

PHILIPPINE BIDDING DOCUMENTS

(As Harmonized with Development Partners)

Procurement of **INFRASTRUCTURE PROJECTS**

(DEVELOPMENT OF MERCEDES PORT)

Government of the Republic of the Philippines

**Fourth Edition
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Section I. Invitation to Bid



INVITATION TO BID FOR DEVELOPMENT OF MERCEDES PORT

The Department of Transportation and Communications (DOTC), through its Bids and Awards Committee (BAC), invites contractors registered with and classified by the Philippine Contractors Accreditation Board (PCAB) to join in the procurement of the herein project:

	Name of Project/Location	:	DEVELOPMENT OF MERCEDES PORT	
	Brief Description	:	Mercedes, Camarines Norte	
	Source of Fund	:	CY 2013	
	ABC/Duration	:	Php 7,270,405.70 / 120 Calendar Days	
	PCAB Registration	:	Small B for Port, Harbor or Offshore Engineering	
	Minimum Equipment Requirement (OWNED)	:	1 – Backhoe (0.80 m ³)	1 – Concrete Vibrator
			1 – Dumptruck (8 m ³)	1 – Bar Cutter
			1 – Water Tank Truck (1,000 Gal.)	1 – Service Vehicle
			1 – One Bagger Concrete Mixer	

The schedule of procurement activities are shown below:

Issuance of Bid Tender Documents	4 February 2013 – 28 February 2013
Pre-Bidding Conference	11 February 2013, 3:00 pm, at Unit 167, 16 th Floor, The Columbia Tower, Ortigas Ave., Mandaluyong City
Submission and Receipt of Bids	The deadline for submission and receipt of bids is 28 February 2013, until 10:00 am, only at Unit 167, 16 th Floor, The Columbia Tower, Ortigas Ave., Mandaluyong City. Bids may be submitted before 28 February 2013, deadline at Unit 153, 15 th Floor, The Columbia Tower, Ortigas Avenue, Mandaluyong City.
Opening of Bids	28 February 2013, 10:00 am, Unit 167, 16 th Floor, The Columbia Tower, Ortigas Avenue, Mandaluyong City.

Prospective bidders must have an experience of having completed at least one (1) contract that is similar to the contract to be bid, and whose value, adjusted to current prices using the NSO consumer price indices, must be at least fifty percent (50%) of the Approved Budget for the Contract (ABC) and have key personnel and equipment available for the prosecution of the contract.

Bidding will be conducted through open competitive bidding procedures using non-discretionary pass/fail criterion as specified in the Implementing Rules and Regulations (IRR) of Republic Act 9184 (RA 9184), otherwise known as the "Government Procurement Reform Act".

Bidding is restricted to Filipino citizen/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 the DOTC and inspect the Bidding Documents at the address given below from 8:00 AM to 5:00 PM.

The Bid Documents/Forms will be made available at Unit 153, The Columbia Tower Bldg., Ortigas Avenue, Mandaluyong City, upon payment of a non-refundable amount of P10,000.00 to the DOTC Cashier. It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPs) and at the DOTC website at www.dotc.gov.ph provided that the bidders shall pay the fee for the Bidding Documents not later than the submission of bids. The pre-bid conference is open to all interested parties.

All bids must be accompanied by the bid security in any of the acceptable forms and in the amount stated in ITB Clause 18.

Bids will be opened in the presence of the bidders' representatives who choose to attend at the address as stated above. Late bids shall not be accepted.

The DOTC reserves the right to reject any or all bids, and accept the offer most advantageous to the Government. The DOTC assumes no responsibility whatsoever to compensate or indemnify bidders for any expenses incurred in the preparation of the bid.

For further information, please refer to:

Assistant Secretary Catherine P. Gonzales

Assistant Secretary for Procurement

Over-all Head, BAC Secretariat

Department of Transportation and Communications

Bids and Awards Committee Office

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ATTY. JOSE PERPETUO M. LOTILLA

Undersecretary for Legal and

Chairman, Bids and Awards Committee

Section II. Instructions to Bidders

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A. General

1. Scope of Bid

- 1.1. The Procuring Entity as defined in the **Bid Data Sheet (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. Unless otherwise specified in the **BDS**, 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;

(v) “obstructive practice” is

(aa) deliberately destroying, falsifying, altering or concealing of evidence material to an administrative proceedings or investigation or making false statements to investigators in order to materially impede an administrative proceedings or investigation of the Procuring Entity or any foreign government/foreign or international financing institution into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the administrative proceedings or investigation or from pursuing such proceedings or investigation; or

(bb) acts intended to materially impede the exercise of the inspection and audit rights of the Procuring Entity or any foreign government/foreign or international financing institution herein.

(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 **Instructions to Bidders (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. (a) Unless otherwise provided in the **BDS**, the Bidder must have completed, within ten (10) years from the submission of bids, a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted to current prices using the National Statistics Office consumer price index.
- (b) For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the **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. 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;
- (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, determined the general characteristics of the contract works and the conditions for this Project and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

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

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. (a) 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.

(b) *The pre-bid conference shall be held at least twelve (12) calendar days before the deadline for the submission of and receipt of bids. If the Procuring Entity determines that, by reason of the method, nature, or complexity of the*

*contract to be bid, or when international participation will be more advantageous to the GOP, a longer period for the preparation of bids is necessary, the pre-bid conference shall be held at least thirty (30) calendar days before the deadline for the submission and receipt of bids, as specified in the **BDS**.*

- 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 as recorded in the minutes of the pre-bid conference and the Supplemental/Bid Bulletin.
- 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. Unless, otherwise provided in the **BDS**, 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, 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 Constructors Performance Evaluation System (CPES) rating sheets,

and/or certificates of completion and owner's acceptance, if applicable;

- (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) Audited financial statements, showing, among others, the prospective total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission;
- (vi) NFCC computation or CLC in accordance with ITB Clause 5.5; 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 related to the financial component of the bid as stated in the **BDS**.

13.2. (a) Unless indicated in the **BDS**, all Bids that exceed the ABC shall not be accepted.

(b) Unless otherwise indicated in the **BDS**, for foreign-funded procurement, a ceiling may be applied to bid prices provided the following conditions are met:

- (i) Bidding Documents are obtainable free of charge on a freely accessible website. If payment of Bidding Documents is required by the procuring entity, payment could be made upon the submission of bids.
- (ii) The procuring entity has procedures in place to ensure that the ABC is based on recent estimates made by the engineer or the responsible unit of the procuring entity and that the estimates are based on adequate detailed engineering (in the case of works) and reflect the quality, supervision and risk and inflationary factors, as well as prevailing market prices, associated with the types of works or goods to be procured.
- (iii) The procuring entity has trained cost estimators on estimating prices and analyzing bid variances. In the case of infrastructure projects, the procuring entity must also have trained quantity surveyors.
- (iv) The procuring entity has established a system to monitor and report bid prices relative to ABC and engineer's/procuring entity's estimate.
- (v) The procuring entity has established a monitoring and evaluation system for contract implementation to provide a feedback on actual total costs of goods and works.

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. 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 specified in GCC Clause 48. 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. Furthermore, in cases where the cost of the awarded contract is affected by any applicable new laws, ordinances, regulations, or other acts of the GOP, promulgated after the date of bid opening, a contract price adjustment shall be made or appropriate relief shall be applied on a no loss-no gain basis.

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.	
(c) Surety bond callable upon demand issued by a surety or	Five percent (5%)

insurance company duly certified by the Insurance Commission as authorized to issue such security; and/or	
(d) Any combination of the foregoing.	Proportionate to share of form with respect to total amount of security

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.

- 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;
 - (iv) submission of eligibility requirements containing false information or falsified documents;
 - (v) 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;

- (vi) allowing the use of one's name, or using the name of another for purposes of public bidding;
 - (vii) 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;
 - (viii) refusal or failure to post the required performance security within the prescribed time;
 - (ix) 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;
 - (x) any documented attempt by a bidder to unduly influence the outcome of the bidding in his favor;
 - (xi) failure of the potential joint venture partners to enter into the joint venture after the bid is declared successful; or
 - (xii) 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.
- (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.

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. 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.

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. Unless otherwise specified in the **BDS**, 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 13.1(b), 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.
- 24.7. A Bidder determined as “failed” has three (3) calendar days upon written notice or, if present at the time of bid opening, upon verbal notification within which to file a request for reconsideration with the BAC: Provided, however, that the request for reconsideration shall not be granted if it is established that the finding of failure is due to the fault of the Bidder concerned: Provided, further, that the BAC shall decide on the request for reconsideration within seven (7) calendar days from receipt thereof. If a failed Bidder signifies his intent to file a request for reconsideration, the BAC shall keep the bid envelopes of the said failed Bidder unopened and/or duly sealed until such time that the request for reconsideration or protest has been resolved.

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 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. 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 and omissions to enable proper comparison of all eligible bids. It may also consider bid modifications if expressly allowed in the **BDS**. 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, unless otherwise indicated in the **BDS**.
- 27.5. 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;
 - (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 performance security shall be denominated in Philippine Pesos and posted in favor of the Procuring Entity in an amount equal to the percentage of the

total contract price as stated in the **BDS** 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 contract effectivity date shall be provided in the Notice to Proceed by the Procuring Entity, which date shall not be later than seven (7) calendar days from the issuance of the Notice to Proceed.

Section III. Bid Data Sheet

Bid Data Sheet

ITB Clause	
1.1	<p>The PROCURING ENTITY is Department of Transportation and Communications (DOTC).</p> <p>The name of the Contract is Development of Mercedes Port (Continuation of Construction of Seawall).</p>
2	<p>The Funding Source is:</p> <p>The Government of the Philippines (GOP) through DOTC CY 2013 Infrastructure Fund.</p> <p>The name of the Project is Development of Mercedes Port (Continuation of Construction of Seawall).</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.(a)	<p>The bidders must have an experience of having completed at least one (1) contract that is similar to the contract to be bid, and whose value, adjusted to current prices using the NSO consumer price indices, must be at least fifty percent (50%) of the Approved Budget for the contract.</p> <p>For this purpose, similar contracts shall refer to Port and Harbor Projects.</p>
8.1	Subcontracting is not allowed.
8.2	Not applicable.
9.1	The DOTC will hold a pre-bid conference for this Project on 11 February 2013, 3:00 pm, at 16th Floor, DOTC Multi-Purpose Room, The Columbia Tower, Ortigas Avenue, Mandaluyong City.
10.1	<p>The Procuring Entity's address is:</p> <p>Department of Transportation and Communications Secondary Bids and Awards Committee Office (BAC) The Columbia Tower, Ortigas Avenue, Mandaluyong City Telefax: 654-7725</p>
10.3	No further instructions.

12.1	The first envelope shall contain the eligibility and technical documents stated in the ITB Clause.
12.1(a)(i)	No other acceptable proof of registration is recognized.
12.1(a)(ii)	Valid and current Mayor's Permit.
12.1(a)(iii)	<p>1. Duly signed Statement of all Ongoing Government & Private Construction Contracts including contracts awarded but not yet started (SF-INFR-15).</p> <p>2. Duly signed Statement of all Completed Government & Private Construction Contracts which are similar in nature (SF-INFR-16).</p>
12.1(a)(iv)	<p>Valid PCAB license and registration for the type and cost of the contract for this project. For JV, provide a JV license issued by PCAB.</p> <p>The PCAB Registration for this project is Small B for Port, Harbor or Offshore Engineering.</p>
12.1(b)(ii)(ii.2)	<p>List of Contractors Personnel to be assigned to the contract to be bid with their respective curriculum vitae showing, among others, their educational attainment, professional qualification and experiences (SF-INFR-48), as follows:</p> <ol style="list-style-type: none"> 1. Project Manager 2. Civil Engineer (licensed) 3. Materials Engineer (duly accredited by DPWH) 4. Safety Officer (with certificate of training in occupational safety and health) <p>Duly signed Statement of Availability of Key Personnel and Equipment (SF-INFR-18).</p>
12.1(b)(ii)(ii.3)	List of Contractor's Equipment OWNED (pls. see Invitation to Bid), assigned to the Proposed Contract (SF-INFR-49).
13.1	<p>Checklist of Financial Components:</p> <ol style="list-style-type: none"> 1. Bid Prices in the bill of quantities in the prescribed form. 2. Detailed estimates including summary sheet indicating the unit prices of construction materials, labor rates and equipment OWNED (Pls. see Invitation to Bid) used in coming up with the bid, and 3. Cash flow by quarter and payment schedules.
13.1(b)	The ABC is Seven Million Two Hundred Seventy Thousand Four Hundred Five Pesos and Seventy Centavos (₱ 7,270,405.70) . Any bid with a financial component exceeding this amount shall not be accepted.

14.2	No further instructions.
14.2	No further instructions.
16.1	The bid prices shall be quoted in Philippine Pesos.
17.1	Bids will be valid until One Hundred Twenty (120) calendar days from the date of the opening of bids.
18.1	<p>The bid security shall be in the following amount:</p> <ol style="list-style-type: none"> 1. The amount of One Hundred Forty-Five Thousand Four Hundred Eight Pesos and Eleven Centavos (₱ 145,408.11), if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; 2. The amount of Three Hundred Sixty-Three Thousand Five Hundred Twenty Pesos and Twenty-Nine Centavos (₱ 363,520.29), if bid security is in Surety Bond; or 3. Any combination of the foregoing proportionate to the share of form with respect to total amount of security. <p>In lieu of a bid security mentioned above, the bidder may submit a Bid Securing Declaration that is an undertaking which states, among others, that the bidder shall enter in to contract with the procuring entity and furnish the required performance security within ten (10) calendar days, or less, as indicated in the Bidding Documents, 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 required in the guidelines issued by the GPPB.</p> <p>In no case shall bid security or Bid Securing Declaration be returned later than the expiration of the bid validity period indicated in the Bidding Documents, unless it has been extended in accordance with Section 28.2 of the IRR.</p> <p>The Bid Securing Declaration Form is in Section IX. Bidding Form.</p>
18.2	The bid security shall be valid until One Hundred Twenty (120) calendar days from the date of the opening of bids.
18.5	The first line should read "The bid security SHALL be forfeited".
20.3	Each Bidder shall submit One (1) original and Two (2) copies of the first and second components of its bid.
21	<p>The address for submission of bids is :</p> <p style="text-align: center;">Department of Transportation and Communications Bids and Awards Committee Office</p>

	<p style="text-align: center;">15th Floor, Unit 153, The Columbia Tower, Ortigas Avenue, Mandaluyong City Tel No: 654-7725 Fax No: 654-7725</p> <p>The deadline for submission of bids is 28 February 2013, 10:00 am.</p>
24.1	<p>The place of bid opening is at DOTC, Unit 167, The Columbia Tower, Ortigas Avenue, Mandaluyong City.</p> <p>The date and time of bid opening is 28 February 2013, 10:00 am.</p>
24.2	No further instructions.
27.3(b)	Bid modification is not allowed.
27.4	No further instructions.
28.2(b)	<p>The Bidders must submit manually filed tax returns or tax returns filed through the Electronic Filing and Payments System (EFPS) for the year 2011.</p> <p><i>NOTE: The latest income and business tax returns are those within the last six months preceding the date of bid submission.</i></p>
28.2(d)	<p>Additional document:</p> <p>Valid Certificate of Registration indicating the Tax Identification Number and photocopy of TIN Card.</p>
31.4(g)	Construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program duly approved by the Department of Labor and Employment, and PERT/CPM.
32.2	<p>The performance security shall be in the following amount:</p> <ol style="list-style-type: none"> 1. The amount of (10% of the total contract amount), if performance security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; 2. The amount of (30% of the total contract amount), if performance security is in Surety Bond; or 3. Any combination of the foregoing proportionate to the share of form with respect to total amount of security.

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 contract 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. 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. Unless otherwise indicated in the **SCC**, 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 for each day that the Completion Date is later than the Intended Completion Date. The applicable liquidated damages is at least one-tenth (1/10) of a percent of the cost of the unperformed portion for every day of delay. The total amount of liquidated damages shall not exceed ten percent (10%) of the amount of the contract. 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 40.3.

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 contract 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. Unless otherwise indicated in the **SCC**, 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	Five Percent (5%)

foreign bank	
(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

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, coercive, and obstructive practices as defined in **ITB** Clause 3.1(a), unless otherwise specified in the SCC;
 - (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 Procuring Entity 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 Procuring Entity, 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) afore-mentioned, 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 described in item (c) above 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 Contractor 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: *Provided, further*, That, by mutual agreement, the parties may agree in writing to resort to other alternative modes of dispute resolution.

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 **GCC** 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.
- 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. 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. Contractor's 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.
- 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 is One (1) year from project completion up to final acceptance by the Procuring Entity's.
- 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. 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 **ITB** Sub-Clause 42.2.
- 42.2. Progress payments are subject to retention of ten percent (10%), 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 Procuring Entity 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 Procuring Entity 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. Nevertheless, in cases where the cost of the awarded contract is affected by any applicable new laws, ordinances, regulations, or other acts of the GOP, promulgated after the date of bid opening, a contract price adjustment shall be made or appropriate relief shall be applied on a no loss-no gain basis.

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 Intended Completion Date is One Hundred Twenty (120) calendar days .
1.21	The Procuring Entity is the Department of Transportation and Communications (DOTC) .
1.22	The Procuring Entity's Representative is the DOTC Project Manager concerned .
1.23	The Site is located at Mercedes, Camarines Norte .
1.27	The Start Date is the 7th calendar day after the date of the Notice to Proceed .
1.30	The Works consist of Continuation of Construction of Seawall .
2.2	No further instructions.
5.1	The DOTC shall give possession of all parts of the Site to the Contractor beginning on the date of effectivity of contract until the date of its termination and/or project completion.
6.5	The Contractor shall employ the following Key Personnel : <ul style="list-style-type: none"> ✓ Project Manager ✓ Civil Engineer (licensed) ✓ 1 Materials Engineer (accredited by DPWH) ✓ 1 Safety Officer
7.4(c)	No further instructions.
7.7	No further instructions.
8.1	No further instructions.
10	The site investigation reports are: Not Applicable .
12.3	No further instructions.
12.5	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 .

	<p>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.</p> <p>In case of other structures, such as Bailey and wooden bridges, shallow wells, spring developments, and other similar structures: Two (2) years.</p>
13	If the Contractor is a joint venture, “All partners to the joint venture shall be jointly and severally liable to the Procuring Entity.”
18.3(h)(i)	No further instructions.
21.2	The Arbiter is: <i>Construction Industry Arbitration Commission</i> <i>5th Floor, Executive Building Corner Buendia, Makati City</i>
29.1	Dayworks are applicable at the rate shown in the Contractor’s original Bid.
31.1	The Contractor shall submit the Program of Work to the Procuring Entity’s Representative (DOTC Project Manager concerned) within 10 days of delivery of the Letter of Acceptance.
31.3	The period between Program of Work updates is 7 to 15 days . The amount to be withheld for late submission of an updated Program of Work is 5% of the contract amount .
34.3	The Funding Source is the Government of the Philippines.
39.1	The amount of the advance payment is 15% of the contract amount .
40.1	No further instructions.
51.1	The date by which operating and maintenance manuals are required is <i>[N/A]</i> . The date by which “as built” drawings are required is 15 days after project completion .
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 5% of the contract amount .

Section VI. Specifications

Name of Project : **DEVELOPMENT OF MERCEDES PORT**
Continuation of Construction of Sea Wall
Location : Mercedes, Camarines Norte
Duration : One Hundred Twenty (120) Calendar Days
Source of Fund : CY 2013

SCOPE OF WORK

The project covers the construction of seawall (92.0 meters) which shall be done in accordance with the approved plans, specifications and provisions of contract under the following scope of works, to wit;

ITEM 104 EXCAVATION. This item covers the supply of labor and equipment in the excavation of foundation along the proposed construction of sea wall. (Pls. refer to plans)

ITEM 701.A CLASS II ROCKS (200-500 kgs./pc). This item covers the supply of materials, labor and equipment necessary for the formation of Class II Rocks along the construction of seawall. (Please refer to plans)

ITEM 701.B CLASS III ROCKS (25-50 kgs./pc). This item covers the supply of materials, labor and equipment necessary for the formation of Class III Rocks along the construction of seawall. (Please refer to plans)

ITEM 602 GROUTED RIPRAP. This item covers the supply of labor, materials and equipment necessary for the formation of 25 to 50 kgs./pc. rocks with concrete mortar for binding prior to concrete works. This item shall be done as indicated and in accordance with the approval plans and specifications. (Pls. refer to plans)

ITEM 405 CONCRETE WORKS. This item covers the supply of labor, materials and equipment necessary for the construction of concrete curb, facing and footing with a minimum concrete strength of 3,500 psi. All works shall be done in accordance with the approved plans and specifications. Provision of reinforcing steel bars and formworks shall be included under this item. (Pls. refer to plans)

SPL-1 TEMPORARY FACILITIES.

The contractor shall supply the following provisions within ten (10) calendar days upon receipt of the Notice to Proceed (NTP)

A. STAFF HOUSE. This covers the rental of a fully furnished staff house for the exclusive use of the Project Engineer. Payment of water and electric bill shall be the responsibility of the contractor for the entire duration of the project.

B. SERVICE VEHICLE. This covers the provision of service vehicle of at least 2008 model, in good running condition and updated registration on a rental basis including driver and twelve (12) liters of fuel per day for the exclusive use of the DOTC Engineer supervising the project for thirty eight (38) Calendar Days.

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

ITEM 104 EXCAVATION

104.1 DESCRIPTION

This item shall consist of excavation, removing and satisfactorily disposing of all materials within the limits of the work required to conduct the landing strips, runways, taxiways, aprons, intermediate, and other areas of drainage, building construction, parking or other purposes in accordance with these specifications and in conformity with the dimensions and typical section shown on the plans and with the lines and grades established by the Engineer. All suitable material taken from excavation shall be used in the formation of embankment, sub-grade, and back filling as indicated on the plans or as directed by the Engineer. When the volume of the excavation exceeds that required to construct the embankments to the grades indicated, the excess shall be used to grade the areas of ultimate development or constructing the fill to the grades indicated, the deficiency shall be supplied from borrow sources at locations within the airport or other authorized areas.

104.2 CLASSIFICATION

All material excavated shall be defined as "Unclassified Excavation" unless, in the proposal form, prices are asked and bids are taken for "Solid Rock Excavation" and "Common Excavation". "Unclassified Excavation" shall include all excavation performed under this item regardless of the material encountered. "Solid Rock Excavation" when provided in the proposal shall include all solid rock in ledges, in bedded deposits, in unstratified masses, and conglomerate deposits which are firmly cemented they present all the characteristics of solid rock and which cannot be removed without drilling and blasting. All boulders contain a volume of more than 0.5 cubic meter will be classified as "Solid Rock Excavation", "Common Excavation", when provided in the proposal, shall include all solid excavation not included in "Solid Rock Excavation". Frozen condition of any of the different classified materials taken from excavation does not constitute a basis for a claim for higher classification or for extra work on the part of the contractor.

104.3 CONSTRUCTION METHODS

104.3.1 General

The rough excavation shall be carried to the necessary depth to obtain the specified depth of sub-grade classification shown on the plans. Likewise, on embankments, the depth of sub-grade densification shall be as shown on the plans. Should the Contractor, through negligence or other fault, excavate below the designated lines, he shall replace the excavation with approved materials, in an approved materials, in an approved manner and condition at his own expense. The Engineer shall have complete control over the excavation, moving, placing, and disposition of all material and shall determine the suitability of material to be placed in embankments. All material determined unsuitable should be disposed of in waste areas or as directed. Topsoil shall not be used in fills or in

sub-grades should be disposed of in waste areas or as directed. The Contractor shall inform and satisfy himself as to the character, quantity and distribution of all materials to be excavated. No payment will be made for any excavated material, which is used for purpose other than those designated. All spoil areas shall be leveled to a uniform line and section and shall present a neat appearance before project acceptance. The surface elevation of adjacent or contiguous areas of the airport.

Those areas outside the pavement in which the top layer of soil material becomes compacted due to hauling or to any other activity of the contractor, shall be scarified and disc harrowed or plowed to a depth of 100 mm, as directed, to loosen and pulverized the soil. It is necessary to interrupt existing surface drainage, conduits, utilities, or similar underground structure, or parts thereof, the contractor shall be responsible for and shall take all necessary precautions to protect and preserve or provide temporary services. When such facilities are encountered, the contractor shall notify the Engineer, who shall arrange for their removal, if necessary. The contractor at his own expense, satisfactorily repair all damage to such facilities or structures which may result from any at his operations during the period of the contract.

104.3.2 Excavation

Excavation shall be performed as indicated on the contract plans to the lines, grades, and elevation shown or as directed by the Engineer, and shall be made so that the requirements for formation of embankment can be followed. No excavation or stripping shall be started until the Engineer shall have taken cross-sectional elevations and measurement of the existing ground surface, and has staked out the proposed work. All material encountered within the limits indicated shall be removed and disposed as of directed. When directed, temporary drains and drainage ditches shall be installed to intercept or divert surface water, which may affect the work. When selected grading is specified or required as indicated on the plans, the placed in the embankment and pavement sub-grades as determined from the solid profile and soil characteristics. This material shall be deposited within the designated areas of the airport as shown on the plans or as directed by the Engineer. If, at the time of excavation, it is possible to place any material in its proper section of the permanent construction, it shall be stockpiled in approved areas for later use. Rock, shale, hardpan, loose rock, boulders, or other material unsatisfactory for landing strips, sub-grades, runways shoulders, intermediate areas or any areas intended for turning shall be excavated to a minimum depth of 300 mm, or to depth specified by the Engineer, below the contemplated surface of the sub-grade or the designated grades. Muck, peat, matted roots, or other suitable material for sub-grade foundation, shall be removed to the depth specified, to provide a satisfactory foundation. Unsatisfactory materials shall be disposed at locations designated by the Engineer. All materials excavated shall be paid at the contract unit price per cubic meter for "Unclassified Excavation", "Common Excavation", or Solid Rock Excavation", as the case maybe, when classification for the last two items is provided in the proposal. The portion so excavated shall be refilled with suitable selected material is specified, obtained from the grading operations or borrow area and thoroughly compacted by rolling. The necessary refilling will constitute a part of the embankment. Where trenching out is done to provide for a course of pavement, the depth thus created shall be ditched at frequent intervals to provide adequate drainage. The contractor shall make the grade to avoid haul will not be permitted. The right is reserve to make minor adjustment or revisions in lines or grades, if found necessary, as the work progresses due to discrepancies in the plans or to obtain satisfactory construction. Over-break including slides, is that portion of any material displaced or loosen beyond the finish work as planned or authorized by the Engineer. The Engineer shall determine if the displaced of such

material was unavoidable and his decision shall be final. All over-break shall be removed by the contractor and disposed as directed; however, payment will not be made under for the removal and disposal of over-break which the Engineer determines as avoidable. Unavoidable over-break will be classified as 'Unclassified Excavation", except when the contract provides for the classification of "Common Excavation", or "Solid Rock Excavation", in which case unavoidable over-breakage from slides will be classified as such.

The removal of existing structures and utilities required to permit orderly progress of work will be accomplished by local agencies, unless otherwise shown on the plans. All existing foundations shall be excavated for at least 60 mm below the top of the sub-grade and the material disposed as directed.

All foundations thus excavated shall be backfill with suitable material and compacted. In cut areas, the sub-grade under areas to be paved shall be compacted to the depths and to the densities at optimum moisture as shown on the plans or as specified in the specification, or when not otherwise shown or specified, to a minimum depth of 150mm and to a density of not less than 95%, for cohesive soils, and 100% for non-cohesive soils, the maximum density at optimum moisture as determined by the compaction control tests specified in FAA T-611. Any suitable materials encountered shall be removed and paid for as specified. No payment or measurement for payment will be made for suitable materials remove, manipulated and replaced in order to obtain density. Any removal, manipulation, aeration, replacement, and re-compaction of suitable materials necessary to obtain the required density shall be considered as incidental to the excavation and embankment operation, and shall be performed by the contractor at no additional cost to the project. Stones or rock fragments larger than 100mm in their greatest dimension will not be permitted in the top 150mm of the sub-grade. The finished grading operations conforming to the typical cross-section shall be completed and maintained at least 300 meters ahead of the paving operations. In cuts, all loose or protruding rocks on the back slope shall be barred loose or otherwise removed to line or finished grade of slope. All cut and fill slopes shall be uniformly dressed to the slopes, cross section, and alignment shown on the plans or as directed by the Engineer.

Blasting when necessary will be permitted only when proper precautions are taken for the protection and safety of all persons, the work, and the property. All damage done to the work or property shall be repaired at the contractor's expense. All operations of the contractor in connection with the transportation, storage, and use of explosives shall be approved by the Engineer. Any approval given will not relieve the contractor of his responsibility in blasting operations.

104.3.3 Borrow Excavation

When provided for in the proposal, borrow excavation shall consist of excavation made from borrow areas within the limits of the airport property outside the normal grading limits, or the airport property from which borrow may be obtained will be designated. Borrow Excavation shall be made only at these designated locations within the horizontal and vertical limits as staked or as directed. On completion of the borrow operations, the borrow area shall be finished to a neat and uniform grade acceptable to the Engineer.

When borrow sources are outside the boundaries of the airport property it shall be the Contractor's responsibility to locate and obtain the supply, subject to the approval of the Engineer. The Contractor shall notify the Engineer, sufficiently in advance of the beginning of excavation, so necessary measurements and test can be made. All objectionable material shall be disposed of as directed. All borrow pits shall be opened up immediately to expose the vertical face of various product. Borrow pits shall be excavated to regular lines to permit accurate measurement and shall be drained and left in a neat and presentable condition with all slopes dressed uniformly.

The borrow excavation shall be handled and placed as specified in these specifications for excavation.

104.3.4 Ditch Excavation

Ditch excavation shall consist of excavating for drainage ditches such as intercepting, inlet or outlet, temporary levee construction, or any other type as designed or as shown on the plans. The work shall be performed in the proper sequence with the other construction. The location of all ditches or levees shall be established on the ground. All satisfactory material shall be placed in fills; unsatisfactory material shall be placed in spoil areas or as directed. Waste or surplus material shall be disposed of as shown on the plans or as directed. Intercepting ditches shall be constructed prior to the starting of adjacent excavation operations. All necessary handwork shall be performed to secure a finish true to line, elevation, and cross section, as designated.

Ditches constructed on the project shall be maintained to the required cross-section and shall be kept free from debris or obstructions until the project is accepted. Where necessary, sufficient openings shall be provided through spoil banks to permit drainage from adjacent lands. Unless otherwise specified, no separate payment will be made for ditch excavation other than for the material removed which will be paid for at the unit price for "Unclassified Excavation," "Common Excavation," or "Solid Rock Excavation," or as the case may be, if the proposal includes classification of these excavated materials.

104.1 BASIS OF PAYMENT

Payment shall be made at the contract unit price per cubic meter for "Unclassified, Common, Solid Rock and Borrow Excavation." This price shall be full compensation for furnishing all materials, labor, equipment, tools and incidentals necessary to complete the Item.

Pay Item	Description	Unit
Item 104 (1)	Unclassified Excavation	Cu.m.
Item 104 (2)	Common Excavation	Cu.m.
Item 104 (3)	Solid Rock Excavation	Cu.m.

ITEM 701 - ROCK WORKS

701.1 - SCOPE OF WORK

This specification covers rockworks and the construction of the rock causeway. The works to be carried out shall be, but not limited to the following:

1. Supply and laying of the core stones bedding.
2. Supply and laying of the Armor Stones (1st layer).
3. Supply and laying of the Armor Stones (2nd layer).
4. Placement of concrete curb
5. Construction of concrete pavement.

701.2 - SETTING OUT WORKS

1. Topographic/Hydrographic Survey:

Prior to commencement of the work, the Contractor shall conduct a topographic/hydrographic survey in conjunction with the "Engineer's" instructions. This Survey shall form the basis for quantity measurement.

2. The Contractor shall set out works and be solely responsible for accuracy of such setting out.

701.3 - MATERIALS

1. Concrete for curb shall be in accordance with the provisions of Item 405, Concrete Works, using $f_c = 21$ Mpa.
2. Concrete works for pavement shall be in accordance with Item 501 - Portland Cement Concrete Pavement.
3. All rocks to be used shall be angular, hard, durable with the long dimension not more than three times the short. It shall not likely to disintegrate in sea water and if subjected to five (5) cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 12 mass percent.
4. All rocks shall have a minimum weight of 1000 kgs. per cubic meter (specific gravity 2.6) of solid materials when measured dry.

5. Rocks with specific gravity higher than the above specified is preferable and will readily be accepted. But no adjustment (increase) in the contract price will be made on this account.

6. Rocks that are sub-angular may be subject to the approval of the Engineer. Rounded or well rounded pieces will not be accepted.

7. Rocks of the primary cover layer should be sound, durable and hard. It should be free from laminations, weak cleavages, and undesirable weathering, and should be of such character that it will not disintegrate from the action of the air, sea-water, or in handling and placing. All stone should be angular quarry stone.

8. The greatest dimensions of individual rock unit should not be greater than three times the least dimension.

9. All rocks should conform to the following test designations : Apparent specific gravity, ASTM C-127 and abrasion, ASTM C-131.

10. The weight of the individual pieces of rocks may exceed the minimum in the table below by thirty three (33%) percent but not less than the weight specified hereunder.

- 1) Armor Stones
 - 1st layer 1 ton/pc.
 - 2nd layer 50 to 100 kg/pc
- 2) Core Stones 1 to 30 kg/pc.

Corestone bedding shall be reasonably well graded in weight between the minimum and maximum sizes.

701.4 - CONSTRUCTION METHOD

1. Construction method of concrete pavement shall be in accordance with the provisions of Item 501- Portland Cement Concrete Pavement.

2. The core stone shall be placed at convenient height and width for each delivery of materials.

3. The armor stone shall cover the sides, berm and top of the causeway for core stone protection.

4. The armor stone filler shall not be less than one half (1/2) of the weight and size of the armor stone.

5. The armor stone shall be placed with the longitudinal section perpendicular to the slope and longitudinal section of the causeway.

6. No cutting, spalling or coursing of the stones shall be allowed, but it is expected that the work shall be done in a workmanlike and skilled manner, which implies careful selection of stones.

7. The armor stone filler rock shall be wedged firmly in between the facing of armor rocks so that the latter shall be in the stable position.

8. Armor stones shall be placed individually by crane equipped with suitable bucket or by other means acceptable to the Engineer.

9. The rock mole/rock causeway can be constructed by any method acceptable to the Engineer. Prior to the start of work, the Contractor shall submit to the Engineer for approval his method and sequence of construction. The Engineer's approval of the method and sequence of construction shall not release the Contractor from responsibility to achieve the satisfactory implementation of the work.

10. Permissible Tolerance

a) Core Stones

Alignment : plus or minus 0.30 m
Elevation : plus or minus 0.30 m

b) Armor Stones

Alignment : plus or minus 0.30 m
Elevation : plus or minus 0.20 m

ITEM 405 – CONCRETE WORKS

405.1 SCOPE OF WORK

This Section includes all cast-in-place and pre-cast concrete and related works required under these Specifications, except Portland Cement Concrete Pavement.

405.2 GENERAL PROVISIONS

Concrete shall consist of mixture of Portland Cement, fine aggregate, coarse aggregate, admixtures when specified, and water mixed in the proportions specified or approved by the Engineer.

The following publications of the issued, listed below, but referred to thereafter by basic designation only, form a part of this Specification to the extent indicated by the reference thereto:

1. American Concrete Institute (ACI), Standard:
 - ACI 211.1 Recommended Practice for Selecting Proportions for Structural Concrete.
 - ACI 214 Recommended Practice for Evaluation of Compressive Test Results of Field Concrete.
 - ACI 305 Recommended Practice for Hot Weather Converting
 - ACI 315 Manual of Standard Practice for Detailing Concrete Structure
 - ACI 318 Building Code Requirements for Reinforced Concrete, with Commentary
2. American Society for Testing and Materials (ASTM) Publications:
 - A 82 Cold-Drawn Steel Wire for Concrete Reinforcement
 - A 185 Welded Steel Wire Fabric Concrete Reinforcement
 - A 615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
 - A 616 Rail-Steel Deformed and Plain Bars for Concrete Reinforcement
 - A 617 Axle-Steel Deformed and Plain Bars for Concrete Reinforcement
 - C 31 Making and Curing Concrete Test Specimens in the field
 - C 33 Concrete Aggregate
 - C 39 Compressive Strength of Cylindrical Concrete Specimens
 - C 42 Drilled Cores and Sawed Beams of Concrete, obtaining and testing

- C 94 Ready-Mixed Concrete
 - C 143 Slump of Portland Cement Concrete
 - C 150 Portland Cement
 - C 171 Sheet Materials for Curing Concrete
 - C 172 Sampling Fresh Concrete in the ASTM Publication
 - C 173 Air Content of Freshly Mixed Concrete by the Volumetric Method
 - C 192 Making and Curing Concrete Test Specimens in the Laboratory
 - C 231 Air Content of Freshly Mixed Concrete by the Pressure Method
 - C 260 Air-Entraining Admixture for Concrete
 - C 309 Liquid Membrane-Forming Compounds for Curing Concrete
 - C 494 Chemical Admixture for Concrete
 - C 1751 Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
(Non-extruding and Resilient Bituminous Types)
3. American Welding Society (AWS)
 - D.12.1 Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction.
 4. Philippine Standard (PS) 681 – 04 .02, 1975
 - DSB 275 Steel Bars for Concrete Reinforcement

405.3 SUBMITTALS

Refer to General and Special Requirements of the Contract.

Test Reports and Certificates shall be furnished for approval before delivery of certified or testes materials to the Project Site.

405.4 CLASSES OF CONCRETE AND USAGE

405.4.1 STRENGTH REQUIREMENTS:

Concrete of the various classes indicated and as required under other sections, and unless specified in the plan shall be proportioned and mixed for the following strength:

Class	Size of Aggregate (mm)	Specified Compressive Strength 28 days $f'c = \text{kg/sq.cm.}$
A-A	25	420
A	40	240
B	40	210
C	50	175
Seal	25	240

In addition to the above, the maximum permissible water-cement ratio by weight shall not be greater than 0.55 unless otherwise the Engineer.

405.4.2 USAGE

Concrete of the various classes to be used shall be as follows:

1. Class A-A concrete: For pre-stressed concrete structures and members.
2. Class A concrete: For pre-cast structure, superstructures and heavily reinforced substructures which include slabs beams, walls, girders, columns, arch ribs, box culverts, reinforce abutments, retaining walls, reinforced footings and foundation of buildings.
1. Class B concrete: Footings, pedestals, foundation of equipment, retaining wall, curb, slab on grade, pipe bedding gravity walls, unreinforced or with only a small amount of reinforcement.
2. Class C concrete: Leveling concrete.
3. Class Seal: Concrete deposited in water

405.4.3 Additives acceptable to the Engineer shall be used for all reinforced concrete structures exposed to salt water action.

405.5 MATERIALS

405.5.1 CEMENT

Except when specifically approved by the Engineer only one brand of cement shall be used for any individual structure. In determining the approved mix, only Portland Cement shall be used.

1. Portland Cement: ASTM C 150, Type I
2. High-Early Strength Portland Cement Type III may be used for pre-cast concrete. Cement Type III shall conform to ASTM C 150 with a tricalcium aluminate limited to 8 percent.

405.5.2 ADMIXTURES

Shall conform to the following:

1. Air-Entraining Admixtures: 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 effects, shall not be used.

405.5.3 AGGREGATES:

1. Coarse Aggregates: Conforming to ASTM C 33 and having nominal sizes passing 38.0 mm to 19.00 mm, 19.0 mm to 9.5 mm to No. 4 sieve. The material shall be well graded between the limits indicated and individually stocked piled. It shall be the Contractor's responsibility to blend the materials to meet the gradation requirements for various type of concrete as specified herein.

- a. Nominal sizes for combined gradation shall be as follows:

Table 405.1 - Grading Requirements for Coarse Aggregate

Sieve Designation		Mass Percent Passing for				
Standard	Alternate	Class	Class	Class	Class	Class
Mm	US Standard	B	C	A	A-A	Seal
63	2 ½ "	100				
50	2 "	95-100	100			
37.50	1 ½ "		95-100	100		
25	1 "	35-70		90-100	100	
19.0	¾ "		35-70		90-100	100
12.5	½ "	10-30		25-60		90-100
9.5	3/8 "		10-30		20-55	40-70
4.75	No. 4	0.5	0.5	0.10	0.10	0.15

The measured cement content shall be within plus (+) or minus (-) 2 mass percent of the design cement content.

2. Fine aggregate: ASTM 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 Sieve	By Weight Passing
9.5 mm (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 aggregate shall be reasonably uniform and fineness modulus thereof shall not vary more than 0.2 from that of the representative sample on which mix proportions of concrete are based.

b. Due care shall be taken to prevent segregation.

405.5.4 WATER

The water used in concrete, mortar and grout shall be free from objectionable quantities of silt, organic matter, alkali, salts and other impurities.

405.5.5 ANCHORAGE ITEMS:

- a. Dowels for anchoring mechanical items to concrete shall be of manufacturer's standard and of types required to engage with the anchors to be provided and installed therein under other sections of these Specifications and shall be subject to the approval of the Engineer.
- b. Slots shall be dovetail-type, of not lighter than 24-gauge zinc-coated steel, with filler that prevents concrete or water from entering and that can be easily removed or punctured for installing anchors.
- c. Inserts for suspended ceilings: Wire inserts for attachment of wire hangers for suspended ceilings shall not be lighter than 7-gauge zinc-coated steel wire. When flat iron or steel hangers are to be used zinc-coated inserts of the same section shall be set in the concrete.
- d. Inserts for bolt hangers shall be of malleable iron or of cast of wrought steel. Inserts for bolt hangers shall either be threaded or slotted as required by the types of hanger to be used. Threaded inserts shall have integral lugs to prevent turning.

405.5.6 CURING MATERIALS:

- a. Impervious Sheet Materials: ASTM C 171, type optional except that polyethylene film, if used, shall be white opaque.
- b. Burlap of commercial quality, non-staining type, consisting of 2 layers opaque.
- c. Inserts for suspended ceilings: Wire inserts for attachment of wire hangers for suspended ceilings not be lighter than 7-gauge zinc-coated steel wire. When flat iron or steel hangers are to be used zinc-coated inserts to the same section shall be set in the concrete.
- d. Inserts for bolt hangers shall be of malleable iron or of cast of wrought steel. Inserts for bolt hangers shall either be treated or slotted as required by the types of hanger to be used. Threaded inserts shall have integral lugs to prevent turning.

405.5.7 FORM MATERIALS:

Coatings and Ties are specified under 405.5.14, Form work of this Specification.

405.5.8 REINFORCEMENT

- a. Deformed Bars conforming to PS 681-04.02 (DSB 275); 1975 First Revision, or conforming to Bar Reinforcement of Item 401-Reinforcing Steel.
- b. Mesh Reinforcement conforming to JIS G 3551 or equivalent.

405.5.9 EXPANSION JOINT FILLER:

Preformed joint filler conforming to ASTM 17521, type and class suitable for the use intended.

405.5.10 VAPOR BARRIER:

- a. Asphalt-saturated waterproof reinforced draft paper.
- b. Polyethylene sheeting shall not be less than 0.2 mm nominal thickness.

405.5.11 WATERSTOPS SHALL BE OF THE FOLLOWING:

Copper conforming to ASTM B 370, 567 gms weight: or stainless steel conforming to ASTM A 167, type 304 L, finish 2D or equivalent, annealed 0.94 mm nominal thickness.

405.6 SAMPLES AND TESTING

Testing except as otherwise specified herein, shall be performed by an approved testing agency as proposed by the Contractor and approved by the Engineer at no additional cost to the Government.

Cement: Sampled either at the mill or at the site of the work and tested by an approved independent commercial national testing laboratory at no additional cost to the Government. 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 retreated before use. Cement delivered at the Site and later found under test to be unsuitable shall not be incorporated into the permanent works.

Aggregate: Tested as prescribed in ASTM C33.

Reinforcement: Certified copies of mill certificate of tests 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.

Concrete Tests: Provide for test purposes, one set of the test specimens taken under the instruction of the Engineer from each 75 cu. m. or fraction thereof of each class of concrete placed or at least one set of test specimens shall be provided for each class of concrete placed in each 8-hour shift. Each shall consist of three test specimens, and shall be made from a separate batch. Samples shall be secured in conformance with ASTM C172. Test specimen shall be made, cured, and packed for shipment in accordance with ASTM C31. Cylinders will be tested by and at the expense of the Contractor in accordance with ASTM C39. Test specimens will be evaluated separately, by the Engineer for meeting strength level requirements for each with CONCRETE QUALITY of ACI 318. The standard age of test shall be 28 days, but 7 days tests may be used, with the permission of the Engineer, provided that the relation between the 7-day and 28-day

strengths on the concrete is established by tests for the materials and proportions used. When samples fail to conform to the requirements for strength, 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 Government.

Test of Hardened Concrete in or Removed from the Structure: When the result of the strength tests of the control specimens indicates in the concrete as placed does not meet the Specifications requirements or where there is other evidence that the quality of the concrete is below the specification requirements, test on core of in-place concrete shall be made in conformance with ASTM C 42.

- a. Core specimens shall be obtained by the Contractor and shall be tested. Any deficiency shall be corrected; if the Contractor elects, he may submit a proposal for approval that a load test is made. If the proposal is approved, the Contractor and the test results evaluated by the Engineer in conformance with 20 of ACI 318 shall make the load test. 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 shall be corrected in a manner approved by the Engineer at no additional cost to the Government.

Admixtures: All admixtures shall be tested and those that have been in storage at the project Site for longer than 6 months shall not be used until proved by retest to be satisfactory.

- a. Air-Entraining Admixtures: 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.
- b. Other admixtures if approved, tested for conformance to the referenced specifications under which it is furnished. The testing shall be conducted with cement and aggregate proposed for the Project.

405.7 STORAGE

Storage accommodation 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: Immediate upon receipt at the Site, the Cement shall be stored separately in a dry weather tight, properly ventilated structure, with of adequate provisions for prevention or absorption of moisture. Cement bags should not be stacked more than 13 bags high. The cement most likely to have been exposed to moisture or stored in bags for more than 3 months shall not be used unless proven by test to be in good condition.

Aggregate: Stored to assure good drainage, to preclude inclusion of foreign matter, and to preserve the gradation.

405.8 FORMWORK

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

405.8.1 DESIGN

Studs and wale shall be spaced to prevent deflection of form materials. 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 surface 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.

405.8.2 CONCRETE SURFACES TO BE EXPOSED

Form surfaces that will be in contact with concrete shall be of materials that is non reactive with concrete and that will produce concrete surfaces equivalent in smoothness and appearance to that produced by new 1.2 x 2.4 meters plywood panels approved by the Engineer. Smaller size panels shall be used only where required by opening on the above architectural lines or joints, with each area less than 1.2 meters wide formed with single panel accurately cut to the required dimensions. Cut surfaces shall be smooth and treated with form coating. Panel joints that will being contact with concrete shall be smooth and free of offset. Form materials with defects that will impair the texture and appearance of finish surfaces shall not be used. Form lining, if used, shall be installed over solid backing. Column forms shall be made with a minimum number of joints.

405.8.3 CONCRETE SURFACES TO BE UNEXPOSED

Form surfaces that will be in contact with concrete shall be sound, tight lumber or other material producing equivalent finish.

405.8.4 SAMPLE CONCRETE PANELS

Before constructing structural formwork, sample concrete panel for exposed or painted concrete shall be constructed and approved for smooth finish specified in paragraph FINISHES OF CONCRETE OTHER THAN FLOOR SLABS. The panel shall not be less than 1.8 meter long by 1.2 meter high. Concrete shall be of the approved design mix. Forms shall include a typical joint between form panels. Sample panels shall show tie-hole patching and smooth finish. Sample panels shall be constructed at approved locations, not as part of the structure, and shall be protected from construction operations, weather, and other damage until acceptance of the completed concrete work. The approved sample panel shall be representative of the smooth concrete finish required in the work.

405.8.5 Form Ties shall be factory-fabricated, removable or snap-off metal ties of design that it will not allow form deflection and will not spall concrete upon removal. Solid backing shall be provided

for each tie. Ties shall be fitted with devices that will leave holes in the concrete surface no less than 9 mm nor more than 2.5 mm in diameter and of depth not less than 25 mm.

The portions of the tie remaining in the concrete after removal of the exterior parts shall not project beyond the surface of the concrete and shall be at least 38 mm back from any surface of the concrete that will be exposed, painted, damp-proofed, water-proofed, or receive direct applications of plaster. Bolts and rods that are to be completely withdrawn shall be coated with a non-staining bond breaker.

405.8.6 CHAMFERING

External corners of columns, girders, beams, foundation wall projecting beyond overlaying masonry, and other external corners that will be exposed shall be chamfered, beveled or rounded, not less than 19 mm, by molding in the forms unless the drawings specifically state that chamfering is to be omitted.

405.8.7 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 will not impair subsequent treatment of concrete surfaces depending upon 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.

405.8.8 Removal of forms shall be in a manner to insure complete safety of the structure after the following conditions have been met. Where structural as a whole is supported on shores, forms for beam and girder sides, columns, and similar vertical structural members may be removed after 24 hours, provided concrete is sufficiently hard not to be injured thereby.

Supporting forms of shoring shall not be removed until structural members have acquired sufficient strength to support safely their own weight and any construction and/or storage load to which they may be subjected, but in no case shall they be removed in less than 7 days, nor shall forms used for curing be removed before expiration of curing period except as specified in paragraph CURING. Care shall be taken to avoid spalling the concrete surface or damaging concrete edges. Wood forms shall be completely removed.

- a. Control Tests: Results of suitable control tests will be used as 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 the specifications. Test specimens shall be removed from molds at end of 24 hours and stored near to the structure as possible at points of sampling, shall receive insofar as practicable the same protection from the elements during curing as given in 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. Supporting forms or shoring shall not be removed until control-test specimens have attained strength of at least 15.68 Mpa. The

newly unsupported portions of the structure shall not be subject to heavy construction or material loading.

- b. Tie-Rods to be entirely remove from the wall shall be loosened 24 hours after concrete is placed, and form ties, except for a sufficient number to hold forms in place, may be removed at that time. Ties wholly withdrawn from wall shall be pulled toward the face that will be concealed from view in the permanent work.

405.9 REINFORCEMENT

405.9.1 REINFORCEMENT

Fabricated to shapes and dimensions shown and shall be placed where indicated. Reinforcement shall be of loose or flaky rust and mill scale, or coating, and any other substance that would reduce or destroy the bond. Reinforcing steel reduce in section shall not be used. After any substantial delay in the work, previously placed reinforcing steel for future binding 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 on the Drawing shall not be placed. The use of heat to bend or straighten reinforcing steel shall not be permitted. Bars shall removed as necessary to avoid interference with other reinforcing steel, conduits, or embedded items.

If bars are move more than one bar diameter, the resulting arrangement of bars including additional bars necessary to meet structural requirement shall be approved before concrete is places. In slabs, beams, and girders, reinforcing steel shall not be spliced at points of maximum stress unless otherwise indicated. Unless otherwise shown on the Drawing, laps or splices shall be 40 times the reinforcing bar diameter.

405.9.2 The nominal dimensions and unit weights of bar designation shall be in accordance with the following table:

Nominal Diameter	Nominal Perimeter (mm)	Nominal Sectional Area (sq.mm)	Unit Weight (Kg/m)
6 mm	18.8	28.27	0.222
10 mm	31.4	78.54	0.616
12 mm	37.7	113.10	0.888
16 mm	50.3	201.10	1.579
20 mm	62.8	314.2	2.466
25 mm	78.5	490.9	3.854
28 mm	88.0	615.7	4.833
32 mm	100.5	804.2	6.313
36 mm	113.1	1017.9	7.991
40 mm	125.7	1256.6	9.864
50 mm	157.1	1963.5	15.413

405.9.3 Wire-mesh reinforcement shall be continuous between crack control joints in slabs on grade and shall be continuous between expansion joints in other slabs. Laps shall be at least one full mesh plus 50 mm staggered to avoid continuous lap in either direction, and securely wired or clipped with standard clips.

405.9.4 Dowels in slabs on grade shall be installed at right angles to construction joints and expansion joints. Dowels shall be accurately aligned parallel to the finished surface, and shall be rigidly held in place and supported during placing of the concrete. One end of dowels shall be oiled or greased.

405.9.5 Tie bard on grade shall be placed at right angles to construction joints. Tie bars shall be accurately aligned parallel to the finished surface, and shall be rigidly held in place and supported during placing of the concrete.

405.9.6 Supports shall be provided in conformance with ACI 315 and ACI 318 unless otherwise indicated or specified. Wire ties, when used, shall be a 16-gauge black annealed wire and shall have end pointing away from the form.

- a. For slabs on grade: Reinforcement shall be supported on pre-cast structure units spaced at intervals required by size of reinforcement used, to keep reinforcement the minimum height specified or indicated above the underside of slab or footing.
- b. For slabs other than on grade: Supports for which any portion will be less than 25 mm concrete surface that will be exposed to view or painted shall be plastic-coated steel conforming to ACI 315, stainless steel, pre-cast concrete units, or plastic. Pre-cast concrete units shall be wedge-shaped, not larger than 9 cm, and of thickness equal to that indicated for concrete protection of reinforcement. The pre-cast units shall have cast-in galvanized tie wire booked at top for anchorage and shall blend with concrete surfaces after finishing is completed.
- c. Concrete shall be of the same quality as for slabs, but with coarse aggregate reduced. Plastic supports shall be of strength and spaced so as not to be deformed weight to which it is subjected.

405.9.7 Welding of reinforcing bars shall only be permitted where shown; all welding shown shall be performed in accordance with AWS D 12.1

405.9.8 Exposed reinforcement bars, dowels and plates Im13 intended for bonding with future extensions shall be protected from corrosion.

405.9.9 Concrete Protection for Reinforcement

- a. The minimum concrete cover of reinforcement shall be as indicated on the Drawings and as shown in the table below.
- b. Tolerance for Concrete Cover of Reinforcing Steel other than Tendons.

Minimum Cover	Maximum Variation
7.5 cm. Or more	9 mm
less than 7.5 cm.	6 mm

405.10 PROPORTIONS OF CONCRETE MIXES

405.10.1 Trial design batches and testing to meet requirements of the classes of concrete specified shall be the responsibility of the Contractor. The design mix shall be of consistencies specified hereafter in Test for Slump, unit weight, and air content shall be performed in the field under the presence of the Engineer.

405.10.2 Entrained-Air Content: Air-entrainment shall be produced by adding an air-entraining agent at the mixer. Air Content in concrete by volume shall be maintained at 5 to 7 percent, as determined by ASTM C 231.

405.10.3 Concrete Proportioning: Samples of approved aggregate shall be obtained in accordance with the requirements of ASTM D 75. Samples of materials other than aggregate shall be representative of those proposed for the project and shall be accompanied by the manufacturer's test reports indicating compliance with applicable specified requirements. Trial mixes having proportions, consistencies and air content suitable for the work shall be made based on ACI Standard 211.1 using at least three different water-cement ratios which will produce a range of strength encompassing those required for the work. Trial mix shall be designed for maximum permitted slump and air content. The temperature of concrete in each trial batch shall be reported. For each water-cement ratio at least three test cylinders for each test age shall be made and cured in accordance with ASTM C 39. From these test results, a curve shall be plotted showing the relationship water-cement ratio and strength.

405.10.4 Average Strength: For each portion of the structure, proportions shall be selected so that the maximum permitted water-cement ration is no exceeded and so as to produce an average strength to exceed the specified strength f_c' by the amount indicated below. Where production facility has a standard deviation record determined in accordance with ACI 214, based on 30 consecutive strength tests of similar mixture proportions as proposed it shall be used in selecting average strength.

The average strength used as the basis for selecting proportions shall exceed the specified strength f_c' by at least:

1. 30 kg/sq. cm. If standard deviation is less than 20 kg/sq. cm.
2. 40 kg/sq. cm. If standard deviation is 20 to 30 kg/sq. cm.
3. 50 kg/sq. cm. If standard deviation is 30 to 40 kg/sq. cm.
4. 60 kg/sq. cm. If standard deviation is 40 to 50 kg/sq. cm.
5. If the standard deviation exceed 50 kg. Sq. cm. Or if a standard deviation record is not available, proportions shall be selected to produce an average strength of at least 70 kg/sq. cm. Greater than the specified strength.

405.10.5 Corrective additions to remedy deficiencies in aggregate gradation shall be used only on written approval of the Engineer.

405.4.17,6 Slump: Tests shall be made in conformance 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	Maximum
Pre-cast Concrete	5 cm	7 cm
Wall, column and grade beam, 25cm maximum thickness	5 cm	7 cm
All other concrete	5 cm	10 cm
Lean Concrete	10 cm	20 cm

405.11 BATCHING AND MIXING

405.11.1 The Contractor shall provide a semi-automatic or better batching plant and concrete mixing equipment having a sufficient capacity to satisfy concrete placement requirements.

405.11.2 BATCHING PLANT

1. Arrangement: Separate bins or compartment shall provided for each size or classification of aggregate and for bulk Portland cement. The compartments shall be of ample size and so constructed that the materials will be maintained separately so that the flow of each material into its batcher is stopped automatically when the designated weight has been reached.
2. Aggregates may be weighed in separate weigh batches with individual scales, or cumulatively on one weigh batcher with one scale. Bulk cement shall be weighed on a separate scale in a separate weigh batcher. Water may be measured by weight or by volume. If measured by weight, it shall not be weighed cumulatively with another ingredient. Batching controls shall be so interlocked that the charging mechanism cannot be opened until the scales have returned to zero. These requirements can be satisfied when actuated by one or more starting mechanism.

A semi-automatic batcher control shall start the weighing operation of each material and stop automatically when the designated weight of each material has been reached and interlocked in such a manner that the discharge device cannot be actuated until the indicated material is within the applicable to tolerance. The plant shall be arranged so as to facilitate the inspection of all operations at all times. Suitable facilities shall be provided for obtaining representative samples of aggregate from each of the bin of compartments for test purposes. Delivery of materials from the batching equipment shall be within the following limits of accuracy.

Materials	Percent
Cement	1
Water	1
Aggregate	2
Admixtures	3

3. Water Bather and dispenser for Admixtures: Equipment for batching water and admixtures shall be provided at the batching plant or included with the paving mixer or truck mixers as required for the type of plant used.
 - a. Water Batchers: A suitable water measuring device shall be provided which will be capable of measuring the mixing water within the specified requirements for each batch. The

mechanism for delivering water to the mixers shall be such that leakage will not occur when the valves are closed.

The filling and discharge valves for the water batcher shall be so interlocked that the discharge valve cannot be opened before the filling valve is fully closed.

- b. Dispensers: An accurate mechanical device for measuring and dispensing each admixture shall be provided. Each device shall be capable of ready adjustment to permit varying of the quantity of admixture to be batched. Each dispenser shall be interlocked with the batching and discharging operations of the water so that each admixture is separately batched and discharge automatically in a manner to obtain uniform distribution throughout the batch in the specified mixing period. When use of truck mixers makes this requirement impracticable, the admixture dispenser shall be interlocked with the sand batcher. Admixtures will not be combined prior to introduction into water or sand.
3. Moisture Control: The plant shall be capable ready adjustment to compensate for the varying moisture contents of the aggregate, and to change the weights of the materials being batched. An electric moisture meter shall be provided for measurement of moisture content in the fine aggregate. The sensing element shall be arranged so that the measurement is made near the batcher charging gate of the sand bin or in the sand batcher.
 4. Scales: Adequate facilities shall be provided for the accurate measurement and control of each of the material entering each batch of concrete. The weighing equipment shall conform to the applicable requirements of National Bureau of Standard Handbook 44 or other international standard for scale except that the accuracy shall be within 0.2 percent of scale capacity. The Contractor shall provide standard test weights and any other auxiliary equipment required for checking the operating performance of each scale or other measuring device. Each weighing unit shall include visible springless dial which shall indicate the scale load at all stages of the weighing operation, or shall include a beam scale with a beam balance indicator which will show the scale in balance at zero load and at any beam setting. The indicator shall have an over and under travel equal to at least 5 percent of the capacity of the beam. The weighing equipment shall be arranged so that the plant operator can conveniently observed all dials or indicators.
6. Recorders:
 - a. An accurate recorder or recorders shall produce a graphical or digital record of the scale reading after each of the aggregates and cementing materials have been batched prior to delivery to the mixer and after the batchers have been discharged (return to zero reference). The weights or volume of water and admixtures shall also be recorded if batched at a central batching plant.
 - b. The recorder shall be housed in a cabinet which shall be capable of being locked.
 - c. The charts or tapes shall clearly indicate the different types of mixes used by stamped letters, numerals, colored ink or by other suitable means.
 - d. The charts or tapes shall be so marked that variations in batch weights of each type of mix can be readily observed.

- e. The charts of tapes shall show time of day (stamped or pre-printed) at intervals of not more than 15 minutes
- f. The recorded charts or tapes shall become the property of the PMO.
- g. The recorders shall be placed in a position. Convenient for observation by the plant operator and the PMO.
- h. All weighing, indicating, recording and control equipment shall be sufficiently protected against exposures to dust, moisture and vibration so that there is no interference with proper operation of the equipment.
- i. The recorded weights or volumes when compared to the weights or volumes actually batched shall be within the following limits of accuracy.

Materials	Percent
Cement	2
Water	2
Aggregate	4
Admixtures	6

405.11.3 CONCRETE MIXERS

Stationary mixers, truck mixers, or paving mixers of approved design. The mixers shall have a rated capacity of at least 0.76 cu. m. of mixed concrete, and shall not be charged in excess of the capacity recommended by the manufacturer. Mixers shall be capable of combining the material into a uniform mixture and of discharging this mixture without segregation. Stationary and paving mixers if used shall be provided with an acceptable device to lock the discharge mechanism until the required mixing time has elapsed. The mixing plant shall include device for automatically counting the total number of batches of concrete mixed. The mixers shall be operated at the drum or mixing blade speed designated by the manufacturer on the name plate. The mixing period specified herein are predicated on proper control of the speed of rotation of the mixer drum or blades, and on proper introduction of the materials into the mixer. The acceptability of truck mixers will be determined by uniformity tests as required by ASTM C 94, the mixing time for stationary or paving mixers will be increased when such increase is necessary to secure the required uniformity and consistency of the concrete. Excessive over-mixing requiring additions of water will not be permitted. The mixers and mixer drums shall be maintained unsatisfactory operating condition and mixer shall be kept free of hardened concrete. Mixer blades shall be replaced when worn more than 10 percent of their dept. Should any mixer at any time produce unsatisfactory results, its use shall be promptly discontinued until it is repaired.

1. Stationary Mixers: The mixing time for each batch after all solid materials are in the mixer, provided that all of the mixing water is introduced before one-fourth of the mixing time has elapsed, shall be one minute for mixers having a capacity of 0.76 cu. m. and for mixers of larger capacities the mixing time shall be increased by 15 second for each additional 0.76 cu. m. or fraction thereof concrete mixed. When stationary mixer is used for partial mixing of the concrete (shrink mixed) the mixing time in the stationary mixer may be reduced to the minimum necessary to item the ingredients (about 30 seconds).

2. Truck Mixers: Conform to the requirements of ASTM C94 including requirements or uniformity of concrete. When a truck mixer is used either for complete mixing (transit mixed) or to finish the partial mixing done in a stationary mixer, in absence of uniformity test data, each batch of concrete shall be mixed not less than 70 nor more than 100 revolutions of the drum at the rate of rotation designated by the manufacturer of the equipment as mixing speed and at the capacity designated in ASTM C94. If the batch is at least 0.38 cu. m. less than the rated capacity, in the absence of uniformity test data, the number of revolutions at mixing speed may be reduced to not less than 50. Any additional mixing shall be done at the speed designated by the manufacturer of the equipment at agitating speed. Each truck shall be equipped with two counters from which it shall be possible to determine the number of revolutions at mixing speed and the number of revolutions at agitating speed.
3. Vehicles used in transporting materials from the batching plant to the mixers shall have bodies or compartments of adequate capacity to carry the materials and to deliver each batch, separate and intact to the mixer. Bulk cement shall be transported from the batching plant to the mixers in separate closed boxes or compartments, or shall be transported, mixed with the aggregates or placed between layers of aggregates in batch trucks having windproof and rain-proof covers as weather conditions require. Concrete containing batched cement and aggregates shall be placed within the time specified in paragraph: Time interval between mixing and placing under paragraph PLACING CONCRETE. Serially numbered tickets shall be provided for each delivery of batched cement and aggregates and before discharging any batch in mixer. Tickets shall be stamped by time clock to show date and time the loading of each truck was completed. One ticket shall be given to the Engineer before discharging any batch into the mixer.
3. Paving Mixers used at the site of the work: For paving use, paving mixers shall be equipped with boom and bottom-drum bucket to handle the concrete from the mixer to the form. The bucket shall be of adequate size to handle the complete batch of concrete mixed, and the boom shall be of sufficient length to permit discharge of the concrete into its final position in the form. Paving mixers may be either single compartment drum or multiple compartment drum type.

A sled or box of suitable size shall be attached to the mixer under the bucket so as to catch any spillage of concrete that may occur when the mixer is discharging into the bucket. For use other than paving, the boom is not required; the mixer may discharge directly into the bucket to be used for final placement. Multiple compartment drum paving mixers shall be properly synchronized, and the mixing time shall be determined by including the time required to transfer the concrete between compartment of the drum.

If no uniformity test data are available, the mixing time for each batch, after all solid materials are in the mixer drum, provided that all the mixing water is introduced before one-fourth of the mixing time has elapsed, shall be 1 minute for mixers having a capacity of 0.76 cu. m. and for mixers of larger capacities, the minimum mixing times shall be increased 15 seconds for each additional 0.76 cu. m. or fraction thereof of concrete mixed.

5. Sampling: Provide suitable facilities and labor for obtaining representative samples of concrete for the Contractor's quality control and the Employer's quality assurance testing. The Contractor shall furnish all necessary platform, tools, and equipment for obtaining samples.

405.12 JOINTS

405.12.1 No reinforcement, corner protection angles or other fixed metal items shall be run continuous through joints containing expansion-joint filler, through crack-control joints in slabs on grade and vertical surfaces.

405.12.2 Pre-molded Expansion Joint Filler

1. Joints with Joint Sealant: At expansion joints in concrete slabs to be exposed, and at the other joints indicated to receive joint sealant, pre-molded expansion-joint filler strips shall be installed at the proper level below the elevation with a slightly tapered, dressed-and-oiled wood strip temporarily secured to the top thereof to form a groove, when surface dry, shall be cleaned of foreign matter, loose particles, and concrete protrusions, then filled approximately flush with joint sealant so as to be slightly concave after drying.
2. Finish of concrete at joints: Edges of exposed concrete slabs along expansion joints shall be nearly finished with a slightly rounded edging tool.

405.12.3 Construction Joints: Unless otherwise specified herein, all construction joints shall be subjected 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 surfaces 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 structural requirements as directed. If horizontal construction joints are required, a strip of 25 mm square-edge 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 25 mm above the underside of the strip. The strip shall be removed 1 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 and additional concrete, horizontal construction joints shall be prepared as specified in "BONDING".

405.12.4 Crack-control joints in slabs on grade are specified in paragraph. SLAB ON GRADE.

405.12.5 Water stops shall be installed so as to form a continuous water-tight diaphragm. Adequate provision shall be made to support and completely protect the water stops during the progress of the work. Joints and splices shall be made as follows:

Copper shall be soldered or brazed. When stainless steel is used, splicers, shall be lapped and welded, and brazing shall be in conformance with the manufacturer's recommendations.

405.13 INSTALLATION OF ANCHORAGE ITEMS

405.13.1 Slots: Adequate inserts shall be provided for anchoring members at openings. Slots and dowels shall be provided for anchoring ends and tops of masonry partitions abutting concrete.

405.13.2 Inserts for hangers for piping and mechanical fixtures and their installation shall be as specified under "PLUMBING".

405.14 PREPARATION FOR PLACING

Hardened concrete, debris and foreign materials shall be removed from interior of forms and from inner surface 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 supported on reinforcement.

405.15 PLACING CONCRETE

405.15.1 Concrete shall be handled from mixer to transport to place of final deposit in a continuous manner, as rapidly as practicable and without segregation or loss of ingredient 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 400 mm deep. Forms splashed with concrete and reinforcement splashed with concrete or form coating shall be cleaned in advance of placing of subsequent lifts. Concrete shall not be allowed to drop freely more than 1.5 m. in unexposed work nor more than 1.0 m in exposed work; where greater drops are required, tremie or other approved means shall be employed. The discharge of the tremies shall be controlled so that the concrete may be effectively compacted into horizontal layers no more than 400 mm thick, and the spacing of the tremies shall be such that segregation does not occur. Concrete to receive other construction shall be screeded to the proper level to avoid excessive shimming or grouting. Conduits and pipes shall not be embedded in concrete unless specifically indicated.

405.15.2 Time Interval between Mixing and Placing: Concrete mix in stationary mixers and transported by non-agitating equipment shall be placed in the forms within 45 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 discharge in the forms within 45 minutes from the time that ingredients are discharged into the mixing drum. Concrete shall be placed in the forms within 15 minutes after discharge from the mixer at the job site.

405.15.3 Hot Weather Requirements: Temperature of concrete during the period of mixing, transport and or placing shall not be permitted to rise above 16 degree celsius. Any batch of concrete which has reached a temperature greater than 35 degree celsius 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.

1. 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 degree celsius.

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

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

405.15.4 Earth-foundation placement: Concrete footings, exterior slabs and exterior foundations receiving equipment to machinery shall be placed upon undisturbed surfaces conforming to Section EXCAVATION FILLING, AND BACKFILLING. The surfaces shall be clean free from mud and water. Waterproof paper, polythylene sheeting of nominal 0.4mm minimum thickness shall be laid over dry or impervious surfaces receiving concrete. Such material is of a type specified for curing concrete except that the polythylene sheet may be other than white. The concrete footings and exterior slabs and foundation may be placed directly over impervious surfaces that are thoroughly moistened by not muddy at the time concrete is placed.

405.15.5 Conveying Concrete by Chute, Conveyor or Pump: chute, conveyor, or pump may convey Concrete if approved in writing. In requesting approval, the Contractor shall submit his entire plan of operation from time of discharge of concrete from the mixer to final placement in the forms, and the steps to be taken to prevent the formation of cold joints, in case the transporting of concrete by chute, conveyors and pump shall be capable of expeditiously placing concrete at the rate most advantageous to good workmanship. Approval will not be given for chutes of conveyors requiring changes in the concrete materials or design mix for efficient operation.

1. Chutes and Conveyors: Chutes shall be of steel or steel lined wood, round in cross section rigid in construction, and protected from overflow. Conveyors shall be designed and operated and chute sections shall be set to assure a uniform flow of concrete from mixer to final place of deposit without segregation or ingredients, loss of mortar, or change of slump. The discharge portions of each chute or convey shall be provide with a device to prevent segregation. The chute and conveyor shall be thoroughly cleaned before and after each run. Waste material and flushing water shall be discharged outside the forms.
2. When using tilted chutes, the inclination should not be flatter than (1) vertical and two (2) horizontal. From the outlet/mouth of the chute to the concrete surface the maximum allowable height shall be 1.50m.
3. Pumps shall be operated and maintained so that a continuous stream of concrete is delivered into the forms without air pocket. segregation or change in slump. When pumping is completed concrete remaining in the pipeline shall be ejected, and wasted without contamination of concrete already placed. After each operation, equipment shall be thoroughly cleaned and the flushing water shall be splashed outside the forms.

405.5.16 Placing concrete through reinforcement: Where congestion of the steel or other conditions will make placing or compactions of concrete difficult, a layer of mortar shall be first deposited in forms to a depth of approximately 25 cm.

Mortar proportions shall be the same as the concrete minus the coarse aggregate.

405.16 COMPACTION

405.16.1 Immediately after placing, each layer of concrete vibrator supplemented by hand spading, rodding, and tamping. Tappings 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 forms. Internal vibrators submerged in concrete shall maintain speed of not less than 7,000 impulses per minute. The vibrating equipment shall be at all times being adequate in number of units and power to properly consolidate all concrete.

405.16.2 Spare units shall be on hand as necessary to ensure such adequacy. Duration of vibrating equipment shall be limited to time necessary to produce satisfactory consolidation without causing objectionable segregation. The vibrator shall not be inserted into lower courses that have begun to set.

Vibrators shall be applied at uniformly spaced points not further apart than the visible effectiveness of the machine.

405.17 BONDING

Before depositing new concrete on or against concrete that has set, the surfaces of the set concrete shall be thoroughly cleaned so as to expose the coarse aggregate and be free of laitance, coatings, foreign matter and loose particles. Forms shall be re-tightened. The cleaned surfaces shall be moistened, but shall be without free water when concrete is placed.

405.18 SLABS ON GRADE

405. Capillary water barrier or sub-grade shall conform. Section EXCAVATION AND BACKFILLING FOR BUILDINGS.

405.18.2 Vapor Barrier: Immediately prior to placing concrete, the capillary water barrier or sub-grade under slabs within the building shall be covered with a vapor barrier. Punctures and tears shall be patched. Edges shall be lapped not less than 100 mm and end joints shall be lapped not less than 150 mm. Edges and lapped joints shall be sealed with a pressure sensitive tape, not less than 50 mm wide, compatible with the membrane.

405.18.3 Concrete shall be compacted, screeded to grade, and prepared for the specified finish. Concrete shall be placed continuously so that each unit of operation will be monolithic in construction. Concrete shall be placed in alternate check-board pattern termination at crack-control joints and with construction joints or may be placed in alternative paving lanes as limited by expansion and contraction joints and with construction joints or provide panels of size specified. Crack-control joints shall be expansion, contraction, or construction joints. Joints not shown shall be located at column centerlines and at intermediate intervals so that such panel shall not be more than 55 square meter in area. Panels shall be approximately square with dimension of one side not more than 7.5 meter. Forms shall remain in place for at least 12 hours after concrete placement.

405.18.4 Construction joints may be formed by the insertion of hard-pressed fiberboard strips inserted in the plastic concrete or may be cut with an approved concrete-sawing matching after the concrete has set. Unless otherwise indicated or directed, the joints shall be 3 mm wide and depth equal to approximately $\frac{1}{4}$ of the slab thickness or of the maximum size of the coarse aggregated whichever is greater.

- a. Fiberboard joints: Fiberboard strips shall be of the required dimensions and as long as practicable. After the first floating, the concrete shall be grooved with a total at the desired joint locations to a depth approximately equal to the width of the strip. The strip shall be inserted in the groove, using a U-shape device of sheet metal fitted over the top of the strip to maintain true alignment until the top edge of the strip is flush with the surface of the slab.

- b. When the concrete has set sufficiently to retain the strip, the sheet metal device shall be withdrawn. The slab shall be floated and finished as specified, using an edging tool on each side of the inserted joint strip where slabs will be left exposed to view.

405.18.5 Sealing: Concrete joints, where sawed or formed, 13 m. shall be filled with joint sealant except where floor covering is required.

405.19 SETTING OF BASE PLATES

405.19.1 Preparation: After being plumbed and properly positioned, base plates shall be provided with full bearing with damp-pack bedding mortar, except where expansive grout is indicated. The space between the top of concrete or masonry bearing surfaces and the bottom of the plate shall be approximately 1/24 of the width of the plate, but not less than 13 mm for plates less than 30 cm wide. Concrete surfaces shall be rough clean free of oil, grease, and laitance, and shall be damp. Metal surfaces shall be clean and free of oil, grease and rust.

405.19.2 Mortar: Damp-pack bedding mortar shall consist of one part Portland cement and 2.5 parts of fine aggregates, suitable to the work required, proportioned by weight and not more than 17 liters of water per bag of cement. The space between the top of the plate shall be packed with the bedding mortar by tamping or ramming with a bar or rod until the voids are completely filled.

405.19.3 Expansive Grout: Grout shall derive its expansive properties from the liberation of gas into the mixture during and after mixing. This includes typically, and chemical reaction of metallic aluminum with alkali hydroxides in solution which causes the evolution of hydrogen gas. Expansion of such materials may be expected to continue after the gas liberating mechanism has been exhausted or until the mixture has solidified to such an extent that the tendency for the evolving gas to expand is effectively registered by the stiffness of the grout.

- a. When tested as provided for herein, and expansive grout shall meet the following performance requirements:

Expansion, 28 days, % max.....0.40
min..... 0.03

- b. It will be the Contractor's responsibility to supply the necessary manufacturer's certificates.

405.20 FINISHES OF CONCRETE

405.20.1 Within 12 hours after forms are removed, surface defects shall be remedied as specified herein. Temperature of the concrete, ambient air and mortar during remedial work including curing shall be above 10 deg, celsius. Fine and loose material shall be removed. Honeycomb, aggregate pockets, voids over 13 mm 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 1 part portland cement to not more than 2 parts fine aggregate passing the No. 16 mesh sieve, and minimum amount of water. The color of the mortar shall be 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 to 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 adjacent surfaces. Exposed patchwork shall be finish to match adjoining surfaces in texture and color. Patchwork shall be damp cured for 72

hours. Ambient temperature shall be not less than 10 deg. Celsius. Dusting of finish surfaces with dry material or adding water to concrete surfaces will not be permitted.

405.21 CONCRETE FINISHES FOR SLABS

405.21.1 Slabs Receiving Concrete Paving: After concrete is placed and consolidated slab shall be screeded or struck off. No further finish is required.

405.21.2 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 remove, the surface shall be finished by float and steel trowel.

405.21.3 Broom Finish: Required for paving, stairs and landing; the concrete shall be screeded and floated to required finish level with no coarse aggregate visible. After the surface shall be float finished to an even, smooth finish. The floated surfaces shall be broomed with a fiber bristle brush in a direction transverse to the direction of the main traffic.

405.21.4 Tolerance: Smooth and broom finished surfaces shall be true to plane with no deviation in excess of 3 mm in any direction when tested with a 3 m straight edge.

405.22 FINISHES OF CONCRETE OTHER THAN FLOOR SLABS

405.22.1 Within 12 hours after forms are removed, surface defects shall be remedied as specified herein. Honeycomb, aggregate, pockets, voids over 12 mm 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 1 part Portland cement to not more than 2 parts fine aggregate passing the No. 16 mesh sieve, and minimum amount of water using white Portland cement for all or part of the cement so that when dry, 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 to the outside face. Holes that do not pass entirely through the wall shall be packed full. Patch-work shall be damp-cured for 72 hours. Protruding portions of bar supports shall be ground flush with concrete surfaces that will be exposed, painted, or plastered directly.

405.22.2 Smooth Finish: After the above operations have been completed, smooth finish shall be given to interior and exterior concrete surfaces that are to be painted or exposed to view. Smooth finish shall consist of thoroughly wetting and then brush-coating the surfaces with cement grout composed by volume of 1 part Portland 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. White Portland cement shall be used for all or part of the cement, proportioned by the trial mixes, so that the final color of grout when dry, will be approximately the same as the color of the surrounding concrete. Grout shall be cork or wood-floated to fill all pits and air bubbles; and surfaces rubbed with burlap to remove any visible grout film. The grout shall be kept damp by means of fog spray during the setting period. The finish of any area shall be completed in the same day and the limits of a finished area shall be made at natural breaks in the finished surfaces.

405.22.3 Rough Slab Finish: Slab to receive fill and setting beds shall be screeded with straight-edges to bring the surface to the required finish plane with no aggregates visible.

405.22.4 Broom finish shall be given to exterior surfaces except concrete stair treads, entrances, and landings for buildings. The concrete shall be screeded and floated to the required finish level with no coarse aggregate visible. After the surface moisture has disappeared and laitance has been removed, surfaces shall be steel-troweled to an even, smooth finish. The troweled surfaces shall be broomed with a fiber-bristle brush in a direction transverse to that of the main traffic.

405.23 CURING

405.23.1 Concrete shall be protected against moisture rapid temperature change, mechanical injury from rain or flowing water, for a minimum period of time given below:

Type I	Cement	7 days
--------	--------	--------

405.22.2 Concrete shall be maintained in a moist condition at temperature above 10 degrees Celsius throughout the specified curing period and until remedial work is started under paragraph FINISHES OF CONCRETE. Curing activities shall be started as soon as free water has disappeared from the surface of the concrete after placing and finishing. Formed under surface shall moist cure with forms in place for the full curing period, by other approved means. Curing shall be accomplished by any of the following methods or combination thereof, as approved.

405.23.3 Moist Curing: Unformed surfaces shall be covered with burlap or mats, wetted before placing and overlapped at least 150 mm. Burlap or mats shall be kept continually wet and in intimate contact with the surface. Where formed shall be kept continually wet. If the forms are removed before the end of the curing period, curing shall be continued on unformed surfaces, using suitable materials.

405.23.4 Impervious sheet Curing: All surfaces shall be thoroughly wetted with a fine spray of water and be completely covered with waterproof paper, polyethylene sheeting or with polyethylene coated burlap having the burlap thoroughly water saturated before placing. Covering shall be laid with light-colored side up. Covering shall be lapped not less than 300 mm and securely weighted down or shall be lapped not less than 100 mm and taped to form a continuous cover with completely closed joints. Sheets shall be weighted to prevent displacement or billowing from winds. Covering shall be folded down over exposed edges of slabs and secured by approved means. Sheets shall be immediately repaired or replaced if tears or holes appear during the curing period.

405.23.5 Membrane-forming Curing Compound: Before applying curing compound, tops of joints that are to receive sealant shall be tightly closed with temporary material to prevent entry of the compound and to prevent moisture loss during the curing period. The compound shall be applied on damp surfaces as soon as the moisture film has disappeared. The curing compound shall be applied by power spraying using a spray nozzle equipped with a wind guard. The compound shall be applied in a two-coat, continuous operation at a coverage of not more than 10 sq. m. per liter for each coat. When application is made by hand sprayers the second coat shall be applied in a direction approximately at right angles to the direction of the first coat, the compound shall form a uniform, continuous, adherent film that shall not check, crack, or peel and shall be free from pinholes or other imperfections. Surfaces subjected to rain fall within 3 hours after compound has been applied, or surface damaged by subsequent construction operations within the curing period, shall be immediately re-sprayed at the rate specified above. Membrane forming curing compound shall not be used on surface that depends on adhesion or bonding to the concrete. Membrane

forming curing compound shall not used on surfaces that are maintained at curing temperature with free steam. Where membrane-forming curing compounds are permitted, permanently exposed surfaces shall be cured by use of a non-pigmented membrane-forming curing compound containing a fugitive dye. Where non-pigmented type curing compounds are used, the concrete surface shall be shaded from the direct rays of the sun for the curing period. Surfaces coated with curing compound shall be kept free of foot and vehicular traffic, and from other courses of abrasion and contamination during the curing period.

405.24 SETTING BEDS

Required over slabs for floor finished other than concrete are covered under other sections of these specifications in which the floor finish is specified.

405.25 METHOD OF MEASUREMENT

The quality of structural concrete to be paid for will be the final quantity placed and accepted in the completed structure. No deduction will be made for the volume occupied by pipe less than 100 mm (4 inches) in diameter or by reinforcing steel, anchors, conduits, weep holes, or expansion joint materials.

405.26 BASIS OF PAYMENT

The accepted quantities, measured as prescribed in Section 405.25, shall be paid for at the contract unit price for each of the pay items listed below, that is included in the Bill of Quantities. Payment shall constitute full compensation for furnishing, placing and finishing concrete including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this item.

Payment will be under:

Item No.	Description	Unit of Measurement
405 (1)	Concrete Class A-A	Cu. m.
405 (2)	Concrete Class A	Cu. m.
405 (3)	Concrete Class B	Cu. m.
405 (4)	Concrete Class C	Cu. m.
405 (5)	Seal Concrete	Cu. m.

ITEM 602 - RIPRAP AND GROUTED RIPRAP

602.1 DESCRIPTION

This Item shall consist of the furnishing and placing of rip-rap with or without grout as the case may be, with or without filter backing, furnished and constructed in accordance with this Specification and to the lines and grades and dimensions shown on the Plans.

602.2. MATERIAL REQUIREMENTS

602.2.1 STONES

Stones for rip-rap shall consist of rock as nearly rectangular in section as is practical, except that rip-rap of Class A may consist of round natural stones. The stones shall be sound, tough, durable, dense, resistant to the action of air and water, and suitable in all respects for the purpose intended.

Stones for rip-rap shall be one of the following classes as shown on the Plans or determined by the Engineer.

Class A - Stones ranging from a minimum of **15 kg** to a maximum of **25 kg** with at least 50 percent of the stones weighing more than 20 kg.

Class B - Stones ranging from a minimum of **30 kg** to maximum of **70 kg** with at least 50 percent of the weighing more than 50 kg.

Class C - Stones ranging from a minimum of **60 kg** to a maximum of **100 kg** with at least 50 percent of the stones weighing more than 80 kg.

Class D - Stones ranging from a minimum of **100 kg** to a maximum of **200 kg** with at least 50 percent of the stones weighing more than 150 kg.

Sound pieces of broken concrete obtained from the removal of the approval of the Engineer.

602.2.2 FILTER MATERIAL

Where required, the rip-rap shall be placed on a filter layer to prevent fine embankment materials to be washed out through the voids of the face stones. The grading of the filter material shall be as specified on the Plans, or in the Special Provisions. If not so specified, it will be required that D15 of the filter is at least 4 times the size D85 for the embankment material, here D15 percent and D85 percent, respectively, passing (by mass) in a grain size

analysis. Fine aggregate passing grading requirements for Item 405, Structural Concrete, will satisfy foregoing requirements.

602.2.3 MORTAR

Mortar for grouted rip-rap shall consist of sand, cement and water conforming to the requirements given under Item 405, Structural Concrete, mixed in the proportion of one part cement to three parts sand by volume, and sufficient water to produce a thick but fluid mortar.

602.2.4 FILTER MATERIAL

The rip-rap shall be placed on a filter layer to prevent fine embankment material to be washed out through the voids of the face stones. The grading of the filter material shall be as specified on the Plans. If not specified, it will be required that D15 of the filter is at least 4 times as large as D15 for the underlying embankment materials, and not more than 4 times the size D85 for the embankment material, where D15 and D85 are the particle diameters corresponding to 15 percent and 85 percent, respectively, passing (by weight) in a grain size analysis.

602.3 CONSTRUCTION REQUIREMENTS

602.3.1 Excavation

The bed for rip-rap shall be excavated to the required depths and properly compacted, trimmed and shaped. The riprap shall be founded in a toe trench dug below the depth of scour as shown on the Plans or as ordered by the Engineer. The toe trench shall be filled with stone of the same class as that specified for the rip-rap, unless otherwise specified.

602.3.2 Placing

Stones placed below the water line shall be distributed so that the minimum thickness of the rip-rap is not less than specified. Stones above the water line shall be placed by or individually by machines. They shall be laid with close, broken joints and shall be firmly bedded into the slope and against the adjoining stones. Each stone shall be laid with its longest axis perpendicular to the slope in close contact with each adjacent stone. The rip-rap shall be thoroughly rammed into place as construction progresses and the finished surfaces shall present an even, tight surface. Interstices between stones shall be filled with small broken fragments rammed into place.

Unless otherwise provided, rip-rap shall have the following minimum thickness, measured perpendicular to the slope:

- Class A - 300 mm
- Class B - 500 mm
- Class C - 60 mm

Class D - 800 mm

The surface of rip-rap shall not vary from the theoretical surface by more than 100mm at any point.

602.3.3 Grouting

When grouted riprap is specified, stones shall be placed by hand, or individually by machine as specified for riprap place above the water line. The spaces between the stones shall then filled with cement mortar as specified in Subsection 504.2.3, Mortar. Sufficient mortar shall be used to completely fill all voids, except that the face surface of the stones shall be left exposed.

Grout shall be placed from bottom to top of the surface swept with a stiff broom. After grouting is completed, the surface shall be cured as specified in Item 405, Structural Concrete for a period of at least three days.

602.4 METHOD OF MEASUREMENT

The quantities to be measured for payment shall be the number of cubic meters of rip-rap or grouted rip-rap, as the case may be, including stones placed in the toe trench laid in position and accepted.

Filter layer of the granular material, when required shall be measured separately by the cubic meter in place and accepted.

The computation of the quantities will be based on the volume within the limiting dimensions designated on the Plans or as determined by the Engineer.

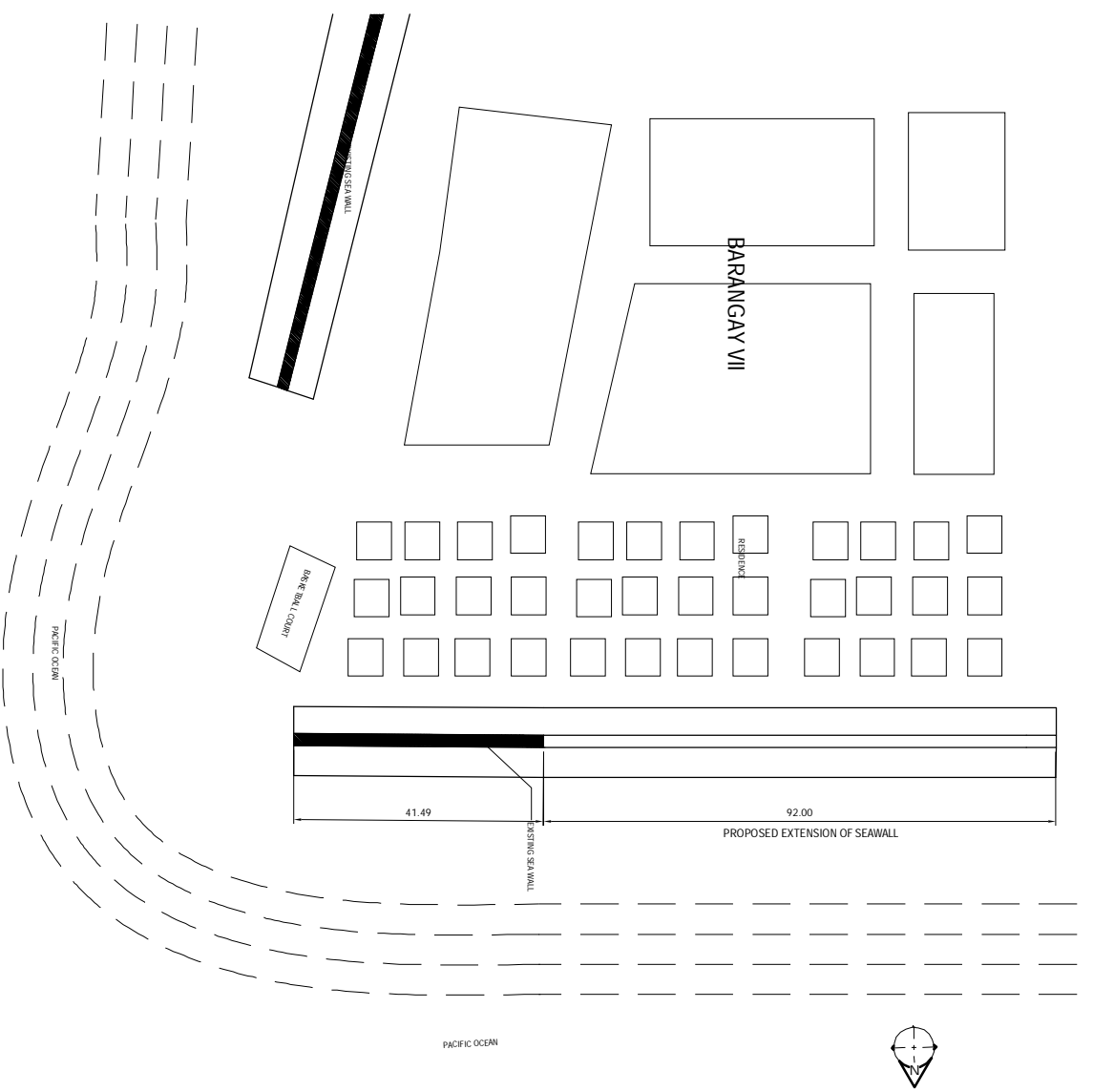
602.5 BASIS OF PAYMENT

The quantities measured as provided above shall be paid for at the contract unit price, respectively, for each of the pay item listed below and shown in the Bid Schedule, which price and payment shall be full compensation for excavation and preparation of the bed, for furnishing and placing all materials including backfill, and all labor, equipment, tools and incidentals necessary to complete the item.

Payment will be made under:

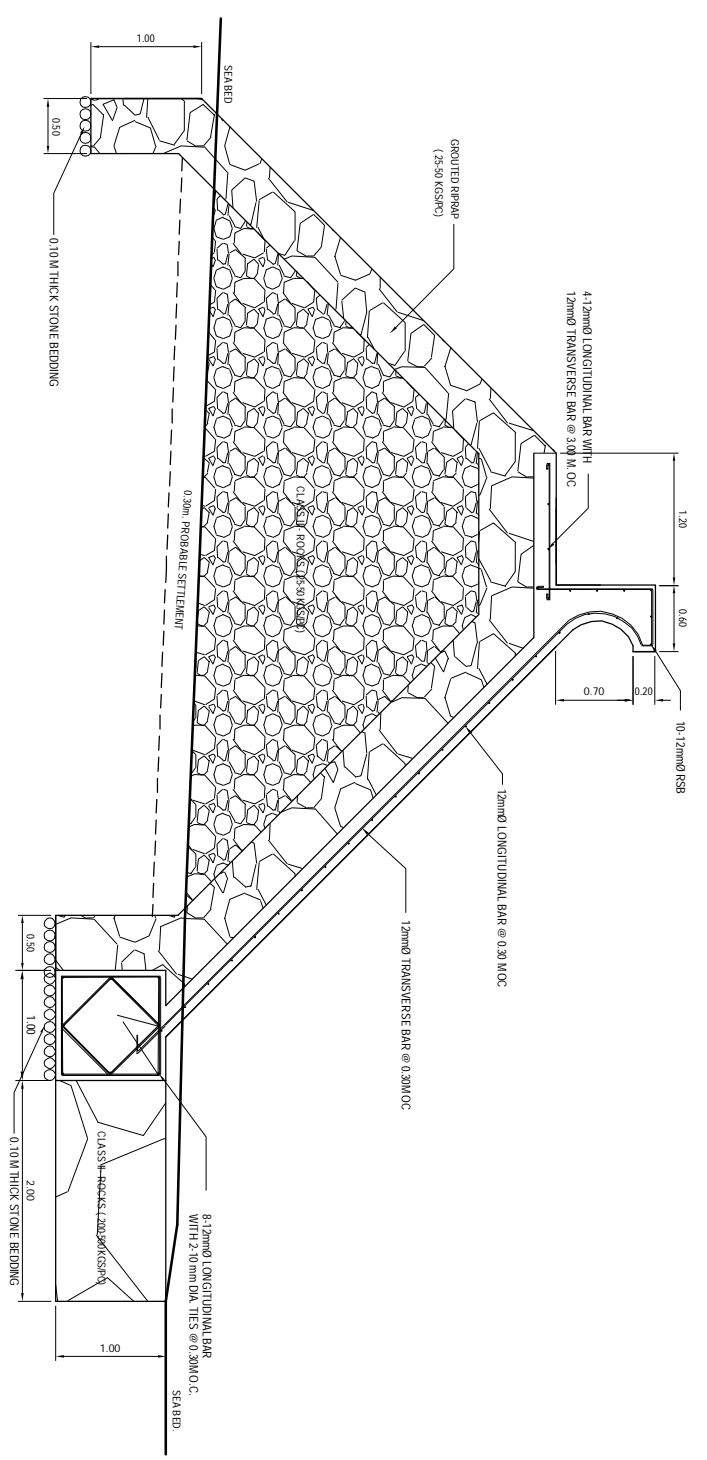
PAY ITEM NUMBER	DESCRIPTION	UNIT OF MEASUREMENT
602 (1)	Riprap, Class A	Cubic meter
602 (2)	Riprap, Class B	Cubic meter
602 (3)	Riprap, Class C	Cubic meter
602 (4)	Riprap, Class D	Cubic meter
602 (5)	Grouted Rip-rap, Class A	Cubic meter
602 (6)	Grouted Rip-rap, Class B	Cubic meter
602 (7)	Grouted Rip-rap, Class C	Cubic meter
602 (8)	Grouted Rip-rap, Class D	Cubic meter
602 (9)	Filter layer of granular material	Cubic meter

Section VII. Drawings



SITE DEVELOPMENT
SCALE
1 : 200M



TYPICAL CROSS SECTION OF SEAWALL
SCALE
1 : 40M



LOCATION MAP



VICINITY MAP

 Republic of the Philippines DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS Project Management Service <small>The Columbia Tower, Ortigas Ave., Mandaluyong City, Metro Manila</small>	Prepared by: WALTER M. CANLAS Engineer II	Checked by: ABELARDO D. SORE, JR. Head-E.A.D.D., PMS	Reviewed by: RAUL B. BASALLOTE Area Manager, Region V	Revisions: Sheet Content: Sheet No.:
	PROJECT NAME : DEVELOPMENT OF MERCEDES PORT Continuation of Construction of Sea Wall	Recommending Approval: GUILLERMO L. LEONARDO Director III, PMS	Approved by: ILDEFONSO T. PATDU, JR. OIC-Undersecretary for Project Implementation & Special Concern	
LOCATION : Brqy. VII, Mercedes, Camarines Norte				

Section VIII. Bill of Quantities

BID ANNEX 5

PROPOSAL SCHEDULE

PROJECT TITLE : **DEVELOPMENT OF MERCEDES PORT**
 Continuation of Construction of Sea Wall
 LOCATION : Mercedes, Camarines Norte

(14.1) ITEM NO.	(14.2) ITEM OF WORK	(14.3) UNIT	(14.4) QUANTITY	(14.5) UNIT BID COST	(14.6) AMOUNT
104	EXCAVATION	cu.m.	452.00		
701-A	CLASS II ROCKS (200-500 kgs/pc)	cu.m.	184.00		
701-B	CLASS III ROCKS (25-50 kgs/pc)	cu.m.	1,129.00		
602	GROUTED RIPRAP	cu.m.	554.00		
405	CONCRETE WORKS	cu.m.	250.00		
SPL-1	TEMPORARY FACILITIES	l.s.	1.00		
	*** nothing follows ***				
TOTAL PROJECT COST					

AMOUNT IN WORDS : _____

Submitted By : _____
 (Name of Firm)

Signing Authority : _____
 (Printed Name and Signature)

Designation : _____
 Date : _____

Section IX. Bidding Forms

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Bid Form

Date: _____

IAEB¹ N°: _____

To: *[name and address of PROCURING ENTITY]*

Address: *[insert address]*

We, the undersigned, declare that:

- (a) We have examined and have no reservation to the Bidding Documents, including Addenda, for the Contract *[insert name of contract]*;
- (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: *[insert information]*;

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;
- (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.

¹ If ADB, JICA and WB funded projects, use IFB.

Name: _____

In the capacity of: _____

Signed: _____

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

Date: _____

Form of Contract Agreement

THIS AGREEMENT, made this *[insert date]* day of *[insert month]*, *[insert year]* between *[name and address of PROCURING ENTITY]* (hereinafter called the "Entity") and *[name and address of Contractor]* (hereinafter called the "Contractor").

WHEREAS, the Entity is desirous that the Contractor execute *[name and identification number of contract]* (hereinafter called "the Works") and the Entity has accepted the Bid for *[insert the amount in specified currency in numbers and words]* 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.

Signed, sealed, delivered by _____ the _____ (for the Entity)

Signed, sealed, delivered by _____ the _____ (for the Contractor).

Binding Signature of PROCURING ENTITY

Binding Signature of Contractor

[Addendum showing the corrections, if any, made during the Bid evaluation should be attached with this agreement]

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; and
8. *[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

[JURAT]

* This form will not apply for WB funded projects.

Bid-Securing Declaration

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

BID-SECURING DECLARATION

Invitation to Bid/Request for Expression of Interest No.⁶ : [Insert reference number]

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

I/We⁷, 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 Declaration⁸, 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 of 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;

⁶ Select one and delete the other.

⁷ Select one and delete the other. Adopt same instruction for similar terms throughout the document.

⁸ Issued by the GPPB through GPPB Resolution 03-2012 on 27 January 2012

- (c) I am/we are declared as the bidder with the Lowest Calculated and Responsive Bid/Highest Rated and Responsive Bid⁹, 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 _____

⁹ Select one and delete the other.



Statement 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 Nos.	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	
<u>Government</u>								
<u>Private</u>								
							Total Cost	

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 : _____
 (Printed Name & Signature)
 Designation : _____
 Date : _____

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 Nos.	Nature of Work	Contractor's Role		a. Amount at Award b. Amount at Completion c. Duration	a. Date Awarded b. Contract Effectivity c. Date Completed
			Description	%		
<u>Government</u>						
<u>Private</u>						

Note: This statement shall be supported with:

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

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

Standard Form Number: SF-INFR-18
Revised on: July 29, 2004

Statement of Availability of Key Personnel and Equipment

(Date of Issuance)

HON. JOSEPH EMILIO AGUINALDO ABAYA
Secretary
Department of Transportation and Communications
The Columbia Tower, Ortigas Avenue
Mandaluyong City

Attention : The Chairman
Bids and Awards Committee

Dear Sir / Madame:

In compliance with the requirements of the (Name of the Procuring Entity) BAC for the bidding of the (Name of the Contract), we certify that (Name of the Bidder) has in its employ key personnel, such as project managers, civil engineers, architect, materials engineer and safety officer, who may be engaged for the construction of the said contract.

Further, we likewise certify the availability of equipment that (Name of the Bidder) owns, has under lease, and/or has under purchase agreements, that may be used for the construction contracts.

Very truly yours,

(Name of Representative)

(Position)

(Name of Bidder)

Qualification of Key Personnel Proposed to be Assigned to the Contract

Business Name : _____
 Business Address : _____

	Project Manager	Civil Engineer	Materials Engineer	Safety Officer	Architect
1 Name					
2 Address					
3 Date of Birth					
4 Employed Since					
5 Experience					
6 Previous Employment					
7 Education					
8 PRC License					

Minimum Requirements : Project Manager
 : Civil Engineer
 : Materials Engineer
 : Safety Officer
 : Architect (applicable only for vertical projects)

Note : Attached individual resume, PRC License of the (professional) personnel, Certificate of DPWH Accreditation, and [Certificate of Training in Occupational Safety and Health](#)

Submitted by : _____
 (Printed Name & Signature)

Designation : _____
 Date : _____

Standard Form Number: SF-INFR-49
Revised on: August 11, 2004

List of Equipment Owned (please see Invitation to Bid), assigned 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
<u>A. Owned</u>							
i.							
ii.							
iii.							
iv.							
v.							
vi.							

List of minimum equipment required for the project:

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