abrasive Sand Paper #100 for masonry		pcs		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/ REHAB OF PASSENGER TERMINAL BUILDING					
DESCRIPTION : CONSTRUCTION OF POWER HOUSE					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Quantities					
				QUANTITY	UNIT
				4.00	sets
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
2.00	ARCHITECTURAL WORKS				
2.02	Doors and Windows				
A	Material				
	<i>Doors</i>				
	RUD-1 3.00m x 2.50m Ga. #24 G.I. Sheet Manual Operated Roll-Up Door anti-rust materials With Peep Hole in spray applied Epoxy base paint finish complete with hardware & accessories including housing	1.00	set		
	D-1 0.90m x 2.15m Steel Door with full louver with hardware & accessories	1.00	set		
	<i>Window</i>				
	W-1 2m x 0.40m x 6mm thk clear float glass awning type window with hardware & accessories	2.00	sets		
				Material Cost	
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Construction Foreman				
	Skilled Laborer				
	Common Laborer				
				Labor Cost	
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING					
DESCRIPTION : CONSTRUCTION OF POWER HOUSE					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Quantities					
				QUANTITY	UNIT
				21.60	mtrs
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
3.00	PLUMBING WORKS				
3.01	Storm Drain Pipe				
A	Material				
	100mm dia PVC Pipe		pcs		
	100mm dia PVC 90 deg Elbow		pcs		
	100mm dia Stainless Steel Strainer		pcs		
	Solvent Cement (400cc)		can		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Master Plumber				
	Skilled Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

NAME OF PROJECT : IMPROVEMENT/REHAB OF PASSENGER TERMINAL BUILDING					
DESCRIPTION : CONSTRUCTION OF POWER HOUSE					
LOCATION : Itbayat Airport, Batanes					
SUBJECT : Bill of Quantities					
				QUANTITY	UNIT
				2.00	sets
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
4.00	SIGNAGES				
4.01	Built Up Signages				
A	Material				
	0.75m x 0.30m Built Up Stainless Steel Letters on Acrylic Backing; Font; Times New Roman Height: 60mm	1.00	set		
	0.75m x 0.30m Built Up Stainless Steel Letters on Acrylic Backing; Font; Times New Roman Height: 55mm	1.00	set		
			Material Cost	.....
B	Labor	QTY	DUR. (DAYS)	RATE/DAY	
	Skilled Laborer				
	Common Laborer				
			Labor Cost	.....
A	Total Material Cost				
B	Total Labor Cost				
D	Total Direct Cost				
INDIRECT COSTS					
1. OCM (0% - 12% of EDC)				of Estimated Direct Cost	
2. CONTRACTOR'S PROFIT (0% - 8% of EDC)				of Estimated Direct Cost	
E. TOTAL OCM & PROFIT				of D	
F. VALUE ADDED TAX, (VAT)		5.0%			of (D + E)
G. TOTAL ESTIMATED INDIRECT COST (F + E), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

Section IX. Checklist of Technical and Financial Documents

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class “A” Documents

Legal Documents

- (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages) in accordance with Section 8.5.2 of the IRR;

Technical Documents

- (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid (*Annex “A” Form 1*); **and**
- (c) Statement of the bidder’s Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules (*Annex “A” Form 2*); **and**
- (d) Special PCAB License in case of Joint Ventures **and** registration for the type and cost of the contract to be bid; **and**
- (e) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission **or** original copy of Notarized Bid Securing Declaration (*Annex “B” Form 1*); **and**
- (f) Project Requirements, which shall include the following:
- a. Organizational chart for the contract to be bid (*Annex “B” Form 2*);
 - b. List of contractor’s key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data (*Annex “B” Form 3*);
 - c. List of contractor’s major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be (*Annex “B” Form 5*); **and**
- (g) Original duly signed Omnibus Sworn Statement (OSS) **and** if applicable, Original Notarized Secretary’s Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder (*Annex “B” Form 6*).

Financial Documents

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

Class “B” Documents

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

II. FINANCIAL COMPONENT ENVELOPE

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

Other documentary requirements under RA No. 9184

- (k) Original of duly signed Bid Prices in the Bill of Quantities (*Annex “C” Form 1*) **and**
- (l) Summary of Bid Proposal (*Annex “C” Form 2*); **and**
- (m) Bill of Materials & Cost Estimates (*Annex “C” Form 3*); **and**
- (n) Summary Sheet indicating the Unit Prices of Construction Materials (*Annex “C” Form 4*); **and**
- (o) Summary Sheet indicating the Unit Prices of Labor (*Annex “C” Form 5*); **and**
- (p) Summary Sheet indicating the Unit Prices of Equipment (*Annex “C” Form 6*) **and**
- (q) Cash Flow by Quarter and Payment Schedule (*Annex “C” Form 7*).

Bidding Forms

Other Bidding Forms

(ANNEX "A")

ANNEX "A" FORM 1	STATEMENT OF ALL ON-GOING CONTRACTS
ANNEX "A" FORM 2	STATEMENT OF SINGLE LARGEST COMPLETED CONTRACT

{ATTACH COMPANY LETTERHEAD/LOGO}

Statement of single largest COMPLETED contract similar to the contract to be bid

Name of Project: _____

Location of Project: _____

Name of Company : _____

Address of Company: _____

Name of Contract	a. Owner's Name b. Address c. Telephone No.	Nature of Work	Contractor's Role		Contract Amount at Award	a. Date Awarded b. Date of Contract c. Contract Duration d. Date Started e. Date Completed
			Description	%		

Submitted by: _____
(Print Name & Signature)

Designation: _____

Date: _____

Other Bidding Forms

(ANNEX “B”)

Annex “B” Form 1	Bid Securing Declaration
Annex “B” Form 2	Organizational Chart of Contract to be Bid
Annex “B” Form 3	Qualification of Key Personnel Proposed to be Assigned in the Project
Annex “B” Form 4a	Contractor's Letter-Certificate to Procuring Entity
Annex “B” Form 4b	Key Personnel's Certificate of Employment
Annex “B” Form 4c	Key Personnel (Format of Bio-Data)
Annex “B” Form 6	List of Equipment Owned or Leased and/or under Purchased
Annex “B” Form 7	Omnibus Sworn Statement
Annex “B” Form 8	Performance Securing Declaration (Revised)

Bid Securing Declaration Form

[shall be submitted with the Bid if bidder opts to provide this form of bid security]

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

BID SECURING DECLARATION
Project Identification No.: [Insert number]

To: *[Insert name and address of the Procuring Entity]*

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
 - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
 - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
 - c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of *[month]* *[year]* at *[place of execution]*.

*[Insert NAME OF BIDDER OR ITS AUTHORIZED
REPRESENTATIVE]*

[Insert signatory's legal capacity]

Affiant

[Jurat]

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

CAAP-BAC-SF Annex “B” Form 2

Contractor’s Organizational Chart for the Project

Submit Copy of the Organizational Chart that the Contractor intends to use to execute the contract if awarded to him. Indicate in the chart the names of the Key Engineering Personnel who will be assigned in the Project.

{ATTACH COMPANY LETTERHEAD/LOGO}

Attach the required Proposed Organizational Chart for the Contract as stated above.

Submitted by: _____

Designation : _____

Date : _____

{ATTACH COMPANY LETTERHEAD/LOGO }

Qualification of Key Personnel Proposed to be Assigned to the Project

Name of Project: _____

Location of Project: _____

Name of Company: _____

Address of Company: _____

	Project Manager/Engineer	Material Engineer	Foreman	Construction Safety and Health Personnel	Other Position deemed required by the Applicant for this project
1. Name					
2. Address					
3. Date of Birth					
4. Employed Since					
5. Experience					
6. Previous Employment					
7. Education					
8. PRC License					

Note: Attached individual PRC License of the (professional) personnel.

Submitted by : _____
(Signature over Printed Name)

Designation : _____

Date : _____

CAAP-BAC-SF Annex “B” Form 4a

{ ATTACH COMPANY LETTERHEAD/LOGO }

Date: _____

CAPTAIN EDGARDO G. DIAZ
Chairman, Bids and Awards Committee
Civil Aviation Authority of the Philippines
Mia Road, Pasay City, M.M. 1300
Tel: 944-2358

Subject: Contractor’s Letter-Certificate to Procuring Entity

Dear Sir:

Supplementing our Organizational Chart for the Contract, we have the honor to submit herewith, and to certify as true and correct, the following pertinent information:

That I/we have engaged the service of (Name of Employee), to be the (Designation) of the (Name of Project), who is a (Profession) with Professional License Certificate No. issued on _____ and who has performed the duties in the construction of the project enumerated in the filled Annex “B” Form 5b.

That (Name of Employee) shall personally perform the duties of the said position in the above-mentioned project, if and when the same is awarded in our favor.

That (Name of Employee) shall employ the best care, skill and ability in performing his duties in accordance with the Contract Agreement, Conditions of Contract, Plans, Specifications, Special Provisions, and other provisions embodied in the proposed contract.

That (Name of Employee) shall be personally present at the jobsite all the time to supervise the phase of the construction work pertaining to his assignment as (Designation).

That (Name of Employee) is aware that he shall be authorized to handle only one contract at a time.

That in order to guarantee that (Name of Employee) shall perform his duties properly and be personally present in the Job Site, he is hereby required to secure a certificate of appearance for the Procuring Entity's Engineer at the end of every month.

That in the event that I/we elect or choose to replace (Name of Employee) with another Engineer, the Procuring Entity will be accordingly notified by us in writing at least twenty one (21) days before making replacement. We will submit to the Procuring Entity, for prior approval, the name of the proposed new (Designation), his qualification, experience, list of projects undertaken and other relevant information.

That any willful violation on my/our part of the herein conditions may prejudice my/our standing as a reliable contractor in future bidding of the Procuring Entity.

Very truly yours,

(Authorized Representative of Bidder)

CONCURRED BY:

(Name of Engineer)

CAAP-BAC-SF Annex “B” Form 4b

{ ATTACH COMPANY LETTERHEAD/LOGO }

Date: _____

CAPTAIN EDGARDO G. DIAZ
Chairman, Bids and Awards Committee
Civil Aviation Authority of the Philippines
Mia Road, Pasay City, M.M. 1300
Tel: 944-2358

Subject: Key Personnel’s Certificate of Employment

Dear Sir:

I am (Name of Employee) a License _____ Engineer with Professional License No. _____ issued on (Date of Issuance) at (Place of Issuance).

I hereby certify that (Name of Bidder) has engaged my services as (Designation) for (Name of the Project), if awarded in their favor.

As (Designation), I know I will have to stay in the job site all the time to supervise and managed the Contract works to the best of my ability, and aware that I am authorized to handle only one (1) contract at a time.

I do not allow the use of my name for the purpose of enabling the above-mentioned Contractor to qualify for the Contract without any firm commitment on my part to assume the post of (Designation).

As (Designation), I supervised the following completed projects similar to the contract under bidding:

NAME OF PROJECT	OWNER	COST	DATE COMPLETED
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

At present, I am supervising the following project:

NAME OF PROJECT	OWNER	COST	DATE COMPLETION
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

In case of my separation for any reason whatsoever from the above-mentioned Contractor, I shall notify the _____ (*Name of the Procuring Entity*) at least twenty one (21) days before the effective date of my separation.

(Signature of Engineer)

SUBSCRIBED AND SWORN to before me this ___ day of _____, 20___
affiant exhibiting to me his/her Residence Certificate No. _____ issued
on _____ at _____, Philippines.

Notary Public

Until 31 December 20_____
PRT No.: _____
Issued at: _____
Issued on: _____
TIN No.: _____

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

CAAP-BAC-SF Annex "B" Form 4c

KEY PERSONNEL
(FORMAT OF BIO-DATA)

Give the detailed information of the following personnel who are scheduled to be assigned as full-time field staff for the project. Fill up a form for each person.

1. Authorized Managing Officer / Representative: _____

2. Sustained Technical Employee:

Name: _____

Date of Birth: _____

Nationality: _____

Education and Degrees: _____

Specialty: _____

Registration: _____

Length of Service with the Firm:

_____ Year From _____ (months) _____ (year)

To _____ (months) _____ (year)

Years of Experience:

If Item 7 is less than ten (10) years, give name and length of service with previous employers for a ten (10) year period (attached additional sheet/s, if necessary):

Name and Address of Employer	Length of Service
_____	_____ year(s) from _____ to _____
_____	_____ year(s) from _____ to _____
_____	_____ year(s) from _____ to _____

Experience:

This should cover the past ten (10) years of experience. (Attached as many pages as necessary to show involvement of personnel in projects using the format below).

- a. Name: _____
- b. Name and Address of Owner: _____
- c. Name and Address of the Owner's Engineer (Consultant): _____
- d. Indicate the Features of Project (particulars of the project components and any other particular interest connected with the project): _____
- e. Contract Amount Expressed in Philippine Currency: _____
- f. Position: _____
- g. Structures for which the employee was responsible: _____
- h. Assignment Period: from _____(months) _____(years)
 to _____(months) _____(years)

Name and Signature of Employee

It is hereby certified that the above personnel can be assigned to the _____ Project, if the contract is awarded to our company.

(Place and Date)

(The Authorized Representative)

List of Equipment, Owned or Leased and/or under Purchased Agreements, Pledge to the Proposed Project

Name of Project: _____
 Location of Project: _____

Name of Company: _____
 Address of Company: _____

Description	Model/Year	Capacity/ Performance/ Size	Plate No.	Motor No./ Body No.	Location	Condition	Proof of Ownership/ Lessor or Vendor
<u>A. Owned</u>							
I.							
II.							
III.							
IV.							
V.							
<u>B. Leased</u>							
I.							
II.							
III.							
IV.							
V.							
<u>C. Under Purchased Agreement</u>							
I.							
II.							
III.							
IV.							
V.							

Submitted by : _____
 Designation : _____
 Date : _____
 (Signature over Printed Name)

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)

CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

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

1. *[Select one, delete the other:]*

[If a sole proprietorship:] I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];

[If a partnership, corporation, cooperative, or joint venture:] I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];

2. *[Select one, delete the other:]*

[If a sole proprietorship:] As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;

[If a partnership, corporation, cooperative, or joint venture:] I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary’s Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable)];

3. [Name of Bidder] is not “blacklisted” or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic

copy of the original, complete, and all statements and information provided therein are true and correct;

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

6. *[Select one, delete the rest:]*

[If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

[If a partnership or cooperative:] None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

[If a corporation or joint venture:] None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:

- a. Carefully examining all of the Bidding Documents;
- b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
- c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
- d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.

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

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to**

deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.

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

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

[Jurat]

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

Bid Form for the Procurement of Infrastructure Projects

[shall be submitted with the Bid]

BID FORM

Date : _____

Project Identification No. : _____

To: *[name and address of Procuring Entity]*

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, declare that:

- a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract]*;
- b. We offer to execute the Works for this Contract in accordance with the PBDs;
- c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;
- d. The discounts offered and the methodology for their application are: *[insert information]*;
- e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein and reflected in the detailed estimates,
- f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;
- g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines² for this purpose;

² currently based on GPPB Resolution No. 09-2020

- h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and
- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.
- k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity].
- l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: _____

Legal Capacity: _____

Signature: _____

Duly authorized to sign the Bid for and behalf of: _____

Date: _____

Other Bidding Forms

(ANNEX "C")

Annex "C" Form 1	Bill of Quantities
Annex "C" Form 2	Summary of Bid Proposal
Annex "C" Form 3	Bill of Materials & Cost Estimates
Annex "C" Form 4	Summary of Unit Prices of Materials
Annex "C" Form 5	Summary of Unit Prices of Labor
Annex "C" Form 6	Summary of Unit Prices of Equipment
Annex "C" Form 7	Cash Flow by Quarter and Payment Schedule

CAAP-BAC-SF Annex "C" Form 1

{ATTACH COMPANY LETTERHEAD/LOGO}

BILL OF QUANTITIES

PROJECT: _____

LOCATION: _____

ITEM NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE (Pesos)	AMOUNT (Pesos)
	Pesos_____ Amount in Words _____ _____ _ and _____ _____ centavos				
	Pesos_____ Amount in Words _____ _____ _ and _____ _____ centavos				
	Pesos_____ Amount in Words _____ _____ _ and _____ _____ centavos				
	Pesos_____ Amount in Words _____ _____ _ and _____ _____ centavos				

TOTAL BID AMOUNT (Php) _____

TOTAL BID AMOUNT IN WORDS _____

Signature: _____
Printed Name: _____
Position: _____
Name Company: _____
Date: _____

{ATTACH COMPANY LETTERHEAD/LOGO}

SUMMARY OF BID PROPOSAL

PROJECT:
LOCATION:

ITEM NO.	DESCRIPTION OF WORK	QTY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN PERCENT		TOTAL MARK-UP		V.A.T.	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9] [5] x [8]	[10] 5%([5] + [9])	[11] [9] + [10]	[12] [5] + [11]	[13] [12] / [3]

SUBMITTED BY:

Signature: _____
 Printed Name: _____
 Position: _____
 Name Company: _____
 Date: _____

CAAP-BAC-SF Annex "C" Form 3

{ATTACH COMPANY LETTERHEAD/LOGO}

BILL OF MATERIALS & COST ESTIMATES					
NAME OF PROJECT		:			
DESCRIPTION		:			
LOCATION		:		QUANTITY	UNIT
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
A	TOTAL MATERIAL COST				
B	TOTAL LABOR COST				
C	TOTAL EQUIPMENT COST				
D	TOTAL DIRECT COST				
INDIRECT COSTS					
1. OCM (0% of TDC)					
2. CONTRACTOR'S PROFIT (0% of TDC)					
E. TOTAL OCM & CONTRACTOR'S PROFIT					
F. VALUE ADDED TAX, (VAT) 5.0%					
G. TOTAL ESTIMATED INDIRECT COST (E + F), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

{ATTACH COMPANY LETTERHEAD/LOGO}

Name of Project : _____

Location of Project : _____

CASH FLOW BY QUARTER AND PAYMENY SCHEDULE

PARTICULAR	% W	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER
ACCOMPLISHMENT					
CASH FLOW					
CUMULATIVE ACCOMPLISHMENT					
CUMULATIVE CASH FLOW					

Submitted by: _____

Name of the Representative of the Bidder

Position

Name of the Company

Date

Other Bidding Forms

(ANNEX “D”)

Annex “D” Form 1 Authority of Signatory (Secretary's Certificate)

CAAP-BAC-SF Annex “D” Form 1

AUTHORITY OF SIGNATORY (SECRETARY’S CERTIFICATE)

I,, a duly elected and qualified Corporate Secretary of (Name of the Bidder), a corporation duly organized and existing under and by virtue of the law of the, DO HEREBY CERTIFY, that:

I am familiar with the facts herein certified and duly authorized to certify the same;

At the regular meeting of the Board of Directors of the said Corporation duly convened and held on at which meeting a quorum was present and acting throughout, the following resolutions were approve, and the same have been annulled, revoked and amended in any way whatever and are in full force and effect on the date hereof:

RESOLVED, that (Name of Bidder) be, as it hereby is, authorized to participate in the bidding of (Name of the Project) by the (Name of the Procuring Entity); and in that if awarded the project shall enter into a contract with the (Name of the Procuring Entity) and in connection therewith hereby appoints (Name of Representative), acting as duly authorized and designated representatives of (Name of the Bidder), and granted full power and authority to do, execute and perform any and all acts necessary and/or to represent (Name of the Bidder) in the bidding as fully and effectively as the (Name of the Bidder) might do if personally present with full power of substitution and revocation and hereby satisfying and confirming all that my said representative shall lawfully do or cause to be done by virtue hereof;

RESOLVED FERTHER THAT, the Board hereby authorized its President to:

- a. execute a waiver of jurisdiction whereby the (Name of the Bidder) hereby submits itself to the jurisdiction of the Philippine government and hereby waives its right to question the jurisdiction of the Philippine court;
- b. execute a waiver that the (Name of the Bidder) shall not seek and obtain writ of injunctions or prohibition or restraining order against the CAAP or any other agency in connection with this Project to prevent and restrain the bidding procedures related thereto, the negotiating and award of a contract to a successful bidder, and the carrying out of the awarded project.

WITNESS the signature of the undersigned as such officer of the said this.

—

(Corporate Secretary)

SUBSCRIBED AND SWORN to before me this day of, 20affiant exhibited to me his/her Community Tax Certificate No. _____ issued on _____ at, Philippines.

Notary Public

Until 31 December 20_____

PRT No.: _____

Issued at: _____

Issued on: _____

TIN No.: _____

Doc. No. _____

Page No.: _____

Book No.: _____

Series of _____

