

# **PHILIPPINE BIDDING DOCUMENTS**

## **CONSTRUCTION OF WAREHOUSE WITH SOLAR DRYER IN THE BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO (BARMM) (RE-BID)**

Government of the Republic of the  
Philippines

**Sixth Edition  
July 2020**

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## **Section I. Invitation to Bid**



Republic of the Philippines  
**BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO**  
**BIDS AND AWARDS COMMITTEE**  
**OFFICE OF THE CHIEF MINISTER**

Bangsamoro Government Center, Governor Gutierrez Avenue, Rosary Heights VII, Cotabato City 9600

**Invitation to Bid for**  
**Construction of Warehouse with Solar Dryer in the BARMM (Rebid)**  
IB No.: SLMG-2022-12-REBID

1. The **Office of the Chief Minister, Bangsamoro Autonomous Region in Muslim Mindanao (OCM-BARMM)**, through the **General Appropriations Act Bangsamoro (GAAB) of 2021** intends to apply the sum of **Seventy-Two Million Pesos (PHP 72,000,000.00)**, being the Approved Budget for the Contract (ABC) to payments under the contract for the **Construction of Warehouse with Solar Dryer in the BARMM (Rebid)**. The procurement consists of 8 lots, to wit:

<b>LOT NO.</b>	<b>PARTICULARS</b>	<b>ABC</b>	<b>BIDDING DOCUMENTS FEE</b>	<b>PROJECT DURATION</b>
1	Construction of 8-units of Warehouse with Solar Dryer: 1) 1-unit in Lumbatan, Lanao del Sur, 2) 3-units in Matanog, and 3) 4-units in Barira, Province of Maguindanao	PHP 14,400,000.00	PHP 25,000.00	101 cd
2	Construction of 5-units of Warehouse with Solar Dryer: 1) 1-unit in Parang, 2) 3-units in Sultan Mastura and 3) 1-unit in Sultan Kudarat, Province of Maguindanao	PHP 9,000,000.00	PHP 10,000.00	
3	Construction of 4-units of Warehouse with Solar Dryer: 1) 1-unit in Guindulungan, 2) 2-units in Mother Kabuntalan, and 3) 1-unit in Datu Odin Sinsuat, Province of Maguindanao	PHP 7,200,000.00	PHP 10,000.00	
4	Construction of 4-units of Warehouse with Solar Dryer: 1) 1-unit in Datu Paglas, 2) 1-unit in Salipada K. Pendatun, and 3) 2-units in Sultan sa Barongis, Province of Maguindanao	PHP 7,200,000.00	PHP 10,000.00	
5	Construction of 4-units of Warehouse with Solar Dryer in Datu Blah Sinsuat, Province of Maguindanao	PHP 7,200,000.00	PHP 10,000.00	
6	Construction of 3-units of Warehouse with Solar Dryer: 1) 1-unit in Carmen, and 2) 2-units in Kabacan, Special Geographic Area (SGA)	PHP 5,400,000.00	PHP 10,000.00	
7	Construction of 5-units of Warehouse with Solar Dryer: 1) 2-units in Pikit 1,	PHP 9,000,000.00	PHP 10,000.00	

	2) 2-units in Pikit 2, and 3) 1-unit Pikit 3, Special Geographic Area (SGA)			
8	Construction of 7-units of Warehouse with Solar Dryer: 1) 3-units in Midsayap 1, 2) 3-units in Midsayap 2 and 3) 1-unit Pigcawayan, Special Geographic Area (SGA)	PHP 12,600,000.00	PHP 25,000.00	

Bids received in excess of the ABC for each lot shall be automatically rejected at bid opening.


2. The **OCM-BARMM** now invites bids for the above Procurement Project. Completion of the Works is required within the period specified above. 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 **OCM-BARMM** and inspect the Bidding Documents at the address given below from **8:00 AM – 5:00 PM**.
5. A complete set of Bidding Documents may be acquired by interested bidders on **September 28-October 20, 2022** from given address and website/s below. The Procuring Entity shall allow the bidder to present its proof of payment for the fees **in person**.
6. The **OCM-BARMM** will hold a Pre-Bid Conference<sup>1</sup> on **October 6, 2022, 1:00 p.m. at Bangsamoro Planning and Development Authority Conference Hall 1, Bangsamoro Government Center, Cotabato City and via Zoom Teleconference**, which shall be open to prospective bidders. Prospective bidders may request the zoom details at **[ocmbac@bangsamoro.gov.ph](mailto:ocmbac@bangsamoro.gov.ph)**.
7. Bids must be duly received by the BAC Secretariat through **manual submission** at **Bangsamoro Planning and Development Authority Conference Hall 1, Bangsamoro Government Center, Cotabato City**, on or before **October 20, 2022, 8:30 a.m.** Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 15.
9. Bid opening shall be on **October 20, 2022, 9:00 a.m.** at **Bangsamoro Planning and Development Authority Conference Hall 1, Bangsamoro Government Center, Cotabato City**. Bids will be opened in the presence of the bidders’ representatives who choose to attend the activity.
10. The **OCM-BARMM** 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

<sup>1</sup> 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.

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:**

a. Sale of Bidding b. Query on How to submit bids c. Links for online connectivity for procurement activities d. Written Clarifications on the project	<b>Bids and Awards Committee Secretariat</b> <a href="mailto:ocmbac@bangsamoro.gov.ph">ocmbac@bangsamoro.gov.ph</a> 0917-831-7214
Scope of Works, Plans, Drawings and Bill of Quantities	<b>Support to Local Moral Governance- Project Management Office</b> <a href="mailto:slmg@bangsamoro.gov.ph">slmg@bangsamoro.gov.ph</a> 0927-902-1155



**MOHD ASNIN K. PENDATUN**  
Chairperson, Bids and Awards Committee

## **Section II. Instructions to Bidders**

## 1. **Scope of Bid**

The Procuring Entity, **OCM-BARMM** invites Bids for the **Construction of Warehouse with Solar Dryer in the BARMM**, with Project Identification Number IB No.: SLMG-2022-12-REBID.

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 **GAAB 2021** in the amount of **PHP 72,000,000.00**.

2.2. The source of funding is: **NGA, the General Appropriations Act or Special Appropriations**.

## 3. **Bidding Requirements**

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

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

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

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

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex “I” of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

## 5. **Eligible Bidders**



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

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

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

## 6. **Origin of Associated Goods**

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

## 7. **Subcontracts**

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

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

## 10. **Documents Comprising the Bid: Eligibility and Technical Components**

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

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

## **11. Documents Comprising the Bid: Financial Component**

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

## **12. Alternative Bids**

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

## **13. Bid Prices**

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

## **14. Bid and Payment Currencies**

- 14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.
- 14.2. Payment of the contract price shall be made in: 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 **120 CALENDAR DAYS FROM THE BID SUBMISSION**. 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 16 shall be submitted for each contract (lot) separately.

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

## **20. Post Qualification**

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

## **21. Signing of the Contract**

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

## **Section III. Bid Data Sheet**

# Bid Data Sheet

ITB Clause																														
3	Bidders should comply with the prescribed Bidding forms specified in GPPB Circular 04-2020, GPPB Resolution 16-2020, and the Bidding Documents. Bids not addressing or providing all the required items in the above documents shall be considered non-responsive and, thus, automatically disqualified.																													
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be: <ol style="list-style-type: none"> <li>i. Contract for General Building; and</li> <li>ii. at least equivalent to 50% of the ABC per lot.</li> </ol>																													
7.1	Not applicable.																													
10.3	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Particulars</th> <th style="text-align: center;">Size Range</th> <th style="text-align: center;">License Category</th> </tr> </thead> <tbody> <tr> <td>Lot 1. Construction of 8-units of Warehouse with Solar Dryer: 1) 1-unit in Lumbatan, Lanao del Sur, 2) 3-units in Matanog and 3) 4-units in Barira, Province of Maguindanao</td> <td style="text-align: center;">Small B</td> <td style="text-align: center;">B</td> </tr> <tr> <td>Lot 2. Construction of 5-units of Warehouse with Solar Dryer: 1) 1-unit in Parang, 2) 3-units in Sultan Mastura and 3) 1-unit in Sultan Kudarat, Province of Maguindanao</td> <td style="text-align: center;">Small B</td> <td style="text-align: center;">B</td> </tr> <tr> <td>Lot 3. Construction of 4-units of Warehouse with Solar Dryer: 1) 1-unit in Guindulungan, 2) 2-units in Mother Kabuntalan, and 3) 1-unit in Datu Odin Sinsuat, Province of Maguindanao</td> <td style="text-align: center;">Small B</td> <td style="text-align: center;">B</td> </tr> <tr> <td>Lot 4. Construction of 4-units of Warehouse with Solar Dryer: 1) 1-unit in Datu Paglas, 2) 1-unit in Salipada K. Pendatun, and 3) 2-units Sultan sa Barongis, Province of Maguindanao</td> <td style="text-align: center;">Small B</td> <td style="text-align: center;">B</td> </tr> <tr> <td>Lot 5. Construction of 4-units of Warehouse with Solar Dryer in Datu Blah Sinsuat, Province of Maguindanao</td> <td style="text-align: center;">Small B</td> <td style="text-align: center;">B</td> </tr> <tr> <td>Lot 6. Construction of 3-units of Warehouse with Solar Dryer: 1) 1-unit in Carmen, and 2) 2-units in Kabacan, Special Geographic Area (SGA)</td> <td style="text-align: center;">Small B</td> <td style="text-align: center;">B</td> </tr> <tr> <td>Lot 7. Construction of 5-units of Warehouse with Solar Dryer: 1) 2-units in Pikit 1, 2) 2-units in Pikit 2, and 3) 1-unit Pikit 3, Special Geographic Area (SGA)</td> <td style="text-align: center;">Small B</td> <td style="text-align: center;">B</td> </tr> <tr> <td>Lot 8. Construction of 7-units of Warehouse with Solar Dryer: 1) 3-units in Midsayap 1, 2) 3-units in Midsayap 2 and 3) 1-unit Pigcawayan, Special Geographic Area (SGA)</td> <td style="text-align: center;">Small B</td> <td style="text-align: center;">B</td> </tr> </tbody> </table>			Particulars	Size Range	License Category	Lot 1. Construction of 8-units of Warehouse with Solar Dryer: 1) 1-unit in Lumbatan, Lanao del Sur, 2) 3-units in Matanog and 3) 4-units in Barira, Province of Maguindanao	Small B	B	Lot 2. Construction of 5-units of Warehouse with Solar Dryer: 1) 1-unit in Parang, 2) 3-units in Sultan Mastura and 3) 1-unit in Sultan Kudarat, Province of Maguindanao	Small B	B	Lot 3. Construction of 4-units of Warehouse with Solar Dryer: 1) 1-unit in Guindulungan, 2) 2-units in Mother Kabuntalan, and 3) 1-unit in Datu Odin Sinsuat, Province of Maguindanao	Small B	B	Lot 4. Construction of 4-units of Warehouse with Solar Dryer: 1) 1-unit in Datu Paglas, 2) 1-unit in Salipada K. Pendatun, and 3) 2-units Sultan sa Barongis, Province of Maguindanao	Small B	B	Lot 5. Construction of 4-units of Warehouse with Solar Dryer in Datu Blah Sinsuat, Province of Maguindanao	Small B	B	Lot 6. Construction of 3-units of Warehouse with Solar Dryer: 1) 1-unit in Carmen, and 2) 2-units in Kabacan, Special Geographic Area (SGA)	Small B	B	Lot 7. Construction of 5-units of Warehouse with Solar Dryer: 1) 2-units in Pikit 1, 2) 2-units in Pikit 2, and 3) 1-unit Pikit 3, Special Geographic Area (SGA)	Small B	B	Lot 8. Construction of 7-units of Warehouse with Solar Dryer: 1) 3-units in Midsayap 1, 2) 3-units in Midsayap 2 and 3) 1-unit Pigcawayan, Special Geographic Area (SGA)	Small B	B
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10.4	The key personnel must meet the required minimum years of experience set below:																													

<b>Key Personnel</b>	<b>General Experience</b>	<b>Relevant Experience</b>
1 Project Engineer per lot	With experience on general construction	With experience on actual vertical and horizontal structures for at least two (2) years specifically in Infrastructure Projects such as Multi-purpose Building, Covered Court, Solar Drier, warehouse, and Water System  With knowledge in Autocad and plan review.
1 Civil Engineer per lot	With experience on general construction	With experience on actual vertical and horizontal structure construction implementation and finishing of works on both building and water system projects for at least two (2) years.  With knowledge in Autocad and plan review.
1 Materials Engineer per lot	With experience on quality control	With experience on actual vertical and horizontal structure construction implementation and finishing of works on both building and water system projects for at least two (2) years.  Ensuring all materials used and work performed are as per specifications.
1 Safety Officer per lot	With experience on general construction	With experience as a safety Engineer or Safety Officer in construction site for at least one (1) year.
Construction Foreman per site	With experience on general construction	With experience on actual vertical and horizontal structure construction and finishing of works for at least two (2) years.  With knowledge on plan execution.

10.5	<p>The minimum major equipment requirements are the following:</p> <table border="1" data-bbox="384 215 1350 607"> <thead> <tr> <th data-bbox="384 215 699 248">Equipment</th> <th data-bbox="699 215 1023 248">Capacity</th> <th data-bbox="1023 215 1350 248">Number of Units</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 248 699 282">Dump Truck</td> <td data-bbox="699 248 1023 282">7 cu.m</td> <td data-bbox="1023 248 1350 282">1 per Project Site</td> </tr> <tr> <td data-bbox="384 282 699 315">Water Truck</td> <td data-bbox="699 282 1023 315">1000 liters</td> <td data-bbox="1023 282 1350 315">1 per Project Site</td> </tr> <tr> <td data-bbox="384 315 699 349">Concrete Mixer</td> <td data-bbox="699 315 1023 349">1 bagger</td> <td data-bbox="1023 315 1350 349">1 per Project Site</td> </tr> <tr> <td data-bbox="384 349 699 427">Plate Compactor</td> <td data-bbox="699 349 1023 427">Power Gen. BD170F(4.2HP)</td> <td data-bbox="1023 349 1350 427">1 per Project Site</td> </tr> <tr> <td data-bbox="384 427 699 483">Welding Machine</td> <td data-bbox="699 427 1023 483">300 amperes</td> <td data-bbox="1023 427 1350 483">1 per Project Site</td> </tr> <tr> <td data-bbox="384 483 699 517">Concrete Vibrator</td> <td data-bbox="699 483 1023 517">1.5 KW</td> <td data-bbox="1023 483 1350 517">1 per Project Site</td> </tr> <tr> <td data-bbox="384 517 699 551">Bar Cutter</td> <td data-bbox="699 517 1023 551">At least 16mm dia</td> <td data-bbox="1023 517 1350 551">1 per Project Site</td> </tr> <tr> <td data-bbox="384 551 699 607">Bar Bender</td> <td data-bbox="699 551 1023 607">At least 16mm dia</td> <td data-bbox="1023 551 1350 607">1 per Project Site</td> </tr> </tbody> </table>	Equipment	Capacity	Number of Units	Dump Truck	7 cu.m	1 per Project Site	Water Truck	1000 liters	1 per Project Site	Concrete Mixer	1 bagger	1 per Project Site	Plate Compactor	Power Gen. BD170F(4.2HP)	1 per Project Site	Welding Machine	300 amperes	1 per Project Site	Concrete Vibrator	1.5 KW	1 per Project Site	Bar Cutter	At least 16mm dia	1 per Project Site	Bar Bender	At least 16mm dia	1 per Project Site
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Welding Machine	300 amperes	1 per Project Site																										
Concrete Vibrator	1.5 KW	1 per Project Site																										
Bar Cutter	At least 16mm dia	1 per Project Site																										
Bar Bender	At least 16mm dia	1 per Project Site																										
12	Not applicable.																											
15.1	<p>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</p> <ol style="list-style-type: none"> <li>a. The amount of not less than <b>two percent (2%) of the ABC for each LOT</b>, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</li> <li>b. The amount of not less than <b>five percent (5%) of the ABC for each LOT</b> if bid security is in Surety Bond.</li> </ol>																											
16	<p>Each Bidder are requested to submit one (1) original copy and five (5) certified true copies of its technical and financial requirements certified by the owner or its duly authorized representative whose full name and designation should be indicated below the signature.</p> <p>With respect to the documents those are emanating from the bidder should be originally signed by the owner or its duly authorized representative, to wit: Statement of all ongoing government and private contract, Statement of Single Largest Completed Contract, Bid Securing Declaration, Project Requirements, Omnibus Sworn Statement, Net Financial Contracting Capacity, Bid Form, Bill of Quantities, Detailed Estimates, and Cash Flow.</p> <p>Each bidder shall submit its bid proposal to a one mother envelope that shall contain 6 more envelopes containing six copies of its technical and financial documents. Each of the six envelopes shall contain two more envelopes labeled as technical and financial component. The envelopes must be properly and separately marked and sealed.</p>																											
19.2	Partial bids are not allowed.																											
21	<p>Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.</p> <p>The above documents should be submitted within 10 cd upon receipt of the Notice of Award.</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	n/a
4.1	n/a
7.2	Fifteen (15) years.
10	Dayworks are applicable at the rate shown in the Contractor's original Bid.
11.1	The Contractor shall submit the <b>Program of Work</b> to the Procuring Entity's Representative within <b>ten (10)</b> days of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is [insert amount].
13	The amount of the advance payment <b>shall not exceed 15% of the total contract price and schedule of payment.</b>
14	Materials and equipment delivered on the site but not completely put in place shall not be included for payment.
15.1	The date by which operating and maintenance manuals are required <b>upon substantial completion.</b> The date by which "as built" drawings are required <b>upon substantial completion.</b>
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 [amount in local currency].

## **Section VI. Specifications**



## **16. SECTION 02200 EARTHWORK**

### **PART 1 GENERAL**

#### **02200.1 SCOPE**

**a. Work Included:**

1. Furnishing of all labor equipment and material for excavation and backfilling.
2. Inspection of site to survey necessary labor, equipment and materials.
3. Excavation and hauling of excavated materials.
4. Backfilling and grading up to the property line.

**b. Related Work Specified Elsewhere:**

1. Preparation of sub-grade for concrete pouring.
2. Trenching and backfilling for storm sewer system.
3. Trenching and backfilling for sanitary sewer system.

#### **02200.2 PROTECTION**

- a. Provide adequate bracing and shoring to existing construction as may required.
- b. Perform all excavation work with a minimum amount of damage to work, which is to remain.
- c. Repair any damage caused by negligence of Contractor at his own expense.
- d. Provide adequate protection measures for materials, men and adjoining property.
- e. Avoid creating nuisance to adjacent areas.

#### **02200.3 MEASUREMENT AND PAYMENT**

- a. Excavation shall be measured in its original position by cross-sectioning the area excavated. Volume will be computed from the cross-section measurements by the average-end-area method.
- b. Accepted quantities will be paid for at the contract price per unit of measurement for excavation, including embankment construction.

### **PART 2 PRODUCTS**

#### **02200.4 MATERIALS**

- a. Borrow material shall be selected, laboratory approved material obtained from off-site sources and having 3.5 percent liquid limit, and 4 to 12 percent plasticity index.
- b. Granular fill to form a capillary water barrier shall be clean, crushed, non-uniformly graded and of a size, which will pass a 25 millimeters mesh screen and be retained on a No. 4 mesh screen.
- c. Excavated material approved for used as backfill shall be free of fibers, vegetables or organic materials, boulders, large rocks or pockets, lumps or other concentration of silt, debris, or cinders.
- d. No fill material shall be placed when free water is standing in the area where fill is to be placed.

### PART 3 EXECUTION

#### 02200.5 PREPARATION

- a. Stakes and Batter Boards:
  - 1. Stake out the building accurately and establish grades. Secure the approval of the Owner and/or Architect.
  - 2. Erect batter boards and reference mark where they will not be disturbed during construction.
  - 2. Store material and conduct work in such a manner as to preserve all reference marks.
  - 3. Re-establishment of lines and grades where necessary shall be done at the Contractor's expense.
- b. Rough Grading
  - 1. Cut and fill machine grade the site area.
  - 2. Deposit materials in horizontal layers not exceeding 20 centimeter (8 inches) in depth and compact to 95% of maximum density. (Modified Proctor Test)

#### 02200.6 EXCAVATION

- a. Foundation:
  - 1. Excavate to grade indicated.
  - 2. Excavate trenches to a near size, leveled to line at the bottom ready to receive the foundation.
  - 3. Excavation greater than required by the drawings and specifications and which is within the bearing area of walls, footings, or floor slabs shall be filled with class "D" concrete at Contractor's expense.

4. All foundations are designed for an allowable soil bearing capacity computed and the soil boring test results. Contractor shall report to the Engineer actual soil conditions uncovered and confirm soil actual capacity before any concreting is started.

b. Trenching for Utility and Foundation Drawings

1. Excavate to a point 1.0 meter beyond building line of sufficient distance from the walls and footings to allow placement removal of forms.
2. Backfill materials and concrete fill. Where excavation is at lower levels or greater depth than required for foundation, or where unsatisfactory material is removed, the excess material shall be replaced with backfill material, except below grade beams, footings or other structural concrete where fill to depth or level shall be with concrete of the same strength as specified.

02200.7 DEWATERING

- a. Water encountered during excavation shall be removed by piling or pumping, care being taken that the surrounding particles of soil are not disturbed or removed.
- b. Pump water out of excavated area throughout the construction.

02200.8 SUB-DRAINAGE

- a. Excavate trenches for underground utility system and drain lines. Grade and tamp to provide firm bed trenches for drain lines.
- b. When rock is encountered, excavate to a depth 15 centimeter below the bottom of the pipe, and before pipe is laid, the space below the pipe shall be filled with sand, gravel or crushed stone.

02200.9 SOIL COMPACTION

All existing earth within building lines that has been disturbed should be placed in 15 centimeter layers and compacted to 95% of maximum density required for fill.

02200.10 DISPOSAL OF EXCAVATED MATERIAL

Surplus materials resulting from the site excavation and grading operations shall be removed from the site and disposed off in proper manner at the Contractor's expense.

02200.11 BACKFILLING AND GRADING

- a. Backfilling:
  1. Commence after approval of construction below finish grade, underground utility system inspected and tested, form removed and the excavation clean of trash and debris.

2. Place in layers not more than 15 centimeter thick and evenly compact and ram by wetting, tamping or rolling until the correct grade is reached.
- b. Finish Grading:
1. Place fill materials in horizontal loose layers not exceeding 15 centimeter in thickness and spread, mix and place in such manner as to produce a uniform thickness of material.
  2. Start in deepest area and progress approximately parallel to finish grade.
  3. Grade finish surface to drain water away from the building.

## **SECTION 02280 SOIL POISONING**

### **PART 1 GENERAL**

#### **02280.1 SCOPE**

- a. Soil Poisoning shall be executed by a duly licensed and certified termite and pest control company to guarantee the soil poisoning works for five years.
- b. Furnish material and equipment and perform labor required to complete soil poisoning work.

#### **02280.2 EXAMINATION OF SITE**

Visit the site of the work and examine the premises to fully understand all existing conditions relative to the work.

### **PART 2 MATERIALS**

#### **02280.3 SOIL POISONING**

- a. Soil poise shall be water-base emulsions. Any of the following may be used:
  1. Benzene Hexachloride - 0.8 percent gamma isomer concentration.
  2. Chloride - 1 percent concentration.
  3. Dieldrin - 0.5 percent concentration.
  4. Aldrin - 0.5 percent concentration.
  5. Heptachlor - 0.5 percent concentration.

### **PART 3 EXECUTION**

#### **02280.4 APPLICATION**

- a. Soil poisoning work shall not begin until all preparations for footings, CHB under grade and slab on fill have been completed.

- b. Soil Poisson shall not be applied when soil is excessively wet.
- c. After grading and leveling the soil in the ground and layer of gravel is laid preparatory to the pouring of concrete floor or soap every square meter of floor area with soil Poisoning working solution.
- d. Thoroughly drench and saturate every linear meter excavation for footings and other foundation work with soil poison working solution before pouring of concrete.
- e. 7.6 liters of soil poison working solution per 1.5 linear meter shall be applied to all area immediately below expansion joints, control joints, and all areas, where slab will be penetrate by pipe duct and other construction features.
- e. Hollow masonry walls resting on grades shall have its voids treated with 3.79 liter of soil poison working solution per 1.5 linear meter of wall. Poisons are poured directly into the hollow spaces.
- f. Prior to landscaping of the lawn, saturate very linear meter perimeter of the building about 3 meters wide with soil poison working solution.
- g. Treat earthfill thoroughly. As soon as fill is packed and levelled, drench every 1 square meter area with soil poison working solution.

02280.5 INSPECTION AND TIME

- a. One sample of concentrates toxicant shall be tested.
- b. One sample of working solution shall be tested for each 1,000 square meter of treated area. There shall be at least two sample tested.
- c. Samples shall be taken and analytical tests performed by approved testing laboratory. Test shall be paid by the Contractor. The result shall be submitted to the Owner.

02280.6 GUARANTEE

Upon completion of the work, and a condition of final acceptance, the Owner shall be furnish with a written guarantee which shall provide that: THE SOIL POISONING TREATMENT SHALL PREVENT SUB-TERRANEAN TERMITES FROM ATTACKING THE BUILDING OR ITS CONTENT FOR A PERIOD OF NOT LESS THAN 5 YEARS.

**7.2. DIVISION 3 CONCRETE**

**17. SECTION 03100 - CONCRETE FORMWORK**

PART 1 GENERAL

03100.1 SCOPE

- a. Work Included :

1. All labors, materials, equipment, plant, tools and other facilities necessary to complete all concrete formwork.
2. Refer to General Conditions.
3. Work shall BE DONE IN accordance with the "NATIONAL STRUCTURAL CODE OF THE PHILIPPINES, Volume 1, 3rd Editions and the "ACI BUILDING CODE (ACI 318-latest edition)" and the National Building Code, 1988 Edition in so far as they do not conflict with specific provisions.

#### 03100.2 PROTECTION

- a. Forms shall be used whenever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving or sloughing from adjacent, excavated surfaces.
- b. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position.
- c. Forms shall be sufficiently tight to prevent loss of mortar from the concrete.
- d. Forms for exposed surfaces against which backfill is not to be placed shall be lined with a form grade plywood.
- e. Bolts and rods used for internal ties shall be so arranged that when the forms are removed all metal will not be less than two (2) centimeters from the formed surface.

#### PART 2 PRODUCTS

##### 03100.3 MATERIALS

- a. Forms:
  1. Plywood, metal, plaster of Paris or plastic materials or surfaced lumber forms shall be used for all cast-in-place concrete works.
  2. In no case shall the forms for beams and slabs be less than 12 millimeters (1/2 in) thick plywood for exposed concrete, 20 millimeters (3/4 in") T & G for covered concrete.
- b. Quality:

Provide forms that will produce correctly aligned concrete. Plastering in general shall not be allowed so that care shall be exercised in the choice of surface of forms and fittings that will be in contact with concrete.

#### PART 3 EXECUTION

##### 03100.4 PREPARATION

- b. Check all formwork for plumbness and correct alignments.

- b. Provide openings for column forms for cleaning and inspection preferably at lowest points of pour lifts.
- c. Provide camber as indicated in construction notes.
- d. Before placing the concrete, the contact surfaces of the form shall be cleaned of encrustations of mortar, the grout, or other foreign material, and shall be coated with a commercial form oil that will effectively prevent sticking and will not stain the concrete surfaces.

03100.5 FORMS AND SHORING

a. Removal:

- 1. Forms and shoring shall not be removed until concrete is adequately set and strong enough to withstand anticipated loading and in no case less than what is required in the following tabulations:

PARTS OF STRUCTURE	CLASSIFICATION OF PARTS	TIME REQUIRED
Footing	<ul style="list-style-type: none"> <li>a. Massive footing</li> <li>b. Cantilever footing</li> <li>c. Slab Footing</li> </ul>	<ul style="list-style-type: none"> <li>a. 1 day (24 hours)</li> <li>b. 5 days (120 hours)</li> <li>c. 5 days (120 hours)</li> </ul>
Walls and Plasters	<ul style="list-style-type: none"> <li>a. Massive Walls, 30 centimeters</li> <li>b. Thin Walls - less than 150mm</li> <li>c. Cantiliver walls</li> </ul>	<ul style="list-style-type: none"> <li>a. Up to 60 centimeters (2 ft.) - 1 day (24 hours). Add 1 day for additional 90 centimeters (3 ft.) of height or fraction thereof.</li> <li>b. Up to 180 centimeters (6 ft.) high - 2 days (48 hours). Add 1 1/2 days (36 hours) for every additional 90 centimeters of height or fraction thereof but not more than 28 days (672 hours)</li> <li>a. without load same as <u>a</u> and <u>b</u></li> </ul>
Columns	<ul style="list-style-type: none"> <li>a. ratio of height to least dia. up to 4</li> <li>b. Ratio of height to least dia. from 4 to 15</li> </ul>	<ul style="list-style-type: none"> <li>a. 2 days (48 hours)</li> <li>b. Add to the above number 1 day( 24 hours) for every additional 90 centimeters (3 ft.) of height or fraction thereof but not more than 28 days (672 hours)</li> </ul>
Slabs	<ul style="list-style-type: none"> <li>a. 90 centimeters (3 ft.) to 210 centimeters (7 ft.) span</li> </ul>	<ul style="list-style-type: none"> <li>a. 90 centimeters (3 ft.) span - 5 days (120 hours). Add 1/2 day (12 hours) for every 30 centimeters (1 ft.) span or fraction thereof.</li> </ul>

PARTS OF STRUCTURE	CLASSIFICATION OF PARTS	TIME REQUIRED
	b. over 210 centimeters (7 ft.) span	b. 210 centimeters (7 ft.) span - 7 days (168 hours). Add 1/2 day (12 hours) for every 30 centimeters (1 ft.) additional span or fraction thereof but not more than 28 days (672 hours)
beams and Girders	a. sides b. bottoms	a. 3 days (72 hours) b. Up to 425 centimeters (14 ft.) - 15 days (336 hours). Add 1/2 day (12 hours) for every 30 centimeters (1 ft.) additional span or fraction thereof but not more than 28 days (672 hours).

2. Forms and shoring may be removed earlier than specified above provided that test samples of concrete are taken and are shown to be adequately strong to carry safely, dead and construction loads to the satisfaction of the Project Engineer.
3. Forms shall be removed in a manner, which will prevent damage to the concrete. Forms shall not be removed without approval by the Project Engineer. Any repairs of surface imperfections shall be performed at once and curing shall be started as soon as the surface is sufficiently hard to permit it without further damage.

## 18. SECTION 03200 - CONCRETE REINFORCEMENT

### PART 1 GENERAL

#### 03200.1 SCOPE

- a. Related Work Specified Elsewhere:
  1. Concrete Formworks: ITEM 900
  2. Masonry: ITEM
  3. Thermal and Moisture Protection: ITEM 1016

#### 03200.2 PROTECTION

- a. Storage of Materials:
 

Steel reinforcements shall be stored under cover or otherwise prevented from rusting.
- b. Concrete cover shall be determined before concrete pouring is started.



### 03200.3 DESIGN CONDITION

All Steel reinforcements shall be designed in accordance with the ACI Building Code (ACI 318-latest edition), Uniform Building Code 1988 Edition, and the National Structural Code of the Philippines, Volume 1, 3rd Edition.

### 03200.4 TESTING

The Owner, his duly authorized representative or the Architect shall have the right to order the test of any steel supplied by the Contractor, Such tests shall conform to the ASTM Designations enumerated below on materials. Samples shall be provided by the Contractor without cost to the Owner and expenses for testing shall be borne by the Contractor and copies of results shall be furnished to the Owner and to the Architect.

## PART 2 PRODUCTS

### 03200.5 MATERIALS

#### a. Steel Bars:

1. Reinforcing steel bars to be used shall be new and free from rust, oil, grease or kinds.
2. Shall conform to the latest edition of ASTM Designation A615M Specifications.
3. Reinforcing steel for columns shall be intermediate grade. For all other parts of the structure such as beams, girders, slab, footings, walls, etc., reinforcing steel shall be structural grade, unless noted in the plan.
4. Ties and stirrups for beams and column as well as slab reinforcements may be plain bars unless noted in the plan or specified herein.

## PART 3 EXECUTION

### 03200.6 PREPARATION

- a. Remove all loose rust or scale, adhering materials and oil or other materials , which tend to destroy bond between concrete and reinforcement before steel is placed or before pouring.
- b. All bars shall be bend cold, unless otherwise permitted by the Engineer.

### 03200.7 PLACING REINFORCEMENTS

#### a. Metal Reinforcements:

1. Placing shall be in accordance with the plans furnished. Refer to the Architect/Engineer in case of doubt or ambiguity in the placing of steel.
2. Reinforcing bars shall be accurately placed and adequately secured by concrete metal wires, or metal chair spaces.

3. Spacing of bars shall be done in accordance with the ACI - Building Code or as follows:

Clear distance between parallel bars shall be one and one half (1/2 times) the diameter for round bars, and twice the side dimension for square bars.

4. Clear distance shall not be less than 2.54 centimeters (1 inch) nor more than 1 1/3 times the minimum size of aggregates.
5. Where bars are used in two or more layers, the bars in the upper layers shall be placed directly above those in the lower layers at a clear distance of not less than 25 mm.

b. Stirrups and Ties:

Bends for stirrups and ties shall be made around a pin having a diameter of not less than 6 times the minimum thickness of the bar, except that for bars larger than 25 mm, the pin shall not be less than 8 times the minimum thickness of the bar.

#### 03200.8 OFFSET AND SPLICES IN REINFORCEMENT

a. Splices

1. In slabs, beams and girders at points of maximum stress shall not be made, and may be allowed only upon written approval of splice details by the Project Engineer.
2. Provide sufficient lap to transfer stress between bars by bonding shear or by welding.
3. Splices in adjacent bars shall be generally staggered.
4. Unless otherwise indicated, the minimum splice length shall be 24 times the bar diameter or 300 mm whichever is greater.

- b. Offsets - Where changes in cross section of column occur, longitudinal bars shall be offset in a region where lateral support is afforded. The slope of the inclined portion of an offset bar with axis of column shall not exceed 1 in 6. Portions of the bar above and below an offset shall be parallel to axis of column. Horizontal support at offset bends shall be provided by lateral ties, spirals, or parts of the floor construction. Horizontal support provided shall be designed to resist 1 1/2 times the horizontal component of the computed force in the inclined portion of an offset bar. Lateral ties or spirals, if used, shall be placed not more than 150 mm from points of bend. Offset bars shall be bend before placement in the forms.

## **DIVISION 4 - MASONRY**

### **SECTION 04110 CEMENT AND LIME MORTARS**

#### **PART 1 GENERAL**

##### **04110.1 SCOPE**

a. Work Included:

1. All labor, materials, equipment, plans and other facilities and the satisfactory performance of all work necessary to complete all cement and masonry work shown on the drawings and specifies herein.
2. Refer to the General Conditions accompanying these specifications.

PART 2 PRODUCTS

04110.2 MATERIALS

- a. Sand : ASTM C-4
- b. Portland Cement : ASTM C150, Type I
- c. Water shall be clean and free from deleterious substances.

04110.3 MIXES

- a. Cement Mortar for Finish Coat:
  - 1 part - Portland Cement
  - 2 part - Sand but not more than 4 parts
- b. Cement Mortar for Plastering:
  - 1 part - Portland Cement
  - 3 part - Sand

PART 3 EXECUTION

04110.4 INSTALLATION

- a. Surface to receive plasters shall be cleaned of all projections, dust, loose particles, grease bone breaker an other foreign matter. Plaster shall on be applies directly to concrete on masonry surface that have been coat with bituminous compound, to surface that have been painted on previously plastered. Before the plasterwork is started, masonry surface shall be wetted thoroughly with fog spray of clean water to produce a uniformly moist condition. Metal grounds, corner bend and other accessories shall be check carefully of alignment before work is started.
- b. Brown coat shall be applied with sufficient pressure to fill the groove in hollow block on concrete to prevent aid pocket and receive a good bond Brown coat shall be lightly scratch an bromide Each coat of cement plaster shall be keep moist of 48 hour after application and then allowed to dry.
- c. Finish coat shall be applied untie after brow coat has seasoned for days Just before application of the finish coat, brown coat shall again be evenly moisten with fog spray finish coat shall be float first to a true an even surface

the trowel in a manner that will force the sand particle Dow into the plaster. Plaster surface shall be and free from rough areas, trowel marks, checks and blemishes.

#### 04110.5 PATCHING

- a. Patch plaster following work of other trades.

## **19. SECTION 04200 UNIT MASONRY**

### PART 1 GENERAL

#### 04200.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete concrete unit masonry
- b. See drawing for sizes, details and location work required.

#### 04200.2 HANDLING AND STORAGE

- a. Handle in a manner to prevent undue chipping and breakage.
- b. Protect storage piles, stacks on bins from heavy traffic.
- c. Provide platforms to protect bottom piles from contact with soil.

### PART 2 PRODUCTS

#### 04200.3 MATERIALS

- a. Concrete Hollow Block - 100 mm x 200 mm x 400 mm and 150 mm x 200 mm x 400 mm and 200 mm x 200 mm x 800 mm.
- b. Mortar - 1 part Portland Cement, 3 parts sand
- c. Wire Ties - 16 gauge looped at both ends.
- d. Bars and Rods - ASTM Standard of masonry reinforcement and minimum diameter at 10 millimeter (3/8 inch).

### PART 3 EXECUTION

#### 04200.4 ERECTION

- a. Lay all masonry units plumb, true to line, level and with accurately spaced courses.
- b. Bond shall be kept plumb throughout. Corners and reveals shall be plumb and true.

- c. Built-in anchors, wall plug and accessories to masonry as erection progresses.
- d. Each course shall be solidly bedded in Portland cement mortar. All must be dump when laid.
- e. Units terminating against beam or slab soffits shall be wedged tight with mortar and reinforcement properly secured to dowels.
- f. Reinforcements shall be as shown in drawings. Minimum reinforcement is 12 millimeters (1/2 inch) round horizontal bars at every 3 courses and 12 millimeters (1/2 inch) round vertical bars at every 2 blocks.

#### 04200.5 UNFINISHED WORK

- a. Unfinished work shall be stepped back for joining with new works.
- b. Before new work is started, all loose mortar shall be removed and the exposed joint thoroughly wetted not less than one hour before laying new work.

#### 04200.6 PLASTERING

- a. Grout wall to be plastered generously and let dry.
- b. Apply scratch coat same as specified under Section 04110.4.
- c. Final plaster finish shall be 1 part Portland cement and 2part sand, and 1/4 part hydrates lime. Plaster shall conceal all joints and even-out wall surface to a uniform smooth finish using Manila Paper or rubber sponge.

#### 04200.7 CLEANING

Wash finish wall with a solution of 10 percent by volume of muriatic acid applied with stiff fiber brushes.

#### 04200.8 OPENINGS

- a. Provide beam blocks over or above openings not exceeding 1.20 meters span with same height and width as unit masonry blocks exceeding at least two masonry block lengths beyond the edge of the opening into the wall.
- b. Provide 2-4 longitudinal reinforcing bars each at top and bottom of beam blocks with ties at 25 centimeter (10 inches O.C.).
- c. For openings over 1.20 meters (4 ft.) in span, refer to drawing of cast-in-place design of lintel beam.

#### 04200.9 CONSTRUCTION STANDARDS

Provisions of Section 6.10 of the National Structural Code of the Philippines, 3rd Edition, shall strictly be followed.

#### 04200.10 TESTING

Testing of masonry materials shall be done in accordance with ASTM C140-70, METHOD OF TEST FOR CONCRETE MASONRY UNITS.

**c. DIVISION 6 WOOD AND PLASTIC**

**SECTION 06100 ROUGH CARPENTRY**

**PART 1 GENERAL**

**06100.1 SCOPE**

- a. Furnish materials and equipment and perform labor required to complete framing sheathing and related rough carpentry work as indicated on the drawings and/or specified herein.
- b. Include in the work, plates, straps, joints hangers, rods, dowels, rough hardware, fasteners and other miscellaneous iron and steel items pertinent to rough carpentry work.
- c. See drawings and details for location of framing, sheathing and related rough carpentry work required.

**06100.2 STORAGE AND PROTECTION**

- a. Stack framing lumber and plywood to insure against deformation and maintain proper ventilation.
- b. Protect lumber and plywood from elements.
- c. Lumber in contact with concrete or masonry shall be coated with asphalt or any approved preservative.

**PART PRODUCTS**

**06100.3 LUMBER**

- a. Moisture Content - not to exceed 20 percent.
- b. Grade and Trade Mark - required on each piece of lumber.
- c. Quality - lumber must be sound, thoroughly seasoned, well cut and free from wrap.
- d. Preservative and Pressure Treatment - all lumber shall be pressure impregnated with waterborne preservative like wolman salt, boiled salt and tanalite H.R. Surface, cut after treatment, shall be brush coated with same preservative.

**06100.4 PLYWOOD**

Unless otherwise specified or indicated in drawings, use the following:

- a. For Interior Plywood: Use 6 millimeter (1/4 inch) thick.
- b. Pressure Treatment: All plywood shall be pressure treated.

#### 06100.5 ROUGH HARDWARE AND METAL FASTENERS

Plates, straps, nails, spikes, screws, bolts, joists, hangers, rods, dowels, fasteners and miscellaneous iron and steel items shall be of size and types to rigidly secure members in place.

### PART 3 EXECUTION

#### 06100.6 INSTALLATION

- a. Framing shall be cut square on bearings, closely fitted, accurately set to required lines and levels and rigidly secured in place. Plans and dress side of frames that will receive wallboards or sidings.
- a. Wood Furring and Nailers shall be in accordance with detailed drawings. Where not indicated on the drawings or mentioned herein, furring trips shall be 2.5 centimeter x 5 centimeter (1" x 2") spaced at 40 centimeter (16 inches) on center both ways. Fasten wood furring securely by expansion bolts or other approved device at every 60 centimeter (2 ft.) on center. Wood plugs shall not be used.

#### 06100.7 SCHEDULES

- a. Treated Apitong Lumber shall be used for:
  - 1. Vertical and Horizontal Studding of Wood Partitions.
  - 2. Ceiling Nailers and Ceiling Joists
  - 3. Other Related Rough Lumber Works
- b. Well-seasoned Yakal shall be used for all plates, plugs and other portions of the work directly in contact with concrete or masonry.

## **20. SECTION 07610 SHEET METAL ROOFING**

### PART 1 GENERAL

#### 07610.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete:
  - 1. sheet metal roofing
  - 2. metal roof flashing and trim
- b. See drawings and details for sizes and location of work required.

#### 07610.2 SAMPLES

Submit samples of sheet metal flashing and trim, grilled and louvers.

#### 07610.3 GUARANTEE

**THE CONTRACTOR SHALL ISSUE A WRITTEN GUARANTEE TO THE OWNER TO MAINTAIN ENTIRE ROOF FLASHING AND COUNTER FLASHINGS IN A WATERTIGHT CONDITION FOR A PERIOD OF FIVE (5) YEARS.**

#### PART 2 PRODUCTS

##### 07610.4 MATERIALS

- a. Corrugated Sheets - Gauge 26 galvanized iron zinc coated by hot dip process.
- b. Plain Sheets - Gauge 26 galvanized iron sheet zinc coated by hot dip process.
- c. Solder - Standard solder for galvanized iron sheets.

#### PART 3 EXECUTION

##### 07610.5 INSTALLATION OF SHEET METAL ROOFING

- a. Space purlins to fit sizes of the sheets so that center line of purlins will come of line 15 centimeters (6 inches) from bottom line of end laps.
- b. Space intermediate purlins equidistant from purlins at end laps.
- c. Minimum end lap shall be 25 centimeters (10 inches). Minimum side lay shall be 2-1/2 corrugations.
- d. Lay sheets in a manner such that vertical joints are broken. Lay top sheets with side corrugation down. Nail upper end of each sheet securely to purlins with 8-d G.I. nail in the valley of every second corrugation. The upper end of each sheet shall be covered by other sheets or by ridge and hip rolls.
- e. Secure lower end of first sheet laid at gutter line by straps to the purlins after gutter hangers are in place. Use No. 24 gauge strap one inch wide with corners clipped off at riveting ends. Bend strap around purlins and rivet to the sheets.
- f. Place first row of straps at gutter line. Then rivet the lower end of every sheet to the sheet beneath at the top of every fourth corrugation. Such rivets to alternate with rivets engaging top line of straps.
- g. Rivet side laps with two lines of rivets staggered and spaced not to exceed 23 centimeters (9 inches) on centers.
- h. Rivets must be anchored on top of corrugations.

##### 07610.6 RIDGE ROLLS, HIP ROLLS AND VALLEY



- a. Use Gauge 24 ridge roll. Minimum lay of ridge roll shall be 30 centimeters (12 inches) over roofing sheets. Rivet ridge to roofing sheets at top of every fourth corrugation in addition to rivets engaging top line of straps
- b. Use Gauge 24 hip roll. Minimum lay of hip roll shall be 30 centimeters (12 inches) over roofing sheets. Rivet hip roll at every second corrugation.
- c. Use Gauge 24 valley. Project 45 centimeters (18 inches) away and under roofing sheet edge each way and secure to framework with G.I nails spaced not to exceed 30 centimeters (12 inches) on center.

#### 07610.7 FLASHING AND COUNTER FLASHING

- a. Use Gauge 24 plain G.I. sheet for flashings at intersection of roof and parapet walls. Raise one wing of flashing not less 20 centimeters (8 inches) high terminated at horizontal reglet.
- b. Where corrugation run parallel to the walls, corrugate one wing of the flashing sheet to match corrugation of G.I. sheets which other wing shall go up against the walls and counterflashed.

### **7.3. DIVISION 8 - DOORS AND WINDOWS**

#### **21. SECTION 08210 WOOD DOORS**

##### PART 1 GENERAL

##### 08210.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete flush doors and other wood doors
- b. See drawings and details for sizes, location, extent and other requirements.

##### 08210.2 SAMPLES

Submit sample corner sections of wood doors and jambs.

##### 08210.3 PROTECTION

Adequately protect doors from scratches, and other stains with heavy building paper.

##### PART 2 PRODUCTS

##### 08210.4 MATERIALS

- a. Plywood: First quality plywood grain and color suitable for painted finish.
- b. Framing: Kiln-dried tanguile treated lumber for interior framing.

#### 08210.5 FABRICATION

- a. Assemble joints in doors with water-resistant glue keep doors under pressure until glue has thoroughly set.
- b. Sand smooth finished door. Door must have tiger joints and clear-cut mouldings.
- c. Faces shall be free from defects or machine marks that will show through the finish.
- d. Wood flush doors hollow core:
  1. Size, design and thickness shall be as indicated on the drawings.
  2. Doors shall have cross banding, and faces of two or more plies with a combined minimum thickness of 2.5 millimeters (1/10 inch) after sanding. Face veneer shall be first class quality selected plywood either rotary-cut or sliced-cut.

Provide lock blocks of size required for hardware use. Rails and side edge bands shall be of hardwood same as face veneer.

3. Doors shall be rimmed square and factory pre-fit to standard sizes.

#### PART 3 EXECUTION

#### 08210.6 INSTALLATION

- a. Each door shall be accurately cut, trimmed and fitted to its frame and hardware.
- b. Give allowance for painter's finish and possible swelling or shrinkage.
- c. Clearance at lock and hanging stiles and at top shall not exceed 3 millimeters (1/8 inch). At bottom, not bigger than 6 millimeters (1/4 inch).
- d. All corners shall be rounded to 1.5 millimeters (1/16 inch radius). Lock and rail edges shall be slightly leveled.
- e. The screws for hardware shall not be driven, but merely started by driving and then screwed home.
- f. All doors shall operate freely and with all hardware properly adjusted and functioning.

#### 08210.7 SCHEDULE

Refer to Schedule of Drawings.

## **22. SECTION 08800 GLASS**

#### PART 1 GENERAL

#### 08800.1 SCOPE

- a. Furnish glass free from imperfections and watermarks and other materials and equipment and perform labor required to complete all glass and glazing work.
- b. See drawings for size, location and details.

#### 08800.2 SAMPLES

Submit samples of glass panel.

#### 08800.3 PROTECTION

Protect materials from loss, injury, staining, and breakage. Lost and damaged materials shall be replaced by the Contractor at his own expense.

### PART 2 PRODUCTS

#### 08800.4 MATERIALS

- a. Plate Glass - mechanically round and polished after rolling resulting in parallel, distortion free surfaces. Use where good vision is required.
- b. Float Glass - manufactured by "floating continuous ribbon of molten glass onto a bath of molten tin where it is reheated to obtain a flat, fire-polished finish. It is then allowed to cool to a degree permitting it to be drawn on rollers in a long oven and then annealed.

Commonly used in windows, sliding doors, and window walls.

Grade AA - intended for use where superior quality is required.

Grade A - intended for selected glazing.

Grade B - intended for general glazing.

Greenhouse quality - intended for Greenhouse glazing or similar application where quality is unimportant.

#### 08800.5 GLAZING

Glazing materials for glass installation may be:

- a. Bull compounds such as:

Mastics - elastic compounds and non-skinning compound.

Puttied - wood sash putty, metal sash putty.

Sealant - one component, two components.

- b. Performed sealant such as:

Synthetic polymer - bass sealant - resilient or non-resilient type.

Performed gaskets - compression type, structural type.

### PART 3 EXECUTION

#### 08800.6 GLAZING

- a. Prevent glass from all contact with metal or any hard or sharp materials by use of resilient shims placed at quarter points.
- b. Use resilient sealant.
- c. Use stops in sizes permitting a "good grip" of the glass.
- d. Install glass only in openings that are rigid, plumb and square.
- e. Allow sufficient clearance at edges of glass to compensate for its expansion or for some settlement of the building. Clearance should be 6 millimeters (1/4 inch) from edge to frame and 3 millimeters (1/8 inch) for face.
- f. Markings, banners, posters, and other decay shall not be applied directly to glass surface as these could cause thermal stress.
- g. Removal of putty or glazing compound smears from glass shall be performed by the glazing contractor during the materials normal work life. Failure to do so may result in damage to the glass.

#### 08800.7 HEAT ABSORBING GLASS

- a. Special attention must be given to the installation of all types of heat absorbing glass, because of its ability to absorb heat. Partial shading, painted signs, large interior labels, tight draperies or blinds, heavy masonry structure, and heating-cooling outlets directing aid against the glass may increase edge tension stresses.
- b. The ability of heat absorbing glass to resist solar energy breakage is primarily related to its edge strength. Therefore:
  - 1. Clean out all edges.
  - 2. Do not install glass with flared edges at bottom.
  - 3. Do not seal edges.
  - 4. Do not nib edges nor scarf corners.
  - 5. Do not bump nor brush edges against metal or other hard objects.
  - 6. Do not use pocket flush glazing.
  - 7. Radius cutting should be reviewed by manufacturer.

d.

## 23. SECTION 09900 PAINTING

### PART 1 GENERAL

#### 09900.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete painting and varnishing works
- b. See Drawings for location, quantity and extent of surfaces to receive paints.

#### 09900.2 DELIVERY OF MATERIALS

- a. Deliver at jobsite in original container with labels intact and seals unbroken.
- b. Submit to Owner the manufacturer's certificate of origin and quality of paints including quantity purchased.

#### 09900.3 QUALIFICATION OF PAINTING CONTRACTOR

- a. Painting contractor shall be approved by the Owner

#### 09900.4 TEST PANELS

- a. Sample panels of selected color or shade shall be prepared on 60 centimeters (2 feet) plywood panel for approval by the Architect.

#### 09900.5 PROTECTION

- a. Provide all drop cloth and other coverings requisite to protection of floors, walls, aluminum, glass, finishes and other works.

### PART 2: PRODUCTS

#### 09900.6 PAINT MATERIALS

- a. Tinting colors and thinning materials must be the same brand as the paint specified

#### 09900.7 SCHEDULE

##### EXTERIOR

a.	Exterior concrete painted surface	3 coats Acrylic base masonry paint
b.	Exterior concrete exposed aggregate finish	one coat water repellent
c.	Exterior metal ferrous	prime with epoxy enamel primer

d.	Exterior metal galvanized	prime with zinc chromate primer
e.	Exterior wood painted	3 coats oil based paint
f.	Exterior wood varnished	water repellent varnish

#### INTERIOR

a.	Interior concrete or masonry painted	2 coats acrylic base masonry paint
b.	Interior concrete exposed aggregate finish	no paint
c.	Interior metal ferrous	prime with epoxy enamel primer follow 2 coats enamel paint
d.	Interior wood work sea-mist	3 coats 3 part thinner 1 part lacquer paint apply wood filler
e.	Interior wood work varnish	1 <sup>st</sup> coat - one part sanding sealer to one part solvent 2 <sup>nd</sup> coat - 2/3 sanding sealer, 1/3 solvent 3 <sup>rd</sup> coat - same as 2 <sup>nd</sup> coat 4 <sup>th</sup> coat pure solvent
f.	Interior woodwork painted	3 coats oil base paint

#### PART 3 : EXECUTION

#### 09900.8 PREPARATION OF SURFACES

	<b>PREPARATION</b>	<b>TREATMENT</b>	<b>SURFACE CORRECTION</b>
<b>CONCRETE AND MASONRY WORKS</b>	Remove all loose dirt excess mortar or any film left from oil, grease, or concrete curing compound	Treat with one kilo of zinc sulphate crystal to a 4.5liters of water (1 gal.)	Putty surface with patching compound
<b>WOOD WORK</b>	Thoroughly sand to remove excessive roughness, loose edges splinters and splinters then brush to remove dust	Knots, sappy streaks, and stain from wood preservatives shall be given a thin coat of shellac.	Fill all cracks, nail holes and other surface defects with patching paste or putty
<b>METAL WORK</b>	Remove rust, grease or other foreign matter	Wash with metal treatment solution	Scrape, wire-brush, sand-blast or clean with flame

#### 09900.9 GENERAL WORKMANSHIP

- a. All paints shall be evenly applied. Coats shall be of proper consistency and well brushed out so as to show a minimum of brush marks.
- b. Thoroughly stir paint to keep pigment evenly in suspension when paint is being applied.
- c. All coats shall be thoroughly dry before the succeeding coat is applied. Allow at least 24 hours between application of coats.
- d. If surface are not fully covered or cannot be satisfactorily finished in the number of coats specified, such preparatory coats and subsequent coats as may be required shall be applied to attain the desired evenness of the paint without extra cost to the Owner.
- e. If surface is not in proper condition to receive paint, the Project Inspector shall be notified immediately. Work on the questioned portion shall not commenced until receipt of order to proceed from the Project Inspector.
- f. Hardware, hardware accessories, plates, lighting fixtures and other similar items shall be removed or otherwise protected during the painting operations and reinstalled after completion of work.

09900.10      PROCEDURE FOR SEA-MIST FINISH

- a. Depress wood grain by steel brush and sand surface lightly.
- b. Apply sanding sealer
- c. Apply two coats of industrial lacquer paint.
- d. Spray last coat mixed with lacquer.
- e. Apply paste wood filler thinned with turpentine or paint thinner to wood surface
- f. Wipe off pastewood filler immediately
- g. Spray flat or gloss lacquer whichever is specified.

09900.11      PROCEDURE FOR VARNISH FINISH

- a. Sand surface thoroughly
- b. Putty all cracks and other wood imperfections with paste filler
- c. Apply oil stain
- d. Apply lacquer sanding sealer
- e. Sand surface along grain
- f. Spray three coats of clear lead flat lacquer
- g. Polish surface using cloth pad

- h. Spray gloss lacquer if glass finish is desired.

09900.12      PROCEDURE FOR DUCCO FINISH

- a. Sand surface thoroughly
- b. Apply primer surface white or gray by brush or spray
- c. Apply lacquer paint spot putty in thin coat. Allow each coat to become thoroughly dry before applying next coat.
- d. Apply primer surfacer, Allow 2 hours drying time before applying the next coat.
- e. Apply one (1) coat of flat tone semi-gloss enamel as per Architect's color scheme.

**DIVISION 12 - MECHANICAL**

**SECTION 1201 - WATER PUMPING SYSTEM**

1201.1      Description

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

1201.2      Material Requirements

1201.2.1      Water Pump

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

1201.2.2      Overhead Tank

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

Suitable float switch or electrode shall be provided in the tank to stop and start the operation of the pump.

1201.2.3      Pneumatic Tank

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

- (a) 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 the water level.
- (e) Air compressor shall be provided for tank of 3,785 liters to maintain air pressure inside the tank.

1201.2.4 Pipes and Fittings

All pipes and fittings shall be G.I. pipe Schedule 40.

All piping 100 mm and larger shall be welded or flanged while smaller sizes shall be screwed.

1203.3.6 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 stops.

1203.3.6 Foundation

Refer to sub-section 1200.2.9 - Air Conditioning System

1203.3.6 Electrical Works

Refer to sub-section 1200.2.10 - Air Conditioning System

1203.3.6 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 or other approved lubrication before tightening.

Piping supports shall be placed at 3m interval or less.

1201.3.1 Test

Appropriate test shall be done to demonstrate that the system complies with the requirements of the Plans and Specifications.

1201.3.2 Guarantee and Service

Refer to sub-section 1200.3.2 - Air Conditioning System.

1201.3.3 Miscellaneous

Refer to sub-section 1200.3.3 - Air conditioning System.

1201.4 Method of Measurement

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

1201.5 Basis of Payment

All work performed and measured and as provided for in this Bill of Quantities shall be paid for at the Unit Bid or Contract Unit Price which payment and incidentals necessary to complete this item.

Payment shall be made under:

Item	Description	Unit of Measurement
A	Pump and Water Tank	Set
B	Air Compressor	Set
C	Pipes	Length
D	Valves and Fittings	Piece

## 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

## Notes on the Bill of Quantities

### Objectives

The objectives of the Bill of Quantities are:

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

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

### Daywork Schedule

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

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

### Provisional Sums

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

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Procuring Entity to select such specialized

contractors. To provide an element of competition among the Bidders in respect of any facilities, amenities, attendance, etc., to be provided by the successful Bidder as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.

**Signature Box**

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

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

## **Section IX. Checklist of Technical and Financial Documents**

### **Notes on the Checklist of Technical and Financial Documents**

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

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

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

# Checklist of Technical and Financial Documents

<b>I. TECHNICAL COMPONENT ENVELOPE</b>	
<b>Class “A” Documents</b>	
<u>Legal Documents</u>	
<input type="checkbox"/>	(a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages); <b>or</b>
<input type="checkbox"/>	(b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document; <b>and</b>
<input type="checkbox"/>	(c) Mayor’s or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas; <b>and</b>
<input type="checkbox"/>	(e) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).
<u>Technical Documents</u>	
<input type="checkbox"/>	(f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; <b>and</b>
<input type="checkbox"/>	(g) Statement of the bidder’s Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; <b>and</b>
<input type="checkbox"/>	(h) Philippine Contractors Accreditation Board (PCAB) License; <b>or</b> Special PCAB License in case of Joint Ventures; <b>and</b> registration for the type and cost of the contract to be bid; <b>and</b>
<input type="checkbox"/>	(i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission; <b>or</b> Original copy of Notarized Bid Securing Declaration; <b>and</b>
	(j) Project Requirements, which shall include the following:
<input type="checkbox"/>	a. Organizational chart for the contract to be bid;
<input type="checkbox"/>	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;
<input type="checkbox"/>	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; <b>and</b>
<input type="checkbox"/>	(k) Original duly signed Omnibus Sworn Statement (OSS); <b>and</b> 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.
<u>Financial Documents</u>	

<input type="checkbox"/>	(l)	The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; <b><u>and</u></b>
<input type="checkbox"/>	(m)	The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).
<b>Class "B" Documents</b>		
<input type="checkbox"/>	(n)	If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence; <b><u>or</u></b> 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.
<b>II. FINANCIAL COMPONENT ENVELOPE</b>		
<input type="checkbox"/>	(o)	Original of duly signed and accomplished Financial Bid Form; <b><u>and</u></b>
<input type="checkbox"/>	(p)	Original of duly signed Bid Prices in the Bill of Quantities; <b><u>and</u></b>
<input type="checkbox"/>	(q)	Duly accomplished Detailed Estimates Form, including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid; <b><u>and</u></b>
<input type="checkbox"/>	(r)	Cash Flow by Quarter.