



**PORT MANAGEMENT OFFICE OF NEGROS ORIENTAL/SIQUIJOR**

**PORT AREA, BRGY. LOOC, DUMAGUETE CITY**

*Tel. Nos. (035) 225-0973 to 74; 422-8913 to 14; Email Add: ppadumaguete@yahoo.com*

# **REFURBISHING OF PTB (LFP-NOS-01-16)**

**PORT OF BULADO, GUIHULNGAN CITY**

**BIDDING DOCUMENTS**

**Engineering Services Division  
CY 2016**

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# **Section I. Invitation to bid**



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## **INVITATION TO BID**

**FOR**

### ***Refurbishing of PTB, Port of Bulado, Guihulngan City (LFP-NOS-01-16)***

The Philippine Ports Authority, Port Management Office of Negros Oriental/Siquijor, through the Corporate Budget of the Authority for CY 2015, intends to apply the sum of **₱ 1,847,915.24**, being the Approved Budget for the Contract (ABC) to payments under the contract for the ***Refurbishing of PTB, Port of Bulado, Guihulngan City (LFP-NOS-01-16)***. Bids received in excess of the ABC shall be automatically rejected at bid opening.

The Philippine Ports Authority, Port Management Office of Negros Oriental/Siquijor now invites bids for the ***Refurbishing of PTB, Port of Bulado, Guihulngan City (LFP-NOS-01-16)***. Completion of the Works is required for ***One Hundred (100) Calendar Days***. Bidders should have completed a contract similar to the Project; *and whose value, adjusted to current prices using the NSO consumer price indices, must be at least fifty percent (50%) of the ABC to be bid, and meet the other minimum eligibility requirements stated in the Eligibility Documents*. The description of an eligible bidder is contained in the Bidding Documents, particularly, in **Instruction to Bidders**.

Bidding will be conducted through open competitive bidding procedures using non-discretionary pass/fail criterion as specified in the Revised Implementing Rules and Regulations (IRR) of Republic Act 9184 (RA 9184), otherwise known as the “Government Procurement Reform Act” which took effect on September 2, 2009.

Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least seventy five percent (75%) interest or outstanding capital stock belonging to citizens of the Philippines.

Interested bidders may obtain further information from *Philippine Ports Authority, Port Management Office of Negros Oriental/Siquijor* and inspect the Bidding Documents at the address given below from 8:00am – 5:00pm.

A complete set of Bidding Documents may be purchased by interested Bidders from the address below and upon payment of a nonrefundable fee for the Bidding Documents in the amount of **₱ 2,240.00** inclusive of 12% VAT and must present a valid PCAB License.

The *Philippine Ports Authority, PMO-Negros Oriental/Siquijor* will hold a Pre-Bid Conference on **April 26, 2016 at 9:30 A.M.** at *Philippine Ports Authority, PMO-NOS Conference Room, Port Area, Brgy. Looc, Dumaguete City*, which shall be open only to all interested parties who have purchased the Bidding Documents.

Bids must be delivered to the address below on or before **May 11, 2016 at 9:30 A.M.** at *Philippine Ports Authority, PMO-Negros Oriental/Siquijor, Port Area, Brgy. Looc, Dumaguete City*. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in ITB Clause 18.

Bids will be opened on **May 11, 2016 at 10:00 A.M.** in the presence of the bidders' representatives who choose to attend at the address below. Late bids shall not be accepted.

- Minimum Equipment Requirements:

2	unit	One-Bagger Concrete Mixer	- owned
2	unit	Concrete Vibrator	- owned
1	unit	Welding Machine (400 amp.)	- owned

- Required PCAB Registration : Small B – Ports, Harbor and Offshore Engineering

The *Philippine Ports Authority, PMO-Negros Oriental/Siquijor* reserves the right to accept or reject any bid, to annul the bidding process, and to reject all bids at any time prior to contract award, without thereby incurring any liability to the affected bidder or bidders.

For further information, please refer to:

*BAC-EP Secretariat  
Philippine Ports Authority,  
Port Management Office – Dumaguete  
Port Area, Brgy. Looc,  
Dumaguete City  
Tel. No. (035) 225-0973 to 7; (035) 422-8914*

**(Sgd.) HUBERT P. MITMIT**  
Chairperson,  
BAC-Engineering Project

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

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## A. General

### 1. *Scope of Bid*

- 1.1. The Procuring Entity as defined in the **BDS**, invites bids for the construction of Works, as described in Section VI. Specifications. The name and identification number of the Contract is provided in the **BDS**.
- 1.2. The successful bidder will be expected to complete the Works by the intended completion date specified in **SCC Clause 1.16**.

### 2. *Source of Funds*

The Procuring Entity has a budget or has applied for or received funds from the Funding Source named in the **BDS**, and in the amount indicated in the **BDS**. It intends to apply part of the funds received for the Project, as defined in the **BDS**, to cover eligible payments under the Contract for the Works.

### 3. *Corrupt, Fraudulent, Collusive, and Coercive Practices*

- 3.1. The Procuring Entity, as well as bidders and contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. In pursuance of this policy, the Funding Source:
  - (a) defines, for purposes of this provision, the terms set forth below as follows:
    - (i) "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves, others, or induce others to do so, by misusing the position in which they are placed, and includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; entering, on behalf of the Procuring Entity, into any contract or transaction manifestly and grossly disadvantageous to the same, whether or not the public officer profited or will profit thereby, and similar acts as provided in Republic Act 3019;
    - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring Entity, and includes collusive practices among Bidders (prior to or after Bid submission) designed to establish bid prices at artificial, non-competitive levels and to deprive the Procuring Entity of the benefits of free and open competition;
    - (iii) "collusive practices" means a scheme or arrangement between two or more bidders, with or without the knowledge of the Procuring Entity, designed to establish bid prices at artificial, non-competitive levels; and

- (iv) “coercive practices” means harming or threatening to harm, directly or indirectly, persons, or their property to influence their participation in a procurement process, or affect the execution of a contract;
  - (b) will reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the Contract; and
  - (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded Contract funded by the Funding Source if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing or, or in executing, a Contract funded by the Funding Source.
- 3.2. Further, the Procuring Entity will seek to impose the maximum civil, administrative, and/or criminal penalties available under the applicable laws on individuals and organizations deemed to be involved in any of the practices mentioned in **ITB** Clause 3.1(a).
- 3.3. Furthermore, the Funding Source and the Procuring Entity reserve the right to inspect and audit records and accounts of a contractor in the bidding for and performance of a contract themselves or through independent auditors as reflected in the **GCC** Clause 34.

#### **4. *Conflict of Interest***

- 4.1. All bidders found to have conflicting interests shall be disqualified to participate in the procurement at hand, without prejudice to the imposition of appropriate administrative, civil, and criminal sanctions. A Bidder may be considered to have conflicting interests with another Bidder in any of the events described in paragraphs (a) through (c) and a general conflict of interest in any of the circumstances set out in paragraphs (d) through (g) below:
- (a) A Bidder has controlling shareholders in common with another Bidder;
  - (b) A Bidder receives or has received any direct or indirect subsidy from any other Bidder;
  - (c) A Bidder has the same legal representative as that of another Bidder for purposes of this Bid;
  - (d) A Bidder has a relationship, directly or through third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder or influence the decisions of the Procuring Entity regarding this bidding process. This will include a firm or an organization who lends, or temporarily seconds, its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project if the personnel would be involved in any capacity on the same project;

- (e) A Bidder submits more than one bid in this bidding process. However, this does not limit the participation of subcontractors in more than one bid;
- (f) A Bidder who participated as a consultant in the preparation of the design or technical specifications of the goods and related services that are the subject of the bid; or
- (g) A Bidder who lends, or temporary seconds, its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.

4.2. In accordance with Section 47 of the IRR of RA 9184, all Bidding Documents shall be accompanied by a sworn affidavit of the Bidder that it is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), members of the Technical Working Group (TWG), members of the BAC Secretariat, the head of the Project Management Office (PMO) or the end-user unit, and the project consultants, by consanguinity or affinity up to the third civil degree. On the part of the bidder, this Clause shall apply to the following persons:

- (a) If the Bidder is an individual or a sole proprietorship, to the Bidder himself;
- (b) If the Bidder is a partnership, to all its officers and members;
- (c) If the Bidder is a corporation, to all its officers, directors, and controlling stockholders; and
- (d) If the Bidder is a joint venture (JV), the provisions of items (a), (b), or (c) of this Clause shall correspondingly apply to each of the members of the said JV, as may be appropriate.

Relationship of the nature described above or failure to comply with this Clause will result in the automatic disqualification of a Bidder.

## 5. *Eligible Bidders*

5.1. Unless otherwise indicated in the **BDS**, the following persons shall be eligible to participate in this Bidding:

- (a) Duly licensed Filipino citizens/sole proprietorships;
- (b) Partnerships duly organized under the laws of the Philippines and of which at least seventy five percent (75%) of the interest belongs to citizens of the Philippines;
- (c) Corporations duly organized under the laws of the Philippines, and of which at least seventy five percent (75%) of the outstanding capital stock belongs to citizens of the Philippines;

- (d) Cooperatives duly organized under the laws of the Philippines, and of which at least seventy five percent (75%) of the interest belongs to citizens of the Philippines; and
- (e) Persons/entities forming themselves into a JV, i.e., a group of two (2) or more persons/entities that intend to be jointly and severally responsible or liable for a particular contract: Provided, however, that, in accordance with Letter of Instructions No. 630, Filipino ownership or interest of the joint venture concerned shall be at least seventy five percent (75%): Provided, further, that joint ventures in which Filipino ownership or interest is less than seventy five percent (75%) may be eligible where the structures to be built require the application of techniques and/or technologies which are not adequately possessed by a person/entity meeting the seventy five percent (75%) Filipino ownership requirement: Provided, finally, that in the latter case, Filipino ownership or interest shall not be less than twenty five percent (25%). For this purpose Filipino ownership or interest shall be based on the contributions of each of the members of the joint venture as specified in their JVA.

- 5.2. The Procuring Entity may also invite foreign bidders when provided for under any Treaty or International or Executive Agreement as specified in the **BDS**.
- 5.3. Government Corporate Entities may be eligible to participate only if they can establish that they (a) are legally and financially autonomous, (b) operate under commercial law, and (c) are not dependent agencies of the GOP or the Procuring Entity.
- 5.4. Unless otherwise provided in the **BDS**, the Bidder must have completed at least one contract similar to the Project the value of which, adjusted to current prices using the National Statistics Office consumer price index, must be at least equivalent to a percentage of the ABC stated in the **BDS**.

For this purpose, contracts similar to the Project shall be those described in the **BDS**, and completed within the period stated in the Invitation to Bid and **ITB** Clause 12.1(a)(iii).

- 5.5. Unless otherwise provided in the **BDS**, the Bidder must submit a computation of its Net Financial Contracting Capacity (NFCC) or a Commitment from a Universal or Commercial bank to extend a credit line in its favor if awarded the contract for this project (CLC).

The NFCC, computed using the following formula, must be at least equal to the ABC to be bid:

NFCC = [(Current assets minus current liabilities) (K)] minus the value of all outstanding or uncompleted portions of the projects under ongoing contracts, including awarded contracts yet to be started coinciding with the contract for this Project.

Where:

K = 10 for a contract duration of one year or less, 15 for a contract duration of more than one year up to two years, and 20 for a contract duration of more than two years.

The CLC must be at least equal to ten percent (10%) of the ABC for this Project. If issued by a foreign bank, it shall be confirmed or authenticated by a Universal or Commercial Bank. In the case of local government units (LGUs), the Bidder may also submit CLC from other banks certified by the *Bangko Sentral ng Pilipinas* (BSP) as authorized to issue such financial instrument.

## 6. *Bidder's Responsibilities*

- 6.1. The Bidder or its duly authorized representative shall submit a sworn statement in the form prescribed in Section IX. Bidding Forms as required in **ITB** Clause 12.1(b)(iii).
- 6.2. The Bidder is responsible for the following:
  - (a) Having taken steps to carefully examine all of the Bidding Documents;
  - (b) Having acknowledged all conditions, local or otherwise, affecting the implementation of the contract;
  - (c) Having made an estimate of the facilities available and needed for the contract to be bid, if any; and
  - (d) Having complied with its responsibility to inquire or secure Supplemental/Bid Bulletin/s as provided under **ITB** Clause 10.3.
  - (e) Ensuring that it is not “blacklisted” or barred from bidding by the GOP or any of its agencies, offices, corporations, or LGUs, including foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the GPPB;
  - (f) Ensuring that 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;
  - (g) Authorizing the Head of the Procuring Entity or its duly authorized representative/s to verify all the documents submitted;
  - (h) Ensuring that the signatory is the duly authorized representative of the Bidder, and granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the Bidder in the bidding, with the duly notarized Secretary’s Certificate attesting to such fact, if the Bidder is a corporation, partnership, cooperative, or joint venture;
  - (i) Complying with the disclosure provision under Section 47 of the Act in relation to other provisions of Republic Act 3019; and
  - (j) Complying with existing labor laws and standards, if applicable.

Failure to observe any of the above responsibilities shall be at the risk of the Bidder concerned.

- 6.3. The Bidder, by the act of submitting its bid, shall be deemed to have inspected the site and determined the general characteristics of the contract works and the conditions for this Project. Unless otherwise indicated in the **BDS**, failure to furnish all information or documentation required in this Bidding Documents shall result in the rejection of the bid and the disqualification of the Bidder.
- 6.4. It shall be the sole responsibility of the prospective bidder to determine and to satisfy itself by such means as it considers necessary or desirable as to all matters pertaining to this Project, including: (a) the location and the nature of the contract, project, or 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.
- 6.5. The Procuring Entity shall not assume any responsibility regarding erroneous interpretations or conclusions by the prospective or eligible bidder out of the data furnished by the procuring entity.
- 6.6. Before submitting their bids, the Bidders are deemed to have become familiar with all existing laws, decrees, ordinances, acts and regulations of the Philippines which may affect the contract in any way.
- 6.7. The Bidder shall bear all costs associated with the preparation and submission of his bid, and the Procuring Entity will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 6.8. Bidders should note that the Procuring Entity will only accept bids only from those that have paid the nonrefundable fee for the Bidding Documents at the office indicated in the Invitation to Bid.

## **7. *Origin of GOODS and Services***

Unless otherwise indicated in the **BDS**, there is no restriction on the origin of Goods, or Contracting of Works or Services other than those prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations.

## **8. *Subcontracts***

- 8.1. Unless otherwise specified in the **BDS**, the Bidder may subcontract portions of the Works to an extent as may be approved by the Procuring Entity and stated in the **BDS**. However, subcontracting of any portion shall not relieve the Bidder from any liability or obligation that may arise from the contract for this Project.
- 8.2. Subcontractors must submit the documentary requirements under **ITB** Clause 12 and comply with the eligibility criteria specified in the **BDS**. In the event that any

subcontractor is found by the Procuring Entity to be ineligible, the subcontracting of such portion of the Works shall be disallowed.

- 8.3. The Bidder may identify the subcontractor to whom a portion of the Works will be subcontracted at any stage of the bidding process or during contract implementation. If the Bidder opts to disclose the name of the subcontractor during bid submission, the Bidder shall include the required documents as part of the technical component of its bid.

## **B. Contents of Bidding Documents**

### **9. *Pre-Bid Conference***

- 9.1. If so specified in the **BDS**, a pre-bid conference shall be held at the venue and on the date indicated therein, to clarify and address the Bidders' questions on the technical and financial components of this Project.
- 9.2. Bidders are encouraged to attend the pre-bid conference to ensure that they fully understand the Procuring Entity's requirements. Non-attendance of the Bidder will in no way prejudice its bid; however, the Bidder is expected to know the changes and/or amendments to the Bidding Documents discussed during the pre-bid conference.
- 9.3. Any statement made at the pre-bid conference shall not modify the terms of the bidding documents unless such statement is specifically identified in writing as an amendment thereto and issued as a Supplemental/Bid Bulletin.

### **10. *Clarification and Amendment of Bidding Documents***

- 10.1. Bidders who have purchased the Bidding Documents may request for clarification(s) on any part of the Bidding Documents or for an interpretation. Such a request must be in writing and submitted to the Procuring Entity at the address indicated in the **BDS** at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.
- 10.2. Supplemental/Bid Bulletins may be issued upon the Procuring Entity's initiative for purposes of clarifying or modifying any provision of the Bidding Documents not later than seven (7) calendar days before the deadline for the submission and receipt of Bids. Any modification to the Bidding Documents shall be identified as an amendment.
- 10.3. Any Supplemental/Bid Bulletin issued by the BAC shall also be posted on the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity concerned, if available. It shall be the responsibility of all Bidders who secure the Bidding Documents to inquire and secure Supplemental/Bid Bulletins that may be issued by the BAC. However, bidders who have submitted bids before the issuance of the Supplemental/Bid Bulletin must be informed and allowed to modify or withdraw their bids in accordance with **ITB** Clause 23.

## C. Preparation of Bids

### 11. *Language of Bids*

The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Procuring Entity, shall be written in English. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation in English certified by the appropriate embassy or consulate in the Philippines, in which case the English translation shall govern, for purposes of interpretation of the Bid.

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

12.1. Unless otherwise indicated in the **BDS**, the first envelope shall contain the following eligibility and technical documents:

(a) Eligibility Documents –

Class "A" Documents:

- (i) Registration certificate from the Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives, or any proof of such registration as stated in the **BDS**;
- (ii) Mayor's permit issued by the city or municipality where the principal place of business of the prospective bidder is located;
- (iii) Statement of all its ongoing and completed government and private contracts within ten (10) years from the submission of bids, unless otherwise stated in the **BDS**, including contracts awarded but not yet started, if any. The statement shall include, for each contract, the following:
  - (iii.1) name of the contract;
  - (iii.2) date of the contract;
  - (iii.3) contract duration;
  - (iii.4) owner's name and address;
  - (iii.5) nature of work;
  - (iii.6) contractor's role (whether sole contractor, subcontractor, or partner in a JV) and percentage of participation;
  - (iii.7) total contract value at award;
  - (iii.8) date of completion or estimated completion time;



- (iii.9) total contract value at completion, if applicable;
- (iii.10) percentages of planned and actual accomplishments, if applicable;
- (iii.11) value of outstanding works, if applicable;
- (iii.12) the statement shall be supported by the notices of award and/or notices to proceed issued by the owners; and
- (iii.13) the statement shall be supported by the Owner's Certificate of Final Acceptance or the Certificate of Completion and whenever applicable, the Constructors Performance Evaluation System (CPES) final rating, which may be satisfactory;
- (iv) Unless otherwise provided in the **BDS**, valid Philippine Contractors Accreditation Board (PCAB) license and registration for the type and cost of the contract for this Project;
- (v) NFCC computation or CLC in accordance with **ITB** Clause 5.5
- (vi) Tax clearance per Executive order 398, Series of 2005, as finally reviewed and approved by the BIR; and

Class "B" Document:

- (vii) If applicable, valid Joint Venture Agreement (JVA) or, in lieu thereof, 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 shall be included in the bid.
- (b) Technical Documents –
  - (i) Bid security as prescribed in **ITB** Clause 18. If the Bidder opts to submit the bid security in the form of:
    - (i.1) a bank draft/guarantee or an irrevocable letter of credit issued by a foreign bank, it shall be accompanied by a confirmation from a Universal or Commercial Bank; or
    - (i.2) a surety bond accompanied by a certification coming from an authorized Insurance Commission that a surety or insurance company is authorized to issue such instrument;
  - (ii) Project Requirements, which shall include the following:
    - (ii.1) Organizational chart for the contract to be bid;

- (ii.2) List of contractor's personnel (*viz.*, project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data; and
- (ii.3) List of contractor's equipment units, which are owned, leased, and/or under purchase agreements, supported by certification of availability of equipment from the equipment lessor/vendor for the duration of the project; and
- (iii) Sworn statement in accordance with Section 25.2 (b) (iv) of the IRR of RA 9184 and using the form prescribed in Section IX. Bidding Forms.

**13. Documents Comprising the Bid: Financial Component**

- 13.1. Unless otherwise stated in the **BDS**, the financial component of the bid shall contain the following:
  - (a) Financial Bid Form in accordance with the form prescribed in Section IX. Bidding Forms; and
  - (b) Any other document required in the **BDS**.
- 13.2. Unless indicated in the **BDS**, all Bids that exceed the ABC shall not be accepted.

**14. Alternative Bids**

- 14.1. Alternative Bids shall be rejected. For this purpose, alternative bid is an offer made by a Bidder in addition or as a substitute to its original bid which may be included as part of its original bid or submitted separately therewith for purposes of bidding. A bid with options is considered an alternative bid regardless of whether said bid proposal is contained in a single envelope or submitted in two (2) or more separate bid envelopes.
- 14.2. 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.
- 14.3. Each Bidder shall submit only one Bid, either individually or as a partner in a JV. A Bidder who submits or participates in more than one bid (other than as a subcontractor if a subcontractor is permitted to participate in more than one bid) will cause all the proposals with the Bidder's participation to be disqualified. This shall be without prejudice to any applicable criminal, civil and administrative penalties that may be imposed upon the persons and entities concerned.

**15. Bid Prices**

- 15.1. The contract shall be for the whole Works, as described in **ITB** Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.
- 15.2. The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Bids not addressing or providing all of the required items in the Bidding Documents including, where applicable, bill of quantities, shall be considered non-responsive and, thus, automatically disqualified. In this regard, where a required item is provided, but no price is indicated, the same shall be considered as non-responsive, but specifying a "0" (zero) for the said item would mean that it is being offered for free to the Government.
- 15.3. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, prior to the deadline for submission of bids, shall be included in the rates, prices, and total bid price submitted by the Bidder.
- 15.4. Unless otherwise provided in the **BDS**, all bid prices for the given scope of work in the contract as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as indicated in the **BDS** and specified in **GCC** Clause 48 and its corresponding **SCC** provision.

**16. Bid Currencies**

- 16.1. All bid prices shall be quoted in Philippine Pesos unless otherwise provided in the **BDS**. However, for purposes of bid evaluation, bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate prevailing on the day of the Bid opening.
- 16.2. If so allowed in accordance with **ITB** Clause 16.1, the Procuring Entity for purposes of bid evaluation and comparing the bid prices will convert the amounts in various currencies in which the bid price is expressed to Philippine Pesos at the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.
- 16.3. Unless otherwise specified in the **BDS**, payment of the contract price shall be made in Philippine Pesos.

**17. Bid Validity**

- 17.1. Bids shall remain valid for the period specified in the **BDS** which shall not exceed one hundred twenty (120) calendar days from the date of the opening of bids.
- 17.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Procuring Entity may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. The bid security described in **ITB** Clause 18 should also be extended corresponding to the extension of the bid validity period at the least. A Bidder may refuse the request without forfeiting its bid security, but his bid shall no longer be considered for further evaluation and

award. A Bidder granting the request shall not be required or permitted to modify its bid.

**18. Bid Security**

18.1. The bid security in the amount stated in the **BDS** shall be equal to the percentage of the ABC in accordance with the following schedule:

Form of Bid Security	Amount of Bid Security (Equal to Percentage of the ABC)
(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank.	Two percent (2%)
(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.	Two percent (2%)
(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security; and/or	Five percent (5%)
(d) Any combination of Items (a) to (c) above	Proportionate to share of form with respect to total amount of security
(e) Bid Securing Declaration	Notarized

For biddings conducted by local government units, the Bidder may also submit bid securities in the form of cashier's/manager's check, bank draft/guarantee, or irrevocable letter of credit from other banks certified by the BSP as authorized to issue such financial statement.

The Bid Securing Declaration mentioned above is an undertaking which states, among others, that the bidder shall enter into contract with the procuring entity and furnish the performance security required under ITB Clause 32.2, from receipt of the Notice of Award, and committing to pay the corresponding fine, and be suspended for a period of time from being qualified to participate in any government procurement activity in the event it violates any of the conditions stated therein as provided in the guidelines issued by the GPPB.

18.2. The bid security should be valid for the period specified in the **BDS**. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

- 18.3. No bid securities shall be returned to bidders after the opening of bids and before contract signing, except to those that failed or declared as post-disqualified, upon submission of a written waiver of their right to file a motion for reconsideration and/or protest. Without prejudice on its forfeiture, Bid Securities shall be returned only after the bidder with the Lowest Calculated Responsive Bid has signed the contract and furnished the Performance Security, but in no case later than the expiration of the Bid Security validity period indicated in **ITB Clause 18.2**.
- 18.4. Upon signing and execution of the contract, pursuant to **ITB Clause 31**, and the posting of the performance security, pursuant to **ITB Clause 32**, the successful Bidder's Bid security will be discharged, but in no case later than the Bid security validity period as indicated in **ITB Clause 18.2**.
- 18.5. The bid security may be forfeited:
- (a) if a Bidder:
    - (i) withdraws its bid during the period of bid validity specified in **ITB Clause 17**;
    - (ii) does not accept the correction of errors pursuant to **ITB Clause 27.3(b)**;
    - (iii) fails to submit the requirements within the prescribed period, or a finding against their veracity, as stated in **ITB Clause 28.2**; or
    - (iv) any other reason stated in the **BDS**.
  - (b) if the successful Bidder:
    - (i) fails to sign the contract in accordance with **ITB Clause 31**;
    - (ii) fails to furnish performance security in accordance with **ITB Clause 32**; or
    - (iii) any other reason stated in the **BDS**.

**19. *Format and Signing of Bids***

- 19.1. Bidders shall submit their bids through their duly authorized representative using the appropriate forms provided in Section IX. Bidding Forms on or before the deadline specified in the **ITB Clause 21** in two (2) separate sealed bid envelopes, and which shall be submitted simultaneously. The first shall contain the technical component of the bid, including the eligibility requirements under **ITB Clause 12.1**, and the second shall contain the financial component of the bid.
- 19.2. Forms as mentioned in **ITB Clause 19.1** must be completed without any alterations to their format, and no substitute form shall be accepted. All blank spaces shall be filled in with the information requested.

- 19.3. The Bidder shall prepare an original of the first and second envelopes as described in **ITB** Clauses 12 and 13. In addition, the Bidder shall submit copies of the first and second envelopes. In the event of any discrepancy between the original and the copies, the original shall prevail.
- 19.4. The bid, except for unamended printed literature, shall be signed, and each and every page thereof shall be initialed, by the duly authorized representative/s of the Bidder.
- 19.5. Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the duly authorized representative/s of the Bidder.

## **20. *Sealing and Marking of Bids***

- 20.1. Unless otherwise indicated in the **BDS**, Bidders shall enclose their original eligibility and technical documents described in **ITB** Clause 12, in one sealed envelope marked “ORIGINAL - TECHNICAL COMPONENT”, and the original of their financial component in another sealed envelope marked “ORIGINAL - FINANCIAL COMPONENT”, sealing them all in an outer envelope marked “ORIGINAL BID”.
- 20.2. Each copy of the first and second envelopes shall be similarly sealed duly marking the inner envelopes as “COPY NO. \_\_\_\_ - TECHNICAL COMPONENT” and “COPY NO. \_\_\_\_ – FINANCIAL COMPONENT” and the outer envelope as “COPY NO. \_\_\_\_”, respectively. These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 20.3. The original and the number of copies of the Bid as indicated in the **BDS** shall be typed or written in indelible ink and shall be signed by the bidder or its duly authorized representative/s.
- 20.4. All envelopes shall:
  - (a) contain the name of the contract to be bid in capital letters;
  - (b) bear the name and address of the Bidder in capital letters;
  - (c) be addressed to the Procuring Entity’s BAC identified in **ITB** Clause 10.1;
  - (d) bear the specific identification of this bidding process indicated in the Invitation to Bid; and
  - (e) bear a warning “DO NOT OPEN BEFORE...” the date and time for the opening of bids, in accordance with **ITB** Clause 21.
- 20.5. If bids are not sealed and marked as required, the Procuring Entity will assume no responsibility for the misplacement or premature opening of the bid. Moreover, failure to comply with the required sealing and marking of bids shall be a ground for disqualification.

## **D. Submission and Opening of Bids**

### **21. *Deadline for Submission of Bids***

Bids must be received by the Procuring Entity's BAC at the address and on or before the date and time indicated in the **BDS**.

### **22. *Late Bids***

Any bid submitted after the deadline for submission and receipt of bids prescribed by the Procuring Entity, pursuant to **ITB** Clause 21, shall be declared "Late" and shall not be accepted by the Procuring Entity.

### **23. *Modification and Withdrawal of Bids***

23.1. The Bidder may modify its bid after it has been submitted; provided that the modification is received by the Procuring Entity prior to the deadline prescribed for submission and receipt of bids. The Bidder shall not be allowed to retrieve its original bid, but shall be allowed to submit another bid equally sealed, properly identified, linked to its original bid marked as "TECHNICAL MODIFICATION" or "FINANCIAL MODIFICATION" and stamped "received" by the BAC. Bid modifications received after the applicable deadline shall not be considered and shall be returned to the Bidder unopened.

23.2. A Bidder may, through a letter of withdrawal, withdraw its bid after it has been submitted, for valid and justifiable reason; provided that the letter of withdrawal is received by the Procuring Entity prior to the deadline prescribed for submission and receipt of bids.

23.3. Bids requested to be withdrawn in accordance with **ITB** Clause 23.1 shall be returned unopened to the Bidders. A Bidder may also express its intention not to participate in the bidding through a letter which should reach and be stamped by the BAC before the deadline for submission and receipt of bids. A Bidder that withdraws its bid shall not be permitted to submit another bid, directly or indirectly, for the same contract.

23.4. No bid may be modified after the deadline for submission of bids. No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Financial Bid Form. Withdrawal of a bid during this interval shall result in the forfeiture of the Bidder's bid security, pursuant to **ITB** Clause 18.5, and the imposition of administrative, civil, and criminal sanctions as prescribed by RA 9184 and its IRR.

### **24. *Opening and Preliminary Examination of Bids***

24.1. The BAC shall open the first bid envelopes of Bidders in public as specified in the **BDS** to determine each Bidder's compliance with the documents prescribed in **ITB** Clause 12. For this purpose, the BAC shall check the submitted documents of each bidder against a checklist of required documents to ascertain if they are all present, using a non-discretionary "pass/fail" criterion. If a bidder submits the required

document, it shall be rated “passed” for that particular requirement. In this regard, bids that fail to include any requirement or are incomplete or patently insufficient shall be considered as “failed”. Otherwise, the BAC shall rate the said first bid envelope as “passed”.

- 24.2. Immediately after determining compliance with the requirements in the first envelope, the BAC shall forthwith open the second bid envelope of each remaining eligible bidder whose first bid envelope was rated “passed”. The second envelope of each complying bidder shall be opened within the same day. In case one or more of the requirements in the second envelope of a particular bid is missing, incomplete or patently insufficient, and/or if the submitted total bid price exceeds the ABC unless otherwise provided in **ITB** Clause 13.2, the BAC shall rate the bid concerned as “failed”. Only bids that are determined to contain all the bid requirements for both components shall be rated “passed” and shall immediately be considered for evaluation and comparison.
- 24.3. Letters of withdrawal shall be read out and recorded during bid opening, and the envelope containing the corresponding withdrawn bid shall be returned to the Bidder unopened. If the withdrawing Bidder’s representative is in attendance, the original bid and all copies thereof shall be returned to the representative during the bid opening. If the representative is not in attendance, the Bid shall be returned unopened by registered mail. The Bidder may withdraw its bid prior to the deadline for the submission and receipt of bids, provided that the corresponding letter of withdrawal contains a valid authorization requesting for such withdrawal, subject to appropriate administrative sanctions.
- 24.4. If a Bidder has previously secured a certification from the Procuring Entity to the effect that it has previously submitted the above-enumerated Class “A” Documents, the said certification may be submitted in lieu of the requirements enumerated in **ITB** Clause 12.1(a), items (i) to (vi).
- 24.5. In the case of an eligible foreign Bidder as described in **ITB** Clause 5, the Class “A” Documents enumerated in **ITB** Clause 12.1(a) may be substituted with the appropriate equivalent documents, if any, issued by the country of the foreign Bidder concerned.
- 24.6. Each partner of a joint venture agreement shall likewise submit the documents required in **ITB** Clauses 12.1(a)(i) and 12.1(a)(ii). Submission of documents required under **ITB** Clauses 12.1(a)(iii) to 12.1(a)(vi) by any of the joint venture partners constitutes compliance.

#### **E. Evaluation and Comparison of Bids**

#### **25. *Process to be Confidential***

- 25.1. Members of the BAC, including its staff and personnel, as well as its Secretariat and TWG, are prohibited from making or accepting any kind of communication with any bidder regarding the evaluation of their bids until the issuance of the Notice of Award, unless otherwise allowed in the **BDS** or in the case of **ITB** Clause 26.



- 25.2. Any effort by a bidder to influence the Procuring Entity in the Procuring Entity's decision in respect of Bid evaluation, Bid comparison or contract award will result in the rejection of the Bidder's Bid.

**26. Clarification of Bids**

To assist in the evaluation, comparison and post-qualification of the bids, the Procuring Entity may ask in writing any Bidder for a clarification of its bid. All responses to requests for clarification shall be in writing. Any clarification submitted by a Bidder in respect to its bid and that is not in response to a request by the Procuring Entity shall not be considered.

**27. Detailed Evaluation and Comparison of Bids**

- 27.1. The Procuring Entity will undertake the detailed evaluation and comparison of Bids which have passed the opening and preliminary examination of Bids, pursuant to **ITB** Clause 24, in order to determine the Lowest Calculated Bid.

- 27.2. In evaluating the Bids to get the Lowest Calculated Bid, the Procuring Entity shall undertake the following:

- (a) The detailed evaluation of the financial component of the bids, to establish the correct calculated prices of the bids; and
- (b) The ranking of the total bid prices as so calculated from the lowest to highest. The bid with the lowest price shall be identified as the Lowest Calculated Bid.

- 27.3. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all bids rated "passed," using non-discretionary "pass/fail" criterion. Unless otherwise specified in the **BDS**, the BAC shall consider the following in the evaluation of bids:

- (a) Completeness of the bid. Unless the ITB specifically allows partial bids, bids not addressing or providing all of the required items in the Schedule of Requirements including, where applicable, bill of quantities, shall be considered non-responsive and, thus, automatically disqualified. In this regard, where a required item is provided, but no price is indicated, the same shall be considered as non-responsive, but specifying a "0" (zero) for the said item would mean that it is being offered for free to the Procuring Entity; and
- (b) Arithmetical corrections. Consider computational errors, omissions, and other bid modifications, if allowed in the **BDS**, to enable proper comparison of all eligible bids. Any adjustment shall be calculated in monetary terms to determine the calculated prices.

- 27.4. Based on the detailed evaluation of bids, those that comply with the above-mentioned requirements shall be ranked in the ascending order of their total calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, to identify the Lowest Calculated Bid. Total

calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, which exceed the ABC shall not be considered.

- 27.5. Unless otherwise indicated in the **BDS**, the Procuring Entity's evaluation of bids shall only be based on the bid price quoted in the Financial Bid Form
- 27.6. Bids shall be evaluated on an equal footing to ensure fair competition. For this purpose, all bidders shall be required to include in their bids the cost of all taxes, such as, but not limited to, value added tax (VAT), income tax, local taxes, and other fiscal levies and duties which shall be itemized in the bid form and reflected in the detailed estimates. Such bids, including said taxes, shall be the basis for bid evaluation and comparison.

## **28. Post Qualification**

- 28.1. The Procuring Entity shall determine to its satisfaction whether the Bidder that is evaluated as having submitted the Lowest Calculated Bid (LCB) complies with and is responsive to all the requirements and conditions specified in **ITB** Clauses 5, 12, and 13.
- 28.2. Within a non-extendible period of three (3) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the LCB, the Bidder shall submit the following documentary requirements:
- (a) Tax clearance per Executive Order 398, Series of 2005, as finally reviewed and approved by BIR;
  - (b) Latest income and business tax returns in the form specified in the **BDS**;
  - (c) Certificate of PhilGEPS Registration; and
  - (d) Other appropriate licenses and permits required by law and stated in the **BDS**.

Failure of the Bidder declared as LCB to duly submit the requirements under this Clause or a finding against the veracity of such, shall be ground for forfeiture of the bid security and disqualification of the Bidder for award.

- 28.3. The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted pursuant to **ITB** Clauses 12 and 13, as well as other information as the Procuring Entity deems necessary and appropriate, using a non-discretionary "pass/fail" criterion.
- 28.4. If the BAC determines that the Bidder with the Lowest Calculated Bid passes all the criteria for post-qualification, it shall declare the said bid as the Lowest Calculated Responsive Bid, and recommend to the Head of the Procuring Entity the award of contract to the said Bidder at its submitted price or its calculated bid price, whichever is lower, subject to **ITB** Clause 30.3.
- 28.5. A negative determination shall result in rejection of the Bidder's Bid, in which event the Procuring Entity shall proceed to the next Lowest Calculated Bid to

make a similar determination of that Bidder's capabilities to perform satisfactorily. If the second Bidder, however, fails the post qualification, the procedure for post qualification shall be repeated for the Bidder with the next Lowest Calculated Bid, and so on until the Lowest Calculated and Responsive Bid is determined for contract award.

- 28.6. Within a period not exceeding seven (7) calendar days from the date of receipt of the recommendation of the BAC, the Head of the Procuring Entity shall approve or disapprove the said recommendation. In the case of government owned and government-owned and/or -controlled corporations (GOCCs) and government financial institutions (GFIs), the period provided herein shall be fifteen (15) calendar days.

## **29. Reservation Clause**

- 29.1. Notwithstanding the eligibility or post-qualification of a bidder, the Procuring Entity concerned reserves the right to review its qualifications at any stage of the procurement process if it has reasonable grounds to believe that a misrepresentation has been made by the said bidder, or that there has been a change in the Bidder's capability to undertake the project from the time it submitted its eligibility requirements. Should such review uncover any misrepresentation made in the eligibility and bidding requirements, statements or documents, or any changes in the situation of the Bidder which will affect its capability to undertake the project so that it fails the preset eligibility or bid evaluation criteria, the Procuring Entity shall consider the said Bidder as ineligible and shall disqualify it from submitting a bid or from obtaining an award or contract.
- 29.2. Based on the following grounds, the Procuring Entity reserves the right to reject any and all Bids, declare a Failure of Bidding at any time prior to the contract award, or not to award the contract, without thereby incurring any liability, and make no assurance that a contract shall be entered into as a result of the bidding:
- (a) if there is *prima facie* evidence of collusion between appropriate public officers or employees of the Procuring Entity, or between the BAC and any of the bidders, or if the collusion is between or among the bidders themselves, or between a bidder and a third party, including any act which restricts, suppresses or nullifies or tends to restrict, suppress or nullify competition;
  - (b) if the Procuring Entity's BAC is found to have failed in following the prescribed bidding procedures; or
  - (c) for any justifiable and reasonable ground where the award of the contract will not redound to the benefit of the Government as follows:
    - (i) If the physical and economic conditions have significantly changed so as to render the project no longer economically, financially or technically feasible as determined by the head of the procuring entity;

- (ii) If the project is no longer necessary as determined by the head of the procuring entity; and
- (iii) If the source of funds for the project has been withheld or reduced through no fault of the Procuring Entity.

29.3. In addition, the Procuring Entity may likewise declare a failure of bidding when:

- (a) No bids are received;
- (b) All prospective bidders are declared ineligible;
- (c) All bids fail to comply with all the bid requirements or fail post-qualification; or
- (d) The bidder with the Lowest Calculated Responsive Bid refuses, without justifiable cause to accept the award of contract, and no award is made.

## **F. Award of Contract**

### **30. Contract Award**

- 30.1. Subject to **ITB** Clause 28, the Procuring Entity shall award the contract to the Bidder whose Bid has been determined to be the Lowest Calculated and Responsive Bid (LCRB).
- 30.2. Prior to the expiration of the period of Bid validity, the Procuring Entity shall notify the successful Bidder in writing that its Bid has been accepted, through a Notice of Award received personally or sent by registered mail or electronically, receipt of which must be confirmed in writing within two (2) days by the LCRB and submitted personally or sent by registered mail or electronically to the Procuring Entity.
- 30.3. Notwithstanding the issuance of the Notice of Award, award of contract shall be subject to the following conditions:
  - (a) Submission of the following documents within the prescribed period from receipt by the Bidder of the notice that it has the Lowest Calculated and Responsive Bid:
    - (i) Valid JVA, if applicable, within ten (10) calendar days;
    - (ii) Valid PCAB license and registration for the type and cost of the contract to be bid for foreign bidders, within thirty (30) calendar days, if allowed under a Treaty or International or Executive Agreement mentioned in **ITB** Clause 12.1(a)(iv);
  - (b) Posting of the performance security in accordance with **ITB** Clause 32;

- (c) Signing of the contract as provided in **ITB** Clause 31; and
- (d) Approval by higher authority, if required.

**31. *Signing of the Contract***

- 31.1. At the same time as the Procuring Entity notifies the successful Bidder that its Bid has been accepted, the Procuring Entity shall send the Contract Form to the Bidder, which Contract has been provided in the Bidding Documents, incorporating therein all agreements between the parties.
- 31.2. Within ten (10) calendar days from receipt of the Notice of Award, the successful Bidder shall post the required performance security, sign and date the contract and return it to the Procuring Entity.
- 31.3. The Procuring Entity shall enter into contract with the successful Bidder within the same ten (10) calendar day period provided that all the documentary requirements are complied with.
- 31.4. The following documents shall form part of the contract:
  - (a) Contract Agreement;
  - (b) Bidding Documents;
  - (c) Winning bidder's bid, including the Technical and Financial Proposals, and all other documents/statements submitted;
  - (d) Performance Security;
  - (e) Credit line in accordance with **ITB** Clause 5.5, if applicable;
  - (f) Notice of Award of Contract; and
  - (g) Other contract documents that may be required by existing laws and/or specified in the **BDS**.

**32. *Performance Security***

- 32.1. To guarantee the faithful performance by the winning Bidder of its obligations under the contract, it shall post a performance security within a maximum period of ten (10) calendar days from the receipt of the Notice of Award from the Procuring Entity and in no case later than the signing of the contract.
- 32.2. The procuring entity shall prescribe at least two (2) acceptable forms of performance security taken from two (2) categories below that bidders may opt to use, denominated in Philippine Pesos and posted in favor of the Procuring Entity in an amount equal to the percentage of the total contract price in accordance with the following schedule:

Form of Performance Security	Amount of Performance Security (Equal to Percentage of the Total Contract Price)
(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank.	Ten percent (10%)
(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.	
(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security; and/or	Thirty percent (30%)
(d) Any combination of the foregoing.	Proportionate to share of form with respect to total amount of security

32.3. Failure of the successful Bidder to comply with the above-mentioned requirement shall constitute sufficient ground for the annulment of the award and forfeiture of the bid security, in which event the Procuring Entity shall initiate and complete the post qualification of the second Lowest Calculated Bid. The procedure shall be repeated until the Lowest Calculated and Responsive Bid is identified and selected for contract award. However if no Bidder passed post-qualification, the BAC shall declare the bidding a failure and conduct a re-bidding with re-advertisement.

**33. Notice to Proceed**

33.1. Within three (3) calendar days from the date of approval of the Contract by the appropriate government approving authority, the Procuring Entity shall issue its Notice to Proceed to the Bidder.

33.2. The date of the Bidder's receipt of the Notice to Proceed will be regarded as the effective date of the Contract, unless otherwise specified in the **BDS**.

**34. Protest Mechanism**

Decision of the procuring entity at any stage of the procurement process may be questioned in accordance with Section 55 of the Revised Implementing Rules and Regulations of Republic Act 9184.

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

# Bid Data Sheet

ITB Clause	
1.1	<p>The PROCURING ENTITY is</p> <p style="text-align: center;"><b>Philippine Ports Authority, Port Management Office of Negros Oriental/Siquijor</b></p> <p>The name of the Contract is</p> <p style="text-align: center;"><i>Refurbishing of PTB, Port of Bulado, Guihulngan City</i></p> <p>The identification number of the Contract is <i>LFP-NOS-01-16</i>.</p>
2	<p>The Funding Source is:</p> <p>The <b>Philippine Ports Authority</b> through the <b>Corporate Budget of the Authority for CY 2016</b> in the amount of <b>₱ 1,847,915.24</b>.</p> <p>The name of the Project is ;,</p> <p style="text-align: center;"><i>Refurbishing of PTB, Port of Bulado, Guihulngan City (LFP-NOS-01-16)</i></p>
3.1	No further instructions.
5.1	No further instructions.
5.2	Bidding is restricted to eligible bidders as defined in ITB Clause 5.1.
5.4	<p>The Bidder must have completed a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC.</p> <p>For this purpose, similar contracts shall refer to <i>those which are similar in nature and complexity to the contract to be bid as described/enumerated in the scope of works</i>.</p>
5.5	No further instructions.
6.3	No further instructions.
7	No further instructions.
8.1	Subcontracting is not allowed.
8.2	Not applicable.
9.1	<p>The Procuring Entity will hold a pre-bid conference for this Project on</p> <p style="text-align: center;"><b>April 26, 2016 at 9:30 AM at Philippine Ports Authority, Port Management Office of Negros Oriental/Siquijor Conference Room, Port Area, Brgy. Looc, Dumaguete City, Negros Oriental.</b></p>



10.1	<p>The Procuring Entity's address is:</p> <p><b><i>Philippine Ports Authority, PMO – Negros Oriental/Siquijor Port Area, Brgy. Looc, Dumaguete City</i></b></p> <p><b><i>Atty. SARAH R. MIJARES</i></b>  <i>Port Manager</i>  <i>Tel No. (035) – 422-8913; (035) 422-8914</i></p>
12.1	<p>The first envelope shall contain the eligibility and technical documents stated in the <b>ITB</b> Clause. However, if the Bidder maintains a current and updated file of his Class “A” Documents with the Procuring Entity, a written letter of intent may be submitted in lieu of the Class “A” Documents; otherwise, it shall submit an application for eligibility and its latest Class “A” Documents on or before (<i>insert date</i>). Any application for eligibility or updates submitted after the deadline for the submission of the letter of intent shall not be considered for the bidding at hand.</p>
12.1 (a) (i)	<p>No other acceptable proof of registration is recognized.</p>
12.1 (a) (iii)	<p>No further instructions.</p>
12.1 (a) (iv)	<p>No further instructions.</p>
13.1	<p><b><i>List any additional requirements:</i></b></p> <p><b><i>a) Eligibility and Technical Documents</i></b></p> <ol style="list-style-type: none"> <li><b><i>1. Manpower Schedule;</i></b></li> <li><b><i>2. Construction Methods in narrative form;</i></b></li> <li><b><i>3. Construction Safety and Health Program;</i></b></li> <li><b><i>4. Equipment Utilization Schedule;</i></b></li> <li><b><i>5. Affidavit of Site Inspection;</i></b></li> <li><b><i>6. Certificate of Philgeps Registration; and</i></b></li> <li><b><i>7. Tax Clearance Certificate</i></b></li> </ol> <p><b><i>b) Financial Documents</i></b></p> <ol style="list-style-type: none"> <li><b><i>1. Duly Signed Bid Prices in the Bill of Quantities;</i></b></li> <li><b><i>2. Duly Signed Construction Schedule and S-Curve (indicate BAR CHART);Duly Signed Detailed Estimates including summary sheet indicating the unit price of construction materials, labor rates, and equipment rentals used in coming up with the bid; and</i></b></li> <li><b><i>3. Duly Signed Cash Flow by Quarter and Payments Schedule</i></b></li> </ol>
13.2	<p><b>The ABC is ₱ 1,847,915.24.</b></p> <p>Any bid with a financial component exceeding this amount shall not be accepted.</p>

14.2	No further instructions.
15.4	Price escalation may be allowed in extraordinary circumstances as may be determined by the National Economic and Development Authority in accordance with the Civil Code of the Philippines, and upon the recommendation of the Procuring Entity.
16.1	The bid prices shall be quoted in Philippine Pesos.
16.3	<i>If the Funding Source is GOP, maintain the ITB Clause and state here:</i> No further instructions.
17.1	Bids will be valid until <b>September 9, 2016 or 120 CD</b> after dropping of bids.
18.1	The bid security shall be limited to Bid Securing Declaration and at least one (1) other form in accordance with the following amount: <ol style="list-style-type: none"> <li>1. [<b>₱ 36,958.30 (2% of ABC)</b>], if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</li> <li>2. [<b>₱ 92,395.76 ( 5% of ABC)</b>] if bid security is in Surety Bond; or</li> <li>3. Any combination of the foregoing proportionate to the share of form with respect to total amount of security.</li> </ol>
18.2	The bid security shall be valid <b>until September 9, 2016 or 120 CD</b> after dropping of bids.
18.5 (a) (iv)	<i>Additional grounds for forfeiture of bid security:</i> <ol style="list-style-type: none"> <li>1. Submission of eligibility requirements containing false information or falsified documents.</li> <li>2. Submission of bids that contain false information or falsified documents, or the concealment of such information in the bids in order to influence the outcome of eligibility screening or any other stage of the public bidding.</li> <li>3. Allowing the use of one's name, or using the name of another for purposes of public bidding.</li> <li>4. Withdrawal of a bid, or refusal to accept an award, or enter into contract with the Government without justifiable cause, after the Bidder had been adjudged as having submitted the Lowest Calculated and Responsive Bid.</li> <li>5. Refusal or failure to post the required performance security within the prescribed time.</li> <li>6. Refusal to clarify or validate in writing its bid during post-qualification within a period of seven (7) calendar days from receipt of the request for clarification.</li> <li>7. Any documented unsolicited attempt by a bidder to unduly influence the outcome of the bidding in his favor.</li> <li>8. Failure of the potential joint venture partners to enter into the joint venture after the bid is declared as successful.</li> </ol>

	9. All other acts that tend to defeat the purpose of the competitive bidding, such as habitually withdrawing from bidding, submitting late Bids or patently insufficient bid, for at least three (3) times within a year, except for valid reasons.
18.5 (b) (iii)	No further instructions.
20.1	No further instructions.
20.3	Each Bidder shall submit One (1) original and Two (2) copies of the first and second components of its bid.
21	The address for submission of bids is:  <i>Philippine Ports Authority, PMO – Negros Oriental/Siquijor, Port Area, Brgy. Looc, Dumaguete City, Negros Oriental.</i>  The deadline for submission of bids is <i>May 11, 2016 at 9:30 A.M.</i>
24.1	The place of bid opening is:  <i>Philippine Ports Authority, PMO – Negros Oriental/Siquijor, Port Area, Brgy. Looc, Dumaguete City, Negros Oriental.</i>  The date and time of bid opening is <i>May 11, 2016 at 10:00 A.M.</i>
25.1	No further instructions.
27.3	No further instructions.
27.3 (b)	<i>State whether bid modification is not allowed.</i>
27.5	No further instructions.
28.2 (b)	<i>Only tax returns filed and taxes paid through the BIR Electronic Filing and Payment System (EFPS) shall be accepted.</i>  <i>NOTE: The latest income and business tax returns are those within the last six months preceding the date of bid submission.</i>
28.2 (d)	<i>None.</i>
31.4 (g)	Construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the Department of Labor and Employment, and PERT/CPM.
32.2	1. The amount of <b>P_____</b> <i>[Insert 10% of the Total Contract Price]</i> , if performance security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;  2. The amount of <b>P_____</b> <i>[Insert 30% of the Total Contract Price]</i> if performance security is in Surety Bond;
33.2	The effective date of the Contract is <i>7 day after signing of the Notice to Proceed.</i>

## **Section IV. General Conditions of Contract**

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## 1. *Definitions*

For purposes of this Clause, boldface type is used to identify defined terms.

- 1.1. The **Arbiter** is the person appointed jointly by the Procuring Entity and the Contractor to resolve disputes in the first instance, as provided for in **GCC** Clause 21.
- 1.2. **Bill of Quantities** refers to a list of the specific items of the Work and their corresponding unit prices, lump sums, and/or provisional sums.
- 1.3. The **Completion Date** is the date of completion of the Works as certified by the Procuring Entity's Representative, in accordance with **GCC** Clause 49.
- 1.4. The **Contract** is the contract between the Procuring Entity and the Contractor to execute, complete, and maintain the Works.
- 1.5. The **Contract Price** is the price stated in the Letter of Acceptance and thereafter to be paid by the Procuring Entity to the Contractor for the execution of the Works in accordance with this Contract.
- 1.6. **Contract Time Extension** is the allowable period for the Contractor to complete the Works in addition to the original Completion Date stated in this Contract.
- 1.7. The **Contractor** is the juridical entity whose proposal has been accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded.
- 1.8. The **Contractor's Bid** is the signed offer or proposal submitted by the Contractor to the Procuring Entity in response to the Bidding Documents.
- 1.9. **Days** are calendar days; months are calendar months.
- 1.10. **Dayworks** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- 1.11. A **Defect** is any part of the Works not completed in accordance with the Contract.
- 1.12. The **Defects Liability Certificate** is the certificate issued by Procuring Entity's Representative upon correction of defects by the Contractor.
- 1.13. The **Defects Liability Period** is the one year period between project completion and final acceptance within which the Contractor assumes the responsibility to undertake the repair of any damage to the Works at his own expense.
- 1.14. **Drawings** are graphical presentations of the Works. They include all supplementary details, shop drawings, calculations, and other information provided or approved for the execution of this Contract.
- 1.15. **Equipment** refers to all facilities, supplies, appliances, materials or things required for the execution and completion of the Work provided by the Contractor and which shall not form or are not intended to form part of the Permanent Works.

- 1.16. The **Intended Completion Date** refers to the date specified in the **SCC** when the Contractor is expected to have completed the Works. The Intended Completion Date may be revised only by the Procuring Entity's Representative by issuing an extension of time or an acceleration order.
- 1.17. **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- 1.18. The **Notice to Proceed** is a written notice issued by the Procuring Entity or the Procuring Entity's Representative to the Contractor requiring the latter to begin the commencement of the work not later than a specified or determinable date.
- 1.19. **Permanent Works** all permanent structures and all other project features and facilities required to be constructed and completed in accordance with this Contract which shall be delivered to the Procuring Entity and which shall remain at the Site after the removal of all Temporary Works.
- 1.20. **Plant** refers to the machinery, apparatus, and the like intended to form an integral part of the Permanent Works.
- 1.21. The **Procuring Entity** is the party who employs the Contractor to carry out the Works stated in the **SCC**.
- 1.22. The **Procuring Entity's Representative** refers to the Head of the Procuring Entity or his duly authorized representative, identified in the **SCC**, who shall be responsible for supervising the execution of the Works and administering this Contract.
- 1.23. The **Site** is the place provided by the Procuring Entity where the Works shall be executed and any other place or places which may be designated in the **SCC**, or notified to the Contractor by the Procuring Entity's Representative as forming part of the Site.
- 1.24. **Site Investigation Reports** are those that were included in the Bidding Documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- 1.25. **Slippage** is a delay in work execution occurring when actual accomplishment falls below the target as measured by the difference between the scheduled and actual accomplishment of the Work by the Contractor as established from the work schedule. This is actually described as a percentage of the whole Works.
- 1.26. **Specifications** means the description of Works to be done and the qualities of materials to be used, the equipment to be installed and the mode of construction.
- 1.27. The **Start Date**, as specified in the **SCC**, is the date when the Contractor is obliged to commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- 1.28. A **Subcontractor** is any person or organization to whom a part of the Works has been subcontracted by the Contractor, as allowed by the Procuring Entity, but not any assignee of such person.



- 1.29. **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Permanent Works.
- 1.30. **Work(s)** refer to the Permanent Works and Temporary Works to be executed by the Contractor in accordance with this Contract, including (i) the furnishing of all labor, materials, equipment and others incidental, necessary or convenient to the complete execution of the Works; (ii) the passing of any tests before acceptance by the Procuring Entity's Representative; (iii) and the carrying out of all duties and obligations of the Contractor imposed by this Contract as described in the **SCC**.

## **2. Interpretation**

- 2.1. In interpreting the Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of this Contract unless specifically defined. The Procuring Entity's Representative will provide instructions clarifying queries about the Conditions of Contract.
- 2.2. If sectional completion is specified in the **SCC**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date 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. Governing Language and Law**

- 3.1. This Contract has been executed in the English language, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract. All correspondence and other documents pertaining to this Contract which are exchanged by the parties shall be written in English.
- 3.2. This Contract shall be interpreted in accordance with the laws of the Republic of the Philippines.

## **4. Communications**

Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is received by the concerned party.

## **5. Possession of Site**

- 5.1. On the date specified in the **SCC**, the Procuring Entity shall grant the Contractor possession of so much of the Site as may be required to enable it to proceed with 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.
- 5.2. If possession of a portion is not given by the date stated in the **SCC** Clause 5.1, 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 shall be in accordance with **GCC** Clause 47.

- 5.3. The Contractor shall bear all costs and charges for special or temporary right-of-way required by it in connection with access to the Site. The Contractor shall also provide at his own cost any additional facilities outside the Site required by it for purposes of the Works.
- 5.4. The Contractor shall allow the Procuring Entity's Representative and any person authorized by the Procuring Entity's Representative access to the Site and to any place where work in connection with this Contract is being carried out or is intended to be carried out.

## **6. *The Contractor's Obligations***

- 6.1. The Contractor shall carry out the Works properly and in accordance with this Contract. The Contractor shall provide all supervision, labor, Materials, Plant and Contractor's Equipment, which may be required. All Materials and Plant on Site shall be deemed to be the property of the Procuring Entity.
- 6.2. The Contractor shall commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program of Work submitted by the Contractor, as updated with the approval of the Procuring Entity's Representative, and complete them by the Intended Completion Date.
- 6.3. The Contractor shall be responsible for the safety of all activities on the Site.
- 6.4. The Contractor shall carry out all instructions of the Procuring Entity's Representative that comply with the applicable laws where the Site is located.
- 6.5. The Contractor shall employ the key personnel named in the Schedule of Key Personnel, as referred to in the **SCC**, 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.
- 6.6. If the Procuring Entity's Representative asks the Contractor to remove a member of the Contractor's staff or work force, for justifiable cause, the Contractor shall ensure that the person leaves the Site within seven (7) days and has no further connection with the Work in this Contract.
- 6.7. During Contract implementation, the Contractor and his subcontractors shall abide at all times by all labor laws, including child labor related enactments, and other relevant rules.
- 6.8. The Contractor shall submit to the Procuring Entity for consent the name and particulars of the person authorized to receive instructions on behalf of the Contractor.
- 6.9. The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Procuring Entity between the dates given in the schedule of other contractors particularly when they shall require access to the Site. The Contractor shall also provide facilities and services for them during this period. The Procuring Entity may modify the schedule of other contractors, and shall notify the Contractor of any such modification thereto.

- 6.10. Should anything of historical or other interest or of significant value be unexpectedly discovered on the Site, it shall be the property of the Procuring Entity. The Contractor shall notify the Procuring Entity's Representative of such discoveries and carry out the Procuring Entity's Representative's instructions in dealing with them.

## 7. *Performance Security*

- 7.1. Unless otherwise specified in the **SCC**, 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 Contractor shall furnish the performance security in any the forms prescribed in **ITB** Clause 32.2.
- 7.2. The performance security posted in favor of the Procuring Entity shall be forfeited in the event it is established that the Contractor is in default in any of its obligations under the Contract.
- 7.3. The performance security shall remain valid until issuance by the Procuring Entity of the Certificate of Final Acceptance.
- 7.4. The performance security may be released by the Procuring Entity and returned to the Contractor after the issuance of the Certificate of Final Acceptance subject to the following conditions:
- (a) There are no pending claims against the Contractor or the surety company filed by the Procuring Entity;
  - (b) The Contractor has no pending claims for labor and materials filed against it; and
  - (c) Other terms specified in the **SCC**.
- 7.5. The Contractor shall post an additional performance security following the amount and form specified in **ITB** Clause 32.2 to cover any cumulative increase of more than ten percent (10%) over the original value of the contract as a result of amendments to order or change orders, extra work orders and supplemental agreements, as the case may be. The Contractor shall cause the extension of the validity of the performance security to cover approved contract time extensions.
- 7.6. In case of a reduction in the contract value or for partially completed Works under the contract which are usable and accepted by the Procuring Entity the use of which, in the judgment of the implementing agency or the Procuring Entity, will not affect the structural integrity of the entire project, the Procuring Entity shall allow a proportional reduction in the original performance security, provided that any such reduction is more than ten percent (10%) and that the aggregate of such reductions is not more than fifty percent (50%) of the original performance security.
- 7.7. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to Act 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.

**8. Subcontracting**

- 8.1. Unless otherwise indicated in the **SCC**, the Contractor cannot subcontract Works more than the percentage specified in **ITB** Clause 8.1.
- 8.2. Subcontracting of any portion of the Works does not relieve the Contractor of any liability or obligation under this Contract. The Contractor will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants or workmen.
- 8.3. Subcontractors disclosed and identified during the bidding may be changed during the implementation of this Contract, subject to compliance with the required qualifications and the approval of the Procuring Entity.

**9. Liquidated Damages**

- 9.1. The Contractor shall pay liquidated damages to the Procuring Entity at the rate per day stated in the **SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **SCC**. The Procuring Entity may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor. Once the cumulative amount of liquidated damages reaches ten percent (10%) of the amount of this Contract, the Procuring Entity shall rescind this Contract, without prejudice to other courses of action and remedies open to it.
- 9.2. If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer of the Procuring Entity shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in **GCC** Clause 40.1.

**10. 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.

**11. The Procuring Entity, Licenses and Permits**

The Procuring Entity shall, if requested by the Contractor, assist him in applying for permits, licenses or approvals, which are required for the Works.

**12. Contractor's Risk and Warranty Security**

- 12.1. The Contractor shall assume full responsibility for the Works from the time project construction commenced up to final acceptance by the Procuring Entity and shall be held responsible for any damage or destruction of the Works except those occasioned by *force majeure*. The Contractor shall be fully responsible for the safety, protection, security, and convenience of his personnel, third parties, and the public at large, as well as the Works, Equipment, installation, and the like to be affected by his construction work.

- 12.2. The defects liability period for infrastructure projects shall be one year from project completion up to final acceptance by the Procuring Entity. During this period, the Contractor shall undertake the repair works, at his own expense, of any damage to the Works on account of the use of materials of inferior quality within ninety (90) days from the time the Head of the Procuring Entity has issued an order to undertake repair. In case of failure or refusal to comply with this mandate, the Procuring Entity shall undertake such repair works and shall be entitled to full reimbursement of expenses incurred therein upon demand.
- 12.3. In case the Contractor fails to comply with the preceding paragraph, 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.
- 12.4. After final acceptance of the Works by the Procuring Entity, the Contractor shall be held responsible for “Structural Defects”, *i.e.*, major faults/flaws/deficiencies in one or more key structural elements of the project which may lead to structural failure of the completed elements or structure, or “Structural Failures”, *i.e.*, where one or more key structural elements in an infrastructure facility fails or collapses, thereby rendering the facility or part thereof incapable of withstanding the design loads, and/or endangering the safety of the users or the general public:
- (a) Contractor – Where Structural Defects/Failures arise due to faults attributable to improper construction, use of inferior quality/substandard materials, and any violation of the contract plans and specifications, the contractor shall be held liable;
  - (b) Consultants – Where Structural Defects/Failures arise due to faulty and/or inadequate design and specifications as well as construction supervision, then the consultant who prepared the design or undertook construction supervision for the project shall be held liable;
  - (c) Procuring Entity’s Representatives/Project Manager/Construction Managers and Supervisors – The project owner’s representative(s), project manager, construction manager, and supervisor(s) shall be held liable in cases where the Structural Defects/Failures are due to his/their willful intervention in altering the designs and other specifications; negligence or omission in not approving or acting on proposed changes to noted defects or deficiencies in the design and/or specifications; and the use of substandard construction materials in the project;
  - (d) Third Parties - Third Parties shall be held liable in cases where Structural Defects/Failures are caused by work undertaken by them such as leaking pipes, diggings or excavations, underground cables and electrical wires, underground tunnel, mining shaft and the like, in which case the applicable warranty to such structure should be levied to third parties for their construction or restoration works.
  - (e) Users - In cases where Structural Defects/Failures are due to abuse/misuse by the end user of the constructed facility and/or non-compliance by a user with

the technical design limits and/or intended purpose of the same, then the user concerned shall be held liable.

- 12.5. The warranty against Structural Defects/Failures, except those occasioned on force majeure, shall cover the period specified in the **SCC** reckoned from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity.
- 12.6. The Contractor shall be required to put up a warranty security in the form of cash, bank guarantee, letter of credit, GSIS or surety bond callable on demand, in accordance with the following schedule:

Form of Warranty	Minimum Amount in Percentage (%) of Total Contract Price
(a) Cash or letter of credit issued by Universal or Commercial bank: provided, however, that the letter of credit shall be confirmed or authenticated by a Universal or Commercial bank, if issued by a foreign bank	Five Percent (5%)
(b) Bank guarantee confirmed by Universal or Commercial bank: provided, however, that the letter of credit shall be confirmed or authenticated by a Universal or Commercial bank, if issued by a foreign bank	Ten Percent (10%)
(c) Surety bond callable upon demand issued by GSIS or any surety or insurance company duly certified by the Insurance Commission	Thirty Percent (30%)

- 12.7. The warranty security shall be stated in Philippine Pesos and shall remain effective for one year from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity, and returned only after the lapse of said one year period.
- 12.8. In case of structural defects/failure occurring during the applicable warranty period provided in **GCC** Clause 12.5, the Procuring Entity shall undertake the necessary restoration or reconstruction works and shall be entitled to full reimbursement by the parties found to be liable for expenses incurred therein upon demand, without prejudice to the filing of appropriate administrative, civil, and/or criminal charges against the responsible persons as well as the forfeiture of the warranty security posted in favor of the Procuring Entity.

**13. 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.

**14. *Procuring Entity's Risk***

- 14.1. From the Start Date until the Certificate of Final Acceptance has been issued, the following are risks of the Procuring Entity:
- (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to:
    - (i) any type of use or occupation of the Site authorized by the Procuring Entity after the official acceptance of the works; or
    - (ii) negligence, breach of statutory duty, or interference with any legal right by the Procuring Entity or by any person employed by or contracted to him except the Contractor.
  - (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Procuring Entity or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

**15. *Insurance***

- 15.1. The Contractor shall, under his name and at his own expense, obtain and maintain, for the duration of this Contract, the following insurance coverage:
- (a) Contractor's All Risk Insurance;
  - (b) Transportation to the project Site of Equipment, Machinery, and Supplies owned by the Contractor;
  - (c) Personal injury or death of Contractor's employees; and
  - (d) Comprehensive insurance for third party liability to Contractor's direct or indirect act or omission causing damage to third persons.
- 15.2. The Contractor shall provide evidence to the Procuring Entity's Representative that the insurances required under this Contract have been effected and shall, within a reasonable time, provide copies of the insurance policies to the Procuring Entity's Representative. Such evidence and such policies shall be provided to the Procuring Entity's through the Procuring Entity's Representative.
- 15.3. The Contractor shall notify the insurers of changes in the nature, extent, or program for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of this Contract and shall produce to the Procuring Entity's Representative the insurance policies in force including the receipts for payment of the current premiums.

The above insurance policies shall be obtained from any reputable insurance company approved by the Procuring Entity's Representative.

- 15.4. If the Contractor fails to obtain and keep in force the insurances referred to herein or any other insurance which he may be required to obtain under the terms of this Contract, the Procuring Entity may obtain and keep in force any such insurances and pay such premiums as may be necessary for the purpose. From time to time, the Procuring Entity may deduct the amount it shall pay for said premiums including twenty five percent (25%) therein from any monies due, or which may become due, to the Contractor, without prejudice to the Procuring Entity exercising its right to impose other sanctions against the Contractor pursuant to the provisions of this Contract.
- 15.5. In the event the Contractor fails to observe the above safeguards, the Procuring Entity may, at the Contractor's expense, take whatever measure is deemed necessary for its protection and that of the Contractor's personnel and third parties, and/or order the interruption of dangerous Works. In addition, the Procuring Entity may refuse to make the payments under GCC Clause 40 until the Contractor complies with this Clause.
- 15.6. The Contractor shall immediately replace the insurance policy obtained as required in this Contract, without need of the Procuring Entity's demand, with a new policy issued by a new insurance company acceptable to the Procuring Entity for any of the following grounds:
- (a) The issuer of the insurance policy to be replaced has:
    - (i) become bankrupt;
    - (ii) been placed under receivership or under a management committee;
    - (iii) been sued for suspension of payment; or
    - (iv) been suspended by the Insurance Commission and its license to engage in business or its authority to issue insurance policies cancelled; or
    - (v) Where reasonable grounds exist that the insurer may not be able, fully and promptly, to fulfill its obligation under the insurance policy.

**16. Termination for Default of Contractor**

- 16.1. The Procuring Entity shall terminate this Contract for default when any of the following conditions attend its implementation:
- 16.2. Due to the Contractor's fault and while the project is on-going, it has incurred negative slippage of fifteen percent (15%) or more in accordance with Presidential Decree 1870, regardless of whether or not previous warnings and notices have been issued for the Contractor to improve his performance;
- 16.3. Due to its own fault and after this Contract time has expired, the Contractor incurs delay in the completion of the Work after this Contract has expired; or



16.4. The Contractor:

- (a) abandons the contract Works, refuses or fails to comply with a valid instruction of the Procuring Entity or fails to proceed expeditiously and without delay despite a written notice by the Procuring Entity;
- (b) does not actually have on the project Site the minimum essential equipment listed on the Bid necessary to prosecute the Works in accordance with the approved Program of Work and equipment deployment schedule as required for the project;
- (c) does not execute the Works in accordance with this Contract or persistently or flagrantly neglects to carry out its obligations under this Contract;
- (d) neglects or refuses to remove materials or to perform a new Work that has been rejected as defective or unsuitable; or
- (e) sub-lets any part of this Contract without approval by the Procuring Entity.

16.5. All materials on the Site, Plant, Equipment, and Works shall be deemed to be the property of the Procuring Entity if this Contract is rescinded because of the Contractor's default.

**17. *Termination for Default of Procuring Entity***

17.1. The Contractor may terminate this Contract with the Procuring Entity if the works are completely stopped for a continuous period of at least sixty (60) calendar days through no fault of its own, due to any of the following reasons:

- (a) Failure of the Procuring Entity to deliver, within a reasonable time, supplies, materials, right-of-way, or other items it is obligated to furnish under the terms of this Contract; or
- (b) The prosecution of the Work is disrupted by the adverse peace and order situation, as certified by the Armed Forces of the Philippines Provincial Commander and approved by the Secretary of National Defense.

**18. *Termination for Other Causes***

18.1. The Procuring Entity may terminate this Contract, in whole or in part, at any time for its convenience. The Head of the Procuring Entity may terminate this Contract for the convenience of the Procuring Entity if he has determined the existence of conditions that make Project Implementation economically, financially or technically impractical and/or unnecessary, such as, but not limited to, fortuitous event(s) or changes in law and National Government policies.

18.2. The Procuring Entity or the Contractor may terminate this Contract if the other party causes a fundamental breach of this Contract.

18.3. Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- (a) The Contractor stops work for twenty eight (28) days when no stoppage of work is shown on the current Program of Work and the stoppage has not been authorized by the Procuring Entity's Representative;
- (b) The Procuring Entity's Representative instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within twenty eight (28) days;
- (c) The Procuring Entity shall terminate this Contract if the Contractor is declared bankrupt or insolvent as determined with finality by a court of competent jurisdiction. In this event, termination will be without compensation to the Contractor, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Procuring Entity and/or the Contractor. In the case of the Contractor's insolvency, any Contractor's Equipment which the Procuring Entity instructs in the notice is to be used until the completion of the Works;
- (d) A payment certified by the Procuring Entity's Representative is not paid by the Procuring Entity to the Contractor within eighty four (84) days from the date of the Procuring Entity's Representative's certificate;
- (e) The Procuring Entity's Representative gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Procuring Entity's Representative;
- (f) The Contractor does not maintain a Security, which is required;
- (g) The Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the **GCC** Clause 9; and
- (h) 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, the following:
  - (i) corrupt, fraudulent, collusive and coercive practices as defined in **ITB** Clause 3.1(a);
  - (ii) drawing up or using forged documents;
  - (iii) using adulterated materials, means or methods, or engaging in production contrary to rules of science or the trade; and
  - (iv) any other act analogous to the foregoing.

18.4. The Funding Source or the Procuring Entity, as appropriate, will seek to impose the maximum civil, administrative and/or criminal penalties available under the applicable law on individuals and organizations deemed to be involved with corrupt, fraudulent, or coercive practices.

- 18.5. When persons from either party to this Contract gives notice of a fundamental breach to the Procuring Entity's Representative in order to terminate the existing contract for a cause other than those listed under GCC Clause 18.3, the Procuring Entity's Representative shall decide whether the breach is fundamental or not.
- 18.6. If this Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

**19. Procedures for Termination of Contracts**

- 19.1. The following provisions shall govern the procedures for the termination of this Contract:
- (a) Upon receipt of a written report of acts or causes which may constitute ground(s) for termination as aforementioned, or upon its own initiative, the Implementing Unit shall, within a period of seven (7) calendar days, verify the existence of such ground(s) and cause the execution of a Verified Report, with all relevant evidence attached;
  - (b) Upon recommendation by the Implementing Unit, the Head of the Procuring Entity shall terminate this Contract only by a written notice to the Contractor conveying the termination of this Contract. The notice shall state:
    - (i) that this Contract is being terminated for any of the ground(s) aforementioned, and a statement of the acts that constitute the ground(s) constituting the same;
    - (ii) the extent of termination, whether in whole or in part;
    - (iii) an instruction to the Contractor to show cause as to why this Contract should not be terminated; and
    - (iv) special instructions of the Procuring Entity, if any.

The Notice to Terminate shall be accompanied by a copy of the Verified Report;

- (c) Within a period of seven (7) calendar days from receipt of the Notice of Termination, the Contractor shall submit to the Head of the Procuring Entity a verified position paper stating why the contract should not be terminated. If the Contractor fails to show cause after the lapse of the seven (7) day period, either by inaction or by default, the Head of the Procuring Entity shall issue an order terminating the contract;
- (d) The Procuring Entity may, at anytime before receipt of the Bidder's verified position paper to withdraw the Notice to Terminate if it is determined that certain items or works subject of the notice had been completed, delivered, or performed before the Contractor's receipt of the notice;
- (e) Within a non-extendible period of ten (10) calendar days from receipt of the verified position paper, the Head of the Procuring Entity shall decide whether or not to terminate this Contract. It shall serve a written notice to the

Contractor of its decision and, unless otherwise provided in the said notice, this Contract is deemed terminated from receipt of the Contractor of the notice of decision. The termination shall only be based on the ground(s) stated in the Notice to Terminate; and

- (f) The Head of the Procuring Entity may create a Contract Termination Review Committee (CTRC) to assist him in the discharge of this function. All decisions recommended by the CTRC shall be subject to the approval of the Head of the Procuring Entity.

19.2. Pursuant to Section 69(f) of RA 9184 and without prejudice to the imposition of additional administrative sanctions as the internal rules of the agency may provide and/or further criminal prosecution as provided by applicable laws, the procuring entity shall impose on contractors after the termination of the contract the penalty of suspension for one (1) year for the first offense, suspension for two (2) years for the second offense from participating in the public bidding process, for violations committed during the contract implementation stage, which include but not limited to the following:

- (a) Failure of the contractor, due solely to his fault or negligence, to mobilize and start work or performance within the specified period in the Notice to Proceed (“NTP”);
- (b) Failure by the contractor to fully and faithfully comply with its contractual obligations without valid cause, or failure by the contractor to comply with any written lawful instruction of the procuring entity or its representative(s) pursuant to the implementation of the contract. For the procurement of infrastructure projects or consultancy contracts, lawful instructions include but are not limited to the following:
  - (i) Employment of competent technical personnel, competent engineers and/or work supervisors;
  - (ii) Provision of warning signs and barricades in accordance with approved plans and specifications and contract provisions;
  - (iii) Stockpiling in proper places of all materials and removal from the project site of waste and excess materials, including broken pavement and excavated debris in accordance with approved plans and specifications and contract provisions;
  - (iv) Deployment of committed equipment, facilities, support staff and manpower; and
  - (v) Renewal of the effectivity dates of the performance security after its expiration during the course of contract implementation.
- (c) Assignment and subcontracting of the contract or any part thereof or substitution of key personnel named in the proposal without prior written approval by the procuring entity.

- (d) Poor performance by the contractor or unsatisfactory quality and/or progress of work arising from his fault or negligence as reflected in the Constructor's Performance Evaluation System ("CPES") rating sheet. In the absence of the CPES rating sheet, the existing performance monitoring system of the procuring entity shall be applied. Any of the following acts by the constructor shall be construed as poor performance:
  - (i) Negative slippage of 15% and above within the critical path of the project due entirely to the fault or negligence of the contractor; and
  - (ii) Quality of materials and workmanship not complying with the approved specifications arising from the contractor's fault or negligence.
- (e) Willful or deliberate abandonment or non-performance of the project or contract by the contractor resulting to substantial breach thereof without lawful and/or just cause.

In addition to the penalty of suspension, the performance security posted by the contractor shall also be forfeited.

**20. Force Majeure, Release From Performance**

- 20.1. For purposes of this Contract the terms "*force majeure*" and "fortuitous event" may be used interchangeably. In this regard, a fortuitous event or *force majeure* shall be interpreted to mean an event which the Contractor could not have foreseen, or which though foreseen, was inevitable. It shall not include ordinary unfavorable weather conditions; and any other cause the effects of which could have been avoided with the exercise of reasonable diligence by the Contractor.
- 20.2. If this Contract is discontinued by an outbreak of war or by any other event entirely outside the control of either the Procuring Entity or the Contractor, the Procuring Entity's Representative shall certify that this Contract has been discontinued. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all works carried out before receiving it and for any Work carried out afterwards to which a commitment was made.
- 20.3. If the event continues for a period of eighty four (84) days, either party may then give notice of termination, which shall take effect twenty eight (28) days after the giving of the notice.
- 20.4. After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed and of the materials and Plant reasonably delivered to the Site, adjusted by the following:
  - (a) any sum to which the Contractor is entitled under GCC Clause 28;
  - (b) the cost of his suspension and demobilization;
  - (c) any sum to which the Procuring Entity is entitled.

- 20.5. The net balance due shall be paid or repaid within a reasonable time period from the time of the notice of termination.

**21. Resolution of Disputes**

- 21.1. If any dispute or difference of any kind whatsoever shall arise between the parties in connection with the implementation of the contract covered by the Act and this IRR, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 21.2. If the Contractor believes that a decision taken by the PROCURING ENTITY's Representative was either outside the authority given to the PROCURING ENTITY's Representative by this Contract or that the decision was wrongly taken, the decision shall be referred to the Arbiter indicated in the SCC within fourteen (14) days of the notification of the PROCURING ENTITY's Representative's decision.
- 21.3. Any and all disputes arising from the implementation of this Contract covered by the R.A. 9184 and its IRR shall be submitted to arbitration in the Philippines according to the provisions of Republic Act No. 876, otherwise known as the "Arbitration Law" and Republic Act 9285, otherwise known as the "Alternative Dispute Resolution Act of 2004": *Provided, however*, That, disputes that are within the competence of the Construction Industry Arbitration Commission to resolve shall be referred thereto. The process of arbitration shall be incorporated as a provision in this Contract that will be executed pursuant to the provisions of the Act and its IRR-A: *Provided, further*, That, by mutual agreement, the parties may agree in writing to resort to other alternative modes of dispute resolution. Additional instructions on resolution of disputes, if any, shall be indicated in the SCC.

**22. Suspension of Loan, Credit, Grant, or Appropriation**

In the event that the Funding Source suspends the Loan, Credit, Grant, or Appropriation to the Procuring Entity, from which part of the payments to the Contractor are being made:

- (a) The Procuring Entity is obligated to notify the Contractor of such suspension within seven (7) days of having received the suspension notice.
- (b) If the Contractor has not received sums due it for work already done within forty five (45) days from the time the Contractor's claim for payment has been certified by the Procuring Entity's Representative, the Contractor may immediately issue a suspension of work notice in accordance with SCC Clause 45.2.

**23. Procuring Entity's Representative's Decisions**

- 23.1. Except where otherwise specifically stated, the Procuring Entity's Representative will decide contractual matters between the Procuring Entity and the Contractor in the role representing the Procuring Entity's
- 23.2. The Procuring Entity's Representative may delegate any of his duties and responsibilities to other people, except to the Arbiter, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.

**24. *Approval of Drawings and Temporary Works by the Procuring Entity's Representative***

- 24.1. All Drawings prepared by the Contractor for the execution of the Temporary Works, are subject to prior approval by the Procuring Entity's Representative before its use.
- 24.2. The Contractor shall be responsible for design of Temporary Works.
- 24.3. The Procuring Entity's Representative's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 24.4. The Contractor shall obtain approval of third parties to the design of the Temporary Works, when required by the Procuring Entity.

**25. *Acceleration and Delays Ordered by the Procuring Entity's Representative***

- 25.1. When the Procuring Entity wants the Contractor to finish before the Intended Completion Date, the Procuring Entity's Representative will obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date will be adjusted accordingly and confirmed by both the Procuring Entity and the Contractor.
- 25.2. If the Contractor's Financial Proposals for an acceleration are accepted by the Procuring Entity, they are incorporated in the Contract Price and treated as a Variation.

**26. *Extension of the Intended Completion Date***

- 26.1. The Procuring Entity's Representative shall extend the Intended Completion Date if a Variation is issued which makes it impossible for the Intended Completion Date to be achieved by the Contractor without taking steps to accelerate the remaining work, which would cause the Contractor to incur additional costs. Unless specified in the **SCC**, no payment shall be made for any event which may warrant the extension of the Intended Completion Date.
- 26.2. The Procuring Entity's Representative shall decide whether and by how much to extend the Intended Completion Date within twenty one (21) days of the Contractor asking the Procuring Entity's Representative for a decision thereto after fully submitting all supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

**27. *Right to Vary***

- 27.1. The Procuring Entity's Representative with the prior approval of the Procuring Entity may instruct Variations, up to a maximum cumulative amount of ten percent (10%) of the original contract cost.
- 27.2. Variations shall be valued as follows:
  - (a) At a lump sum price agreed between the parties;
  - (b) where appropriate, at rates in this Contract;

- (c) in the absence of appropriate rates, the rates in this Contract shall be used as the basis for valuation; or failing which
- (d) at appropriate new rates, equal to or lower than current industry rates and to be agreed upon by both parties and approved by the Head of the Procuring Entity.

**28. *Contractors Right to Claim***

If the Contractor incurs cost as a result of any of the events under **GCC** Clause 13, the Contractor shall be entitled to the amount of such cost. If as a result of any of the said events, it is necessary to change the Works, this shall be dealt with as a Variation.

**29. *Dayworks***

29.1. Subject to **GCC** Clause 43 on Variation Order, 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.

29.2. All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Procuring Entity's Representative. Each completed form shall be verified and signed by the Procuring Entity's Representative within two days of the work being done.

29.3. The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

**30. *Early Warning***

30.1. The Contractor shall warn the Procuring Entity's Representative at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Procuring Entity's Representative may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

30.2. The Contractor shall cooperate with the Procuring Entity's Representative in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Procuring Entity's Representative.

**31. *Program of Work***

31.1. Within the time stated in the **SCC**, the Contractor shall submit to the Procuring Entity's Representative for approval a Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works.

31.2. An update of the Program of Work shall show the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.



- 31.3. 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.
- 31.4. The Procuring Entity's Representative's approval of the Program of Work shall not alter the Contractor's obligations. The Contractor may revise the Program of Work and submit it to the Procuring Entity's Representative again at any time. A revised Program of Work shall show the effect of any approved Variations; and if allowed, any Compensation Event.
- 31.5. When the Program of Work is updated, the Contractor shall provide the Procuring Entity's Representative with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.
- 31.6. All Variations shall be included in updated Program of Work produced by the Contractor.

### **32. *Management Conferences***

- 32.1. Either the Procuring Entity's Representative or the Contractor may require the other to attend a Management Conference. The Management Conference shall review the plans for remaining work and deal with matters raised in accordance with the early warning procedure.
- 32.2. The Procuring Entity's Representative shall record the business of Management Conferences and provide copies of the record to those attending the Conference and to the Procuring Entity. The responsibility of the parties for actions to be taken shall be decided by the PROCURING ENTITY's Representative either at the Management Conference or after the Management Conference and stated in writing to all who attended the Conference.

### **33. *Bill of Quantities***

- 33.1. The Bill of Quantities shall contain items of work for the construction, installation, testing, and commissioning of work to be done by the Contractor.
- 33.2. The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.
- 33.3. If the final quantity of any work done differs from the quantity in the Bill of Quantities for the particular item and is not more than twenty five percent (25%) of the original quantity, provided the aggregate changes for all items do not exceed ten percent (10%) of the Contract price, the Procuring Entity's Representative shall make the necessary adjustments to allow for the changes subject to applicable laws, rules, and regulations.

- 33.4. If requested by the Procuring Entity's Representative, the Contractor shall provide the Procuring Entity's Representative with a detailed cost breakdown of any rate in the Bill of Quantities.

**34. *Instructions, Inspections and Audits***

- 34.1. The Procuring Entity's personnel shall at all reasonable times during construction of the Work be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of the construction.
- 34.2. If the Procuring Entity's Representative instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no defect, the test shall be a Compensation Event.
- 34.3. The Contractor shall permit the Funding Source named in the **SCC** to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Funding Source, if so required by the Funding Source.

**35. *Identifying Defects***

The Procuring Entity's Representative shall check the Contractor's work and notify the Contractor of any defects that are found. Such checking shall not affect the Contractor's responsibilities. The Procuring Entity's Representative may instruct the Contractor to search uncover defects and test any work that the Procuring Entity's Representative considers below standards and defective.

**36. *Cost of Repairs***

Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Liability Periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

**37. *Correction of Defects***

- 37.1. The Procuring Entity's Representative shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion Date up to final acceptance by the Procuring Entity's unless otherwise specified in the **SCC**. The Defects Liability Period shall be extended for as long as defects remain to be corrected.
- 37.2. Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified in the Procuring Entity's Representative's notice.
- 37.3. The Contractor shall correct the defects which he notices himself before the end of the Defects Liability Period.
- 37.4. The Procuring Entity shall certify that all defects have been corrected. If the Procuring Entity considers that correction of a defect is not essential, he can request the Contractor to submit a quotation for the corresponding reduction in the Contract Price.

If the Procuring Entity accepts the quotation, the corresponding change in the SCC is a Variation.

**38. *Uncorrected Defects***

- 38.1. The Procuring Entity shall give the Contractor at least fourteen (14) days notice of his intention to use a third party to correct a Defect. If the Contractor does not correct the Defect himself within the period, the Procuring Entity may have the Defect corrected by the third party. The cost of the correction will be deducted from the Contract Price.
- 38.2. The use of a third party to correct defects that are uncorrected by the Contractor will in no way relieve the Contractor of its liabilities and warranties under the Contract.

**39. *Advance Payment***

- 39.1. 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.
- 39.2. The advance payment shall be made only upon the submission to and acceptance by the Procuring Entity of an irrevocable standby letter of credit of equivalent value from a commercial bank, a bank guarantee or a surety bond callable upon demand, issued by a surety or insurance company duly licensed by the Insurance Commission and confirmed by the Procuring Entity.
- 39.3. The advance payment shall be repaid by the Contractor by an amount equal to the percentage of the total contract price used for the advance payment.
- 39.4. The contractor may reduce his standby letter of credit or guarantee instrument by the amounts refunded by the Monthly Certificates in the advance payment.
- 39.5. The Procuring Entity will provide an Advance Payment on the Contract Price as stipulated in the Conditions of Contract, subject to the maximum amount stated in SCC Clause 39.1.

**40. *Progress Payments***

- 40.1. The Contractor may submit a request for payment for Work accomplished. Such request 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.
- 40.2. The Procuring Entity shall deduct the following from the certified gross amounts to be paid to the contractor as progress payment:
- (a) Cumulative value of the work previously certified and paid for.
  - (b) Portion of the advance payment to be recouped for the month.

- (c) Retention money in accordance with the condition of contract.
  - (d) Amount to cover third party liabilities.
  - (e) Amount to cover uncorrected discovered defects in the works.
- 40.3. Payments shall be adjusted by deducting therefrom the amounts for advance payments and retention. The Procuring Entity shall pay the Contractor the amounts certified by the Procuring Entity's Representative within twenty eight (28) days from the date each certificate was issued. Unless otherwise indicated in the **SCC**, no payment of interest for delayed payments and adjustments shall be made by the Procuring Entity.
- 40.4. The first progress payment may be paid by the Procuring Entity to the Contractor provided that at least twenty percent (20%) of the work has been accomplished as certified by the Procuring Entity's Representative.
- 40.5. Items of the Works for which a price of "0" (zero) has been entered will not be paid for by the Procuring Entity and shall be deemed covered by other rates and prices in the Contract.

**41. Payment Certificates**

- 41.1. The Contractor shall submit to the Procuring Entity's Representative monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 41.2. The Procuring Entity's Representative shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 41.3. The value of Work executed shall:
- (a) be determined by the Procuring Entity's Representative;
  - (b) comprise the value of the quantities of the items in the Bill of Quantities completed; and
  - (c) include the valuations of approved variations.
- 41.4. The Procuring Entity's Representative may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

**42. Retention**

- 42.1. The Procuring Entity shall retain from each payment due to the Contractor an amount equal to a percentage thereof using the rate as specified in **SCC** Clause 42.2.
- 42.2. Progress payments are subject to retention of ten percent (10%), unless otherwise specified in the **SCC**, referred to as the "retention money." Such retention shall be based on the total amount due to the Contractor prior to any deduction and shall be retained from every progress payment until fifty percent (50%) of the value of Works, as determined by the Procuring Entity, are completed. If, after fifty percent (50%)

completion, the Work is satisfactorily done and on schedule, no additional retention shall be made; otherwise, the ten percent (10%) retention shall again be imposed using the rate specified therefor.

- 42.3. The total “retention money” shall be due for release upon final acceptance of the Works. The Contractor may, however, request the substitution of the retention money for each progress billing with irrevocable standby letters of credit from a commercial bank, bank guarantees or surety bonds callable on demand, of amounts equivalent to the retention money substituted for and acceptable to the Procuring Entity, provided that the project is on schedule and is satisfactorily undertaken. Otherwise, the ten (10%) percent retention shall be made. Said irrevocable standby letters of credit, bank guarantees and/or surety bonds, to be posted in favor of the Government shall be valid for a duration to be determined by the concerned implementing office/agency or Procuring Entity and will answer for the purpose for which the ten (10%) percent retention is intended, *i.e.*, to cover uncorrected discovered defects and third party liabilities.
- 42.4. On completion of the whole Works, the Contractor may substitute retention money with an “on demand” Bank guarantee in a form acceptable to the Procuring Entity.

#### **43. Variation Orders**

- 43.1. Variation Orders may be issued by the Procuring Entity to cover any increase/decrease in quantities, including the introduction of new work items that are not included in the original contract or reclassification of work items that are either due to change of plans, design or alignment to suit actual field conditions resulting in disparity between the preconstruction plans used for purposes of bidding and the “as staked plans” or construction drawings prepared after a joint survey by the Contractor and the Procuring Entity after award of the contract, provided that the cumulative amount of the Variation Order does not exceed ten percent (10%) of the original project cost. The addition/deletion of Works should be within the general scope of the project as bid and awarded. The scope of works shall not be reduced so as to accommodate a positive Variation Order. A Variation Order may either be in the form of a Change Order or Extra Work Order.
- 43.2. A Change Order may be issued by the implementing official to cover any increase/decrease in quantities of original Work items in the contract.
- 43.3. An Extra Work Order may be issued by the implementing official to cover the introduction of new work necessary for the completion, improvement or protection of the project which were not included as items of Work in the original contract, such as, where there are subsurface or latent physical conditions at the site differing materially from those indicated in the contract, or where there are duly unknown physical conditions at the site of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the Work or character provided for in the contract.
- 43.4. Any cumulative Variation Order beyond ten percent (10%) shall be subject of another contract to be bid out if the works are separable from the original contract. In exceptional cases where it is urgently necessary to complete the original scope of work, the Head of the Procuring Entity may authorize a positive Variation Order go beyond ten percent (10%) but not more than twenty percent (20%) of the original

contract price, subject to the guidelines to be determined by the GPPB: *Provided, however,* That appropriate sanctions shall be imposed on the designer, consultant or official responsible for the original detailed engineering design which failed to consider the Variation Order beyond ten percent (10%).

43.5. In claiming for any Variation Order, the Contractor shall, within seven (7) calendar days after such work has been commenced or after the circumstances leading to such condition(s) leading to the extra cost, and within twenty-eight (28) calendar days deliver a written communication giving full and detailed particulars of any extra cost in order that it may be investigated at that time. Failure to provide either of such notices in the time stipulated shall constitute a waiver by the contractor for any claim. The preparation and submission of Variation Orders are as follows:

- (a) If the Procuring Entity's representative/Project Engineer believes that a Change Order or Extra Work Order should be issued, he shall prepare the proposed Order accompanied with the notices submitted by the Contractor, the plans therefore, his computations as to the quantities of the additional works involved per item indicating the specific stations where such works are needed, the date of his inspections and investigations thereon, and the log book thereof, and a detailed estimate of the unit cost of such items of work, together with his justifications for the need of such Change Order or Extra Work Order, and shall submit the same to the Head of the Procuring Entity for approval.
- (b) The Head of the Procuring Entity or his duly authorized representative, upon receipt of the proposed Change Order or Extra Work Order shall immediately instruct the technical staff of the Procuring Entity's to conduct an on-the-spot investigation to verify the need for the Work to be prosecuted. A report of such verification shall be submitted directly to the Head of the Procuring Entity or his duly authorized representative.
- (c) The, Head of the Procuring Entity or his duly authorized representative, after being satisfied that such Change Order or Extra Work Order is justified and necessary, shall review the estimated quantities and prices and forward the proposal with the supporting documentation to the Head of Procuring Entity for consideration.
- (d) If, after review of the plans, quantities and estimated unit cost of the items of work involved, the proper office of the procuring entity empowered to review and evaluate Change Orders or Extra Work Orders recommends approval thereof, Head of the Procuring Entity or his duly authorized representative, believing the Change Order or Extra Work Order to be in order, shall approve the same.
- (e) The timeframe for the processing of Variation Orders from the preparation up to the approval by the Head of the Procuring Entity concerned shall not exceed thirty (30) calendar days.

**44. Contract Completion**

Once the project reaches an accomplishment of ninety five (95%) of the total contract amount, the Procuring Entity may create an inspectorate team to make preliminary inspection and submit a punch-list to the Contractor in preparation for the final turnover of the project. Said punch-list will contain, among others, the remaining Works, Work deficiencies for necessary corrections, and the specific duration/time to fully complete the project considering the approved remaining contract time. This, however, shall not preclude the claim of the Procuring Entity for liquidated damages.

**45. Suspension of Work**

45.1. The Procuring Entity shall have the authority to suspend the work wholly or partly by written order for such period as may be deemed necessary, due to *force majeure* or any fortuitous events or for failure on the part of the Contractor to correct bad conditions which are unsafe for workers or for the general public, to carry out valid orders given by the Procuring Entity or to perform any provisions of the contract, or due to adjustment of plans to suit field conditions as found necessary during construction. The Contractor shall immediately comply with such order to suspend the work wholly or partly.

45.2. The Contractor or its duly authorized representative shall have the right to suspend work operation on any or all projects/activities along the critical path of activities after fifteen (15) calendar days from date of receipt of written notice from the Contractor to the district engineer/regional director/consultant or equivalent official, as the case may be, due to the following:

- (a) There exist right-of-way problems which prohibit the Contractor from performing work in accordance with the approved construction schedule.
- (b) Requisite construction plans which must be owner-furnished are not issued to the contractor precluding any work called for by such plans.
- (c) Peace and order conditions make it extremely dangerous, if not possible, to work. However, this condition must be certified in writing by the Philippine National Police (PNP) station which has responsibility over the affected area and confirmed by the Department of Interior and Local Government (DILG) Regional Director.
- (d) There is failure on the part of the Procuring Entity to deliver government-furnished materials and equipment as stipulated in the contract.
- (e) Delay in the payment of Contractor's claim for progress billing beyond forty-five (45) calendar days from the time the Contractor's claim has been certified to by the procuring entity's authorized representative that the documents are complete unless there are justifiable reasons thereof which shall be communicated in writing to the Contractor.

45.3. In case of total suspension, or suspension of activities along the critical path, which is not due to any fault of the Contractor, the elapsed time between the effective order of

suspending operation and the order to resume work shall be allowed the Contractor by adjusting the contract time accordingly.

**46. *Payment on Termination***

- 46.1. If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Procuring Entity's Representative shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the SCC. Additional Liquidated Damages shall not apply. If the total amount due to the Procuring Entity exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.
- 46.2. If the Contract is terminated for the Procuring Entity's convenience or because of a fundamental breach of Contract by the Procuring Entity, the Procuring Entity's Representative shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.
- 46.3. The net balance due shall be paid or repaid within twenty eight (28) days from the notice of termination.
- 46.4. If the Contractor has terminated the Contract under **GCC** Clauses 17 or 18, the Procuring Entity shall promptly return the Performance Security to the Contractor.

**47. *Extension of Contract Time***

- 47.1. Should the amount of additional work of any kind or other special circumstances of any kind whatsoever occur such as to fairly entitle the contractor to an extension of contract time, the Procuring Entity shall determine the amount of such extension; provided that the Procuring Entity is not bound to take into account any claim for an extension of time unless the Contractor has, prior to the expiration of the contract time and within thirty (30) calendar days after such work has been commenced or after the circumstances leading to such claim have arisen, delivered to the Procuring Entity notices in order that it could have investigated them at that time. Failure to provide such notice shall constitute a waiver by the Contractor of any claim. Upon receipt of full and detailed particulars, the Procuring Entity shall examine the facts and extent of the delay and shall extend the contract time completing the contract work when, in the Procuring Entity's opinion, the findings of facts justify an extension.
- 47.2. No extension of contract time shall be granted the Contractor due to (a) ordinary unfavorable weather conditions and (b) inexcusable failure or negligence of Contractor to provide the required equipment, supplies or materials.
- 47.3. Extension of contract time may be granted only when the affected activities fall within the critical path of the PERT/CPM network.
- 47.4. No extension of contract time shall be granted when the reason given to support the request for extension was already considered in the determination of the original



contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection.

- 47.5. Extension of contract time shall be granted for rainy/unworkable days considered unfavorable for the prosecution of the works at the site, based on the actual conditions obtained at the site, in excess of the number of rainy/unworkable days pre-determined by the Procuring Entity in relation to the original contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection, and/or for equivalent period of delay due to major calamities such as exceptionally destructive typhoons, floods and earthquakes, and epidemics, and for causes such as non-delivery on time of materials, working drawings, or written information to be furnished by the Procuring Entity, non-acquisition of permit to enter private properties within the right-of-way resulting in complete paralyzation of construction activities, and other meritorious causes as determined by the Procuring Entity's Representative and approved by the Head of the Procuring Entity. Shortage of construction materials, general labor strikes, and peace and order problems that disrupt construction operations through no fault of the Contractor may be considered as additional grounds for extension of contract time provided they are publicly felt and certified by appropriate government agencies such as DTI, DOLE, DILG, and DND, among others. The written consent of bondsmen must be attached to any request of the Contractor for extension of contract time and submitted to the Procuring Entity for consideration and the validity of the Performance Security shall be correspondingly extended.

**48. Price Adjustment**

Except for extraordinary circumstances as determined by NEDA and approved by the GPPB, no price adjustment shall be allowed unless otherwise specified in the **SCC**.

**49. Completion**

The Contractor shall request the Procuring Entity's Representative to issue a certificate of Completion of the Works, and the Procuring Entity's Representative will do so upon deciding that the work is completed.

**50. Taking Over**

The Procuring Entity shall take over the Site and the Works within seven (7) days from the date the Procuring Entity's Representative issues a certificate of Completion.

**51. Operating and Maintenance Manuals**

- 51.1. If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **SCC**.
- 51.2. If the Contractor does not supply the Drawings and/or manuals by the dates stated in the **SCC**, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative shall 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	
1.16	The <b>Intended Completion Date</b> is <i>100 Calendar Days after the effectivity of the Notice to Proceed.</i>
1.21	The <b>Procuring Entity</b> is:  <i>Philippine Ports Authority, Port Management Office of Negros Oriental/Siquijor Port Area, Brgy. Looc, Dumaguete City</i>
1.22	The <b>Procuring Entity's Representative</b> is :  <b>Atty. SARAH R. MIJARES</b> <b>Port Manager</b>
1.23	The <b>Site</b> is located at <i>Port of Bulado, Guihulngan City</i> and is defined in drawing Nos. 1.
1.27	The <b>Start Date</b> is seven (7) calendar days after the signing of the Notice to Proceed.
1.30	The <b>Works</b> consist of :  <i>1.0 General Expenses 2.0 Construction of Comfort Room for PWDs 3.0 Supply and Install Floor Mounted &amp; Wall Mounted Split-Type Air-Conditioning Units 4.0 Electrical System 5.0 Provision of Public Address System 6.0 Comfort Room Fixtures and Amenities 7.0 Glass Panel Doors, Windows and Partition Wall 8.0 Painting/Repainting Works 9.0 Installation of Stainless Railings for PWDs</i>
2.2	None.
5.1	The <b>Procuring Entity</b> shall give possession of all parts of the Site to the Contractor [ <i>seven (7) calendar days after the signing of the Notice to Proceed</i> ].
6.5	The Contractor shall employ the following <b>Key Personnel</b> :  <i>1) Project Engineer 2) Materials Engineer 3) Construction Safety and Health Officer 4) Foreman</i>

7.1	No further instructions.
7.4 ( c)	<i>Issued Certificate of Completion and Certificate of Acceptance.</i>
8.1	No further instructions.
9.1	The applicable liquidated damages is at least one tenth (1/10) of one percent of the cost of the unperformed portion for every day of delay. The maximum deduction shall be ten percent (10%) of the amount of the contract, the Procuring Entity shall rescind the contract, without prejudice to other courses of action and remedies open to it.
10	The site investigation reports are: <i>[list here or state none]</i>
12.5	<i>In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures: Fifteen (15) years.</i>  <i>In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures: Five (5) years.</i>  <i>In case of other structures, such as Bailey and wooden bridges, shallow wells, spring developments, and other similar structures: Two (2) years.</i>
13	<i>If Contractor is a joint venture, “All partners to the joint venture shall be jointly and severally liable to the Procuring Entity.”</i>
21.2	The Arbiter is: (To be appointed)
21.3	No further instructions.
26.1	No further instructions.
29.1	No dayworks are applicable to the contract.
31.1	The Contractor shall submit the Program of Work to the Procuring Entity’s Representative within ____ days of delivery of the Letter of Acceptance.
31.3	The period between Program of Work updates is ____ days. The amount to be withheld for late submission of an updated Program of Work is _____.
34.3	The Funding Source is the Philippine Ports Authority Corporate Budget for CY 2016.

37.1	No further instructions.
39.1	The amount of the advance payment is fifteen percent (15%) of the Contract Price.
40.1	<i>If the Funding Source is GOP, maintain the GCC Clause and state here:</i> No further instructions.
40.3	No further instructions.
42.2	No further instructions.
48	No further instructions.
51.1	The date by which operating and maintenance manuals are required is _____.  The date by which “as built” drawings are required is _____.
51.2	The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required is _____.

## **Section VI. Technical Specifications**

## **DEMOLITION AND REMOVAL WORKS**

### ***DESCRIPTION***

The work includes the furnishing of all labor, materials and equipment required to carry out the demolition and removal of affected parts of existing Passenger Terminal Building (PTB), as required for the execution of the Contract.

The Contractor shall keep all parts of the PTB and landing areas to and from the site of the disposal area clean and free of mud, dirt and debris during and after the execution of disposal. Disposal of debris and materials shall be as directed by the Engineer.

### ***GENERAL PROVISIONS***

1. The Contractor shall be deemed to have satisfied himself of the site conditions, and to have included in his unit prices provision for all risks that may arise during or in connection with the work.
2. The demolition shall be carried out by approved methods and equipment such as concrete breakers, gas-cutters, hydraulic jacks, compressed air disintegrators, etc., however, no blasting shall be used unless approved in writing by the Engineer and after obtaining the written permission of the concerned authorities.
3. The Contractor shall provide suitable equipment, skilled labor and appropriate temporary works such as scaffoldings to ensure safety in his demolition works as well as in the adjacent area.
4. Contractor shall demolish all the structural members above the level on which the subsequent and permanent works under this Contract will begin.
5. Materials coming from the demolition works, except general earth, shall remain the property of the Procuring Entity, the designated part of which shall be stored by the Contractor at places specified by the Engineer.

### ***INTERFERENCE WITH PORT OPERATIONS***

During the execution of the work, the Contractor shall not interfere with the passengers, tenants and other traffic inside the PTB and its premises.

The Contractor shall make arrangements with the operations people on the schedule of demolition and related works to keep port operation activities undisturbed at all times.

Prior to commencement of the demolition works, the Contractor shall inform/announce to port users the schedule of disconnection of utilities.

## **STORAGE AND DUMPING**

Prior to the commencement of the demolition work, the Engineer shall submit to the Contractor a list in which all the materials to be salvaged and overhauled, as property of PPA, and the description of the location of their storage. Materials embedded in concrete units shall not be salvaged.

The Contractor shall separate materials to be salvaged from debris. Salvaged materials shall be loaded, transported and unloaded by the Contractor at the specified locations.

## ***EXECUTION***

1. Prior to the commencement of demolition works, the alignments of the new construction works to existing structure shall be checked.
2. The width and alignment of portion of existing structure to be demolished shall be marked by paint.
3. With these lines as guides, concrete shall be broken and reinforcing bars cut, such that panels or portions of the structure can be lifted out for disposal elsewhere outside of the operational work area.
4. Materials coming from the demolition works shall be properly disposed by the Contractor.

## **SAFETY**

During the course of survey and clearing, any obstacles which are recognized and seemed to be explosive or hazardous to workers shall be removed from the site by the proper Authority.

At the end of each day's work, the Contractor shall keep the workplace in safe condition and clean so that no part is in danger of falling or creating hazard to personnel or equipment.



## CONCRETE WORKS

### GENERAL

General Requirements contain provisions and requirements essential to these specifications; and apply to this Section, whether or not referred to herein.

### SCOPE OF WORK

The work shall include reinforced concrete structures such as reinforced concrete wave deflector, drainage system, beams, columns and piles.

The work shall consist of furnishing of all labor, materials, equipment and other incidentals necessary for the supply of concrete materials and the complete construction of the concrete structures for the structure shown on the drawings in accordance with these specifications and as directed by the Engineer.

### GENERAL REQUIREMENTS

Concrete works shall conform with the requirements of "Reinforced Concrete" except noted otherwise in this Section.

### SHOP DRAWINGS

Together with requirements, the Contractor shall show the following in the shop drawings:

1. Surface finish
2. Fitting to be embedded

### MATERIAL REQUIREMENTS

1. Concrete shall consist of Portland cement, fine and coarse aggregates and water and shall conform with the requirements of "Reinforced Concrete".
2. Deformed bars to be used shall conform with the reinforcement requirements in Section of "Reinforced Concrete". The size shall be as shown on the drawings.

The supplier is required to submit a "Mill Certificate" that the materials delivered to site shall be proven to meet or exceed the following properties:

TECHNICAL PROPERTIES	Unit	Minimum
A. Physical Characteristics:		
Length	Mm	12
Shape	Microns	18
Density	gm nominal	0.91

## FORMWORKS

### GENERAL REQUIREMENTS

Materials and construction of formwork shall be in accordance with formwork requirements in Reinforced Concrete.

## CONCRETE

### CLASSES OF CONCRETE AND USAGE

1. Strength Requirement

Concrete strength shall conform with the requirements in Section of "Reinforced Concrete".

### SLUMP TEST

Tests shall be made in conformity with ASTM C 143, and unless otherwise specified by the Engineer, slump shall be within the following limits:

Structural Element	Slump for Vibrated Concrete	
	Minimum (mm)	Maximum (mm)
Pre-cast concrete pile	80	180
Wave deflector, wall, column, beam	70	150
Lean concrete	70	150

### CONCRETE COVER FOR REINFORCEMENT

Minimum concrete cover for reinforcement shall be as follows:

Net Concrete Cover	Minimum Cover (mm)
Concrete cast against and permanently exposed to earth	75
Concrete exposed to earth or weather:	
Primary reinforcement	50
Stirrups, ties, and spirals	40

### CONSTRUCTION JOINTS AND WATERSTOPS

Construction joints shall be provided where shown on the drawings or when approved with written permission of the Engineer. Special care shall be used in preparing concrete surfaces at joints where bonding between two sections of concrete is required. Unless otherwise indicated on the drawings, such bonding will be required at all horizontal joints in

## REINFORCED CONCRETE

### SCOPE OF WORK

All works falling under this Section shall include reinforced concrete for all kinds and parts of any reinforced concrete structure.

### GENERAL PROVISIONS

1. Full cooperation shall be given to the other trades to install embedded items. Suitable templates or instructions will be provided for setting, items shall have been inspected, and tests for concrete or other materials or for mechanical operations shall have been completed and approved.
2. The following publications of the issues listed below, but referred to thereafter by basic designation only, form as an integral part of this Specification to the extent indicated by the reference thereto:

- a. American Concrete Institute (ACI) Standards:

ACI 117 Standard Specifications for Tolerances for Concrete Construction and Materials

ACI 121R Quality Management System for Concrete Construction

ACI 201.2R Guide to Durable Concrete

ACI 211.1 Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete

ACI 214R Recommended Practice for Evaluation of Strength Test Results of Concrete

ACI 301 Specifications for Structural Concrete

ACI 304.2R Placing Concrete by Pumping Methods

ACI 304R Guide for Measuring, Mixing, Transporting, and Placing Concrete

ACI 305 Hot Weather Concreting

ACI 306.1 Standard Specification for Cold Weather Concreting

ACI 308R Guide to Curing Concrete

ACI 309R Guide for Consolidation of Concrete

ACI 311.4R Guide for Concrete Inspection

ACI 318M Metric Building Code Requirements for Structural Concrete and Commentary

- ACI 347      Guide to Formwork for Concrete
- ACI SP-15    Field Reference Manual: Standard Specifications for  
Structural Concrete with Selected ACI and ASTM References
- ACI SP-2      ACI Manual of Concrete Inspection

b. American Society for Testing and Materials (ASTM) Publications:

- ASTM A 185 Standard Specification for Steel Welded Wire Reinforcement,  
Plain, for Concrete
- ASTM A 496 Standard Specification for Steel Wire, Deformed, for  
Concrete Reinforcement
- ASTM A 497 Standard Specification for Steel Welded Wire Reinforcement,  
Deformed, for Concrete
- ASTM A 615 Standard Specification for Deformed and Plain Carbon-Steel  
Bars for Concrete Reinforcement
- ASTM A 706 Standard Specification for Low-Alloy Steel Deformed and Plain  
Bars for Concrete Reinforcement
- ASTM A 82 Standard Specification for Steel Wire, Plain, for Concrete  
Reinforcement Standard Specification for Epoxy-Coated
- ASTM A 934 Prefabricated Steel Reinforcing Bars
- ASTM C 1017 Standard Specification for Chemical Admixtures for  
use in Producing Flowing Concrete
- ASTM C 1064 Standard Test Method for Temperature of Freshly  
Mixed Hydraulic-Cement Concrete
- ASTM C 1077 Standard Practice for Laboratories Testing Concrete and  
Concrete Aggregates for use in Construction and Criteria  
for Laboratory Evaluation
- ASTM C 1107 Standard Specification for Packaged Dry,  
Hydraulic-Cement Grout (Non-shrink)
- ASTM C 1157 Standard Specification for Hydraulic Cement
- ASTM C 1202 Standard Test Method for Electrical Indication of Concrete's  
Ability to Resist Chloride Ion Penetration
- ASTM C 1218 Standard Specification for Water-Soluble Chloride in  
Mortar and Concrete

ASTM C 1240 Standard Specification for Silica Fume used in  
Cementitious Mixtures

- c. American Welding Society (AWS)
  - D 12 Welding Reinforcing Steel, Metal Inserts and Connections  
in Reinforced Concrete Construction.
- c. All other standards hereinafter indicated.
- d. The edition or the revised version of such codes and standards current at the date twenty eight (28) days prior to date of bid submission shall apply. During Contract execution, any changes in such codes and standards shall be applied after approval by the Owner.

**SUBMITTALS**

- 1. Test Reports and Certificates shall be furnished and approval received before delivery of certified or tested materials to the Project Sites.
  - a. Submit Test Reports for the following:
    - a.1 Concrete mixture proportions  

Submit copies of test reports by independent test labs conforming to ASTM C 1077 showing that the mixture has been successfully tested to produce concrete with the properties specified and that mixture will be suitable for the job conditions. Test reports shall be submitted along with the concrete mixture proportions. Obtain approval before concrete placement. Fully describe the processes and methodology whereby mixture proportions were developed and tested and how proportions will be adjusted during progress of the work to achieve, as closely as possible, the designated levels of relevant properties.
    - a.2 Aggregates  

Submit test results for aggregate quality in accordance with ASTM C 33. Where there is potential for alkali-silica reaction, provide results of tests conducted in accordance with ASTM C 227 or ASTM C 1260. Submit results of all tests during progress of the work in tabular and graphical form as noted above, describing the cumulative combined aggregate grading and the percent of the combined aggregate retained on each sieve.
    - a.3 Cement  

Submit test results in accordance with ASTM C 150 Portland cement and/or ASTM C 595 and ASTM C 1157 for blended cement. Submit current mil data.

## MATERIAL REQUIREMENTS

### CEMENT

Unless otherwise specified in the Drawings, only one (1) brand of cement shall be used for any individual structure. In determining the approved mix, only Portland cement shall be used as the cementitious material.

1. Portland Cement: ASTM C 150  
Type I (for general use in construction)

### ADMIXTURE (IF NECESSARY)

Unless otherwise required by field conditions, admixture may be used subject to the expressed approval of the Engineer. The cost of which shall already be included in the unit cost bid of the Contractor for the concrete.

1. Air Entraining Admixture shall conform to ASTM C 260.
2. Admixture other than air entraining agent shall conform to ASTM C 494.
3. Admixture containing chloride ions, or other ions producing deleterious effect shall not be used.

### AGGREGATES

1. Crushed Coarse Aggregate

Conforming to ASTM C 33 and having nominal sizes passing 38.0 mm to 19.0 mm, 19.0 mm to 9.5 mm to No. 4 sieve. The material shall be well graded between the limits indicated and individually stockpiled. It shall be the Contractor's responsibility to blend the materials to meet the gradation requirements for various types of concrete as specified herein.

Nominal sizes for combined gradation shall be as follows:

ASTM Sieves	Nominal Size of Coarse Aggregates			
	% by Weight Passing			
	40 mm	25 mm	19 mm	10 mm
50.0mm (2")	100	-	-	-
38.0mm (1 1/2")	95 - 100	100	-	-
31.8mm (1 1/4")	-	90 - 100	100	-
25.0mm (1")	-	-	90 - 100	-
19.0mm (3/4")	35 - 70	25 - 90	-	100
16.0mm (5/8")	-	-	20 - 55	85 - 100
9.5mm (3/8")	10 - 30	0 - 10	0 - 10	0 - 20
No. 4	0 - 5			

2. Fine Aggregate

ASTM C 33 except for gradation which has been revised to meet local conditions unless otherwise required by the Engineer, grading of fine aggregate shall be as follows:

ASTM Sieves	% by Weight Passing
9.5mm (3/8")	100
No. 4	90 – 100
No. 8	80 – 100
No. 16	50 – 90
No. 30	25 – 60
No. 50	10 – 30
No. 100	2 - 10

- a. Grading of fine aggregates shall be reasonably uniform and fineness modulus thereof shall not vary more than 0.2 from that of the representative sample in which mix proportions of concrete are based.
- b. Due care shall be taken to prevent segregation.

## WATER

The mixing water shall be clear and apparently clean. If it contains quantities or substances that discolor it or make it smell or taste unusual or objectionable, or use suspicion, it shall not be used unless service records of concrete made with it (or other information) indicated that it is not injurious to the quality, shall be subject to the acceptance criteria as shown in Table 3.3 and Table 3.4 or as designated by the purchaser.

When wash water is permitted, the producer will provide satisfactory proof or data of non-detrimental effects if potentially reactive aggregates are to be used. Use of wash water will be discontinued if undesirable reactions with admixtures or aggregates occur.

Wash water reused as mixing water in concrete may exceed the listed concentrations of sulfate if it can be shown that the concentration calculated in the total mixing water, including mixing water on the aggregate and other sources, does not exceed that stated limits.

Water will be tested in accordance with, and shall meet the suggested requirements of AASHTO T 26.

Water known to be of potable quality may be used without test.

## CURING MATERIALS

1. Impervious Sheet Materials

ASTM C 171 type, optional, except that polyethylene film, if used, shall be white opaque.

2. Burlap of commercial quality, non-staining type, consisting of 2 layers minimum.

3. Membrane Forming Curing Compound

ASTM C 309; submit evidence that product conforms to specifications.

## **REINFORCEMENT**

Steel reinforcement, other than Steel for Pre-stressing, used in Reinforced Concrete, shall conform to ASTM as follows:

ASTM Designation A615 - Deformed Billet Steel Bars for Concrete Reinforcement. Minimum yield strength of 276 MPa (40,000 psi), for 12mm dia. and below. Minimum yield strength of 414 MPa (60,000 psi), for 16mm dia. and above,

## **TIE WIRE**

Tie wire shall be plain, cold drawn annealed steel wire 1.6 mm diameter.

## **SAMPLES AND TESTING**

### **1. Cement**

Sampled either at the mill or at the site of work and tested by an independent commercial or government testing laboratory duly accredited by the Bureau of Research and Standards (BRS) of the DPWH, Department of Science and Technology (DOST) or the Department of Trade and Industry (DTI) at no additional cost to PPA. Certified copies of laboratory test reports shall be furnished for each lot of cement and shall include all test data, results, and certificates that the sampling and testing procedures are in conformance with the Specifications. No cement shall be used until notice has been given by the Engineer that the test results are satisfactory. Cement that has been stored, other than in bins at the mills, for more than 3 months after delivery to the Site shall be re-tested before use. Cement delivered at the Site and later found after test to be unsuitable shall not be incorporated into the permanent works.

### **2. Aggregates: Tested as prescribed in ASTM C 33**

At least 28 days prior to commencing the work, the Contractor shall inform the Engineer of the proposed source of aggregates and provide access for sampling.

Gradation tests will be made on each sample without delay. All other aggregates tests required by these Specifications shall be made on the initial source samples, and shall be repeated whenever there is a change of source. The tests shall include an analysis of each grade of material and an analysis of the combined material representing the aggregate part of the mix.

### **3. Reinforcement**

Certified copies of mill certificates shall accompany deliveries of steel bar reinforcement. If requested by the Engineer additional testing of the materials shall be made at the Contractor's expense.

### **4. Concrete Tests**

For test purposes, provide four (4) sets of test specimens taken under the instruction of the Engineer from each 50 cu.m. or fraction thereof of each class of concrete placed. At least one (1) set of test specimen shall be provided for each class of concrete placed in each 8-hour shift. Each shall consist of two test specimens, and shall be made from a separate batch.



Samples shall be secured in conformance with ASTM C 172. Tests specimens shall be made, cured, and packed for shipment in accordance with ASTM C 31. Cylinders will be tested by and at the expense of the Contractor in accordance with ASTM C 39. Test specimens will be evaluated separately by the Engineer, for meeting strength level requirements for each with concrete quality of ACI 318. When samples fail to conform to the requirements for strengths, the Engineer shall have the right to order a change in the proportions of the concrete mix for the remaining portions of the work at no additional cost to the Authority.

5. Test of Hardened Concrete in or Removed from the Structure

When the results of the strength tests of the concrete specimens indicates the concrete as placed does not meet the Specification requirements or where there are other evidences that the quality of concrete is below the specification requirement in the opinion of the Engineer, tests on cores of in-place concrete shall be made in conformance with ASTM C 42.

Core specimens shall be obtained by the Contractor and shall be tested. Any deficiency shall be corrected or if the Contractor elects, he may submit a proposal for approval before the load test is made. If the proposal is approved, the load test shall be made by the Contractor and the test results evaluated by the Engineer in conformance with Chapter 20 of ACI 318\_ The cost of the load tests shall be borne by the Contractor. If any concrete shows evidence of failure during the load test, or fails the load test as evaluated, the deficiency be corrected in a manner approved by the Engineer at no additional cost to the Authority.

6. Admixtures/Additives

The admixtures/additives if approved shall be tested for conformance to the referenced specification under which it is furnished. The testing shall be conducted with cement and aggregate proposed for the Project. The admixtures/additives shall be tested and those that have been in storage at the Project Site for longer than six (6) months shall not be used until proven by retest to be satisfactory.

Five (5) liters of samples of any admixtures/additives proposed by the Contractor shall be submitted for testing at least 56 days in advance of use, which shall require approval of the Engineer. Testing of admixtures/additives proposed by the Contractor including test mixing and cylinder test shall be at the Contractor's expense.

7 Jointing Materials and Curing Compound Samples

At least 28 days prior to commencing the work, the Contractor shall submit to the Engineer for his approval samples of the following materials proposed for use together with manufacturer's certificate.

- a. 10 kg of joint sealant
- b. 1m length of joint filler
- c. 5 li. of curing compound
- d. 1m length of joint backing

The Engineer shall deliver to the Contractor his assessment on the materials within seven (7) days after receiving them.

## **EXECUTION**

### **DELIVERY, STORAGE AND HANDLING OF MATERIALS**

#### **1. Cement**

Do not deliver concrete until vapor barrier, forms, reinforcement, embedded items, and chamfer strips are in place and ready for concrete placement. ACI 301 and ASTM A 934 for job site storage of materials. Protect materials from contaminants such as grease, oil, and dirt. Ensure materials can be accurately identified after bundles are broken and tags removed.

Immediately upon receipt at the Site, the cement shall be stored separately in dry weathertight, properly ventilated structures with adequate provisions for prevention of absorption of moisture. Storage accommodations for concrete materials shall be subject to approval and shall afford easy access for inspection and identification of each shipment in accordance with test reports.

Cement shall be delivered to the Site in bulk or in sound and properly sealed bags and while being loaded or unloaded and during transit to the concrete mixers whether conveyed in vehicles or in mechanical means, cement shall be protected from weather by effective coverings. Efficient screens shall be supplied and erected during heavy winds.

If the cement is delivered in bulk, the Contractor shall provide, at his own cost, approved silos of adequate size and numbers to store sufficient cement to ensure continuity of work and the cement shall be placed in these silos immediately after it has been delivered to the Site. Approved precautions shall be taken into consideration during unloading to ensure that the resulting dust does not constitute a nuisance.

If the cement is delivered in bags, the Contractor shall provide, at his own cost, perfectly waterproofed and well ventilated sheds having a floor of wood or concrete raised at least 0.5m above the ground. The sheds shall be large enough to store sufficient cement to ensure continuity of the work and each consignment shall be stacked separately therein to permit easy access for inspection, testing and approval. Upon delivery, the cement shall at once be placed in these sheds and shall be used in the order in which it has been delivered.

Cement bags should not be stacked more than 13 bags high. All cement shall be used within two months of the date of manufacture. If delivery conditions render this impossible, the Engineer may permit cement to be used up to three (3) months after manufacturing, subject to such conditions including addition of extra cement as he shall stipulate.

#### **2. Aggregate**

All fine and coarse aggregate for concrete shall be stored on design, steel or concrete stages design with drainage slopes or in bins of substantial construction in such a manner as to prevent segregation of sizes and to avoid the inclusion of dirt and other foreign materials in the concrete. All such bins shall be emptied and cleaned at intervals of every six (6) months or as required by the Engineer. Each size of aggregate shall be stored separately unless otherwise approved by the Engineer.

Stockpiles of coarse aggregate shall be built in horizontal layers not exceeding 1.2 m in depth to minimize segregation.

## FORMWORK

### 1. Forms

Designed, constructed, and maintained so as to insure that after removal of forms the finished concrete members will have true surfaces free of offset, waviness or bulges and will conform accurately to the indicated shapes, dimensions, lines, elevations and positions. Form surfaces that will be in contact with concrete shall be thoroughly cleaned before each use.

### 2. Design

Studs and wales shall be spaced to prevent deflection of form material. Forms and joints shall be sufficiently tight to prevent leakage of grout and cement paste

during placing of concrete. Juncture of formwork panels shall occur at vertical control joints, and construction joints. Forms placed on successive units for continuous surfaces shall be fitted in accurate alignment to assure smooth completed surfaces free from irregularities and signs of discontinuity. Temporary opening shall be arranged to wall and where otherwise required to facilitate cleaning and inspection. Forms shall be readily removable without impact, shock, or damage to the concrete.

### 3. Form Ties

Factory fabricated, adjustable to permit tightening of the forms, removable or snap-off metal of design that will not allow form deflection and will not spall concrete upon removal. Bolts and rods that are to be completely withdrawn shall be coated with a non-staining bond breaker. Ties shall be of the type which provides watertight concrete.

### 4. Chamfering

External comers that will be exposed shall be chamfered, beveled, or rounded by moldings placed in the forms or as indicated in the drawings.

### 5. Coatings

Forms for exposed surfaces shall be coated with form oil or form-release agent before reinforcement is placed. The coating shall be a commercial formulation of satisfactory and proven performance that will not bond with, stain, or adversely affect concrete surfaces, and shall not impair subsequent treatment of concrete surfaces depending upon bond or adhesion nor impede the wetting of surfaces to be cured with water or curing compounds. The coating shall be used as recommended in the manufacturer's printed or written instructions. Forms for unexposed surfaces may be wet with water in lieu of coating immediately before placing of concrete. Surplus coating on form surfaces and coating on reinforcement steel and construction joints shall be removed before placing concrete.

### 6. Removal of Forms shall be done in a manner as to prevent injury to the concrete and to insure complete safety of the structure after the following conditions have been met. Where the structure as a whole is supported on shores, forms for beam and girder sides, and similar vertical structural members may be removed before expiration of curing period. Care shall be taken to avoid spalling the concrete surface or damaging concrete edges. Wood forms shall be completely removed.

Minimum stripping and striking time shall be as follows unless otherwise approved by the Engineer.

7. Control Test

If the Contractor proposes to remove forms earlier than the period stated above, he shall be required to submit the results of control tests showing evidence that concrete has attained sufficient strength to permit removal of supporting forms. Cylinders required for control tests shall be provided in addition to those otherwise required by this Specification. Test specimens shall be removed from molds at the end of 24 hours and stored in the structure as near the points as practicable, the same protection from the elements during curing as is given to those portions of the structure which they represent, and shall not be removed from the structure for transmittal to the laboratory prior to expiration of three fourths of the proposed period before removal of forms. Cylinders will be tested by and at the expense of the Contractor. Supporting forms or shoring shall not be removed until control test specimens have attained strength of at least 160 kg/sq cm. The newly unsupported portions of the structure shall not be subjected to heavy construction or material loading.

**REINFORCEMENT**

1. Reinforcement

Fabricated to shapes and dimensions shown and shall be placed where indicated. Reinforcement shall be free of loose or flaky rust and mill scale, or coating, and any other substance that would reduce or destroy the bond\_ Reinforcing steel reduced in section shall not be used. After any substantial delay in the work, previously placed reinforcing steel for future bonding shall be inspected and cleaned. Reinforcing steel shall not be bent or straightened in a manner injurious to the steel or concrete. Bars with kinks or bends not shown in the drawings shall not be placed. The use of heat to bend or straighten reinforcing steel shall not be permitted. Bars shall be moved as necessary to avoid interference with other reinforcing steel, conduits, or embedded items. If bars are moved more than one bar diameter, the resulting arrangement of bars including additional bars necessary to meet structural requirements shall be approved before concrete is placed. In slabs, beams and girders, reinforcing steel shall not be spliced at points of maximum stress unless otherwise indicated. Unless otherwise shown in the drawings, laps or splices shall be 40 times the reinforcing bar diameter.

2. The nominal dimensions and unit weights of bars shall be in accordance with the following table:

Nominal Diameter (mm)	Nominal Perimeter (mm)	Nominal Sectional Area (sq. mm.)	Unit Weight (kg./m.)
10	31.4	78.54	0.616
12	37.7	113.10	0.888
16	50.3	201.10	1.579

3. Welding of reinforcing bars shall only be permitted where shown; all welding shown shall be performed in accordance with AM D 12.1.

4. Exposed reinforcement bars, dowels and plates intended for bonding with future extensions shall be protected from corrosion.

5. Supports shall be provided in conformance with ACI 315 and ACI 318, unless otherwise indicated or specified.
6. Concrete Protection for Reinforcement
  - a. The minimum concrete cover of reinforcement shall be as shown below unless otherwise indicated in the drawings.
  - b. Tolerance for Concrete Cover of Reinforcing Steel other than Tendons.

Minimum Cover

7.5cm or more (marine structures and concrete cast against and permanently exposed to earth)

### **DESIGN STRENGTH OF CONCRETE**

Concrete for structural parts or members such as RC wall, beams and columns shall develop a minimum 28-day compressive cylinder strength of 24 Mpa (3,500 psi) as indicated in the drawings.

### **TRIAL BATCH FOR CONCRETE**

Slump Test shall be made in conformance with ASTM C143, and unless otherwise specified by the Engineer, slump shall be within the following limits:

<b>Structural Element</b>	<b>Slump for Vibrated Concrete</b>	
	<b>Minimum</b>	<b>Maximum</b>
Lean Concrete	100mm	200mm
Sacked Concrete	25mm	50mm
All Other Concrete	50mm	90mm

Sampling : Provide suitable facilities and labor for obtaining representative samples of concrete for the Contractor's quality control and the Engineer's quality assurance testing. All necessary platforms, tools and equipment for obtaining samples shall be furnished by the Contractor.

### **MIXING CONCRETE**

#### **1. GENERAL**

- a. Concrete shall be thoroughly mixed in a mixer of an approved size and type that will insure a uniform distribution of the materials throughout the mass.
- b. All concrete shall be mixed in mechanically operated mixers. Mixing plant and equipment for transporting and placing concrete shall be arranged with an ample auxiliary installation to provide a minimum supply of concrete in case of breakdown of machinery or in case the normal supply of concrete is disrupted. The auxiliary supply of concrete shall be sufficient to complete the casting of a section up to a construction joint that will meet the approval of the Engineer.

- c. Equipment having components made of aluminum or magnesium alloys, which would be in contact with plastic concrete during mixing, transporting or pumping of Portland cement concrete, shall not be used.
- d. Concrete mixers shall be equipped with adequate water storage and a device for accurately measuring and automatically controlling the amount of water used.
- e. Materials shall be measured by weighing. The apparatus provided for weighing the aggregates and cement shall be suitably designed and constructed for this purpose. The accuracy of all weighing devices except that for water shall be such that successive quantities can be measured to within one percent of the desired amounts. The water measuring device shall be accurate to plus or minus 0.5 percent. All measuring devices shall be subject to the approval of the Engineer. Scales and measuring devices shall be tested at the expense of the Contractor as frequently as the Engineer may deem necessary to insure their accuracy.
- f. Weighing equipment shall be insulated against vibration or movement of other operating equipment in the plant. When the entire plant is running, the scale reading at cut-off shall not vary from the weight designated by the Engineer by more than one percent for cement, 1-1/2 percent for any size of aggregate, or one percent for the total aggregate in any batch.
- g. Manual mixing of concrete shall not be permitted unless approved by the Engineer.

## **2. MIXING CONCRETE AT SITE**

- a. Concrete mixers may be of the revolving drum or the revolving blade type and the mixing drum or blades shall be operated uniformly at the mixing speed recommended by the manufacturer.  
  
The pick-up and throw-over blades of mixers shall be restored or replaced when any part or section is worn 20 mm or more below the original height of the manufacturer's design. Mixers and agitators which have an accumulation of hard concrete or mortar shall not be used.
- b. When bulk cement is used and the volume of the batch is 0.5 m<sup>3</sup> or more, the scale and weigh hopper for Portland cement shall be separate and distinct from the aggregate hopper or hoppers.  
  
The discharge mechanism of the bulk cement weigh hopper shall be interlocked against opening before the full amount of cement is in the hopper. The discharging mechanism shall be interlocked against opening when the amount of cement in the hopper is underweight by more than one percent or overweight by more than 3 percent of the amount specified.
- c. When the aggregates contain more water than the quantity necessary to produce a saturated surface dry condition, representative samples shall be taken and the moisture content determined for each kind of aggregate.

- d. The batch shall be so charged into the mixer that some water enter in advance of cement and aggregates. All water shall be in the drum by the end of the first quarter of the specified mixing time.
- e. Cement shall be batched and charged into the mixer by such means that it will not result in loss of cement due to the effect of wind, or in accumulation of cement on surfaces of conveyors or hoppers, or in other conditions which reduce or vary the required quantity of cement in the concrete mixture.
- f. Where required, synthetic fibrous reinforcement shall be added directly to the concrete mixer after placing the sufficient amount of mixing water, cement and aggregates.
- g. The entire contents of a batch mixer shall be removed from the drum before materials for a succeeding batch are place therein. The materials composing a batch except water shall be deposited simultaneously into the mixer.
- h. All concrete shall be mixed for a period of not less that 3 minutes after all materials, including water, are in the mixer. During the period of mixing, the mixer shall operate at the speed for which it has been designed.
- i. Mixers shall be operated with an automatic timing device that can be locked by the Engineer. The time device and discharge mechanism shall be so interlocked that during normal operation no part of the batch will be discharged until the specified mixing time has elapsed.
- j. The first batch of concrete materials placed in the mixer shall contain a sufficient excess of cement, sand, and water to coat the inside of the drum without reducing the required mortar content of the mix. When mixing is to cease for a period of one hour or more, the mixer shall be thoroughly cleaned.

### **3. MIXING CONCRETE IN TRUCKS**

- a. Truck mixers, unless otherwise authorized by the Engineer, shall be of the revolving drum type, watertight, and so constructed that the concrete can be mixed to insure a uniform distribution of materials throughout the mass. All solid materials for the concrete shall be accurately measured and charged into the drum at the proportioning plant. Except as subsequently provided, the truck mixer shall be equipped with a device by which the quantity of water added can be readily verified. The mixing water may be added directly to the batch, in which case a tank is not required. Truck mixers may be required to be provided with a means by which the mixing time can be readily verified by the Engineer.
- b. The maximum size of batch in truck mixers shall not exceed the minimum rated capacity of the mixer as stated by the manufacture and stamped in metal on the mixer. Truck mixing shall, unless otherwise directed, be continued for not less than 100 revolutions after all ingredients, including water, are in the drum. The mixing speed shall not be less than 4 rpm, nor more than 6 rpm.
- c. Mixing shall begin within 30 minutes after the cement has been added either to the water or aggregate, but when cement is charged into a mixer drum containing water or

surface-wet aggregate and when the temperature is above 32 °C, this limit shall be reduced to 15 minutes. The limitation in time between the introduction of the cement to the aggregate and the beginning of the mixing may be waived when, in the judgment of the Engineer, the aggregate is sufficiently free from moisture, so that there will be no harmful effects on the cement.

- d. When a truck mixer is used for transportation, the mixing time in stationary mixer may be reduced to 30 seconds and the mixing completed in a truck mixer. The mixing time in truck mixer shall be as specified for truck mixing.

## **JOINTS**

### **Construction Joints**

Unless otherwise specified herein, all construction joints shall be subject to approval of the Engineer. Concrete shall be placed continuously so that the unit will be monolithic in construction. Fresh concrete may be placed against adjoining units, provided the set concrete is sufficiently hard not to be injured thereby. Joints not indicated shall be made and located in a manner not to impair strength and appearance of the structure. Placement of concrete shall be at such rate that the surface of concrete not carried to joint levels will not have attained initial set before additional concrete is placed thereon. Lifts shall terminate at such levels as are indicated or as to conform with structural requirements as directed. If horizontal construction joints are required, a strip of 25mm square-edged lumber, beveled to facilitate removal shall be tacked to the inside of the forms at the construction joint. Concrete shall be placed to a point 25mm above the underside of the strip. The strip shall be removed one hour after the concrete has been placed. Any irregularities in the joint line shall be leveled off with a wood float, and all laitance removed. Prior to placing additional concrete, horizontal construction joints shall be prepared.

Construction Joint which is not indicated in the Drawings shall be located as to least affect the strength of the structure. Such locations will be pointed out by the Engineer.

## **PREPARATION FOR PLACING**

Hardened concrete, debris and foreign materials shall be removed from the interior of forms and from inner surfaces of mixing and conveying equipment. Reinforcement shall be secured in position, and shall be inspected, and approved before placing concrete. Runways shall be provided for wheeled concrete-handling equipment. Such equipment shall not be wheeled over reinforcement nor shall runways be supported on reinforcement.

Notice of any concreting operations shall be served to the Engineer at least three (3) days ahead of each schedule.

## **PLACING CONCRETE**

### **1. Handling Concrete**

Concrete shall be handled from mixers and transported to place for final deposit in a continuous manner, as rapidly as practicable, and without segregation or loss of ingredients until the approved unit of work is completed. Placing will not be permitted when the sun, heat, wind or limitations of facilities furnished by the Contractor prevent proper finishing and



curing of the concrete. Concrete shall be placed in the forms, as close as possible in final position, in uniform approximately horizontal layers not over 40cm deep. Forms splashed with concrete and reinforcement splashed with concrete or form coating shall be cleaned in advance of placing subsequent lifts. Concrete shall not be allowed to drop freely more than 1.5m in unexposed work nor shall more than 1.0 m in exposed work; where greater drops are required, tremie or other approved means be employed.

2. Time Interval between Mixing and Placing

Concrete mixed in stationary mixers and transported by non-agitating equipment shall be placed in the forms within 30 minutes from the time ingredients are charged into the mixing drum. Concrete transported in truck mixers or truck agitators shall be delivered to the site of work, discharged in the forms within 45 minutes from the time ingredients are discharged into the mixing drum. Concrete shall be placed in the forms within 15 minutes after discharged from the mixer at the jobsite.

3. Hot Weather Requirements

The temperature of concrete during the period of mixing while in transport and/or during placing shall not be permitted to rise above 36 °C. Any batch of concrete which had reached a temperature greater than 36 °C at any time in the aforesaid period shall not be placed but shall be rejected, and shall not thereafter be used in any part of the permanent works.

a. Control Procedures

Provide water cooler facilities and procedures to control or reduce the temperature of cement, aggregates and mixing handling equipment to such temperature that, at all times during mixing, transporting, handling and placing, the temperature of the concrete shall not be greater than 36 °C.

b. Cold Joints and Shrinkage

Where cold joints tend to form or where surfaces set and dry too rapidly or plastic shrinkage cracks tend to appear, concrete shall be kept moist by fog sprays, or other approved means, applied shortly after placement, and before finishing.

c. Supplementary Precautions

When the aforementioned precautions are not sufficient to satisfy the requirements herein above, they shall be supplemented by restricting work during evening or night. Procedure shall conform to American Concrete Institute Standard ACI 305.

## COMPACTION

1. Immediately after placing, each layer of concrete shall be completed by internal concrete vibrators supplemented by hand-spading, rodding, and tamping. Tapping or other external vibration of forms will not be permitted unless specifically approved by the Engineer. Vibrators shall not be used to transport concrete inside the forms. Internal vibrators submerged in concrete shall maintain a speed of not less than 7,000 impulses per minute. The vibrating equipment shall at all times be adequate in number of units and power to properly consolidate all concrete.

2. Spare units shall be on hand as necessary to insure such adequacy. The duration of vibrating equipment shall be limited to the time necessary to produce satisfactory consolidation without causing objectionable segregation. The vibrator shall not be inserted into the lower courses that have begun to set. Vibrator shall be applied vertically at uniformly spaced points not further apart than the visible effectiveness of the machine.

## **FINISHES OF CONCRETE**

Within 12 hours after the forms are removed, surface defects shall be remedied as specified herein. The Temperature of the concrete, ambient air and mortar during remedial work including curing shall be above 10 °C. Fine and loose material shall be removed. Honeycomb, aggregate pockets, voids over 13mm in diameter, and holes left by the rods or bolts shall be cut out to solid concrete, reamed, thoroughly wetted, brush-coated with neat cement grout, and filled with mortar. Mortar shall be a stiff mix of one part Portland cement to not more than 2 parts fine aggregate passing the No. 16 mesh sieve, with a minimum amount of water. The color of the mortar shall match the adjoining concrete color. Mortar shall be thoroughly compacted in place. Holes passing entirely through walls shall be completely filled from the inside face by forcing mortar through the outside face. Holes which do not pass entirely through wall shall be packed full. Patchwork shall be finished flush and in the same plane as adjacent surfaces. Exposed patchwork shall be finished to match adjoining surfaces in texture and color. Patchwork shall be damp-cured for 72 hours. Dusting of finish surfaces with dry material or adding water to concrete surfaces will not be permitted.

## **CONCRETE FINISHING DETAILS**

1. Concrete Paving

After concrete is placed and consolidated, pavement shall be screeded or struck off. No further finish is required.

2. Smooth Finish

Required only where specified; screed concrete and float to required level with no coarse aggregate visible. After surface moisture has disappeared and laitance has been removed, the surface shall be finished by float and steel trowel. Smooth finish shall consist of thoroughly wetting and then brush coating the surfaces with cement to not more than 2 parts fine aggregate passing the no. 30 mesh sieve and mixed with water to the consistency of thick paint.

## **FINISHES**

### **GENERAL**

General Requirements contain provisions and requirements essential to these Specifications; and apply to this section, whether or not referred to herein.

### **SCOPE OF WORK\***

The work covered by this section consist of furnishing all labor, materials, equipment, tools and incidentals necessary to undertake, complete all finishing works and painting for the refurbishment of PTB as indicated on the drawings and as specified herein.

All finishes shall include wall, floor, ceiling and other finishing works inside the passenger terminal building. These includes, but are not limited to the following:

#### **FLOORS & WALLS (PWD CR)**

As indicated in the plans:

- Floor – 0.60m x 0.60 Unglazed Floor Tiles
- Wall - 0.30m x 0.60m Glazed Homogeneous Wall Tiles

#### **CEILING (PWD CR)**

- Hardiflex Ceiling Board (4.5mm thk.)

### **SUBMITTAL**

1. Shop drawings for all finishing works for the building shall be submitted in advance to allow twenty eight days for review and approval. Shop drawings shall indicate materials and details of finishing works. The Contractor shall be responsible for all errors of detailing and fabrication, and for the correct finishing work items shown on the shop drawings.
2. The Contractor, before placing order for the finishing materials shall submit to the Engineer for approval representative samples of finishing materials. No placing of orders for material for finishing works shall be made without his approval.
3. Samples of all walls finishes, measuring not less than 1000mm x 1000mm shall be submitted to the Engineer for approval as to its finish texture and workmanship.

### **MATERIAL REQUIREMENTS**

#### **COUNTERTOP**

##### **1. Wall Ceramic Tiles**

- a. Wall tiles shall be glazed homogeneous tiles and color shall be as per Authority's approval.
- b. Trimmers and moulding shall be lustrous, glazed with size and color corresponding to wall tiles.

- c. Portland cement, sand, bonding compound, lime and water shall conform with the requirements.

## FLOOR FINISHES

### 1. Unglazed Floor Tiles

- a. Unglazed floor tiles shall be colors of approved color and as shown on the drawings or to be designated by the Authority.
  - b. Portland Cement, sand and water shall conform with the requirements.
  - c. Vitrified ceramic unglazed floor tiles shall be delivered in the manufacturer's original unbroken packages or containers that are labeled plainly with the manufacturer's name and brand. Containers shall be grade scaled. Materials shall be stored in dry weathertight enclosures, and shall be handled in a manner that will prevent the inclusion of foreign materials and damage by water or dampness.
- ### 2. Non-slip floor finish or floor tiles for all CRs & CR for PWD.

## EXECUTION

### WALL TILE

#### a. Application of Wall Tile

Interior masonry shall be clean, thoroughly dry, sound and sufficiently rough to provide strong mechanical bond. Surfaces shall be evenly damped immediately prior to the application of the scratch coat.

Scratch coat shall be applied to masonry, as backing for wall tile, not less than 24 hours or more than 48 hours before starting the tile setting. The scratch coat shall not be less than 6 mm from the face of the masonry. The scratch coat shall be applied with sufficient pressure to ensure a proper bond with the base for the setting bed. While the mortar is still plastic, the scratch coat shall be cut with a trowel at all internal vertical angles for the depth of the coat with the full height of the tile bed and shall be cross-scratched, in 25 mm centers for the extent of the tile bed.

Immediately before the application of mortar setting bed, the scratch coat shall be moistened thoroughly but not saturated. Temporary screeds shall be applied to the scratch coat with mortar to provide a true and plumb surface, the proper distance back from the finished wall line. The setting bed shall be applied, rodded and floated flush with the screeds over an area not greater than the area to be covered with the tile while the bed remains plastic. The thickness of the setting bed shall not exceed 15mm and the mortar shall not be re-tempered. The setting bed shall be cut with a trowel at all internal comers as specified for the scratch coat.

Mounted tiles shall be soaked in clean water a minimum of one hour before they are set. Absorptive mounted tiles shall be damped by placing sheets on a wetted cloth in a shallow pan before setting. A skim coat of neat Portland cement mortar, mixed with water to the consistency of a pasty, thick cream, shall be applied 0.8mm to 1.6mm thick to the mortar setting bed, or to the back of each tile as laid. The tiles shall then be pressed firmly on the setting bed and tamped until flush and in the plane of the other tiles. The tiles shall be applied before the mortar bed has taken its initial set.

Intersections and returns shall be formed accurately. Where cutting of tiles is necessary it shall be done at the internal angles of the walls or wainscots. Cutting and drilling tiles shall be done neatly without marring the surfaces. The cut edges of tiles against trim, built-in fixtures, and similar surfaces shall be ground and jointed carefully. The tiles shall fit closely with plumbing fixtures and around electric outlets, pipes and fittings, so that the plates or escutcheons will properly overlap the tiles. Wainscots shall be within one half of the heights indicated without cutting of the tiles.

Bases, caps, bull-nose corners, and all other trimmers moulded or shaped features, and accessories shall be backed thoroughly with mortar and set firmly into place. All lines shall be kept straight and true, and all finished surfaces brought to true and even planes, straight and plumb, and internal corners squared and external corners rounded.

Horizontal joints shall be maintained level and vertical joints plumb and in alignment. The completed work shall be free of broken, cracked, damaged or otherwise faulty tiles.

Joints shall be parallel and uniform in width, plumb, level and in alignment. End joints in broken joint work shall be made as far as practicable, on the center line of adjoining tiles. Except in special arrangement and design, as indicated or specified, square tiles shall be set with straight joints, and oblong tiles shall be set with broken joints.

Joint widths shall be uniform and spaced to accommodate the tile in the given spaces with a minimum of cutting. Tiles shall be wetted, if they have become dry, before applying grout. Joints 3mm or less in width shall be grouted with a neat Portland cement grout of the consistency of thick cream. Other joints shall be pointed with mortar consisting of one part Portland cement and two parts pointing sand. The grout for walls and other vertical surfaces shall contain non-staining white Portland cement. Grout and pointing mortar shall be forced into joints by using trowel, brush or finger application.

Before the grout or mortar sets, the joints of cushion edge tiles shall be struck or tooled to the depth of cushion, filling all skips or gaps, and the joints of square edge tiles shall be filled completely flush with their surface. Dark cement shall not show through grouted white joints. Care shall be taken to avoid scratching glazed finishes. All mortar or grout shall be removed before it has set or hardened.

#### c.Cleaning and Curing

All completed tile work shall be thoroughly sponged and washed diagonally across joints, and finally polished with clean, dry cloth. Acid cleaning of unglazed tile, when necessary, shall not be done within ten days after setting tile. All metal shall be covered with an approved grease and the tile shall be wetted with clean water, before tile is cleaned with 10% muriatic acid solution. After acid cleaning, the tile shall be flushed with clean water, and the grease coating on metal shall be removed. Acid cleaners shall not be used on glazed tile.

#### d.Protection

Tiled walls outside corners (external angles) shall be protected with board corner strips in areas used as passage ways by workmen. Extreme care should be taken not to disturb walled tiled until mortar has fully set.

## FLOOR FINISHES

### 1. Unglazed Tiles

#### a. Mortar Preparation

Mortar mix proportion and preparation shall be in accordance with the requirements.

#### b. Surface Preparation

Surfaces to receive the tiles shall be clean, free of dust, dirt, oil, grease, and other deleterious substances. Floor tile operations in spaces receiving wall tile shall not be started until wall tile installation has been completed. Before tile is applied with a dryset mortar bed, the structural floor shall be tested for levelness or uniformity of slope by flooding it with water. Areas where the water ponds shall be filled and leveled with mortar and shall be retested before the setting bed is applied.

#### c. Placing of Setting Beds and Floor Tile

Mortar setting beds shall have a minimum thickness of 20mm for floors. The structural concrete slab shall be soaked thoroughly with clean fresh water on the day before the setting bed is to be applied. Immediately preceding the application of the setting bed, the structural slab shall again be wetted thoroughly, but no free water shall be permitted to remain on the surface.

A skim coat of neat Portland cement mortar shall then be applied not more than 4mm thick. The mortar shall be spread until its surface is true and even and thoroughly compacted, either level or sloped uniformly for drainage, as the case requires. A setting bed, as large as can be covered with tile before the mortar has reached its initial set, shall be placed on one operation; but in the event that more setting mortar has been placed than can be covered, the unfinished portion shall be removed and cut back to a clean beveled edge.

All mounted tiles shall be soaked in clean water a minimum of one hour before they are set. Absorptive mounted tile shall be dampened by placing sheets on a wetted cloth in a shallow pan before setting. No free water shall remain on the tiles at the time of setting. Before the initial set has taken place in the setting bed, a skim coat of neat Portland cement mortar, 0.7mm to 1.6mm thick, shall be trowelled or brushed over the setting bed and/or the back of the tile, or a thin layer of Portland cement, 0.79mm to 2mm thick, may be hand-dusted uniformly over the setting bed and worked lightly with a trowel or brush until thoroughly damp.

The tiles shall then be pressed firmly upon the setting bed, and beaten into the mortar until true and even with the plane of the finished floor line. Beating and leveling shall be completed within one hour after placing tiles or sheets. Borders and defined lines shall be laid before the field or body of the floor. Where floor drains are provided, the floors shall be sloped to drain properly to the drains. Intersections and returns shall be formed accurately.

Cutting of tile, where necessary, shall be done along the outer edges of the floor. As far as practicable, no tiles of less than half size shall be used. Cutting and drilling of tiles shall be done neatly without marring the tile surfaces. The cut edges of tile against trim, bases, thresholds, pipes, built-in fixtures, and similar surfaces shall be ground and jointed carefully. Tile shall fit closely and neatly at all plumbing fixtures and around electrical outlets, pipes and fittings so that cover plates or escutcheons will overlap the tiles properly. Tiles shall be secured firmly in place and loose tiles or tiles sounding hollow shall be removed and replaced. All lines shall be kept straight, parallel, and true, and all finished surfaces brought to true and even planes. The inner edges of borders shall be kept straight and, where practicable, shall form right angles at all returns. The paper and glue shall be removed from mounted tile, without using excess water, within one hour after installing the tiles.

Joints shall be parallel and uniform in width, plumb, level and in alignment. End joints in broken-joint work shall be made as far as practicable, on the center lines of adjoining tiles. Except in special arrangement and design, as indicated or specified, square tiles shall be set with straight joints, and oblong tiles shall be set with broken joints.

Joint widths shall be uniform and spaced to accommodate the tile in the given spaces with a minimum of cutting. Tiles shall be wetted, if they have become dry, before applying grout. Joints 3.2 mm or less in width shall be grouted with a neat Portland cement grout of the consistency of thick cream. Other joints shall be pointed with mortar consisting of one part Portland cement and two parts pointing sand.

The grout or mortar for joints on floors shall be white Portland cement or as specified by the Engineer. Grout pointing mortar shall be forced into joints by using trowel, brush or finger application. Before the grout or mortar sets, the joints of cushion edge tile shall be struck or tooled to the depth of the cushion, filling all skips or gaps, and the joints of square edged tiles shall be filled completely flush with their surface. Dark cement shall not be seen through grouted white joints.

All surplus mortar or grout shall be removed before it has set or hardened.

#### d. Cleaning and Curing

Floors shall be covered with waterproofed paper with all joints lapped at least 96 mm and allowed to damp cure for at least 72 hours before foot traffic is permitted thereon.

All completed tile work shall be thoroughly sponged and washed diagonally across joints, and finally polished with clean, dry cloth. Acid cleaning of unglazed tile, when necessary, shall not be done within ten days after setting the tile. All metal shall be covered with approved grease and the tile shall be wetted with clean water, before tile is cleaned with 10% muriatic acid solution. After acid cleaning, the tile shall be flushed with clean water, and the grease coating on metal shall be removed.

Finished tile floors shall be covered with clean building paper before foot traffic is permitted on them. Board walkways shall be placed on floors that are to be continuously used as passage ways by workmen. Thresholds shall be covered with boards. Tiles vertical outside corners (external angles) shall be protected with board corners strips in areas used as passage by workmen.

## PAINING

### **GENERAL**

General Requirements contain provisions and requirements essential to these Specifications; and apply to this section, whether or not referred to herein.

### **SCOPE OF WORK**

This Section covers the surface preparation, coating materials and application of coatings systems required for the Works.

The work shall consist of furnishing of all labor, materials, equipment and other incidentals necessary for the supply of painting materials and the complete painting of surfaces as shown on the drawings in accordance with this Specification and as directed by the Engineer.

The term paint as hereinafter used includes emulsion paints, varnishes, oils, pigments, thinner and dryers.

All exposed metal surfaces, except metal surfaces embedded in concrete, shall be painted unless otherwise specified.

### **SUBMITTAL**

1. The Contractor shall submit work method statements with lists of materials to the Engineer for approval twenty eight days before the starting of works. This statement shall include following items:

Type of paint and manufacturer  
Manufacturer's specifications  
Storage and delivery of materials  
Surface preparation  
Finish painting and drying  
Touch-up painting, if any  
Equipment

2. The Contractor, before placing order for the painting materials, shall submit to the Engineer for approval samples of materials. No placing of orders for material shall be made without his approval.

### **STORAGE AND DELIVERY**

1. The Contractor shall deliver all material to the site in the original labeled sealed cans and containers, with labels intact and seal unbroken.
  - a. Seals shall remain unbroken until after inspection and acceptance of material by the Engineer.
  - b. The Contractor shall deliver materials in ample quantities sufficiently in advance of the need to avoid any delay or interruptions in the works.
2. Paint in thinner shall be stored in accordance with the approved manufacturer's instructions.
  - a. All regulations required for storage of paint shall be observed and all necessary safety signs required by governing codes shall be posted.



- b. Any damage caused by failure to exercise proper precautions in paint storage shall be repaired.

## MATERIAL REQUIREMENTS

### PAINT

Paints for the protective coating system shall be the product of a manufacturer approved by the Engineer.

100% Acrylic, water based, quick-drying, easy to clean-up and environmentally friendly, resist dirt, stains, alkali, water, humidity, algae, mold and mildew growth and highly durable paint for interior finish.

An all-purpose synthetic quick dry paint for all types of wood and metal surfaces. It has high gloss, good color retention and outstanding durability.

For pipes, valves and equipment, galvanized and ungalvanized ferrous metal, use a 100% acrylic gloss paint, has excellent resistance to ultraviolet rays and resists chalking, cracking and color fading, dries fast and environmentally friendly.

### SCHEDULE OF PAINTING

Paint manufacturers shall be BOYSEN, DAVIES or approved equal.

Achitectural	
a. Interior Finishes Location of the various finishes are listed in the Finish Schedule on the drawings or else will be confirmed by PPA	
1. On Plaster	
First Coat Pigmented sealer	Optimal Liquid Tile Clear, Optimal Liquid Tile Pigmented or approved equal
Second Coat Enamel undercoater	DV 1350 Primer and Sealer or approved equal
Third Coat	Megacryl Latex (semi-gloss I gloss / flat) or approved equal
2. On Wood	
First Coat Enamel undercoater	DV 1360 Interior Primer Sealer, or approved equal

Second Coat Enaml undercoater	DV Gloss-IT QDE, DV 300 Flat Wall Enamel or approved equal
Third Coat Interior fiat enamel	DV Gloss-IT QDE, DV 300 Flat Wall Enamel or approved equal
3. Wood Stain Finish	
Oil stain with filler Boiled on top coat	DV Oil Wood Stain , DV 702 Hi Solid Clear Gloss Lacquer or approved equal

## EXECUTION

### SURFACE PREPARATION OF WOOD

1. Wood surfaces shall be sanded to a fresh surface. Surface mould where present, shall be removed by washing, rubbing down and burning off as necessary. Resinous exudation and large knots shall be removed and replaced with filler or other materials approved by the Engineer.
2. Parts of timber to be enclosed in walls shall always be primed unless already impregnated. Priming shall be brushed on and a minimum of two coats applied to end grain. When the priming paint is hard, all cracks, holds, open joints, etc. shall be made good with hard stopping and rubbed down with fine abrasive paper. Priming of joinery shall be applied only on site after the Engineer has approved such joinery and before it is fixed. For internal surfaces primer coats shall be carefully flatted.

### SURFACE PREPARATION OF CONCRETE AND PLASTER

Concrete and cement plaster surfaces to be painted shall be prepared by removing efflorescence, dust, dirt, grease, oil, asphalt, tar, excessive mortar and mortar dropping and by roughening to remove glaze. A zinc sulfate solution shall be applied before prime cost.

### MIXING AND THINNING

Mixing and thinning of paint shall be done in accordance with the approved manufacturer's printed instructions. The pot life of each paint as stated by the manufacturer shall not be exceeded.

### WEATHER CONDITION

The paint shall not be applied when the relative humidity is above 85 percent. The paint shall not be applied in rain, wind, fog, dust or mist.

### APPLICATION

Workmanship shall be first class in every respect. All work shall be done in a workmanship manner so that the finished surfaces shall be free from runs, chop, ridges, waves, laps and unnecessary brush marks. All coats shall be applied in such manner as to produce an even film of uniform thickness. Edges, corners, crevices, welds and rivets shall receive special attention to ensure that they receive an adequate thickness of paint.

All painting shall be done by thoroughly experienced workmen.

Safety regulations shall be adhered to at all times, including the wearing of respirators by persons engaged on assisting in spray painting. Adjacent areas and installation shall be protected by the use of cloths or other approved precautionary measures.

Plain enamel and varnish shall be applied carefully with good clean brushes or approved spraying equipment, except that the initial coat on any surface shall be applied with brush. Sufficient time shall be allowed between coats to assure thorough drying and each coat shall be in proper condition before receiving the next coat.

Sanding and dusting as required shall be performed between coats in varnishing work. Finish coat shall be smooth and free from runs, sags, and other defects. Exterior paint shall not be applied during rainy days.

All paint when applied shall provide a satisfactory film and smooth, even surface. Paint shall be thoroughly stirred and kept at a uniform consistency during application. Powdered metallic pigments added at the time of use shall be mixed by adding the powder in small increments to about one-third of the base paint or vehicle, with thorough mixing to obtain a smooth paste. The remainder of the base paint shall then be thoroughly stirred in.

Different brands of emulsion paints shall not be mixed prior to application of the materials.

Where necessary to suit conditions of surface temperature, weather and method of application, the package paint may be thinned immediately prior to application in accordance with the approved manufacturer's directions, but not in excess of 125 cc of suitable thinner per liter (one pint per gallon). Before using, the paint shall be mixed to a uniform consistency and shall be stirred frequently during application.

Paints other than water-thinned paints shall be applied only to surfaces which are completely free of moisture as determined by sight or touch and only such combinations of humidity to be painted as will cause evaporation rather than condensation.

Surfaces which have been cleaned, pretreated and/or otherwise been prepared for painting shall be primed or painted with one coat of finish paint as soon as practicable after such preparation has been completed, but in any event prior to any deterioration of the prepared surfaces.

The first coat of paint on all exterior surfaces shall be applied by brush. Interior prime coats and all other subsequent coats on either exterior or interior surfaces may be applied by brush or spray. Whenever spraying is permitted all areas inaccessible to spray painting shall be coated by brushing or other suitable means. Brushes to be used for application of water-emulsions shall be soaked in water for a period of 2 hours prior to use.

All cloths and cotton waste which might constitute a fire hazard shall be placed in closed metal containers or destroyed at the end of each day.

Upon completion of the work, all staging, scaffolding, and containers shall be removed from the site or destroyed in a manner approved by the Engineer. Paint spots, or stains upon adjacent surfaces shall be removed and the entire job left clean and acceptable to the Engineer.

No smoking shall be permitted in the vicinity where painting is going on.

## TOUCH-UP PAINTING

Touch-up painting shall be done with the same paint as used for the original coat. The resulting minimum dry film shall be the same as for the original coat.

Touch-up painting shall include cleaning and painting of field connections, welds and all damaged or defective paint and rusted areas.

During touch-up painting, only loose, cracked, brittle or non-adherent paint shall be removed during cleaning. All exposed edges shall be feathered. Touch-up painting shall be performed in a manner which will minimize damage to sound paint. Rust spots shall be thoroughly cleaned and edges of the existing paint shall be scraped back to sound material.

## DRYING

1. No primer or paint shall be forced to be dried under conditions which will cause cracking, wrinkling, blistering, formation of pores which would detrimentally affect the condition of the paint.
2. No drier shall be added to the paint unless specified in the approved manufacturer's instructions.
3. Painted surfaces shall be protected from dust, dirt, and the elements of the weather until dry to the fullest extent practicable.
4. After drying, any areas of paint damaged from any cause shall be removed, the surface again prepared and then touched-up with the same paint and to the same thickness as the undamaged areas as specified in sub-section 4.14.3.7 above.

## HANDLING

1. Precautions shall be taken to minimize damage to paint films resulting from stacking for drying.
2. Paint which is damaged in handling shall be scraped off and touched-up with the same paint and in the same thickness as was previously applied to the damaged area at Contractor's expense.

## INSPECTION

1. All works and materials supplied under this Specification shall be subject to inspection by the Engineer.
2. The Contractor shall correct such works or replace such materials found defective under these Specifications at his own expense.

## **PLUMBING AND SANITARY WORKS**

### **SCOPE OF WORK**

The work covered for this section shall consist of furnishing all labor, tools, equipment, materials and incidentals necessary for the complete installation, testing and operation of the plumbing and sanitary system within the buildings and premises in accordance with these Specifications and as shown on the drawings or as directed by the Engineer. The septic tank and their effluent and discharge pipelines shall be part of other section of these specifications.

### **MATERIAL REQUIREMENTS**

#### **SUBMITTAL**

1. The Contractor shall submit his work method statement with necessary shop drawings to the Engineer for approval twenty eight (28) days before the start of the works.

Shop drawings shall be dated and shall contain the name of the project and location of the subject item in the shop drawing which is to be installed.

The Engineer will review and approve or return for correction all shop drawings with reasonable promptness. The Contractor shall make any corrections required and file with the Engineer three (3) corrected copies of the shop drawings.

2. The drawings shall indicate the general arrangement of all pipings, however, where actual conditions necessitate re-arrangement in opinion of the Contractor and/or the Engineer, the Contractor shall prepare and submit to the Engineer for approval, twenty eight (28) days before placing the order for materials, shop drawings of the proposed re-arrangement. Because of the small scale of the drawings, shop drawings to indicate all offsets, fittings and accessories shall be prepared. The Contractor shall carefully examine the drawings and shall carefully investigate actual structural and finish conditions affecting all his work.

3. The Contractor shall be responsible for the proper fitting of materials, equipment and accessories without substantial alteration and at no cost to the Employer.

4. The Contractor shall be responsible for the proper coordination of the work and shall provide all necessary clearance where necessary.

#### **STANDARDS**

Use of materials shall further be governed by other requirement imposed on other sections of these Specifications. Materials shall be subject to tests necessary to ascertain their fitness if the Engineer so requires. All works shall comply with the pertinent provisions of the Plumbing Code of the concerned city or town, the Code on Sanitation of the Philippines, and/or the National Plumbing Code of the Philippines.

## MATERIALS

### 1. Identification of Materials

Each length of pipe, fittings, traps, fixtures and devices used in the plumbing work shall have cast, stamped or indelibly marked on it, the approved manufacturer's trademark or name, the weight, type and class of product when so required by the standards mentioned above.

#### Alternative Materials

Use of any material not specified in this Specification may be allowed provided such alternate has been approved by the Engineer and provided further that a test, if required, shall be done by an approved agency in accordance with generally accepted standards.

### 2. Soil, Waste, Drain, Vent Pipes and Fittings

Soil, waste and vent pipes shall be unplasticized Polyvinyl Chloride (uPVC) pipes. Diameter shall be as indicated on the Drawings. It shall conform to ASTM D 1784 or ASTM D 2729.

Drainage pipes shall be reinforced concrete pipes (RCP), diameter shall be as indicated on the Drawings.

### 3. Jointing Material

The joint material for uPVC pipes shall be PVC solvent cement as recommended by the approved pipe manufacturer.

### 4. Water Supply Pipes

Water supply pipes shall be polypropylene random-80 (PPR-80) pipes PN 20 conforming to DIN Standards DIN 1988/DIN 8078, German made. Jointing shall be fusion welded.

### 5. Cleanouts, Plugs and Tee

Cleanouts shall be of the same material as the pipe to be fitted. Cleanouts installed in connection with uPVC hubs and spigot pipes shall consist of a long sweep quarter bend of 1/4 as shown on the drawings.

### 6. Pipe Sleeves

Pipe sleeves shall be installed and properly secured in place at all points where pipes pass through masonry or concrete. Pipe sleeves shall be uPVC pipe, Schedule 40.

### 7. Downspout

All downspout shall be unplasticized polyvinyl chloride (uPVC) pipe class DWV conforming to ASTM D2729 or ASTM D1784 for sanitary pipes, Series 1000.

### 8. Splash Block

Provide splash blocks at the outlet of downspout emptying at grade which shall be made of pre-cast concrete, with smooth finished counter sunk dishes sloped to drain away from the building. Dimensions as shown on the Drawings.

9. Roof Strainers

The Contractor shall provide fittings and install 100mm G.I. mesh wire strainers where shown or indicated on the drawings and/or where the Engineer directs. Each strainer shall fit the size of the corresponding downspout which is to be installed.

10. Shower, Floor and Urinal Drain

Shower and floor drains shall be made of stainless steel non-tilting grate, perforated or slotted. Urinal drains shall be cast iron dome type drain.

11. Pipe hangers, Inserts and Support

- a. Pipe hangers shall be wrought iron, malleable iron pipe hangers spaced not over 1.5meters apart for uPVC pipes and 3.0meters apart for iron pipes. Chain straps, perforated bars or wire hangers will not be permitted.

Hangers shall have short turnbuckles or other approved means of adjustment. Turnbuckles may be omitted on hangers where space does not permit their use. Trapeze hangers may be used in lieu of separate hangers for pipes running parallel to each other and close together.

- b. Inserts shall be of cast iron or cast steel and shall be of a type to receive a machine bolt head or nut after installation.

- c. Wrought iron clamps or collars shall be used to support vertical runs of pipes.

13. Unions

Union pipe 50mm and smaller shall be malleable iron. Union on water piping 63mm and larger shall be flanged pattern and shall be of galvanized (zinc coated) cast iron. Gaskets for flange unions shall be of best quality fiber plastic or leather.

14. Valves

Valves shall be cast bronze or brass body. Chrome plated finish for all fixture taps and faucets and natural finish for all others, like hose bibbs, gate valves and which are not tapped directly to a plumbing fixture. Concrete valve boxes shall be installed where required and will be of sufficient size for operating the valve.

15. Fixtures

- a. Water Closets

All water closets for toilets as shown on the drawings shall be TANK TYPE, white with complete fittings and mounting accessories.

- b. Lavatories

- b. 1. Lavatory (Wall Hung)

Shall be vitreous china, wall hung lavatory with rear overflow holes, fitting ledge suitable for single faucet holes on centers complete with faucet, standard fittings, trap and lavatory brackets and other accessories.

b. 2. Lavatory (Countertop Lavatory)

Shall be vitreous china, oval or round shaped countertop lavatory with front overflow hole, complete with faucet, supply valve and fittings with P-trap. Fitting ledge suitable for single hole on center.

c. Urinals

c. 1. Urinals for all comfort buildings shall be built-in urinal trough as shown on the drawings.

c. 2. Urinals shall be vitreous china, wall-hung washout urinal, flushing rim, integral trap, 19mm top and shall be provided with water saving flush system.

d. Service Sinks

Service sinks where indicated or shown on the Drawings shall be stainless steel, with single bowl and with complete U.S. or Japan imported fittings.

e. Slope Sinks

Slop sink shall be 24"x20" acid resisting enamel on Cast-Iron with concealed hanger and faucet.

Hose bibb shall be of brass finish.

f. Soap Holder

Soap holder and toilet paper holder shall be vitreous china, wall mounted. All toilet/bath rooms will be provided with soap holder, toilet paper holder and chrome plated towel racks.

g. Faucet for lavatory

Faucet for lavatory shall be in chrome-finish.

h. Bath and shower fitting

Bath and shower fitting shall be chrome-finish.

i. Towel Rail

Towel rail shall be tubular stainless steel, 2.7mm, and 0.54m long or as specified in the drawings.

j. Curtain rod

Curtain rod shall be tubular stainless steel, 19mm or as specified in the drawings.



k. Grab Bar

Grab bar shall be tubular stainless steel, 25mmØ or as specified in the drawings.

I. Bidet Spray Combination

Installed in every cubicle near on the water closet, colored white or its equivalent.

16. Concrete, Reinforcing Steel, Pipe and Steel Plate

Materials for wash pits, catch basins and manholes shall conform to the requirements as follows:

Concrete materials shall conform with the requirements in "Concrete Works" and shall be Class C concrete with a 28-day minimum compressive strength of 21 MPa (3,000 psi).

a. Reinforcing steel shall be as shown on the drawings and shall conform with the requirements of reinforcing steel bars in "Concrete Works."

b. Pipes shall be as shown on the drawings and shall comply with the relevant item of the particular pipe.

c. Steel plates shall be as shown on the Drawings and shall comply with Section "Steel and Metal Works".

17. Non-reinforced Concrete Pipe

Non-reinforced concrete pipe shall be as shown on the Drawings and shall conform with the requirements of non-reinforced concrete pipes AIC latest edition. Concrete shall be with a 28-day minimum compressive strength of 20.7 MPa.

18. Valve for Drinking Fountain

Valve where drinking fountain will be connected shall be polished brass pipe and shall have red enameled handle.

## **EXECUTION**

All installation works shall be in conformity with the National Plumbing Code of the Philippines (NPCP).

## **EXCAVATION, TRENCHES AND BACKFILLING**

1. Trenches for all underground pipelines shall be excavated to the required depth. The bottom of trenches shall be tamped hard and graded to secure the required fill. Bell holes shall be excavated so that pipes will rest on solid ground for their entire length.

Rocks where encountered, shall be excavated to a depth of 150mm below the bottom of the pipe and before the pipe is laid, the space between the bottom of the pipe and the rock shall be filled with sand. Sewer and water pipes shall be laid in separate trenches.

2. After pipelines have been tested, inspected and approved by the Engineer and prior to backfilling, all forms shall be removed and the excavation shall be cleaned of all trash and debris.

Materials for backfilling shall consist of acceptable excavated soil, borrow of sand, gravel or other materials approved by the Engineer and shall be free from trash, lumber or other debris. Backfilling shall be placed in horizontal layers not exceeding 150 mm in thickness and properly moistened to approximate optimum requirements. Each layer shall be compacted by hand or machine tamper or by other suitable equipment to a density that will prevent excessive settlement or shrinkage.

Backfilling shall be brought to a suitable elevation above grade to provide for anticipated settlement and shrinkage thereof.

Water pipes shall have a sand cushion 150mm below and above the pipes.

## INSTALLATION OF SOIL, WASTE DRAINS OR VENT PIPES

### 1. Horizontal Drainage Pipe and Vent Piping

Horizontal waste pipes 75mm and smaller shall have a minimum grade of 6.5mm per 0.30m and for 100mm and larger, 3.2mm per 0.30m. All main vertical soil and waste stacks shall be extended full size above the roof line as vents, except where otherwise specifically shown.

Where practicable, two (2) or more vent pipes shall be connected together and extended as one pipe through the roof. Vent pipes in roof spaces shall be run as close as possible to the underside of roof with horizontal piping pitched to stacks using fittings as required without forming traps in pipes.

Vertical pipe vents may be connected to a vent line carrying other fixtures. The connection shall be at least 1.20m above the floor on which the fixtures are located to prevent the use of vent lines as waste. Horizontal waste lines receiving the discharge from two (2) or more fixtures shall be provided with vents, unless separate venting of fixtures is noted.

### 2. Fittings

All changes in pipe sizes on soil waste lines shall be made with reducing fittings or recessed reducers. All changes in direction shall be made by the appropriate use of forty five (45) degree wyes. Long sweep quarter bends or elbows may be used in soil and waste lines where the change in direction of flow is from the horizontal to the vertical and on the discharge from water closets.

Where it becomes necessary to use short radius fittings in any location, the approval of the Engineer shall be obtained before they are installed.

### 3. Joints

#### a. PVC Soil Pipe

All joints in uPVC soils, waste and vent pipe shall be accomplished by the use of PVC solvent cement.

b. All joints for uPVC shall be accomplished by applying the manufacturer's recommended solvent before connection to the pipe.

### 4. Cleanouts

Cleanouts at the bottom of each soil stack, waste stack and where else indicated shall be the same size at the pipe.

Cleanouts on floors shall be by uPVC plug adapter fit into the hub and fitted with uPVC screw plugged flush with the floor.

Cleanout shall be provided at every change in direction greater than 45 degrees.

5. Flashings

All pipes passing through the roof shall be provided with lead flashings. All flashings shall be built to 40 lbs. bituminous felts and shall extend up to the pipe and down-over to top of pipe at least 150mm and along the roof not less than 300mm and shall lap over flashing to make a weatherproof joint.

6. Traps

Each fixture and piece of equipment requiring connections to the drainage system, except fixtures with continuous waste shall be equipped with a trap. Traps shall be specified to be supplied with the fixtures. Each trap shall be placed as near to the fixtures as possible. Traps installed on threaded pipes shall be recessed drainage pattern.

7. Pipe Sleeves, Hangers and Supports

Pipe sleeves shall be installed and properly secured in place at all points where pipes pass through masonry or concrete except unframed floors on earth.

Pipes shall not be permitted to pass through footings or beams unless noted on the drawings.

Pipe sleeves in floors shall extend not less than 25mm and not more than 50mm above the finished floor. After installation of the pipe, the space around the pipe shall be packed with plastic material and made watertight. Flashing shields for sleeves passing through waterproofing membrane shall be thoroughly mopped into the membrane. The space between the pipe and sleeves shall be made watertight by inserting approved sealing and caulking materials.

## INSTALLATION OF WATER PIPES, FITTINGS AND CONNECTIONS

1. Gate Valves and Outlets

Gate valves shall be installed close to the point of connection to the existing service line outside the building. The piping shall be extended to all fixture outlets and equipment from the gate valves. Outlets where indicated shall be capped or plugged and left ready for future connections.

2. Mains, Branches and Runouts

All runs of piping shall be installed as shown on the drawings. The piping shall be cut accurately to measurements, and installed at the building site by the Contractor and shall be worked into place without springing or forcing. Care shall be taken not to weaken the structural portions of the buildings.

All pipes above ground shall be run parallel with the lines of the building unless otherwise shown on the drawings. Branch pipes from service lines may be taken off on top of mains, bottom of mains or side of mains, using such cross over fittings as may be required by structural or installation conditions.

All service pipes, valves and fittings shall be kept at sufficient distance from the other work to permit finished covering not less than 6.5mm from such other work and not less than 13mm between finished covering on different services. No water piping shall be buried in floors unless specifically indicated on the drawings or approved. Changes in pipe sizes shall be made with reducing fittings.

The use of long screws and bushings is prohibited.

3. Joints

Joints and connections in the plumbing system shall be gas-tight and watertight for the pressures required by test.

After cutting and before threading all pipes shall be reamed and shall have burrs removed. All screwed joints shall be applied with an approved graphite compound or TEFLON tape to facilitate connections. Threads shall be full cut and not more than three threads on the pipe shall remain exposed.

Caulking of threaded joints or top to prevent leaks shall not be permitted.

Unions shall be provided where required for disconnection. Threaded swing bolts shall be used for branch connections to risers and mains.

#### 4. Unions

Where required unions shall not be concealed in walls, ceilings or partitions.

#### 5. Tests

The following tests shall be conducted by the Contractor at his expense under the supervision of the Engineer.

##### a. Tests for Drainage and Venting System

The entire drainage and venting system shall have necessary openings plugged to permit the entire system to be filled with water to the level of the highest vent stack above the roof. The system shall hold the water for 30 minutes with a drop not greater than 100mm.

##### b. Sterilization

The entire water supply piping system shall be sterilized with a solution containing not less than fifty (50) parts per million of available chlorine, either liquid chlorine or a solution of sodium hypochlorite. The sterilizing solution shall remain in the system for a period of not less than 8 hours during which time all valves and faucets shall be opened and closed several times. After sterilization, the solution shall be flushed from the system with clean water until the residual chloride content is not more than 0.2 parts per million.

##### c. Pressure Test for Water Lines

After the pipe have been installed, the joints completed and with joint exposed for examination, all newly installed pipe or any valve section, thereof, shall be subjected to hydrostatic pressure one and one half (1 1/2) the designed working pressure of the system or as specified by the Engineer.

The duration of each pressure test shall be at least 20 minutes unless otherwise specified by the Engineer.

Each section of pipeline shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Engineer. During the filling of the pipe and before applying the test pressure, all air shall be expelled from the pipeline. To accomplish this, tap shall be made if necessary, at the highest point of the pipe under test and after completion of the test, the taps shall be tightly plugged unless otherwise specified. During the test, all exposed pipes, fittings, valves, joint and couplings will be carefully examined. If found to be cracked or defective, they shall be removed and replaced by the

Contractor with sound materials at his expense. The test shall then be repeated until satisfactory results are obtained.

d. Leakage Test for Water Lines

1. Leakage test shall be conducted after satisfactory completion of the pressure test and shall consist of an examination of all exposed joints for leakage as well as an overall leakage test of the completed pipeline.
2. The pressure to be maintained during the test shall be the designed working pressure of the system.
3. Leakage test shall be made only after a minimum of 24 hours after the pipe to be tested has been filled with water.
4. The duration of each leakage test shall be two hours unless otherwise specified by the Engineer.
5. Each section of pipeline shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation shall be applied by means of a positive displacement type pump and reservoir connected to the pipe in a manner satisfactory to the Engineer.
6. Before starting the leakage test, all air shall be expelled from the pipe. All exposed pipes, fittings, valves and joints shall be examined for leakage during the test.
- 7 Allowable leakage rate per 100 joints per inch of Pipe Diameter at Pressure Stipulated.

PRESSURE		LEAKAGE RATE	
psi	kg/cm <sup>2</sup>	liters/hr.	liters/2 hrs.
50	3.50	1.45	2.90
75	5.30	1.75	3.50
100	7.00	2.05	4.10
125	8.80	2.30	4.60
150	10.50	2.50	5.00
200	14.00	2.90	5.80

e. Defective Work

1. If the inspection or test shows any defect, such defective work or material shall be replaced and the test shall be repeated until satisfactory to the Engineer.
2. All repairs to piping shall be made with new materials at the expense of the Contractor.
3. No caulking of screwed joints or holes will be accepted.

## ASSEMBLY, INSTALLATION AND CONNECTION OF FIXTURES

Fixtures shall be supported and fastened in a satisfactory manner. Where secured to concrete or masonry work walls, fixtures and equipment shall be fastened with brass bolts or machine screws in lead-sleeve type anchorage units or with brass expansion bolts. Expansion bolts shall enter 7.5 cm into solid concrete or masonry works and shall be fitted with loose tubing or sleeves of proper length to bring expansion sleeves into the solid concrete masonry walls.

Where wood screws are used, screws shall go into solid pieces set between studs. Where through-bolts are used, bolts shall be provided with plates or washers at back set, so that they will be concealed by plaster. Bolts and nuts shall be hexagonal and exposed nuts, cap nuts, and screw heads shall be provided with chromium plated brass washers.

## PROTECTION OF FIXTURES

Pipe openings shall be closed with caps or plugs during installation. Fixtures shall be tightly covered and protected against dirt, water and chemical injury. At the completion of all works, all fixtures shall be thoroughly cleaned and delivered in a condition satisfactory to the Engineer.

## FIXTURES AND FASTENING

All fixtures shall be supported and fastened in a satisfactory manner as follows:

1. Where secured to concrete or concrete hollow block walls, they shall be fastened with one quarter inch brass bolts with twenty threads to the inch and of sufficient length to extend at least 7.5 cm into solid concrete or hollow block work, fitted with loose tubing or sleeve insert and shall be securely anchored and installed flush with the finished wall and shall be completely concealed when the fixtures are installed.
2. Where through-bolts are used, they shall be provided with plates or washers back set so that heads, nuts and washers will be concealed by plaster. Bolts and nuts shall be hexagonal. Exposed bolts, nuts, capnuts and screw heads shall be provided with chromium plated brass washers.

## GUARANTEE

Upon completion and before final acceptance of the equipment installation, the Contractor shall furnish the Engineer a written guarantee stating that all equipment installed under this Section free from defects. The guarantee shall be for a period of one (1) year from the date of final acceptance of the work. Any part of the equipment that becomes defective during the term of the guarantee shall be replaced, renewed and/or made good by the Contractor, at his own expense and in a manner satisfactory to the Engineer.

Guarantees made by the approved manufacturers or suppliers beyond one year, shall be transferred to PPA without any expense on his part.

## CLEANING UP

Upon completion of the work, all parts of the installation shall be thoroughly cleaned of grease, metal cuttings and sludge which may have accumulated during the testing operation.

## PLUMBING, FIXTURES AND TOILET ACCESSORIES INSTALLATION

All installation works shall be as shown on the drawings and shall conform to the applicable standards set forth by the Philippine National Plumbing Code. All fixtures shall be fastened and/or supported in accordance with the given requirements.

## **ELECTRICAL GENERAL REQUIREMENTS**

### **GENERAL**

#### **APPLICATION**

This section applies to all sections of "Electrical Division" of this project except as specified otherwise in each individual section.

#### **WORK INCLUDED**

The work to be done under this division shall include the furnishing of all tools, labor, supervision, equipment, fixtures and all necessary materials, each complete and in proper working condition unless one or other is specifically excluded or stated otherwise in this specifications but not limited to the following items of works.

- a. All works and material for a complete lighting and power systems including cables and conduits, circuit breakers, panel board and connection to all lighting fixtures and power outlets, motor appliances, switches, supports and accessories.
- b. All steel support for conduits, wires, panel board, boxes, lighting fixtures, etc. as indicated or as required to complete the installation.
- c. A complete grounding system as required by the governing codes.
- d. A complete testing of all electrical systems.
- e. All items incidentals to and or required for the proper completion such as painting of boxes, conduits and the likes.
- f. Coordination with other trade Contractors.
- g. Coordination with other companies/offices including handling of all materials related to material testing and application of electrical permits.

Preparation of necessary shop drawings required for the proper execution of the works subject to the approval of the Engineer.

#### **WORK INCLUDED UNDER ELECTRICAL WORKS**

The work includes the furnishing of the following:

1. Supply, deliver and install of all motors, pumps and their associated control equipment.
  - a. All electrical system installation consists of motor and branch circuit breakers.
  - b. All motor controllers as indicated to be supplied with equipment.

## SUBMITTALS

Obtain approval before procurement, fabrication or delivery of items to the job site. Partial submittals will not be entertained and will be returned without review. Submittals shall include the manufacturer's name, trade name, place of manufacturer, catalogue model of number, nameplate data, size, layout dimensions, capacity, project specification and paragraph reference and technical society publication references, and other information necessary to establish contract compliance of each item to be furnished.

### 1. Shop Drawings

In addition to the requirements of the contract clauses, shop drawings shall meet the following requirements:

- a. Drawings shall be a minimum of 210 mm x 297 mm in size or in A3 size, except as specified otherwise.
- b. Drawings shall include wiring diagrams and installation details indicating the proposed location layout and arrangement, control panels, accessories, and other items that must be shown to assure a coordinated installation.
- c. Wiring diagrams shall identify circuit termination and the internal wiring for each item of equipment and its interconnection.
- d. Drawings shall indicate adequate clearances for operation, maintenance and replacement of equipment devices. If the layout is disapproved, revise the layout and resubmit.

### 2. Manufacturer's Data

Submittal for each manufactured item shall be current descriptive literature of catalogued products.

### 3. Publication Compliance

Where equipment or materials are specified to conform to industry and technical society publications of organizations such as American National Standard Institute (ANSI), American Society for Testing and Materials (ASTM) and Underwriters Laboratories, Inc. (UL), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In each of the publications referred to herein, consider the advisory provisions to be mandatory as though the word "shall" had been substituted for "should" wherever it appears. Interpret reference in these publications to the authority having jurisdiction, or words of similar meaning, to mean the Engineer. In lieu of the label or testing, submit a certificate from an approved independent testing organization, adequately equipped and component to perform such services, organization's test methods and not the item conforms to the specified organizations publications. The edition or the revised version of such codes and standards current at the date twenty eight (28) days prior to date of bid submission shall apply. During Contract execution, any changes in such codes and standards shall be applied after approval by the Owner.



## CERTIFICATES OF COMPLIANCE

Submit manufacturer's certifications as required on products, materials, finish and equipment indicated in the Technical Sections. Certifications shall be documents prepared specially for the contract. Pre-printed certifications and copies of previously submitted documents are not acceptable. The manufacturer's certification shall name the appropriate products, equipment or materials and the publication specified as controlling the quality of the item. Certification shall not contain statement to imply that the item does not meet requirements specified such as "Good As", "Achieves the same end use and results as materials formulated in accordance with 'referenced publications" or "Equal or exceeds the service and performance of the specified materials". Certifications shall simply state that the item conforms to the requirements specified; and shall be printed on the manufacturer's letterhead and shall be signed by the manufacturer's official, authorized to sign certificates of compliance.

## OPERATION AND MAINTENANCE MANUALS

Submit as required for systems and equipment indicated in the Technical Sections. Furnish three (3) copies, bound in hardback binders or an approved equivalent. Furnish one complete manual prior to performance of system or equipment tests, and furnish the remaining manual prior to contract completion. Inscribe the following identification on the cover: the word "Operation and Maintenance Manual", the name and location of the system equipment, building, name of Contractor and contract number. Include in the manual the names, addresses and telephone numbers of each sub-Contractor installing the system or equivalent and the local representatives for the system or equipment. Include a table of contents and assemble the manual to conform to the table of contents with the tab sheets placed before instruction covering the subject. The instructions shall be legible and easily read with large sheets of drawings folded in the manual shall include the following:

- a. Internal and interconnecting wiring and control diagrams with data to explain detailed operation and control of the system or equipment.
- b. A control sequence describing start-up, operation and shut-down.
- c. Description of the function of each principal item of equipment.
- d. Installation and maintenance manual.
- e. Safety precaution
- f. Diagrams and illustrations
- g. Testing methods
- h. Performance data
- i. Lubrication schedule including type, grade, temperature range and frequency. List qualified permanent servicing organization for support of the equipment, including addresses and certified qualifications.

## POSTED OPERATING INSTRUCTIONS

Furnish approved operating instructions for systems and equipment indicated in the technical sections for use by operation and maintenance personnel. The operating instructions shall include diagrams, control diagrams and control sequence for each principal system and equipment. Print or engrave operating instructions and frame under glass or in approved laminated plastic. Attach or post the operating instructions adjacent to each principal system and equipment including start-up, proper adjustment, operating, lubrication, shutdown, safety precautions, procedure in the event of equipment failure, and other items of instruction recommended by the manufacturer of each system for operating instruction exposed to the weather. Operating instructions shall not fade when exposed to the weather and shall be secured to prevent easy removal or peeling.

## INSTRUCTIONS TO PERSONNEL

Where indicated in the technical sections, furnish the services of competent instructors to give full instructions to personnel in the adjustment, operation and maintenance of systems and equipment, including safety precautionary measures. Each Contractor shall be thoroughly familiar with all parts of the installation and shall be trained in operating theory as well as practical operation and maintenance work, instructions shall be given during the first regular work week after the equipment or system has been accepted and turned over to the Engineer for regular operation. The number of man-days (8 hours) of instruction shall be as specified in each individual section.

## DELIVERY AND STORAGE

Handle, store, and protect equipment and materials in accordance with the manufacturer's recommendations and with the requirements of NFPA 70B, Appendix 1, titled "Equipment Storage and Maintenance during Construction". Replace damaged or defective items with new one.

## CATALOGUE PRODUCTS/SERVICE AVAILABILITY

Materials and equipment shall be current products by manufacturers regularly engaged in the production of such products. Products shall have been in satisfactory commercial or industrial use for two (2) years prior to bid opening. The two (2) year period shall include applications of equipment and materials under similar circumstances and of similar size. The two (2) year period shall be satisfactory completed by a manufacturer's catalogue or brochures. Products having less than two (2) year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6,000 hours, exclusive of the manufacturer's factory or laboratory tests is furnished. The equipment items shall be supported by service organization, which are reasonable convenient to the equipment on a regular and emergency basis during the warranty period of the contract.

## MANUFACTURER'S RECOMMENDATIONS

Where installation procedures or any parts thereof are required to be in accordance with manufacturer's recommendations, furnish printed copies of the recommendation prior to installation. Installation of the items shall not proceed until recommendations are received. Failure to furnish recommendations shall be cause for rejection of the equipment or material.

## MATERIALS/SUBSTITUTION/TESTS

All materials to be installed shall be brand new and shall conform to specifications except as otherwise noted on the drawings. All materials where not specified shall be of the best of their respective kind.

Samples of said material including its manufacturer's data shall be submitted for approval. Necessary tests on the installations shall be made by the Contractor in the presence of the Engineer. These tests shall include but not limited to ground test, performance test, phase sequence test, etc. Records of approved tests result shall be relayed to the Engineer in writing. This Contractor shall within ten (10) days after the award of the contract, submit a list of materials he proposes to use. All materials installed without prior approval shall be at the risk of the Contractor.

#### **COORDINATION/GUARANTEES/SUSPENSION OR DELAY**

The Contractor shall be familiar with the specifications of the other trades and coordinate with them thoroughly so that he can arrange his work and dispose his materials without interfering the work of other Contractors. The Contractor shall guarantee that the electrical systems shall be free from all defects of workmanship and of materials, and that it will remain so for a period of one year from the date of acceptance by the Engineer. Any remedy to correct defects deemed to be caused by such shall be made at the expense of the Contractor. The Contractor shall not suspend or delay the work without justifiable cause. Subsequent delays shall be deemed as a sufficient cause for penalties or termination of contract in which the Engineer shall have the right to take-over the work and all materials on the site and make arrangements necessary to complete the work. It shall be the sole responsibility of the Contractor to ensure that the Electrical sub-contractor conducts coordination of his activities to other trades.

#### **SLEEVES / INSERTS / CUTTING / PATCHING/BACKFILL**

The Contractor shall provide all openings, sleeves, also inserts in walls, floors, and beams as required for his work. All unused openings shall be grouted in. The Contractor shall do all patching requirements necessary and these shall be done so as to exactly match the surrounding area without the evidence of alteration or patching. The Contractor shall provide all necessary backfill on all excavation works of his doing.

#### **ELECTRICAL CHARACTERISTICS**

The electrical characteristics for this project shall be 230v, 2-wire, 30, 60Hz or as per system requirements as shown in the plans.

#### **MATERIAL REQUIREMENTS**

##### **NAMEPLATES**

Provide laminated plastic nameplates for each panel board, equipment enclosure, relay, switch, and device. Each nameplate inscription shall identify the function and when applicable, the position. Nameplate shall be melamine plastic, 3.2mm thick, white with black center core. Surface shall be matte finish. Corners shall be square. Accurately align lettering and engrave into the black core. Minimum size of nameplates shall be 25mm x 38mm. Lettering shall be a minimum of 6mm, high normal block style.

## **EXECUTION**

### **NAMEPLATE MOUNTING**

Provide number, location, and letter designation of nameplates as indicated. Fasten nameplates to the device with a minimum of two sheet metal screws or two rivets.

### **PAINTING OF EQUIPMENT**

#### **1. Factory Applied**

Electrical equipment shall have factory-applied painting systems which shall, as a minimum, meet the requirements of NEMA ICS 6 corrosion-resistance test, except equipment specified to meet requirements of ANSI C37.20 shall have a finish as specified in ANSI C37.30.

#### **2. Field Applied Paint electrical equipment as required to match finish or to meet safety criteria.**

## INTERIOR WIRING SYSTEMS

### GENERAL

"Electrical General Requirements," applies to this section with additions and modifications specified herein.

### SUBMITTALS

1. Shop Drawings
  - a. Panel board
2. Manufacturer's data
  - a. Circuit breakers
  - b. Switches
  - c. Conduit and fittings (each type)
  - d. Device plates
  - e. Insulated conductors
  - f. Outlet and junction boxes
3. Quality Assurance

In each standard referred to herein, consider t/he advisory provisions to be mandatory, as though the word "shall" has been substituted for "should" wherever it appears. Interpret reference in these standards to "authority having jurisdiction," or words of similar meaning, to mean Engineer.

### MATERIALS AND EQUIPMENT REQUIREMENTS

Materials, equipment, and devices shall, as minimum, meet requirements of UL, where UL standards are established for those items, and requirements of NFPA 70. All items shall be new.

### CONDUIT AND FITTINGS

1. Rigid Steel Conduit (RSC): Hot dip galvanized: ANSI C80.1.
2. Flexible Metal Conduit: UL 1.
  - a. Liquid Tight Flexible Metal Conduit (Steel): UL 360.
3. Rigid Plastic Conduit: PVC schedule 40 in accordance with UL 651.
4. Fittings for Metal Conduit, and Flexible Metal Conduit: UL 514B.

Ferrous fittings shall be hot dip galvanized in accordance with UL 514.

- a. Fittings for RSC: Shall be threaded-type. Split couplings are not acceptable.
- b. Fittings for Rigid Non-metallic Conduit: NEMA TC3.

## WIRES AND CABLES

Wires and cables shall meet applicable requirements of PEC, NFPA 70 and UL for types of insulation, jackets, and conductors specified or indicated. Wires and cables manufactured more than 6 months prior to date of delivery to site shall not be used.

1. Conductors: Conductor 3.5mm<sup>2</sup> and smaller shall be solid, 5.5mm<sup>2</sup> and larger shall be stranded. All conductors indicated shall be copper.

a. Equipment Manufacturer Requirements:

If manufacturer's equipment requires copper conductors at the terminations or requires copper conductors to be provided between components of equipment, provide copper conductors or splices, splice boxes, and other work required to satisfy manufacturer's requirements.

b. Minimum Conductor Sizes:

Minimum size for branch circuits shall be 8.0 mm<sup>2</sup>

2. Color Coding

For 230 volt, single-phase (30), 2- wire, 60 hertz, Black and White

3. Insulation:

Unless specified for indicated otherwise or required by PEC and NFPA 70, power and lighting wires shall be 600volt, Type THHN I THWN.

4. Bonding Conductors:

ASTM B1, solid bare copper wire for sizes 8.0 mm<sup>2</sup> and smaller diameter; ASTM B8, Class B, stranded bare copper wire for sizes 14 mm<sup>2</sup> and larger diameter.

## DEVICE PLATES

Provide UL listed, one-piece device plates for outlets and fittings to suit the devices installed. For metal outlets and fittings, plates on unfinished walls and on fittings shall be of zinc-coated sheet steel or cast metal having round or bevelled edges. Plates on finished walls shall be urea or phenolic, minimum 2.5mm wall thickness. Plates shall be same color as receptacle or toggle switch with which they are mounted. Screws shall be machine type with countersunk heads in a color to match the finish of the plate. Use of sectional-type device plates will not be permitted. Plates installed in wet locations shall be gasketed and UL listed for "wet locations."

## SWITCHES

1. Switches

Totally enclosed with bodies of thermosetting plastic and mounting strap. Wiring terminals shall be screw-type, side-wired. Switches shall be rated quiet-type AC only, 250 volts, with current rating and number of poles indicated.

## WALL SWITCHES AND PLATES

Wall switches in general shall be rated 10 amperes at 230 volts or with ampere and voltage ratings as required. Switches shall be flush mounting and of the rocker type, spring operated. The type of switches shall be tumbler operation and the color, plating and appearance of wall plates shall be as selected by the Engineer. Appropriate samples shall be submitted prior to purchase of wall switches and face plates.

### 2. Receptacles

UL 498 and NEMA WD 1, heavy duty, grounding type. Ratings and configurations shall be as indicated. Wiring terminals shall be screw type, side-wired. Connect grounding pole to mounting strap.

## WALL RECEPTACLE AND PLATES

- a. Receptacle outlets shall be 15 ampere, 230 volts, 2 pole, 3 wire parallel slot, grounding type. Parallel slot outlet rated 15 amps, 125v grounded type shall be acceptable for use with 230v system. Locking type and other special purpose outlets shall be as indicated in the plans.
- b. Provide weatherproof receptacle plate cover for each convenience receptacle outlet indicated as weatherproof.

## SPECIAL PURPOSE RECEPTACLES:

Receptacles serving as indicated are special purpose. Provide ratings as indicated. Furnish one matching plug with each receptacle.

## PANEL BOARD

UL 67 and UL 50. Panel board for use as service disconnecting means shall additionally conform to UL 869. Panel board shall be circuit breaker equipped unless indicated. Design shall be such that individual breakers can be removed without disturbing adjacent units or without loosening or removing supplemental insulation supplied as means of obtaining clearances as required by UL. Where "space only" is indicated, make provisions for the future installation of a breaker sized as indicated. Panel board locks shall be keyed same. Directories shall be typed to indicate load served by each circuit and mounted in a holder behind transparent protective covering.

### 1. Panel board Buses

All buses shall be copper support bus bars on bases independent of circuit breakers. Main buses and back pans shall be designed so that breakers may be changed without machining, drilling, or tapping. Provide a separate ground bus per UL 67 for connecting grounding conductors; bond to steel cabinet.

### 2. Circuit Breakers (Bolt-On)

Ambient-compensated thermal magnetic-type solid state-type with interrupting capacity of 10,000 amperes symmetrical minimum\_ Breaker terminals shall be UL listed as suitable for the type of conductor provided. Plug-in circuit breakers are unacceptable.

#### a. Multi-Pole Breakers

Provide common trip-type multi-pole breakers with single operating handle. Breaker design shall be such that an overload in one pole automatically causes all poles to open.

#### ENCLOSED CIRCUIT BREAKERS

UL 489. Individual moulded case circuit breakers with voltage and continuous current ratings, number of poles, overload trip setting, and short circuit interrupting rating as indicated. Enclosure type as indicated.

#### GROUNDING AND BONDING EQUIPMENT

UL 467. Ground rods shall be copper-clad steel, with minimum diameter of 20mm and minimum length of 3 meters.

#### NAMEPLATES

Provide as specified in "Electrical General Requirements."

#### EXECUTION

#### INSTALLATION

Electrical installation shall conform to requirements of PEC, NFPA 70 and to requirements specified herein.

##### 1. Underground Service

Underground service conductors and associated conduit shall be continuous from service entrance equipment to outdoor power system connection.

##### 2. Wiring Methods

Provide insulated conductors installed in conduits, except where specifically indicated or specified otherwise or required by PEC and NFPA 70 to be installed otherwise. Provide insulated, green equipment grounding conductor in feeder and branch circuits, including lighting circuits. Provide insulated, grounding conductors installed in conduits or raceways.

a. Service Entrance Conduit: Rigid Steel Conduit (RSC), conduit underground: PVC schedule 40. The underground portion shall be encased as indicated.

b. Underground Conduit (other than service entrance) PVC where non-metallic conduit is used, shall be converted to plastic - coated rigid steel conduit before rising through floor slab; plastic coating shall extended at least 152mm above floor

##### 3. Conduit Installation:

Unless indicated otherwise, conceal conduit within finished walls, ceilings, and floors. Keep conduit a minimum of 150mm away from parallel runs of flues and steam or hot water pipes. Install conduit parallel with or at right angles to ceilings, walls, and structural members where located above accessible ceilings and where conduit will be visible after completion of project. Run conduits in crawl space under slab as if exposed.



a. Where conduits rise through floor slabs, curved portion of bends shall not be visible above finish slab.

b. Conduit Support:

Support conduit by pipe straps, wall brackets, hangers, or ceiling trapeze. Fasten by wood screws to wood; by toggle bolts on hollow masonry units; by concrete inserts or expansion bolts on concrete or brick; and by machine screws, welded studs, or spring tension clamps on steelwork. Threaded C-clamps may be used on rigid steel conduit only. Do not weld conduits or pipe straps to steel structures. Load applied to fasteners shall not exceed one-fourth proof test load. Fasteners attached to concrete ceilings shall be vibration resistant and shock resistant. Holes cut to depth of more than 40mm in reinforced concrete beams or to depth of more than 20mm in concrete joints shall not cut main reinforcing bars. Fill unused holes. In partitions of light steel construction, use sheet metal screws. In suspended-ceiling construction, run conduit above ceiling. Do not support conduit by ceiling support system. Spring-steel fasteners may be used for lighting branch circuit conduit supports in suspended ceilings in dry locations.

c. Make changes in direction of runs with symmetrical bends or cast-metal fittings. Make field-made bends and offsets with hickey or conduit-bending machine. Do not install crushed or deformed conduits. Avoid trapped conduits. Prevent plaster, dirt or trash from lodging in conduits, boxes, fittings, and equipment during construction. Free clogged conduits of all obstructions.

d. Install pull wires in empty conduits in which wire is to be installed by others. Pull wire shall be plastic having minimum 91 kgs tensile strength. Leave minimum 300mm of slack at each end of pull wire.

e. Conduit Installed in Concrete Floor Slabs

Locate so as not to adversely affect the structural strength of the slabs. Install conduit within middle one-third of the concrete slab. Do not stack conduits. Space conduits horizontally not closer than three diameters except at cabinet locations. Curved portions of bends shall not be visible above the finish slab. Increase slab thickness as necessary to provide minimum 25mm cover over conduits. Where embedded conduits cross expansion joints, provide suitable watertight expansion fittings and bonding jumpers. Conduit larger than 25mm trade size shall be parallel with or at right angles to main reinforcement; when at right angles to the reinforcements, the conduit shall be closed to one of the supports of the slab.

f. Fasten conduits to sheet metal boxes and cabinets with two locknuts where required by PEC and NFPA 70, where insulated bushings are used, and where bushing cannot be brought into firm contact with the box; otherwise, use minimum single locknut and bushing. Locknuts shall have sharp edges for digging into wall of metal enclosures. Install bushings on ends of conduits, and provide insulating type where required by PEC and NFPA 70.

g. Flexible Connection

Provide flexible connection of short length, 1.8 meters maximum for recessed and semi-recessed lighting fixtures.

#### 4. Boxes, Outlets, and Supports:

Provide boxes in wiring or raceway systems wherever required for pulling of wires, making connections, and mounting of devices or fixtures. Boxes for metallic raceways shall be cast-metal, hub-type when located in wet locations, when surface mounted on outside of exterior surfaces, when installed exposed up to 2.1 meters above interior floors and walkways, or when installed in hazardous areas. Boxes in other locations shall be sheet steel, except that aluminium boxes may be used with aluminum conduit. Each box shall have the volume required by PEC and NFPA 70 for the number of conductors enclosed in the box. Boxes for mounting lighting fixtures shall not be less than 100 mm<sup>2</sup> or octagonal, except that smaller boxes may be installed as required for fixture configurations as approved. Boxes for use in masonry-block or tile walls shall be square-cornered, tile-type, or standard boxes having square-cornered, tile-type covers. Provide gaskets for cast-metal boxes installed flush with outside of exterior surfaces. Provide separate boxes for flush or recessed fixtures when required by fixture terminal operating temperature. Fixtures shall be readily removable for access to boxes unless ceiling access panels are provided. Support boxes and pendants for surface-mounted fixtures on suspended ceilings independently of ceiling supports, or make adequate provisions for distributing load over ceiling support members. Fasten boxes and supports with wood screws on wood, with bolts and expansion shields on concrete or brick, with toggle bolts on hollow masonry units, and with machine screws or welded studs on steel. In open overhead spaces, cast boxes threaded to raceways need not separately supported except where used for fixture support; support sheet metal boxes directly from building structure or by bar hangers. Where bar hangers are used, attach bar to raceways on opposite sides of box, and support raceway with approved type fastener maximum 600mm from the box. When penetrating reinforced concrete members, avoid cutting reinforcing steel.

a. Boxes for use with raceway systems shall be minimum 40mm deep, except where shallower boxes required by structural conditions are approved. Boxes for other than lighting fixture outlets shall be minimum 100mm<sup>2</sup>, except that 100 by 50mm boxes may be used where only one raceway enters outlet.

#### b. Pull Boxes:

Construct of at least minimum size required by PEC and NFPA 70 of code-gauge aluminum sheet steel except where cast-metal boxes are required in locations specified herein. Furnish boxes with screw-fastened covers. Where several feeders pass through common pull box, tag the feeders to indicate clearly the electrical characteristics, circuit number, and panel designation.

#### 5. Mounting Heights

Mount panel boards, and circuit breakers, so height of operating handle at its highest position is maximum 1.8 meters above floor. Mount lighting switches 1.4 meters above finished floor, receptacles 300mm above finished floor and other devices. Measure mounting heights of wiring devices and outlets to center of device or outlet.

#### 6. Conductor Identification

Provide conductor identification within each enclosure where a tap, splice, or termination is made.

#### 7. Covers and Device Plates

Install with edges in continuous contact with finished wall surfaces without use of mats or similar devices. Plaster fillings are not permitted. Plates shall be installed with an alignment tolerance of

3mm. Use of sectional-type device plates are not permitted. Plates installed in wet locations shall be gasketed.

8. Electrical Penetrations

Openings around electrical penetrations through fire resistance-rated walls, partitions, floors, or ceilings shall be sealed to maintain fire resistive integrity as tested per ASTM E 814.

9. Grounding and Bonding

In accordance with PEC and NFPA 70. Ground all exposed, noncurrent- carrying metallic parts of electrical equipment, metallic raceway systems, grounding conductor in metallic and non-metallic raceways, and conductor of wiring systems. Make ground connection to driven ground rods on exterior of building. Where ground fault protection is employed, ensure that connection of ground does not interfere with correct operation of fault protection.

a. Grounding Conductor

Provide insulated, green equipment grounding conductor in feeder and branch circuits, including lighting circuits. Grounding conductor shall be separate from electrical system neutral conductor. Provide insulated, green conductor for grounding conductors installed in conduit or raceways.

b. Resistance:

Maximum resistance-to-ground of grounding system shall not exceed 25 ohms; contact the Engineer for further instructions.

FIELD QUALITY CONTROL:

Furnish test equipment and personnel and submit written copies of test results. Give the Engineer five (5) working days' notice prior to each test.

1. Devices Subject to Manual Operation:

Each device subject to manual operation shall be operated at least five times, demonstrating satisfactory operation each time.

2. Grounding System Test:

The Grounding system shall be tested to ensure continuity and resistance to ground is not excessive. Test each ground rod for resistance to ground before making connections to rod; tie grounding system together and test for resistance to ground. Make resistance measurements in dry weather, not earlier than 48 hours after rainfall. Submit written results of each test to the Engineer and indicate location of rods as well as resistance and soil conditions at the time measurements were made.

## INTERIOR LIGHTING

### GENERAL REQUIREMENTS

"Electrical General Requirements," applies to this section, with the additions and modifications specified herein.

### DESCRIPTION OF WORK

The work includes providing lighting fixtures for interior use, including accessories mounted on the exterior surfaces of buildings. Materials not normally furnished by manufacturers of these devices are specified in "Interior Wiring Systems."

### SUBMITTALS

Data, shop drawings showing mounting heights, and reports shall employ the terminology, classifications, and methods prescribed by the IES Lighting Handbook, as applicable, for the lighting system specified.

1. Manufacturer's Data:

- a. Lighting fixtures (recessed fluorescent lighting fixture with 16W LED tube)

### MATERIAL REQUIREMENTS

#### 16W LED LIGHTING FIXTURES

16W LED tube except lighting fixtures for damp and wet locations shall conform to UL 57.

- 1. LED Fluorescent Tube: Provide the number, type and wattage indicated.

### RECESS AND FLUSH-MOUNTED FIXTURES

Provide types that can be relamped from the bottom. Trim for the exposed surface of flush-mounted fixtures shall be as indicated.

### EXECUTION

### INSTALLATION

Set lighting fixtures plumb, square, and level with ceiling and walls, in alignment with adjacent lighting fixtures, and secure in accordance with manufacturer's directions and approved shop drawings. The installation shall meet with the requirements of PEC and NFPA 70. Mounting heights specified or indicated shall be to bottom of fixture for ceiling-mounted fixtures and to center of fixture for wall-mounted fixtures. Obtain approval of the exact mounting for lighting fixtures on the job before installation commence and, where applicable, after coordinating with the type, style, and pattern of the ceiling being installed.

Recessed and semi-recessed fixtures may be supported from suspended ceiling support system ceiling tees if the ceiling system support rods or wires are provided at a minimum of four rods or wires per fixture and located not more than 150mm from each corner of each fixture. Do not support fixtures by ceiling acoustical panels. Where fixtures of size less than the ceiling grid are indicated to be centered in the acoustical panel, support such fixtures independently or with at least two 20mm metal channels spanning, and secured to, the ceiling tees. Provide rods or wires for lighting fixture supports under this section of the specifications. Additionally, for recessed fixtures, provide support clips securely fastened to ceiling grid members, a minimum of one at or near each corner of each fixture.

## GROUNDING

Ground non-current-carrying parts of equipment as specified in "Interior Wiring Systems." Where the copper grounding conductor is connected to a metal other than copper, provide specially treated or lined connectors suitable for this purpose.

## FIELD TESTS

The Contractor will provide electric power required for field tests.

### 1. Operating Test:

Upon completion of the installation, conduct an operating test to show that the equipment operate in accordance with the requirements of this section.

### 2. Insulation Resistance Test:

Perform as specified in "Interior Wiring Systems", both before and after connection of fixtures and equipment.

### 3. Ground Resistance Tests: Perform as specified in "Interior Wiring System."

## MECHANICAL GENERAL REQUIREMENT

### GENERAL

This section applies to all sections of "MECHANICAL WORKS" except where specified in each individual section.

### WORK DESCRIPTION

The work shall include the furnishing of equipment, materials, tools, scaffoldings, transportation, labor, supervision, and other services required to install, complete, test and make operational the whole system as described on the Drawings and the Technical Specifications.

Specifically the work shall involve the following:

- a. To supply, haul, install, wire and make operational the split type packaged type air conditioning units including exhaust fans for toilets and kitchen areas as shown on the Drawings.
- b. To supply and install the refrigerant piping system and condensate drain lines including necessary insulation and hangers.
- c. To supply and install the electrical wiring connections from the supply outlet provided by the Electrical Contractor which is located close to the point of installation. This shall include power and control wirings and interlocks with the thermostat control.

### SUBMITTALS

Submit shop drawings, manufacturer's data and certificates for equipment, materials, and finish, and pertinent details for each system where specified in each individual section, and obtain approval before procurement, fabrication, or delivery of the items to the job site. Partial submittals are not acceptable and will be returned without review. Submittals shall include the manufacturer's name, trade name, catalogue model, or number, nameplate data, size, layout dimensions, capacity, project specification and paragraph reference, applicable industry, and technical society publication references, years of satisfactory service, and other information necessary to establish contract compliance of each item the Contractor proposes to furnish. Photographs of existing installations and data submitted in lieu of catalogue data are not acceptable and will be returned without approval. Submittals shall be a minimum of 5 print copies. Submittals of the contractor shall be reviewed and returned within a minimum of 21 days, each stamped with appropriate action.

#### 1. Shop Drawings

Drawings shall be a minimum of 350mm x 500mm in size, with a minimum scale of 1:100 except as specified otherwise. Drawings shall include floor plans, sectional views, wiring diagrams, and installation details of equipment; and equipment spaces identifying and indicating proposed location, layout and arrangement of items of equipment, control panels, accessories, piping ductwork, and other items that must be shown to assure a coordinated installation. Wiring diagrams shall identify circuit terminals, and indicate the internal wiring for each item of equipment and the interconnection between each item of equipment. Drawings shall indicate adequate clearance for operation, maintenance, and replacement of operating equipment devices. If equipment is disapproved, drawings shall be revised to show acceptable equipment and be resubmitted.

Submittals for each manufactured item shall be manufacturer's descriptive literature of catalogue products, equipment drawings, diagrams, performance and characteristic curves, and catalogue cuts.

## 2. Standard Compliance

When materials or equipment must conform to the standards of organizations such as the American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), National Electrical Manufacturers Association (NEMA), American Society of Mechanical Engineers (ASME), Air Movement and Control Association, Inc. (AMCA), American Refrigeration Institute (ARI), and Underwriters' Laboratories (UL), proof of such conformance shall be submitted to the Engineers for approval. If an organization uses a label or listing to indicate compliance with a particular standard, the label or listing will be acceptable evidence, unless otherwise specified in the individual sections. In lieu of the label or listing, the Contractor shall submit a certificate from an independent testing organization which is competent to perform acceptable testing and is approved by the Owner or his authorized representative. The certificate shall state that the item has been tested in accordance with the specified organization's test methods and that the item conforms to the specified organization's standard. For materials and equipment whose compliance with organizational standards or specifications is not regulated by an organization using its own listing or label as proof of compliance, a certificate of compliance from the manufacturer shall be submitted for approval. The certificate shall identify the manufacturer, the product, and the referenced standard and shall simply state that the manufacturer certifies that the product conforms to all requirements of the project specification and of the reference standards listed. The edition or the revised version of such codes and standards current at the date twenty eight (28) days prior to date of bid submission shall apply. During Contract execution, any changes in such codes and standards shall be applied after approval by the Owner.

## 3. Codes, Inspection, Permits and Fees

a. The work under this contract shall conform to the latest requirements of:

- 1) Philippine National Building Code
- 2) Regulations of the Local Municipality

b. Nothing contained in these specifications or shown on the drawings shall be construed as to conflict with the National and local ordinances or laws. All such laws and ordinances are made a part of these Specifications.

c. All construction permits and fees for this work shall be obtained at the expense of the Contractor. The Contractor shall furnish the Owners and Engineers the final certificates of inspection and approval from the appropriate government authorities.

## OPERATION AND MAINTENANCE MANUAL

Furnish an operation and maintenance manual for each item of equipment. Furnish three (3) copies of the manual bound in hardback binders or an approved equivalent. Furnish one complete manual prior to the time that the equipment are performed and furnish the remaining manuals before the contract is completed. Inscribe the following identification on the cover: the words OPERATION AND MAINTENANCE MANUAL, the name and location of equipment or the building, the name of the Contractor, and the contract number. The manual shall include the names, addresses, and the telephone numbers of each subcontractor installing the equipment, and of the local representatives for each item of equipment. The manual shall have a table of contents and be assembled to conform to the table of

contents with the tab sheets placed before instructions covering the subject. The instructions shall be legible and easily read, with large sheets of drawings folded in. The manual shall include: wiring and control diagrams with data to explain detailed operation and control of each item of equipment; a control sequence describing start-up, operation and shutdown; description of the function of each principal item of equipment; the procedure for starting; the procedure for operating; shutdown instructions; installation instructions; maintenance instructions; lubrication schedule including type, grade, temperature range, and frequency, safety precautions, diagrams, and illustrations; test procedures; performance data; and parts list. The parts list for equipment shall indicate the sources of supply, recommended spare parts, and the service organizations which is reasonably convenient to the project site. The manual shall be complete in all respect for equipment, controls, accessories, and associated appurtenances provided.

## POSTED OPERATING INSTRUCTIONS

Furnish approved operating instructions for each system and principal item of equipment for the use of the operation and maintenance personnel. The operating instructions shall include wiring diagrams, control diagrams, and control sequence for each principal item of equipment. Operating instructions shall be printed or engraved and shall be framed under glass or in an approved laminated plastic and posted where directed by the Owner. Operating instructions shall be attached to or posted adjacent to each principal item of equipment and include directions for start up, proper adjustment, operating, lubrication, shut down, safety precautions, procedure in the event of equipment failure, and other areas as recommended by the manufacturer of each item of equipment. Operating instructions exposed to the weather shall be made of weatherproof materials or shall be suitably enclosed to be weather protected. Operating instructions shall not fade when exposed to sunlight and shall be secured to prevent easy removal or peeling.

## SAFETY

### 1. Rotating Equipment Safety

Couplings, motor shafts, gears and other exposed rotating or rapidly moving parts shall be fully guarded. The guards shall be cast iron or expanded metal. Guard parts shall be rigid and suitably secured and shall be readily removable without disassembling the guarded unit.

## INSTRUCTION TO OWNER'S PERSONNEL

When specified in other sections, the Contractor shall furnish the services of competent instructors who will give full instruction to the designated personnel in the adjustment, operation, and maintenance, including pertinent safety requirements of the equipment or system specified. Each instructor shall be thoroughly familiar with all the parts of the installation and shall be trained in operating theory as well as practical operation and maintenance work. Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over to the Owner for regular operation. The number of man-days (8 hours) of instruction furnished shall be as specified in other sections. When more than 4 man-days of instruction are specified, approximately half of the time shall be used for classroom instruction. All other time shall be used for instruction with the equipment or system. When significant changes or modifications in the equipment or system are made under the terms of contract, additional instruction shall be provided to acquaint the operating personnel with the changes or modifications.



## DELIVERY AND STORAGE

Equipment and materials shall be handled, stored, and protected to prevent damage before, during, and after installation, in accordance with the manufacturer's recommendations and as approved. Damaged or defective items shall be replaced without cost to the Owner.

## STANDARD PRODUCTS/SERVICE AVAILABILITY

### 1. Materials and Equipment

Materials and equipment shall be standard products of manufacturer regularly engaged in the manufacture of such products, which are of a similar material, design and workmanship. The standard products shall have been in satisfactory commercial or industrial use for seven years prior to bid opening. The seven year use shall include applications of equipment and materials under similar circumstances and of similar size as specified for the Project. The equipment shall be soled exclusively by a single, stable distributor with after sales capability.

### 2. Experience Required

The five (5) years experience must be satisfactorily completed by a product which has been sold or is offered for sale on the commercial market through advertisements, manufacturers' catalogues, or brochures.

### 3. Alternative Service Record

Products having less than a five-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturer's factory or laboratory tests can be shown.

### 4. Service Record

The equipment items shall be supported by service organizations. The Contractor shall submit a certified list of qualified permanent service organizations for support of the equipment which includes their addresses and qualifications. These service organizations shall reasonably be convenient to the equipment installation and able to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

### 5. Manufacturer's Nameplate

Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, and serial number affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.

## SAFETY REQUIREMENTS

Belts, pulleys, chains, gears, couplings, projecting set screws, keys, and other rotating parts located so that any person can come in close proximity thereto shall be fully enclosed or properly guarded in accordance with OSHA 29 CFR 1910.219. High temperature equipment and piping so located as to endanger personnel or create a fire hazard shall be properly guarded or covered with insulation of a type as specified herein. Items such as catwalks, ladders, and guardrails shall be provided where required for safe operation and maintenance of the equipment.

## MANUFACTURER'S RECOMMENDATIONS

Where installation procedures or any part are required to be in accordance with the manufacturer's recommendations of the material being installed, printed copies of these recommendations shall be furnished to the Owners and Engineers prior to installation. Installation of the item will not be allowed to proceed until the recommendations are received. Failure to furnish these recommendations can be cause for rejection of the material.

## ELECTRICAL REQUIREMENTS

Electrical components of mechanical equipment and systems such as motors, starters, and controls shall be provided under this Division and shall be as specified herein and as necessary for complete and operable system. Extended voltage range motors will not be permitted. Interconnecting wiring for components of packaged equipment shall be provided as an integral part of the equipment.

## ELECTRICAL MOTORS

1. All electrical motors of sizes and types as specified for driving air conditioning and ventilating equipment shall be furnished and erected under this section. All motors shall be of proper power and speed to suit the specified makes of equipment. If other makes of equipment are accepted in any case, the proper adjustment of motor speed and power including affected changes in electrical system circuit breakers and wiring must be included without additional cost to the Owner. Technical data shall be submitted for approval before the equipment is purchased.
2. All motor ratings shall be as specified on the drawings.
3. Generally, all motors shall be constant speed, squirrel-cage type motors and energy efficient except as otherwise listed on plans. Single phase motors shall be capacitor start induction-run or split phase type as approved for the service.
4. All belt-connected motors shall have adjustable bases and set screws to maintain proper belt tension, and shall be provided with proper belt guards.
5. All motors and accessories shall comply in all respect with NEMA Standards. Types shall be as required by Local Code.
6. All motors shall be furnished with type "B" insulation and tropical fungus proofing according to NEMA standards.

## CHANGES IN WORK DUE TO APPROVAL OF ALTERNATE MATERIALS

Assure the cost of, and the entire responsibility for any changes in the work shown on the Contract Documents which may be occasioned by approval of materials proposed by the Contractor other than those specified.

## GUARANTEE

Furnish the Owner a written guarantee covering the satisfactory operation of the mechanical installation in all its parts for a period of one (1) year after date of final acceptance of work. During this period, repair or replace any defective work, materials or equipment furnished and installed

without any cost to the Owner. Include with this guarantee certificate of every material supplier engaged by this trade of the project.

#### AS-BUILT DRAWINGS

1. The Contractor shall, during the progress of work, keep record of all deviations of the actual installation from that shown on the Contract Drawings.
2. Upon completion of work, the Contractor shall submit two (2) copies of the as-built drawings, signed by the Contractor's Registered Professional Mechanical Engineer and Owner Project Inspector, indicating the work as actually and finally installed, including new information not originally shown in Contract Drawings.
3. Approval of as-built drawings by the Engineer shall be a requirement for final acceptance of the completed works and of final payment.

#### QUALITY ASSURANCE

##### 1. Surveys and Measurements:

- a. The Contractor shall base measurements, both horizontal and vertical, from established benchmarks. All work shall agree with these established lines and levels. Verify all measurements at site and check the correctness of same as related to the work.
- b. Should the Contractor discover any discrepancy between actual measurements and those indicated, which prevents following good practice or intent of the drawings and specifications, he shall notify the Owner's representative and shall not proceed with his work until he has received instructions from the Owner's representative upon referring the matter to the Engineer.

##### 2. Drawings and Minor Modification:

- a. Drawings are diagrammatic and indicate the general arrangement of the system and work included in the contract. Drawings are not to be scaled. The drawing and details shall be examined for exact location of fixtures and equipment by verifying actual site conditions.
- b. The Contractor shall follow drawings in laying out work and check drawing of other trades to verify spaces in which work will be installed. Maintain maximum headroom and space conditions at all points. Where headroom or space conditions appear inadequate, Owner's representative shall be notified before proceeding with installation, if directed by the Owner's representative, the Contractor shall, without extra charge, make reasonable modifications and the layout as needed to prevent conflict with work of other trades or for proper execution of the work.

##### c. Materials and Workmanship

All materials and apparatus required for the work, except as specified otherwise, shall be new of first class quality, and shall be furnished, delivered, erected, connected and finished in every detail, and shall be so selected and arranged as to fit properly into the building spaces. Where no specific kind or quality of materials is given, first class standard articulated shall be furnished.

## **FACILITIES AND DEVICE FOR DISABLED PERSONS**

### SCOPE OF WORK

The work shall consist of furnishing materials, tools, labor and incidentals necessary for the construction/installation of facilities and device for disabled persons as shown on the Drawings and in accordance with the Implementing Rules and Regulations of Batas Pambansa Bilang 344 and this Specification.

### MATERIAL REQUIREMENTS

#### GRAPHIC SIGNS

Graphic signs like the International Symbol of Access shall be fabricated from plastic materials, white color with either dark blue background. Letters and symbols shall be laminated and raised from the background.

#### HANDRAILS

Handrail for ramp shall be 50mmO tubular stainless steel buff finished. It shall be provided with a small hole as of a Braille system.

#### GRABRAIL

Grabrail shall be manufactured from gauge 18 tubular stainless steel 25mmØ and provided with safety grip finish.

#### CONCRETE MATERIALS FOR RAMPS

1. Portland cement shall conform with the requirement of "Reinforced Concrete".
2. Aggregates shall conform with the requirements of "Reinforced Concrete".
3. Temperature bars shall have diameter of 10mm conforming with the requirements of "Concrete Works".

### EXECUTION

#### GRAPHIC SIGNS

1. Directional and information signs, indicating the location of the ramp for physically handicapped persons, shall be installed / placed at the front of the main entrance of the Terminal Building. The signed board size and dimensions shall be based on DOTC approved Standard Design, schedule 40, sign post and the text and arrow shall be in accordance with the International Symbol of Access "B". Manual (See attached drawings and tabulation).
2. Signs shall be placed at the entrance and exits of the ramps and toilets, installed at conspicuous locations. The signboards shall be based on DOTC approved Standard Design Manual (See attached drawings and tabulation).

#### GRABRAILS

Lavatories, urinals and water closets of the Terminal Building where indicated on the drawings shall be provide with grabrails. The position and distance from the floor shall be as shown on the drawings.

## **Section VII. Drawings / Plans**

(Supplied in Separate Folder)

## **Section VIII. Bill of Quantities**

## BILL OF QUANTITIES

<b>REFURBISHING OF PTB PORT OF BULADO, GUIHULNGAN CITY (LFP-NOS-01-16)</b>					
<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>UNIT PRICE (Pesos)</b>	<b>AMOUNT (Pesos)</b>
1.00	General Expenses				
1.01	Mobilization / Demobilization	L.S.	1.00		
1.02	Provide construction safety and health program in execution of the project	L.S.	1.00		
2.00	Construction of Comfort Room for PWDs				
2.01	Demolish portion of CHB wall affected by the new comfort room	L.S.	1.00		
2.02	Excavation for column footing and wall footing	Cu.m.	0.67		
2.03	Supply and place 3,000 psi concrete for column footing, wall footing, column, lintel beam and floor slab	Cu.m.	0.99		
2.04	Supply and place reinforcement for Item 2.03	Kgs.	39.08		
2.05	CHB walling including plastering	Sq.m.	10.77		
2.06	Roof framing and roofing system	L.S.	1.00		
2.07	Doors and windows	L.S.	1.00		
2.08	Ceiling joists and ceiling	Sq.m.	7.08		
2.09	Floor and wall tiles	Sq.m.	29.04		
2.10	Toilet fixtures including accessories and other amenities	L.S.	1.00		
2.11	Installation of partition wall for stock room	Sq.m.	11.09		
3.00	Supply and Install Floor Mounted & Wall Mounted Split-Type Air-Conditioning Units	L.S.	1.00		
4.00	Electrical System				
4.01	Upgrading of existing electrical system	L.S.	1.00		
4.02	Replacement of all existing lighting with LED lights including provision of LED emergency lights	L.S.	1.00		
5.00	Provision of Public Address System	L.S.	1.00		
6.00	Comfort Room Fixtures and Amenities				
6.01	Provision of various required amenities for existing comfort rooms and waiting area	L.S.	1.00		
6.02	Provision of various signages at the PTB	L.S.	1.00		

<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>UNIT PRICE (Pesos)</b>	<b>AMOUNT (Pesos)</b>
7.00	Glass Panel Doors, Windows and Partition Wall				
7.01	Removal and turn-over to Authority existing glass jalousie windows	L.S.	1.00		
7.02	Replacement of existing glass jalousie windows with glass panel windows including installation of glass panel partition wall and glass panel door for diaper changing room	L.S.	1.00		
8.00	Painting/Repainting Works				
8.01	Painting of PWD comfort rooms	L.S.	1.00		
8.02	Repainting of interior and exterior walling and ceiling of the PTB	Sq.m.	700.04		
9.00	Installation of Stainless Railings for PWD	L.S.	1.00		
<b>T O T A L</b>					



## **BASIS OF PAYMENT FOR WORK ITEMS INCLUDED IN THE PROPOSAL**

The work items included in the proposal and the basis of payments are as follows:

### **BILL NO. 1.00**

#### **GENERAL EXPENSES**

**Item 1.01 Mobilization/Demobilization**

The quantity to be paid shall be the minimum equipment requirement enumerated in the bid documents, demobilized and cleaning of the site and accepted by the Engineer. The contract lump sum price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to mobilize and demobilize all the minimum equipment requirement enumerated in the bid documents including cleaning of the site. Fifty percent (50%) of the total amount shall be payable after the mobilization activity while the remaining fifty percent (50%) shall be payable after demobilization and cleaning.

**Item 1.02 Provide construction safety and health program in the execution of the project**

The quantity to be paid shall be the actual implementation of construction safety and health program during execution of the project. The contract unit price shall be the full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the implementation of the Construction Safety and Health Program, as required and approved by the Department of Labor and Employment (DOLE).

### **BILL NO. 2.00**

#### **CONSTRUCTION OF COMFORT ROOM FOR PWD'S**

**Item 2.01 Demolish portion of CHB wall affected by the new comfort room**

The quantity to be paid shall be whole portion of CHB wall affected by the new comfort room demolished in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.02 Excavation for column footing and wall footing**

The quantity to be paid shall be the total volume in cubic meter of excavated material for column footing and wall footing in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for

furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.03      Supply and place 3,000 psi concrete for column footing, wall footing, column, lintel beam and floor slab**

The quantity to be paid shall be the actual volume in cubic meter of 3,500 psi concrete, supplied, set-in-place and finished in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.04      Supply and install steel reinforcement for Item 2.03**

The quantity to be paid shall be the actual weight in kilogram of steel reinforcements, supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.05      CHB walling including plastering**

The quantity to be paid shall be the actual area in square meter CHB wall installed including plastering in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.06      Roof framing and roofing system**

The quantity to be paid shall be the provision of roof framing and roofing system for the new comfort room in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.07      Doors and windows**

The quantity to be paid shall be the total installation of doors and windows for the new comfort room in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.08      Ceiling joists and ceiling**

The quantity to be paid shall be the actual area in square meter of ceiling joists and ceiling installed for the new comfort room in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.09 Floor and wall tiles**

The quantity to be paid shall be the actual area in square meter of floor and wall tiles installed for the new comfort room in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.10 Toilet fixtures including accessories and other amenities**

The quantity to be paid shall be the supply, delivery and installation of toilet fixtures including accessories in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 2.11 Installation of partition wall for stock room**

The quantity to be paid shall be the actual area in square meter of partition wall for stock room installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**BILL NO. 3.00**

**SUPPLY & INSTALL FLOOR MOUNTED & WALL MOUNTED  
SPLIT-TYPE AIR-CONDITIONING UNITS**

**Item 3.00 Supply and install floor mounted and wall mounted split-type air-conditioning units**

The quantity to be paid shall be the total installation of floor-mounted and wall-mounted split-type air conditioning system in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**BILL NO. 4.00**

**ELECTRICAL SYSTEM**

**Item 4.01 Upgrading of existing electrical system**

The quantity to be paid shall be the total upgrading of existing electrical system in accordance with the plans and specifications and accepted by the Engineer. The

contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 4.02 Replacement of all existing lighting with LED lights including provision of LED emergency lights**

The quantity to be paid shall be the total replacement of all existing lighting with LED lights including provision of LED emergency lights in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**BILL NO. 5.00**

**PROVISION OF PUBLIC ADDRESS SYSTEM**

**Item 5.00 Provision of public address system**

The quantity to be paid shall be the provision of public address system including other accessories in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**BILL NO. 6.00**

**COMFORT ROOM FIXTURES AND AMENITIES**

**Item 6.01 Provision of various required amenities for existing comfort rooms and waiting area**

The quantity to be paid shall be the provision of various required amenities for the existing comfort rooms and waiting area in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 6.02 Provision of various signage for PTB**

The quantity to be paid shall be the provision of various signages at the PTB in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

## **BILL NO. 7.00**

### **GLASS PANEL DOORS, WINDOWS AND PARTITION WALL**

**Item 7.01      Removal and turn-over to Authority existing glass jalousie windows**

The quantity to be paid shall be the removal and turning over to Authority existing jalousie glass windows. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 7.02      Replacement of existing glass jalousie windows with glass panel windows including installation of glass panel partition wall and glass panel doors for diaper changing room**

The quantity to be paid shall be the total replacement of existing glass jalousie windows with glass panel windows including installation of glass panel partition wall and glass panel doors for diaper changing room in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

## **BILL NO. 8.00**

### **PAINTING/REPAINTING WORKS**

**Item 8.01      Painting of PWD comfort room**

The quantity to be paid shall be the painting of PWD comfort rooms in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**Item 8.02      Repainting of interior and exterior walling and ceiling of the PTB**

The quantity to be paid shall be the actual area in square meter of existing interior and exterior wall and ceiling of PTB repainted in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

**BILL NO. 9.00**

**INSTALLATION OF STAINLESS RAILINGS FOR PWD'S**

**Item 9.00      Installation of stainless railings for PWD's**

The quantity to be paid shall be the installation of stainless railings for PWD's in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the work.

## **Section IX. Bidding Forms**

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# ***Checklist of Eligibility - Technical & Financial Envelope Requirements for Bidders***

## **ENVELOP A – TECHNICAL including ELIGIBILITY requirements:**

### **ELIGIBILITY COMPONENT SHALL CONTAIN THE FOLLOWING:**

- Registration certificate from the Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives, or any proof of such registration as stated in the **BDS**;
- Mayor's permit issued by the city or municipality where the principal place of business of the prospective bidder is located;
- A valid Philippine Contractors Accreditation Board (PCAB) license and registration for the type and cost of the contract to be bid. Special License for Joint Venture Contractors is required during bidding schedule;
- Certificate of PhilGEPS Registration;
- Tax Clearance Certificate;
- Statement of all its ongoing and completed government and private contracts, including contracts awarded but not yet started, if any. **(SF-INFRA-15 & SF-INFRA-16)**

*The prospective bidder must have an experience of having completed at least one (1) contract that is similar to the contract to be bid, and whose value, adjusted to current prices using the NSO consumer price indices, must be at least fifty percent (50%) of the ABC to be bid: Provided, however, That contractors under Small A and Small B categories without similar experience on the contract to be bid may be allowed to bid if the cost of such contract is not more than fifty percent (50%) of the Allowable Range of Contract Cost (ARCC) of their registration based on the guidelines as prescribed by the PCAB.*

*Moreover, a contract shall be considered "similar" to the contract to be bid if it has the same major categories of work.*

*For project to be escalated, it should be supported with computation for escalation and other docs to prove the escalation. (Certified true copy of the NEDA price escalation chart)*

*\*\*\*No attachment needed (i.e. Notice of Award, Contract Agreement, Certificate of Completion/Acceptance, CPES Rating Sheet). For verification during post-qualification process, if declared LCB.*

- ❑ The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, ***as finally reviewed and approved by BIR***, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission.

*It should be filled Electronically using the EFPS, pursuant to E.O. 398 and RR 3-2005 (gppb circular no. 02-2005) non-compliance with E.O. 398 will be marked "failed".*

- ❑ The prospective bidder's computation for its Net Financial Contracting Capacity (NFCC) **(SF-INFR-19)**.

The NFCC, computed using the following formula, must be at least equal to the ABC to be bid:

NFCC = [(Current assets minus current liabilities) (K)] minus the value of all outstanding or uncompleted portions of the projects under ongoing contracts, including awarded contracts yet to be started coinciding with the contract for this Project.

Where:

K = 10 for a contract duration of one year or less, 15 for a contract duration of more than one year up to two years, and 20 for a contract duration of more than two years.

The values of the bidder's current assets and current liabilities shall be based on the data submitted to the BIR, through its Electronic Filing and Payment System (EFPS);

- ❑ Valid joint venture agreement (JVA), in case the joint venture is already in existence. In the absence of a JVA, 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 shall be included in the bid. Failure to enter into a joint venture in the event of a contract award shall be ground for the forfeiture of the bid security. Each partner of the joint venture shall submit the legal eligibility documents. The submission of technical and financial eligibility documents by any of the joint venture partners constitutes compliance.

**TECHNICAL COMPONENT SHALL CONTAIN THE FOLLOWING:**

- ❑ Bid Security – shall include Bid Securing Declaration per GPPB Resolution No. 3-2012 and at least one (1) Bid Security in the prescribed form, amount and validity period as follows;
  - A bank draft/guarantee or an irrevocable letter of credit issued by a foreign bank, it shall be accompanied by a confirmation from a Universal or Commercial Bank; or
  - a surety bond accompanied by a certification coming from an authorized Insurance Commission that a surety or insurance company is authorized to issue such instrument;
  - The bid security in the amount stated in the **BDS** shall be equal to the percentage of the ABC in accordance with the following schedule;
  - The bid security shall be accompanied by Official Receipt and Certification from an authorized Insurance Commission.

Form of Bid Security	Amount of Bid Security (Equal to Percentage of the ABC)
(f) Cash or cashier’s/manager’s check issued by a Universal or Commercial Bank.	Two percent (2%)
(g) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.	
(h) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security; and/or	Five percent (5%)
(i) Any combination of the foregoing.	Proportionate to share of form with respect to total amount of security.

- ❑ Project Organizational chart for the contract to be bid;
- ❑ List of contractor's personnel (*viz*, Project Manager, Project Engineers, Materials Engineers, Construction Safety and Health Officers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data; Attach the following: **Certificate of Employment, Contractor's Letter-Certificate to Procuring Entity, PRC License, PTR, Bio-data and Certificate of Training for Materials Engineer (accredited by DPWH) and Construction Safety and Health Officer)(Form SF-INFR-46 to 48);**
- ❑ List of contractor's equipment units, which are owned, leased, and/or under purchase agreements, supported by certification of availability of equipment from the equipment lessor/vendor for the duration of the project and **supported with the proof of ownership; (Form SF-INFR-49);**
- ❑ Construction Methods in narrative form **(SF-INFR-43 FORM ATTACHED)**
- ❑ Construction Safety and Health Program
- ❑ Affidavit of Site Inspection **(SF-INFR-51 FORM ATTACHED);** and
- ❑ Sworn statement in accordance with Section 25.2(b) (iv) of the IRR of RA 9184 and using the form prescribed in Section IX. Bidding Forms **(Omnibus Sworn Statement Form)**

**ENVELOP B - THE FINANCIAL COMPONENT SHALL CONTAIN THE FOLLOWING:**

- ❑ Financial Bid Form in accordance with the form prescribed in Section IX. Bidding Forms;
- ❑ Duly Signed Bid Prices in the Bill of Quantities
- ❑ Duly Signed Construction Schedule and S-Curve (indicate BAR CHART)
- ❑ Duly Signed Detailed Estimates
- ❑ Duly Signed Cash Flow by Quarter and Payments Schedule

## Contract Agreement

---

THIS AGREEMENT, made this \_\_\_\_\_, 2016 between Philippine Ports Authority, PMO-Negros Oriental/Siquijor of Port Area, Looc, Dumaguete City (hereinafter called the "Entity") and \_\_\_\_\_ of \_\_\_\_\_ (hereinafter called the "Contractor").

WHEREAS, the Entity is desirous that the Contractor execute the \_\_\_\_\_ (hereinafter called "the Works").

WHEREAS, the Entity has accepted the Bid for [Amount in Words] (P Amount in figures) by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be attached, deemed to form, and be read and construed as part of this Agreement, to wit:
  - (a) General and Special Conditions of Contract;
  - (b) Drawings/Plans;
  - (c) Specifications;
  - (d) Invitation to Apply for Eligibility and to Bid;
  - (e) Instructions to Bidders;
  - (f) Bid Data Sheet;
  - (g) Addenda and/or Supplemental/Bid Bulletins, if any;
  - (h) Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes;
  - (i) Eligibility requirements, documents and/or statements;
  - (j) Performance Security;
  - (k) Credit line issued by a licensed bank, if any;
  - (l) Notice of Award of Contract and the Bidder's conforme thereto;
  - (m) Other contract documents that may be required by existing laws and/or the Entity.

3. In consideration of the payments to be made by the Entity to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Entity to execute and complete the Works and remedy any defects therein in conformity with the provisions of this Contract in all respects.
4. The Entity hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects wherein, the Contract Price or such other sum as may become payable under the provisions of this Contract at the times and in the manner prescribed by this Contract.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

PHILIPPINE PORTS AUTHORITY

[NAME OF CONTRACTOR]

BY:

BY:

SIGNED IN THE PRESENCE OF:

\_\_\_\_\_

\_\_\_\_\_

**ACKNOWLEDGEMENT**

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

BEFORE ME, a Notary Public, for and in the City of Dumaguete, Philippines, on this \_\_\_\_ day of \_\_\_\_\_, 2016 personally appeared the following persons with their respective Residence Certificates, to wit:

NAME	CTC No.	DATE ISSUED	PLACE ISSUED

Who are known to me to be the same persons who executed and signed the foregoing instrument, and who acknowledge to me that the same is their free and voluntary act and deed, and that of the entities which they respectively represent.

This instrument refers to a CONTRACT/AGREEMENT for [NAME OF CONTRACT], consisting of two (2) pages including this page in which the Acknowledgement is written and signed at the corresponding spaces provided therefore by the Parties and their instrumental witnesses and sealed with my notarial seal. Page 1 is signed at the left margin thereof.

WITNESS MY HAND AND SEAL this \_\_\_\_ day of \_\_\_\_\_ 2016 at Dumaguete City, Negros Oriental, Philippines.

\_\_\_\_\_  
Notary Public

Doc. No. \_\_\_\_\_  
Page No. \_\_\_\_\_  
Book No. \_\_\_\_\_  
Series of \_\_\_\_\_

Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

**Standard Form Number: SF-INFR-15**  
**Revised on: July 29, 2004**

**List of all Ongoing Government & Private Construction Contracts including contracts awarded but not yet started**

Business Name : \_\_\_\_\_  
Business Address : \_\_\_\_\_

Name of Contract/Location Project Cost	a. Owner Name b. Address c. Telephone	Nature of Work	Contractor's Role		a. Date Awarded b. Date Started c. Date of Completion	% of Accomplishment		Value of Outstanding Works	
			Description	%		Planned	Actual		
Government									
Private									
<b>Total Cost</b>									

- Note: This statement shall be supported with:**
- 1 Notice of Award and/or Contract
  - 2 Notice to Proceed issued by the owner
  - 3 Certificate of Accomplishments signed by the owner or Project Engineer

Submitted by : \_\_\_\_\_  
Designation : \_\_\_\_\_  
Date : \_\_\_\_\_  
(Printed Name & Signature)

One of the technical documents required to be in the Eligibility Envelope of a prospective bidder is a list of all its on-going, completed, and awarded but not yet started contracts.

Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

Standard Form Number: SF-INFR-16  
Revised on: July 29, 2004

**Statement of all Completed Government & Private Construction Contracts which are similar in nature**

Business Name : \_\_\_\_\_  
Business Address : \_\_\_\_\_

Name of Contract	a. Owner Name b. Address c. Telephone	Nature of Work	Contractor's Role		a. Amount at Award b. Amount at	a. Date Awarded b. Contract Effectivity
			Description	%		
Government						
Private						

Note: This statement shall be supported with:

- 1 Contract
- 2 CPES rating sheets and/or Certificate of Completion
- 3 Certificate of Acceptance

Submitted by : \_\_\_\_\_  
Designation : \_\_\_\_\_  
Date : \_\_\_\_\_  
(Printed Name & Signature)

*One of the technical documents required to be in the Eligibility Envelope of a prospective bidder is a list of all contracts which are similar in nature and complexity to the contract to be bid. This statement will show that the value of the prospective bidder's largest single completed contract, adjusted to current prices using the National Statistics Office (NSO) consumer price indices available at the G-EPS website, and similar to the contract to be bid, must be at least fifty percent (50%) of the approved budget for the contract to be bid.*



**FINANCIAL DOCUMENTS FOR ELIGIBILITY CHECK**

A. Summary of the Applicant Firm's/Contractor's assets and liabilities on the basis of the attached income tax return and audited financial statement, stamped "RECEIVED" by the Bureau of Internal Revenue or BIR authorized collecting agent, for the immediately preceding year and a certified copy of Schedule of Fixed Assets particularly the list of construction equipment.

		Year 20__
1.	Total Assets	
2.	Current Assets	
3.	Total Liabilities	
4.	Current Liabilities	
5.	Total Net Worth (1-3)	
6.	Current Net Worth or Net Working Capital (2-4)	

B. The Net Financial Contracting Capacity (NFCC) based on the above data is computed as follows:

NFCC = K (current asset – current liabilities) minus value of all outstanding works under ongoing contracts including awarded contracts yet to be started

NFCC = P \_\_\_\_\_

K = 10 for a contract duration of one year or less, 15 for more than one year up to two years and 20 for more than two years

or

Commitment from a licensed bank to extend to it a credit line if awarded the contract or a cash deposit certificate in the amount of at least 10% of the proposed project to bid.

Name of Bank: \_\_\_\_\_ Amount: \_\_\_\_\_

Herewith attached are certified true copies of the **income tax return filled electronically using the EEPS pursuant to EO 398 and RR 3-2005**; and audited financial statement: stamped "RECEIVED" by the BIR or BIR authorized collecting agent for the immediately preceding year and the cash deposit certificate or certificate of commitment from a licensed bank to extend a credit line.

Submitted by:

\_\_\_\_\_  
 Name of Firm / Contractor

\_\_\_\_\_  
 Signature of Authorized Representative

Date : \_\_\_\_\_

*NOTE:*

1. If Partnership or Joint Venture, each Partner or Member Firm of Joint Venture shall submit the above requirements.
- 2.

Standard Form Number: SF-INFR-43  
Revised on: August 11, 2004

**OUTLINE**  
**NARRATIVE DESCRIPTION**  
**OF**  
**CONSTRUCTION METHODS**

**1.0 INTRODUCTION**

Refer to Bidding, etc.

**2.0 BRIEF DESCRIPTION OF CONTRACT WORKS**

State general features of contract works. Use tables as necessary.

**3.0 CONSTRUCTION METHODS AND PROCEDURES**

3.1 Methodology or General Approach

State general approach in construction in terms of use of equipment-intensive or labor-based methods, any special techniques, methods or procedures to ensure completion on time and quality of construction; financing the project, etc.

3.2 Program of Work

CPM, Progress Bar Schedule and Development Schedules submitted.

3.3 Financial Program

Cash flow schedules, provision for working capital, schedule of receipts, etc.

*The narrative description of construction procedures / methods is required to be in the Technical Envelope of the bidder. The above is the recommended outline in the bidder's presentation of the documents.*

Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

Standard Form Number: SF-INFR-51  
Revised on: August 11, 2004

### Affidavit of Site Inspection

I, (Representative of the Bidder), of legal age, (civil status), Filipino and residing at (Address of the Representative), under oath, hereby depose and say:

1. That I am the (Position in the Bidder) of the (Name of the Bidder), with office at (Address of the Bidder);
2. That I have inspected the site for (Name of the Contract), located at (location of the Contract);
3. That I am making this statement as part of the requirement for the Technical Proposal of the (Name of the Bidder) for (Name of the Contract).

IN FAITH WHEREOF, I hereby affix my signature this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ at \_\_\_\_\_, Philippines.

\_\_\_\_\_  
AFFIANT

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

\_\_\_\_\_  
(Notary Public)

Until \_\_\_\_\_  
PTR No. \_\_\_\_\_  
Date \_\_\_\_\_  
Place \_\_\_\_\_  
TIN \_\_\_\_\_

Doc. No. \_\_\_\_\_  
Page No. \_\_\_\_\_  
Book No. \_\_\_\_\_  
Series of \_\_\_\_\_

*By the act of submitting its bid, the bidder shall be deemed to have inspected the site and determined the general characteristics of the contract works and the conditions indicated above. (IRR-A Section 17.7.2) Thus, one of the requirements from the bidder to be included in its Technical Envelope is the affidavit of site inspection.*

REPUBLIC OF THE PHILIPPINES )  
CITY OF \_\_\_\_\_ ) S.S.  
x-----x

**BID-SECURING DECLARATION**

Invitation to Bid: **Refurbishing of PTB (LFP-NOS-01-16)**  
**Port of Bulado, Guihulngan City**

To: *Atty. SARAH R. MIJARES – Port Manager*

Address: *Philippine Ports Authority,  
PMO-Negros Oriental/Siquijor,  
Port Area, Brgy. Looc, Dumaguete City*

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 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, if I/we have committed any of the following actions:
  - (i) Withdrawn my/our Bid during the period of bid validity required in the Bidding Documents; or
  - (ii) Fail or refuse to accept the award and enter into contract or perform any and all acts necessary to the execution of the Contract, in accordance with the Bidding Documents after having been notified of your acceptance of our Bid during the period of bid validity.
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;

(c) I am/we are declared as the bidder with the Lowest Calculated and Responsive Bid/Highest Rated and 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'S  
AUTHORIZED REPRESENTATIVE]  
[Insert signatory's legal capacity]***  
Affiant

**SUBSCRIBED AND SWORN** to before me this \_\_ day of [month] [year] at [place of execution], Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. \_\_\_\_\_ and his/her Community Tax Certificate No. \_\_\_\_\_ issued on \_\_\_\_\_ at \_\_\_\_\_.

Witness my hand and seal this \_\_\_\_ day of [month] [year].

**NAME OF NOTARY PUBLIC**

Serial No. of Commission \_\_\_\_\_

Notary Public for \_\_\_\_\_ until \_\_\_\_\_

Roll of Attorneys No. \_\_\_\_\_

PTR No. \_\_, [date issued], [place issued]

IBP No. \_\_, [date issued], [place issued]

Doc. No. \_\_\_\_

Page No. \_\_\_\_

Book No. \_\_\_\_

Series of \_\_\_\_.

Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

Standard Form Number: SF-INFR-48  
Revised on: August 11, 2004

**Qualification of Key Personnel Proposed to be Assigned to the Contract**

Business Name : \_\_\_\_\_  
Business Address : \_\_\_\_\_

	Project Manager	Project Engineer	Materials Engineer	Safety & Health Officer	Foreman
1 Name					
2 Address					
3 Date of Birth					
4 Employed Since					
5 Experience					
6 Previous Employment					
7 Education					
8 PRC License					

Submitted By : \_\_\_\_\_  
(Printed Name & Signature)  
Designation : \_\_\_\_\_  
Date : \_\_\_\_\_

Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

Standard Form Number: SF-INFR-46  
Revised on: August 11, 2004

### Key Personnel's Certificate of Employment

\_\_\_\_\_  
(Issuance Date)

**ATTY. SARAH R. MIJARES**  
Port Manager  
Philippine Ports Authority  
PMO – Negros Oriental/Siquijor  
Port Area, Brgy. Looc  
Dumaguete City  
Negros Oriental

Dear Madam:

I am \_\_\_\_\_ a Licensed \_\_\_\_\_ Engineer with Professional License  
(Name of Nominee)  
No. \_\_\_\_\_ issued on \_\_\_\_\_ at \_\_\_\_\_.  
(Date of Issuance) (Place of Issuance)

I hereby certify that \_\_\_\_\_ has engaged my services  
(Name of Bidder)  
as \_\_\_\_\_ for \_\_\_\_\_, if awarded to it.  
(Designation) (Name of Contract)

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

<b><u>NAME OF PROJECT</u></b>	<b><u>OWNER</u></b>	<b><u>COST</u></b>	<b><u>DATE COMPLETED</u></b>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

At present, I am supervising the following projects:

<b><u>NAME OF PROJECT</u></b>	<b><u>OWNER</u></b>	<b><u>COST</u></b>	<b><u>DATE COMPLETED</u></b>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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

(Name of the Procuring Entity)

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

(Designation)

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 \_\_\_\_\_ therefor, if the

(Designation)

contract is awarded to him since I understand that to do so will be a sufficient ground for my disqualification as \_\_\_\_\_ in any future

(Designation)

(Name of the Procuring Entity)

bidding or employment with any Contractor doing business with the

\_\_\_\_\_  
(Name of the Procuring Entity)

\_\_\_\_\_  
(Signature of Key Personnel)

DRY SEAL

Republic of the Philippines)  
\_\_\_\_\_ )S.S.

SUBSCRIBED AND SWORN TO before me this \_\_\_\_\_ day of \_\_\_\_\_ 200\_ affiant exhibiting to me his Residence Certificate No. \_\_\_\_\_ issued on \_\_\_\_\_ at \_\_\_\_\_.

Notary Public  
Until December 31, 20\_\_\_\_

Doc. No. \_\_\_\_\_;  
Page No. \_\_\_\_\_;  
Book No. \_\_\_\_\_;  
Series of \_\_\_\_\_;



Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

Standard Form Number: SF-INFR-45  
Revised on: August 11, 2004

## Contractor's Letter-Certificate to Procuring Entity

\_\_\_\_\_  
(Date of Issuance)

### **ATTY. SARAH R. MIJARES**

Port Manager  
Philippine Ports Authority  
PMO-Negros Oriental/Siquijor  
Dumaguete City

Dear Madame:

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:

1. That I/we have engaged the services of \_\_\_\_\_,  
(Name of Employee)  
to be the \_\_\_\_\_ of the \_\_\_\_\_,  
(Designation) (Name of Contract)  
who is a \_\_\_\_\_ with Professional License  
(Profession)  
Certificate No. \_\_\_\_\_ issued on \_\_\_\_\_ and who  
has performed the duties in the construction of the Contracts enumerated  
in the duly filled Form \_\_\_\_\_.
2. The said Engineer shall be designated by us as our \_\_\_\_\_  
(Designation)  
to personally perform the duties of the said position in the above-  
mentioned Project, if and when the same is awarded in our favor.
3. That said Engineer 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.
4. That said Engineer shall be personally present at the jobsite to supervise  
the phase of the construction work pertaining to this assignment as  
\_\_\_\_\_, all the time.  
(Designation)

5. That, in order to guarantee that said Engineer 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 Engineer at the end of every month.

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

6. 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 IN:

\_\_\_\_\_  
(Name of Key Personnel)

\_\_\_\_\_  
(Address)

Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

Standard Form Number: SF-INFR-47  
Revised on: August 11, 2004

**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.

- Authorized Managing Officer / Representative
- Sustained Technical Employee

1. Name : \_\_\_\_\_
2. Date of Birth : \_\_\_\_\_
3. Nationality : \_\_\_\_\_
4. Education and Degrees : \_\_\_\_\_
5. Specialty : \_\_\_\_\_
6. Registration : \_\_\_\_\_
7. Length of Service with the Firm : \_\_\_\_\_ Year from \_\_\_\_ (months) \_\_\_\_ (year)  
To \_\_\_\_ (months) \_\_\_\_ (year)
8. Years of Experience : \_\_\_\_\_

9. 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:

<u>Name and Address of Employer</u>	<u>Length of Service</u>
_____	_____ year(s) from _____ to _____
_____	_____ year(s) from _____ to _____
_____	_____ year(s) from _____ to _____

10. 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).

1. Name : \_\_\_\_\_
2. Name and Address of Owner : \_\_\_\_\_
3. Name and Address of the  
Owner's Engineer : \_\_\_\_\_  
(Consultant)
4. Indicate the Features of Project  
(particulars of the project  
components and any other particular  
interest connected with the project): \_\_\_\_\_
5. Contract Amount Expressed in  
Philippine Currency : \_\_\_\_\_
6. Position : \_\_\_\_\_
7. Structures for which the employee  
was responsible : \_\_\_\_\_
8. 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 this project, if the contract is awarded to our company.

\_\_\_\_\_  
(Place and Date)

\_\_\_\_\_  
(The Authorized Representative)

Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

Standard Form Number: SF-INFR-49  
Revised on: August 11, 2004

**List of Equipment, Owned or Leased and/or under Purchase Agreements, Pledged to the Proposed Contract**

Business Name : \_\_\_\_\_  
Business Address : \_\_\_\_\_

Description	Model/ Year	Capacity / Performance / Size	Plate No.	Motor No. / Body No.	Location	Condition	Proof of Ownership / Lessor or Vendor
<b>A. Owned</b>							
i.							
ii.							
iii.							
iv.							
<b>B. Leased</b>							
i.							
ii.							
iii.							
iv.							
<b>C. Under Purchase Agreements</b>							
i.							
ii.							
iii.							
iv.							

List of minimum equipment required for the project:

Submitted by : \_\_\_\_\_  
Designation : \_\_\_\_\_  
Date : \_\_\_\_\_  
(Printed Name & Signature)

## Omnibus Sworn Statement

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 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 of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to represent it in the bidding for [Name of the Project] of the [Name of the Procuring Entity];

*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 and/or to represent the [Name of Bidder] in the bidding as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate issued by the corporation or the members of the joint venture)];

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;

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:* I am not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat,

the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

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

7. [Name of Bidder] complies with existing labor laws and standards;
8. [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; and
9. [Name of Bidder] is aware of and has undertaken the following responsibilities as a Bidder:
  - a) Carefully examine all of the Bidding Documents;
  - b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;
  - c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and
  - d) Inquire or secure Supplemental/Bid Bulletin(s) issued for the [Name of the Project].

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_ day of \_\_, 20\_\_ at \_\_\_\_\_, Philippines.

\_\_\_\_\_  
Bidder's Representative/Authorized Signatory

SUBSCRIBED AND SWORN to before me this \_\_\_\_\_ day of \_\_\_\_\_, Philippines.

\_\_\_\_\_  
Notary Public

Doc. No. \_\_\_\_\_;  
Page No. \_\_\_\_\_;  
Book No. \_\_\_\_\_;  
Series of 20\_\_

## ***Bid Form***

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Date: \_\_\_\_\_

IAEB<sup>1</sup> N°: \_\_\_\_\_

To: ***Atty. SARAH R. MIJARES – Port Manager***  
Address: ***Philippine Ports Authority,  
PMO-Negros Oriental/Siquijor  
Port Area, Brgy. Looc, Dumaguete City***

We, the undersigned, declare that:

- (a) We have examined and have no reservation to the Bidding Documents, including Addenda, for the Contract [*Refurbishing of PTB, Port of Bulado, Guihulngan City (LFP-NOS-01-16)*];
- (b) We offer to execute the Works for this Contract in accordance with the Bid and Bid Data Sheet, General and Special Conditions of Contract accompanying this Bid;

The total price of our Bid, excluding any discounts offered in item (d) below is:

\_\_\_\_\_  
\_\_\_\_\_;

The discounts offered and the methodology for their application are: \_\_\_\_\_  
*[insert information]*;

- (c) Our Bid shall be valid for a period of *[insert number]* days from the date fixed for the Bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) 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;
- (e) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from the following eligible countries: \_\_\_\_\_ *[insert information]*;
- (f) 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;
- (g) Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the Contract, has not been declared ineligible by the Funding Source;

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<sup>1</sup> If ADB, JICA and WB funded projects, use IFB.



- (h) 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
- (i) We understand that you are not bound to accept the Lowest Evaluated Bid or any other Bid that you may receive.

Name: \_\_\_\_\_

In the capacity of: \_\_\_\_\_

Signed: \_\_\_\_\_

Duly authorized to sign the Bid for and on behalf of: \_\_\_\_\_

Date: \_\_\_\_\_

### **Bill of Quantities**

<b>REFURBISHING OF PTB PORT OF BULADO, GUIHULNGAN CITY (LFP-NOS-01-16)</b>					
<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY.</b>	<b>UNIT PRICE (Pesos)</b>	<b>AMOUNT (Pesos)</b>
1.00	General Expenses				
1.01	Mobilization / Demobilization	L.S.	1.00		
1.02	Provide construction safety and health program in execution of the project	L.S.	1.00		
2.00	Construction of Comfort Room for PWDs				
2.01	Demolish portion of CHB wall affected by the new comfort room	L.S.	1.00		
2.02	Excavation for column footing and wall footing	Cu.m.	0.67		
2.03	Supply and place 3,000 psi concrete for column footing, wall footing, column, lintel beam and floor slab	Cu.m.	0.99		
2.04	Supply and place reinforcement for Item 2.03	Kgs.	39.08		
2.05	CHB walling including plastering	Sq.m.	10.77		
2.06	Roof framing and roofing system	L.S.	1.00		
2.07	Doors and windows	L.S.	1.00		
2.08	Ceiling joists and ceiling	Sq.m.	7.08		
2.09	Floor and wall tiles	Sq.m.	29.04		
2.10	Toilet fixtures including accessories and other amenities	L.S.	1.00		
2.11	Installation of partition wall for stock room	Sq.m.	11.09		
3.00	Supply and Install Floor Mounted & Wall Mounted Split-Type Air-Conditioning Units	L.S.	1.00		
4.00	Electrical System				
4.01	Upgrading of existing electrical system	L.S.	1.00		
4.02	Replacement of all existing lighting with LED lights including provision of LED emergency lights	L.S.	1.00		
5.00	Provision of Public Address System	L.S.	1.00		
6.00	Comfort Room Fixtures and Amenities				
6.01	Provision of various required amenities for existing comfort rooms and waiting area	L.S.	1.00		
6.02	Provision of various signages at the PTB	L.S.	1.00		

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE (Pesos)	AMOUNT (Pesos)
7.00	Glass Panel Doors, Windows and Partition Wall				
7.01	Removal and turn-over to Authority existing glass jalousie windows	L.S.	1.00		
7.02	Replacement of existing glass jalousie windows with glass panel windows including installation of glass panel partition wall and glass panel door for diaper changing room	L.S.	1.00		
8.00	Painting/Repainting Works				
8.01	Painting of PWD comfort rooms	L.S.	1.00		
8.02	Repainting of interior and exterior walling and ceiling of the PTB	Sq.m.	700.04		
9.00	Installation of Stainless Railings for PWD	L.S.	1.00		
<b>T O T A L</b>					

Submitted by:

Name of the Representative of the Bidder : \_\_\_\_\_ Date: \_\_\_\_\_  
 Position : \_\_\_\_\_  
 Name of the Bidder : \_\_\_\_\_

Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

### **DETAILED COST ESTIMATES**

DERIVATION OF UNIT COST	Date :
Item No. :	Unit Cost/Set :
Item of Work :	Assumed Quantity :
Work Description :	

MATERIALS				
NAME AND SPECIFICATIONS OF MATERIALS	QTY.	UNIT	UNIT PRICE	AMOUNT
a) Total for Materials				

EQUIPMENT EXPENSES				
NAME, CAPACITY AND HP RATING OF EQUIPMENT	NO. OF UNITS	NO. OF DAYS	RATE PER DAY/HOUR	AMOUNT
b) Total for Equipment				

LABOR				
DESIGNATION OF PERSONNEL	NO. OF MEN	NO. OF DAYS	DAILY RATE	AMOUNT
c) Total for Labor				

d) ESTIMATED DIRECT COST (EDC) = a + b + c	
e) MARK - UPS	
1. Overhead, Contingencies, Miscellaneous (OCM) Expenses as ___% of (d)	
2. Contractor's Profit as ___% of (d)	
Total for (e)	

f) VAT as <u>12%</u> of (EDC + Mark-ups)	
g) TOTAL COST OF WORK ITEM	
h) UNIT COST (Total Cost/Assumed Quantity)	

Submitted by:  
 Name of the Representative of the Bidder : \_\_\_\_\_ Date: \_\_\_\_\_  
 Position : \_\_\_\_\_  
 Name of the Bidder : \_\_\_\_\_







Name of the Procuring Entity  
Contract Reference Number

Name of the Contract  
Location of the Contract

### CASHFLOW BY QUARTER AND PAYMENT SCHEDULE

Name of Project : \_\_\_\_\_  
Location : \_\_\_\_\_

<b>Project Duration (days or months)</b>	<b>Payment Schedule (Monthly, in Pesos)</b>	<b>Cash Flow (Quarterly, in Pesos)</b>
<b>T O T A L</b>		

\_\_\_\_\_  
Signature  
(Authorized Signing Official)