

Philippine Bidding Documents



SUPPLY OF LABOR & MATERIALS FOR THE CONSTRUCTION OF SANITARY LANDFILL and DEVELOPMENT OF ECOLOGICAL SOLID WASTE MANAGEMENT PARK, BRGY. MAPAWA, MARAGUSAN COMVAL

BID # 380

**Municipality of Maragusan
Province of Compostela Valley**

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PART I. Section I. Invitation to Bid

Republic of the Philippines Province of Compostela Valley Municipality of Maragusan

“Supply of Labor and Materials Intended for Construction of 7,472.35sq.m. Sanitary Landfill, 286.27sq.m. Holding Pond, 225.0sq.m. Aerating Pond and Development of Ecological Solid Waste Management Park, Brgy. Mapawa Maragusan Compostela Valley Province.”

BID#18-380

August 2, 2018

1. The **Municipality of Maragusan** has received a Fund from the **Province of Compostela Valley**, and it intends to apply part of the proceeds of this Fund to payments under the contract for ***Supply of Labor and Materials Intended for Construction Of 7,472.35sq.m. Sanitary Landfill, 286.27sq.m. Holding Pond, 225.0sq.m. Aerating Pond and Development of Ecological Solid Waste Management Park, Brgy. Mapawa Maragusan Comval.***
2. The ***Municipality of Maragusan***, implementing partner of the **Province of Compostela Valley**, now invites sealed Bids from eligible Bidders for ***Supply of Labor and Materials Intended for Construction Of 7,472.35sq.m. Sanitary Landfill, 286.27sq.m. Holding Pond, 225.0sq.m. Aerating Pond and Development of Ecological Solid Waste Management Park, Brgy. Mapawa Maragusan Comval.*** Completion of the Works is required by ***Tree Hundred Fifty-One (351) Calendar days.***
3. Bidding will be conducted through open competitive bidding procedures as specified in the Implementing Rules and Regulations (IRR) of Republic Act No. 9184 (R.A. 9184), otherwise known as the Government Procurement Reform Act. Subject to exceptions stated in this Bidding Documents, all Bids will be opened. The Bidder with the Lowest Calculated Bid (LCB) shall advance to the post-qualification stage in order to finally 8The contract shall then be awarded to the Lowest Calculated Responsive Bidder (LCRB) who was determined as such during post-qualification. The Estimated Project Cost (EPC) for this project is ***Eight Million Pesos Only (Php. 8,000,000.00).***
4. The documents required in the Eligibility Documents shall be submitted as part of the Technical Documents of the Bidders as provided in the Instructions to Bidders.
5. Interested eligible Bidders may obtain further information from the Bids and Awards Committee and inspect the Bidding Documents at the address given below from 8:00 AM to 4:00 PM, Mondays to Fridays.
6. A complete set of Bidding Documents in English may be purchased by interested Bidders from the address below and upon payment of a nonrefundable fee of ***Ten Thousand Pesos Only (Php 10,000.00).*** The Bidding Documents shall be received personally by the bidder or his authorized representative on or before **August 21, 2018 at 12:00 Noon.**

7. The ***Municipality of Maragusan*** will hold a Pre-Bid Conference open to all Eligible Bidders on ***August 13, 2018 at 1:30 PM*** at the following address ***Mayor's Office Conference Room, Municipal Compound, Maragusan, Compostela Valley.***
8. Eligible Bidders must submit their Bids at the address below on or before ***August 28, 2018 at 12:00 Noon.*** All Bids must be accompanied by a Bid security in the form of cash, certified (manager's or cashier's) check, bank guarantee and in an amount specified in the bid documents. Late Bids shall not be accepted. Bid opening shall be on ***August 28, 2018, 1:30 PM at the Mayor's Office Conference Room, Municipal Compound, Maragusan, Compostela Valley.*** Bids will be opened with or without the presence of the Bidders or their authorized representatives who choose to attend the opening of the bids.
9. The ***Municipality of Maragusan*** reserves the right to accept or reject any Bid, to annul the bidding process, and to reject all Bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or Bidders.

NELSON M. ORTIZ

Chairman, Bids and Awards Committee
*BAC Secretariat Office, Municipal Compound
Maragusan, Compostela Valley
Cellular Phone No. 09177177641*

Signature of the BAC Chairman or
Authorized Representative of the BAC
Chairman

PART I. Section II. Eligibility Documents

1. Eligibility Criteria

- 1.1 A Bidder, and all parties constituting the Bidder, shall be considered eligible if it has satisfied the requirement provided in the Eligibility Data Sheet (**EDS**) as defined by the Funding Source indicated in the Invitation to Apply for Eligibility and to Bid (IAEB).
- 1.2 A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, or incorporated, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract, including all related services.
- 1.3 Bids submitted by a Joint Venture (JV) of two or more entities as partners, shall comply with the following requirements:
 - (a) the Bid, and in case of a successful Bid, the Contract Agreement, shall be signed so as to be legally binding on all partners;
 - (b) one of the parties to the JV shall be authorized to be the lead partner; and this authorization shall be evidenced by submitting a special power of attorney signed by legally authorized signatories of all the partners;
 - (c) the lead partner shall be authorized to incur liabilities, receive payments and receive instructions for and on behalf of all partners to the JV;
 - (d) all partners of the JV shall be jointly and severally liable for the execution of the contract in accordance with the contract terms, and a relevant statement to this effect shall be included in the authorization mentioned in item (b) above as well as in the Bid Form and the Contract Agreement (in case of a successful Bid); and
 - (e) a copy of the notarized Joint Venture Agreement (JVA) to be entered into by the JV partners shall be submitted with the Bid.
- 1.4 Subject to the provisions in the **EDS**, a Bidder (including all members of a JV and subcontractors) shall not be presently associated, or shall not have been associated in the past, directly or indirectly, with the consultant or any other entity that has prepared the design, specifications, and other documents for the Project; neither to those being proposed as the representative of the PROCURING ENTITY for the contract.
- 1.5 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have conflicting interests with another Bidder in any of the events described in paragraphs (a) through (c) below and a general conflict of interest in any of the circumstances set out in paragraphs (d) through (g) below:

- (a) have common controlling shareholders;
- (b) receive or have received any direct or indirect subsidy from any of the Bidders;
- (c) have the same legal representative for purposes of this Bid;
- (d) have a relationship with each other, directly or through common 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;
- (e) Submit more than one Bid in this bidding process. However, this does not limit the participation of subcontractors (if indicated in the **EDS**) in more than one Bid, or as Bidders and subcontractors simultaneously;
- (f) 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 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.

1.6 Bidders shall not be under a declaration of ineligibility for corrupt, fraudulent, or coercive practices. For purposes of this clause, corrupt, fraudulent, and coercive practices are defined as follows:

- (a) "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;
- (b) "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;
- (c) "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

- (d) “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.

1.7 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 by consanguinity or affinity up to the third civil degree or any of the PROCURING ENTITY’s officers or employees having direct access to information that may substantially affect the result of the Bidding, such as, but not limited to, the members of the Bids and Awards Committee (BAC), the members of the Technical Working Group (TWG), the BAC Secretariat, the members of the Project Management Office (PMO), and the designers of the Project. 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 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 the provisions of this clause will result in the rejection of a Bidder’s Bid.

1.8 Unless otherwise indicated in the **EDS**, Government-Owned and/or – Controlled Corporations shall be eligible only if, in addition to conformance with all of the above requirements, they are also:

- (a) commercially-oriented legal entities distinct from the PROCURING ENTITY, and not a National Government Department;
- (b) financially autonomous, as demonstrated by requirements in their statutes or by-laws to provide separate audited accounts and return on capital, powers to raise loans and obtain revenues through the sale of goods or services;
- (c) managerially autonomous; and
- (d) Possess additional eligibility requirements indicated in the **EDS**.

2. Eligibility Requirements

2.1 Unless otherwise indicated in the **EDS**, the eligibility requirements listed in the following clause shall be submitted to the BAC in advance of the Pre-Bid

Conference in a sealed eligibility envelope duly marked as such. These eligibility envelopes of prospective Bidders shall be submitted on or before the date of the Eligibility Check specified in the Invitation to Apply for Eligibility and to Bid for purposes of determining eligibility of prospective Bidders.

2.2 Prospective Bidders shall submit the following Eligibility Requirements, unless otherwise stated in the **EDS**:

(a) **Class "A" Documents –**

Legal Documents

- (a.1) Department of Trade and Industry (DTI) business name registration or Securities and Exchange Commission (SEC) registration certificate, whichever may be appropriate under existing laws of the Philippines;
- (a.2) Valid and current Mayor's permit/municipal license;
- (a.3) Taxpayer's Identification Number;
- (a.4) Statement of the prospective Bidder that it is not "blacklisted" or barred from Bidding by the Government or any of its agencies, offices, corporations or LGUs, including non-inclusion in the Consolidated Blacklisting Report issued by the GOP;
- (a.5) Tax Clearance

Technical Documents

- (a.6) Statement of the prospective Bidder of all its ongoing and completed government and private contracts within the relevant period pursuant to Clause 2.6, where applicable, including contracts awarded but not yet started, if any. The statement shall state for each contract whether it is ongoing, completed or awarded but not yet started; and identify whether such contracts are similar or not similar in nature and complexity to the project. The statement shall include, for each contract, the following:
 - (i) the name of the contract;
 - (ii) date of award of the contract;
 - (iii) contract duration;
 - (iv) owner's name and address;
 - (v) nature of work;

- (vi) contractor's role (whether sole contractor, sub-contractor, or partner in a JV);
 - (vii) total contract value at award;
 - (viii) date of completion or estimated completion time;
 - (ix) total contract value at completion, if applicable;
 - (x) percentages of planned and actual accomplishments, if applicable;
 - (xi) value of outstanding works, if applicable;
 - (xii) the statement shall be supported by the notices of award and/or notices to proceed issued by the owners; and
 - (xiii) 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.
- (a.7) A valid Philippine Contractors Accreditation Board (PCAB) license and registration for the type and cost of the contract to be Bid;
 - (a.8) Other appropriate licenses stated in the **EDS**;
 - (a.9) The Bidder's statement of: availability of the prospective Bidder's key personnel, such as project engineers, materials engineers and foremen, that may be used for construction contracts;
 - (a.10) The Bidder's statement of: availability of equipment that he owns, has under lease, and/or has under purchase agreements, that may be used for construction contracts, provided that ownership of equipment is not a requisite for eligibility;
 - (a.11) Latest income & Business tax returns
 - (a.12) Certificate of PhilGEPS registration
 - (a.13) Omnibus sworn statement

Financial Documents

- (a.14) The prospective Bidder's audited financial statements, stamped "received" by the Bureau of Internal Revenue (BIR) or its duly accredited and authorized institutions, for the immediately preceding calendar year, showing, among others, the prospective Bidder's total and current assets and liabilities;

- (a.15) Prospective Bidder's computation of its Net Financial Contracting Capacity (NFCC) as described in the **EDS**, or at the Bidder's option a commitment from a licensed bank to extend a credit line, in the event of an award in the Bidder's favor, or at the Bidder's option a cash deposit certificate, of not less than the amount shown in the **EDS**;

- (b) **Class "B" Documents** –
 - (b.1) A valid JVA;
 - (b.2) A letter authorizing the BAC or its duly authorized representative/s to verify all of the documents submitted; and
 - (b.3) Site inspection report with the signature of implementing office and Head of the Procuring Entity.
 - (b.4) Any other document described in the **EDS**.

- 2.3 A Bidder portions of the Works, subject to the maximum allowable limit for subcontracting of Works as specified in **EDS** Clause 1.5(e). Subcontracting of any portion of the Works shall not relieve the Bidder from any liability or obligation that may arise from its performance. The Bidder shall be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants or workmen as fully as if these were the Bidder's own acts, defaults, or negligence, or those of its agents, servants or workmen.

- 2.4 Subcontractors must comply with the provisions of Clause 1 herein. For this purpose, the Bidder shall include in Technical Proposal of its Bid all the documents required under Clause 2.2 herein. If the PROCURING ENTITY determines during Post-qualification that a subcontractor is ineligible, the subcontracting of such portion of the Works assigned to the ineligible subcontractor shall be disallowed.

- 2.5 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 Clauses 2.2(a.1) to 2.2(a.15).

- 2.6 In case of a prospective foreign Bidder, if allowed, the eligibility requirements described in Clause 2.1 herein may be substituted with the appropriate equivalent documents issued by the prospective Bidder's home country; such documents must be duly acknowledged or authenticated by the appropriate Philippine Consulate therein.

- 2.7 To be considered eligible and qualified for contract award, a Bidder must meet the minimum qualifying criteria stated in the **EDS**. The use of specialist subcontractors shall also be stated in the **EDS**.

- 2.8 The Bidder's authorized signatory must certify all copy documents as true and correct copies of the original document(s). Bidders must follow the format and sequence set out above. Should a Bidder fail to do so the PROCURING ENTITY will accept no liability for the rejection of a Bidder's Bid in accordance with the corresponding clause in the Instructions to Bidders.
- 2.9 Eligible Bidders shall be notified of such eligibility through a Notice of Eligibility issued by the BAC of the PROCURING ENTITY immediately after the opening of Eligibility Documents pursuant to Section 23.3 of the IRR-A of R.A. 9184. Only Bids from eligible Bidders shall be opened and considered for award of contract. These eligible Bidders, whether single entities or JVs, should confirm in their Bids that the originally-submitted information remains correct as of the date of Bid submission.

3. Format and Signing of Eligibility Documents

- 3.1 Prospective bidders shall prepare an original of the Eligibility Documents as described in Clause 2, and clearly mark each "ORIGINAL – ELIGIBILITY DOCUMENTS". In addition, each prospective bidder shall submit copies of the Eligibility Documents, and clearly mark them "COPY NO. ____ - ELIGIBILITY DOCUMENTS". In the event of any discrepancy between the original and the copies, the original shall prevail.
- 3.2 The original and the number of copies of the bid as indicated in the **EDS** shall be typed or written in indelible ink and shall be signed by the prospective bidder or a person or persons duly authorized to bind the prospective bidder to the contract. All pages of the Eligibility Documents shall be initialed by the person or persons signing the Eligibility Documents.
- 3.3 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Eligibility Documents.

4. Sealing and Marking of Eligibility Documents

- 4.1 Prospective bidders shall enclose the original documents described in Clause 2 sealed in an envelope marked "ORIGINAL - ELIGIBILITY DOCUMENTS". Each copy of the Eligibility Documents shall be similarly sealed duly marking the inner envelopes as "COPY NO. ____ - ELIGIBILITY DOCUMENTS". These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 4.2 All envelopes shall:
 - (a) contain the name of the contract to be bid in capital letters;
 - (b) bear the name and address of the prospective bidder in capital letters;

- (c) be addressed to the PROCURING ENTITY's BAC;
 - (d) bear the specific identification of this project indicated in the IAEB; and
 - (e) Bear a warning "DO NOT OPEN BEFORE..." the date and time for the opening of Eligibility Documents indicated in the IAEB, in accordance with Clause 5.
- 4.3 The PROCURING ENTITY will assume no responsibility for the misplacement or premature opening of the Eligibility Documents not sealed and marked as required.

5. Deadline for Submission of Eligibility Documents

- 5.1 Eligibility Documents must be received by the PROCURING ENTITY's BAC at the address and on or before the date and time indicated in the IAEB and the EDS.

6. Late Submission of Eligibility Documents

- 6.1 Any Eligibility Documents submitted after the deadline for submission and receipt of Eligibility Documents prescribed by the PROCURING ENTITY, pursuant to Clause 5, shall be declared "Late" and shall not be accepted by the PROCURING ENTITY.

7. Modification and Withdrawal of Eligibility Documents

- 7.1 The prospective bidder may modify its Eligibility Documents 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 Eligibility Documents. The prospective bidder shall not be allowed to retrieve its original Eligibility Documents, but shall be allowed to submit another set equally sealed, properly identified, linked to its original Eligibility Documents marked as "MODIFICATION" and stamped "received" by the BAC. Eligibility Documents modifications received after the applicable deadline shall not be considered and shall be returned to the prospective bidder unopened.
- 7.2 A prospective bidder may, through a Letter of Withdrawal, withdraw its Eligibility Documents 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 Eligibility Documents. Eligibility Documents requested to be withdrawn shall be returned unopened to the prospective bidders. A prospective bidder that withdraws its Eligibility Documents shall not be permitted to submit another set of Eligibility Documents, directly or indirectly, for the same contract.

8. Opening and Preliminary Examination of Eligibility Documents

- 8.1 The PROCURING ENTITY's BAC will open the envelopes containing the Eligibility Documents in the presence of the prospective bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the IAEB. The prospective bidders' representatives who are present shall sign a register evidencing their attendance.
- 8.2 Letters of Withdrawal shall be read out and recorded during the opening of Eligibility Documents and the envelope containing the corresponding withdrawn Eligibility Documents shall be returned to the withdrawing prospective bidder unopened. If the withdrawing prospective bidder's representative is present during the opening, the original Eligibility Documents and all copies thereof shall be returned to the representative during the opening of Eligibility Documents. If no representative is present, the Eligibility Documents shall be returned unopened by registered mail.
- 8.3 A prospective bidder determined as "ineligible" has seven (7) calendar days upon written notice or, if present at the time of the opening of Eligibility Documents, upon verbal notification, within which to file a request or motion for reconsideration with the BAC: Provided, however, that the motion for reconsideration shall not be granted if it is established that the finding of failure is due to the fault of the prospective 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 prospective bidder signifies his intent to file a motion for reconsideration, in the case of a prospective bidder who is declared ineligible, the BAC shall hold the Eligibility Documents until such time that the motion for reconsideration or protest has been resolved.
- 8.4 The Eligibility Documents envelopes and modifications, if any, shall be opened one at a time, and the following read out and recorded:
 - (a) the name of the prospective bidder;
 - (b) whether there is a modification or substitution; and
 - (c) The presence or absence of each document comprising the Eligibility Documents vis-à-vis a checklist of the required documents.
- 8.5 The eligibility of each prospective bidder shall be determined by examining each bidder's eligibility requirements or statements against a checklist of requirements, using non-discretionary "pass/fail" criteria, as stated in the IAEB, and shall be determined as either "eligible" or "ineligible." If a prospective bidder submits the specific eligibility document required, he shall be rated "passed" for that particular requirement. In this regard, failure to submit a requirement, or an incomplete or patently insufficient submission, shall be considered "failed" for the particular eligibility requirement concerned. If a prospective bidder is rated "passed" for all the eligibility requirements, he shall be considered eligible to participate in the bidding, and the BAC shall mark the set of Eligibility Documents of the prospective bidder concerned as "eligible." If a prospective bidder is rated "failed" in any of the eligibility requirements, he shall be considered ineligible to participate in the

bidding, and the BAC shall mark the set of Eligibility Documents of the prospective bidder concerned as “ineligible.” In either case, the BAC chairperson or his duly designated authority shall countersign the markings.

- 8.6 The PROCURING ENTITY shall prepare the minutes of the proceedings of the opening of Eligibility Documents that shall include, as a minimum: (a) names of prospective bidders and findings of eligibility; and (b) attendance sheet. The minutes of the proceedings of the opening of Eligibility Documents shall be available to the public upon written request and payment of a specified fee to recover cost of materials and production.

PART I. Section III. Eligibility Data Sheet

1.1	Eligible Bidders are as defined in <i>Guidelines: Procurement under IBRD Loans and IDA Credits</i> .
1.4	All bidders shall submit a written statement of compliance with this provision.
1.5(e)	There is no restriction on the involvement of general sub-contractors in the areas of manual and semi-skilled labor or construction materials provided that the contractor undertakes not less than fifty percent (50%) of the contracted works with its own resources.
1.8	There are no additional eligibility requirements.
1.8(d)	There are no additional eligibility requirements.
2.1	All documents described in Clause 2.2 shall be included in the Technical Proposal. Documents do not need to be acknowledged or authenticated by the appropriate Philippine Consulate.
2.2	<p>In lieu of the following documents required in Clause 2.2(a), the equivalent document in the Prospective Bidder's country/place of origin shall be submitted:</p> <ul style="list-style-type: none"> (a) DTI Registration; (b) Valid and current Mayor's Permit issued by the city or municipality where the place of business of the prospective bidder is located. (c) Tax Payers Identification Number; (d) Tax Clearance (e) Philippines Contractors Accreditation Board (PCAB) License; and (f) Audited Financial Statements.
2.2(a.8)	There are no other additional licenses required.
2.2(a.15)	<p>In the event that a Bidder, at its own option, does not provide either a credit line or cash deposit certificate in the amount at least equal to ten percent (10%) of the bid, the Bidder must provide a statement of its NFCC. The NFCC is as follows:</p> <p>[(Current assets minus current liabilities) (K)] Minus the value of all outstanding contracts including those awarded but not yet started."</p> <p style="text-align: center;">Where:</p> <p style="text-align: center;">K = 10 (for a contract of one year or less duration)</p>

2.2(b.4)	None.
2.7	<p>To be considered eligible and qualified a Bidder must have successful experience as prime contractor in the construction of at least one (1) work of a nature and complexity equivalent to the Works in the last five (5) years (to comply with this requirement, single works cited should be at least eighty percent (80%) of the value of bid under consideration for award), such being verifiable from completion certificates, and</p> <p>Have an annual turnover from all works averaged over the last three (3) years equal to one hundred percent (100%) of the value of bid under consideration for award.</p>
2.7	Not applicable.
3.2	Each prospective bidder shall submit one (1) original and two (2) duplicate copies of its Eligibility Documents.
5.1	<p>The address for submission of Eligibility Documents is <i>BAC Office, Municipal Compound, Maragusan, Compostela Valley.</i></p> <p>The deadline for submission of Eligibility Documents is <i>August 28, 2018 at 12:00 Noon (same as submission of technical and financial envelope).</i></p>

PART II. Section I. Instructions to Bidders

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1. Scope of Bid

- 1.1. The PROCURING ENTITY as defined in the **BDS**, invites Bids for the construction of Works, as described in the **BDS**. 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 the **SCC** Clause 1.17.
- 1.3. 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.

2. Corrupt, Fraudulent, and Coercive Practices

- 2.1. The Funding Source requires that the PROCURING ENTITY, as well as Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Funding Source:
 - (a) defines, for purposes of this provision, the terms set forth below as follows:
 - (a.1) "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 Government, 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;
 - (a.2) "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;
 - (a.3) "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

- (a.4) “coercive practices” means harming or threatening to harm, directly or indirectly, persons, or their property to influence their participation in a procurement process, or affect the execution of a contract;
 - (b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the Contract; and
 - (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded Contract funded by the Funding Source if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing or, or in executing, a Contract funded by the Funding Source.
- 2.2. Further, the GOP will seek to impose the maximum penalties for civil and criminal liability available under the applicable law on individuals and organizations deemed to be involved with corrupt, fraudulent, or practices.
- 2.3. Furthermore, the Funding Source reserves 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 33.

3. Conflict of Interest

- 3.1. 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.
- 3.2. In accordance with Section 47 of the IRR-A of R.A. 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 by consanguinity or affinity up to the third civil degree or any of the PROCURING ENTITY's officers or employees having direct access to information that may substantially affect the result of the bidding, such as, but not limited to, the members of the BAC, the members of the Technical Working Group (TWG), the BAC Secretariat, the members of the Project Management Office (PMO), and the designers of the project. 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.

4. One Bid per Bidder

- 4.1. 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.

5. Pre-Bid Conference

- 5.1. The Bidder by the act of submitting its Bid shall be deemed to have inspected the site and determined the general characteristics of the contract works and the conditions of the contract to bid. The BAC shall require an affidavit of such site inspection from eligible Bidder.
- 5.2. The PROCURING ENTITY may organize a site visit concurrently with the Pre-Bid Conference.
- 5.3. The Bidder or his official is invited by the PROCURING ENTITY to a Pre-Bid Conference, the venue, time and date of which shall be indicated in the **BDS**. Non-attendance at the Pre-Bid Conference shall not be a ground for disqualification of a Bidder.
- 5.4. The Pre-Bid Conference shall be held at least twelve (12) calendar days before the deadline for the submission and receipt of Bids. However, attendance of the Bidders shall not be mandatory.
- 5.5. The Pre-Bid Conference shall discuss among other things, the technical and financial components of the contract to be Bid. The minutes of the Pre-Bid Conference shall be recorded and made available to all participants not later than three (3) calendar days after the Pre-Bid conference.

6. Content of the Bidding Documents

- 6.1. The set of Bidding Documents comprises the documents listed in the table below and addenda issued in accordance with **ITB** Clause 7:

PART II. Section I. Instructions to Bidders
Contractor Responsibility

The Contractor should undergo field *density test, Aggregates material testing, and PCCP compressive test should passed the DPWH minimum standard.*

PART II. Section II. Bid Data Sheet
PART II. Section III. General Conditions of Contract
PART II. Section IV. Special Conditions of Contract
PART II. Section V. Specifications
PART II. Section VI. Drawings
PART II. Section VII. Bill of Quantities
PART II. Section VIII. Forms and Qualification Information

- 6.2. Bidders should note that the PROCURING ENTITY will only accept Bids from Bidders that have purchased the Bidding Documents from the office indicated in the IAEB.

7. Clarification and Amendment of Bidding Documents

- 7.1. Bidders 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. The PROCURING ENTITY shall respond to the said request by issuing a Supplemental/Bid Bulletin, to be made available to all those who have properly secured the Bidding Documents from the PROCURING ENTITY, at least seven (7) calendar days before the deadline for the submission and receipt of Bids. It shall be the responsibility of all those who have properly secured the Bidding Documents to inquire and secure Supplemental/Bid Bulletins that may be issued by the PROCURING ENTITY.
- 7.2. 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. It is the responsibility of the PROCURING ENTITY to notify in writing and through posting in the website of the PROCURING ENTITY and the Government Electronic Procurement System (G-EPS) the said documents to all those who have properly secured the Bidding Documents. Any modification to the Bidding Documents shall be identified as an amendment. Bidders who have submitted Bids before the issuance of the Supplemental/Bid Bulletin must be informed and allowed to modify or withdraw their Bids.

8. Cost of Bidding

- 8.1. 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.

9. Language of Bid

- 9.1. 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 of the relevant passages in English, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

10. Documents Comprising the Bid

- 10.1. Unless otherwise indicated in the **BDS**, Bids shall include the following:
 - (a) Technical Proposal –
 - (a.1) Bid Security as to form, amount, and validity period;
 - (a.2) Authority of the signing official;

- (a.3) Construction schedule and S-curve;
 - (a.4) Manpower schedule;
 - (a.5) Construction methods;
 - (a.6) Organizational chart for the contract to be Bid;
 - (a.7) 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;
 - (a.8) 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, as indicated in the **BDS**;
 - (a.9) Equipment utilization schedule;
 - (a.10) Affidavit of site inspection;
 - (a.11) Written commitment from the contractor's bank to extend to it a credit line if awarded the contract to be Bid, or a cash deposit certificate specifically committed to the contract or project, if awarded, in an amount not lower than that set in the **BDS**;
 - (a.12) Construction safety and health program of the contractor;
 - (a.13) Certificate from the Bidder under oath of its compliance with existing labor laws and standards;
 - (a.14) A sworn affidavit in accordance with **ITB** Clause 3.2; and
 - (a.15) Any other documents described in the **BDS**.
- (b) **Financial Proposal** –
- (b.1) Bid prices in Bill of Quantities in the prescribed Bid Form;
 - (b.2) Detailed estimates including a summary sheet indicating the unit prices of construction materials, labor rates and equipment rentals used in coming up with the Bid;
 - (b.3) Cash flow by the quarter and payments schedule; and
 - (b.4) Any other document described in the **BDS**.
- 10.2. If indicated in the **BDS**, all Financial Proposals that exceed the ABC as indicated in the **BDS**, shall be rejected.

11. Bid Prices

- 11.1. 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.
- 11.2. 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.
- 11.3. 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.
- 11.4. For the given scope of work in the contract as awarded, all Bid prices shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as indicated in the **BDS** and specified in **GCC** Clause 47 and its corresponding **SCC** provision.

12. Currencies of Bid and Payment

- 12.1. Subject to applicable laws and unless otherwise specified in the **BDS**, all Bid prices shall be quoted in Philippine Pesos. 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.
- 12.2. All contracts shall be denominated and payable in Philippine Pesos.

13. Bid Validity

- 13.1. Bids shall remain valid for the period specified in the **BDS** which shall not exceed one hundred twenty (120) days from the date of the opening of Bids.
- 13.2. In exceptional circumstances, the PROCURING ENTITY may request that the Bidders extend the period of validity for a specified additional period. The request and the Bidders' responses shall be made in writing. A Bidder may refuse the request without forfeiting the Bid Security. A Bidder agreeing to the request will not be required or permitted to otherwise modify the Bid, but will be required to extend the validity of Bid Security for the period of the extension, and in compliance with **ITB** Clause 14 in all respects.
- 13.3. Unless otherwise indicated in the **BDS**, if the period of Bid validity is extended beyond sixty (60) days after the original Bid validity period, the Bid prices shall remain fixed and therefore not subject to any adjustment.

14. Bid Security

- 14.1. The Bidder shall furnish, as part of the Bid, a Bid Security in local currency or in a freely convertible currency, in the forms and amount specified in the **BDS**.
- 14.2. As indicated in the **BDS**, the PROCURING ENTITY shall prescribe the acceptable forms of Bid Security from among the following, from which acceptable forms the Bidder may choose:
 - (a) cash;
 - (b) a cashier's or certified check;
 - (c) an irrevocable letter of credit;
 - (d) a bank guarantee;
 - (e) surety bond; or
 - (f) Foreign government guarantee.
- 14.3. In case of a bank guarantee, the Bid Security shall be submitted using the form included in PART II. Section VIII. Forms and Qualification Information, or another form acceptable to the PROCURING ENTITY. The form must include the complete name of the Bidder. The Bid Security should be valid for the period specified in the **BDS**.
- 14.4. Any Bid not accompanied by an acceptable Bid Security shall be rejected by the PROCURING ENTITY. The Bid Security of a JV, if in the form of a Bank Guarantee must define as "Bidder" all JV partners and list them in the following manner: a JV consisting of "_____", "_____", and "_____".
- 14.5. No Bid Securities shall be returned to Bidders after the opening of Bids and before contract signing, except to those that failed to comply with any of the requirements to be submitted in the first bid envelope of the Bid, as provided in this IRR-A. Without prejudice to the forfeiture of Bid Securities, 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 the **BDS**.
- 14.6. The Bid Security may be forfeited:
 - (a) if the Bidder withdraws the Bid after Bid opening during the period of Bid validity;
 - (b) if the Bidder does not accept the correction of the Bid price, pursuant to **ITB** Clause 23; or
 - (c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to:

- (c.1) sign the Agreement;
 - (c.2) furnish the required Performance Security; or
 - (c.3) enter into a JV agreement if it has undertaken to do so.
- (d) Any other reasons stated in the **BDS**.

15. Alternative Proposals by Bidders

- 15.1. 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.

16. Format and Signing of Bid

- 16.1. The Bidder shall submit one original of the Technical Proposal and one original of the Financial Proposal as described in **ITB** Clause 17 and clearly mark each as “ORIGINAL - TECHNICAL PROPOSAL” and “ORIGINAL – FINANCIAL PROPOSAL”. In addition, the Bidder shall submit two (2) copies of the Technical Proposal and the Financial Proposal, and clearly mark them “COPY NO... - TECHNICAL PROPOSAL” and “COPY NO.... – FINANCIAL PROPOSAL”. In the event of any discrepancy between the original and the copies, the original shall prevail.
- 16.2. The original and the two (2) copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the Bid where entries or amendments have been made shall be initialed by the person or persons signing the Bid.
- 16.3. Any interlineations, erasures, alterations or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.
- 16.4. Unless otherwise provided in the **BDS**, commissions or gratuities are not allowed.

17. Sealing and Marking of Bids

- 17.1. The Bidder shall enclose the original of the Technical Proposal in one sealed envelope marked as “ORIGINAL - TECHNICAL PROPOSAL”; whereas, the original of the Financial Proposal shall be enclosed in another sealed envelope marked as “ORIGINAL - FINANCIAL PROPOSAL”. Both envelopes shall then be placed in another single envelope marked as “ORIGINAL BID”.
- 17.2. Each copy of the Technical Proposal and Financial Proposal, shall be similarly sealed duly marked as “COPY NO... - TECHNICAL PROPOSAL” and “COPY NO... – FINANCIAL PROPOSAL” respectively and the outer envelope as “COPY NO”. These envelopes containing the original and the copies shall then be enclosed in one single envelope that shall:

- (a) name of the contract to be bid;
- (b) bear the name and address of the Bidder;
- (c) be addressed to the PROCURING ENTITY in accordance with **ITB** Clause 18.1;
- (d) bear the specific identification of this bidding process indicated in the **BDS**; and
- (e) bear a warning “DO NOT OPEN BEFORE...” the time and date for the opening of Bids , in accordance with **ITB** Clause 18.1.

17.3. If all envelopes are not sealed and marked as required, the PROCURING ENTITY will assume no responsibility for the misplacement or premature opening of the Bid.

18. Deadline for Submission of Bids

18.1. Bids must be received by the BAC of the PROCURING ENTITY at the address and on or before the date and time indicated in the **BDS**.

19. Late Bids

19.1. Any Bid submitted after the deadline for submission and receipt of Bids prescribed by the PROCURING ENTITY, pursuant to **ITB** Clause 18.1, shall be declared “Late” and shall not be accepted by the PROCURING ENTITY.

20. Modification and Withdrawal of Bids

20.1. 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.

20.2. 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.

20.3. Bids requested to be withdrawn in accordance with **ITB** Clause 20.2 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.

- 20.4. 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 Bid Form. Withdrawal of a Bid during this interval may result in the forfeiture of the Bidder's Bid Security, pursuant to the **ITB** Clause 14.6, and the imposition of administrative, civil and criminal sanctions as prescribed by R.A. 9184 and its IRR-A.

21. Opening and Preliminary Examination of Bids

- 21.1. The BAC of the PROCURING ENTITY shall open Bid envelopes in the presence of Bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the **BDS**. Bidders' representatives who are present shall sign a register evidencing their attendance.
- 21.2. Letters of withdrawal shall be read out and recorded, 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 submission and receipt of Bids, provided that the corresponding letter of withdrawal contains a valid justification requesting for such withdrawal, subject to appropriate administrative sanctions.
- 21.3. If the Bidding is subject to an eligibility check as described in **ITB** Clause 21.6, the PROCURING ENTITY shall not accept the Bids of ineligible Bidders. The PROCURING ENTITY shall open Bids of eligible Bidders only, in accordance with the following paragraph.
- 21.4. Outer envelopes marked "TECHNICAL MODIFICATION" or "FINANCIAL MODIFICATION" will be identified but not opened. The PROCURING ENTITY will announce the presence and type of modification from the information contained on the outer envelope.
- 21.5. The PROCURING ENTITY shall first open the envelopes holding the Technical Proposals and modification, if any, one at a time, and read out and record the following:
- (a) the name of the Bidder;
 - (b) whether there is a technical modification or substitution;
 - (c) the presence, amount and validity of the Bid Security; and
 - (d) the presence or absence of each document comprising the technical proposal vis-à-vis a checklist of the required documents.
- 21.6. The BAC of the PROCURING ENTITY shall determine each Bidder's compliance with the documents required to be submitted for the Technical Proposal of the Bid, as prescribed in **ITB** Clause 10. For this purpose, the

BAC of the PROCURING ENTITY shall check the submitted documents of each Bidder against a checklist of required documents to ascertain if they are all present in the first (Technical) envelope, using a non-discretionary “pass/fail” criteria, as stated in the IAEB and **ITB** Clause 10. If a Bidder submits all required documents, it shall be rated “passed” for that particular requirement. In this regard, failure to submit a requirement, or an incomplete or patently insufficient submission, shall be considered “failed” for the particular requirement concerned. In case one or more of the above required documents in the first envelope of a particular Bid is missing, incomplete, or patently insufficient, the BAC of the PROCURING ENTITY shall rate the Bid concerned as “failed” and immediately return to the Bidder concerned its second (Financial) envelope unopened.

- 21.7. Immediately after determining compliance with the requirements in the first bid envelope (Technical Proposal), the BAC shall forthwith open the second bid envelope (Financial Proposal) 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, the BAC shall rate the bid concerned as “failed.” Bids that are determined to contain all the requirements for the second (Financial) envelope shall be rated “passed” and shall immediately be considered for detailed evaluation of the Bids.
- 21.8. The PROCURING ENTITY shall prepare the minutes of the proceedings of the Bid opening that shall include, as a minimum: (a) abstract of Bids as read including names of Bidders, their Bid price, Bid Security, findings of preliminary examination; and (b) attendance sheet. The BAC members shall sign the abstract of Bids as read and the observers may witness the same. A copy of the abstract of Bids as read shall be made available to all interested Bidders. The minutes of the proceedings of the Bid opening shall be available to the public upon written request and payment at a specified fee to cover the cost of materials.

22. Process to be Confidential

- 22.1. 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.

23. Detailed Evaluation and Comparison of Bids

- 23.1. The PROCURING ENTITY will evaluate and compare, in detail, only the Bids that are rated “passed” for both Technical and Financial Proposals.
- 23.2. 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.
- 23.3. To determine the Lowest Calculated Bid, the BAC shall use a non-discretionary “pass/fail” criteria, as stated in the IAEB, which shall include a consideration of the following:
- (a) The bid must be complete. 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; and
 - (b) Minor arithmetical corrections to consider computational errors, omissions and discounts if allowed, in the Bidding Documents to enable proper comparison of all eligible bids. Any adjustment shall be calculated in monetary terms to determine the calculated prices.
- 23.4. The BAC shall evaluate all bids on an equal footing to ensure fair and competitive bid evaluation. For this purpose, all bidders shall be required to include 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.
- 23.5. In case of discrepancies between:
- (a) bid prices in figures and in words, the latter shall prevail;
 - (b) the total Bid amount and the sum of total costs per item, the sum of the total costs per item shall prevail and the total Bid amount will be corrected; and
 - (c) unit cost in the detailed estimate and unit cost in the bill of quantities, the latter shall prevail.
- 23.6. 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.

- 23.7. The estimated effect of any price adjustment conditions under GCC Clause 47, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.

24. Preference for Provincial Bidders

- 24.1. If so indicated in the **BDS**, Bidders whose principal office is within the same province where the Project is to be implemented shall be given preference by allowing a right to match the Lowest Calculated Bid subject to applicable laws and following the mechanism shown in the **BDS**.

25. Post Qualification of the Lowest Calculated Bid

- 25.1. The PROCURING ENTITY shall conduct post qualification to determine whether the Bidder that is evaluated to have the Lowest Calculated Bid complies with and is responsive to all requirements and conditions for eligibility and of the Bidding for the contract. The determination shall use non-discretionary “pass/fail” criteria and be based upon examination, verification and validation of the documentary evidence of the Bidder’s eligibility/qualifications submitted by the Bidder pursuant to PART I. Section II. Eligibility Documents and the Technical and Financial Proposals for **ITB** Clause 10. If the said Bidder passes the post-qualification, his Bid shall be declared as the Lowest Calculated and Responsive Bid (LCRB).

26. Right of the PROCURING ENTITY to Reject any or All Bids

- 26.1. 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.
- 26.2. The PROCURING ENTITY reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract in the following situations:
- (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 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.

27. Award Criteria

- 27.1. Subject to ITB Clause 25, the PROCURING ENTITY shall award the contract to the successful Bidder whose Bid has been determined to be the LCRB.

28. Notice of Award

- 28.1. The PROCURING ENTITY shall issue a written Notice of Award/Letter of Acceptance to the Bidder with the LCRB prior to the expiration of the Bid validity period, by registered mail, by hand or by facsimile. This Notice of Award/Letter of Acceptance shall state the proposed contract price equivalent to the LCRB, together with the documentary requirements for the contract.

29. Signing of the Contract

- 29.1. Within ten (10) calendar days upon receipt of the Award, the successful Bidder shall submit to the PROCURING ENTITY:
- (a) its written confirmation to the Award;
 - (b) the Contract Form signed by the bidder;
 - (c) the required Performance Security; and
 - (d) all other documentary requirements for the contract.
- 29.2. Within twenty (20) calendar days upon receipt from the successful Bidder of the signed confirmation of the Award, the signed contract, the required Performance security and all other documentary requirements, the PROCURING ENTITY shall sign and approve the contract.

30. Performance Security

- 30.1. Within a maximum period of ten (10) calendar days upon receipt of the notification of award from the PROCURING ENTITY, and in no case later than the signing of the contract by the successful Bidder and the PROCURING ENTITY, the successful Bidder shall furnish to the PROCURING ENTITY, the Performance Security in accordance with the

Conditions of Contract, in the Performance Security Form provided in the Bidding Documents, or in another form acceptable to the PROCURING ENTITY.

- 30.2. As indicated in the **BDS**, the PROCURING ENTITY shall prescribe the acceptable forms of Performance Security from among the following, from which acceptable forms the Bidder may choose:
- (a) cash;
 - (b) a cashier's or certified check;
 - (c) an irrevocable letter of credit;
 - (d) a bank guarantee;
 - (e) surety bond; or
 - (f) Foreign government guarantee.
- 30.3. If the acceptable Performance Security is provided by the successful Bidder in the form of a Bank Guarantee, or other form if indicated in **SCC** Clause 7.1, it shall be issued either (a) at the Bidder's option, by a bank located in the country of the PROCURING ENTITY or a foreign bank through a correspondent bank located in the country of the PROCURING ENTITY, or (b) with the agreement of the PROCURING ENTITY directly by a foreign bank acceptable to the PROCURING ENTITY.
- 30.4. Failure of the successful Bidder to comply with the requirements of **ITB** Clause 30.1 shall constitute sufficient grounds for cancellation 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.
- 30.5. Upon the furnishing by the successful Bidder of the Performance Security, the PROCURING ENTITY will promptly notify the other Bidders that their Bids have been unsuccessful.

31. Notice to Proceed

- 31.1. Within seven (7) 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.

32. Advance Payment

- 32.1. 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 38.1.

33. Contractor Responsibility

The Contractor should undergo field density test, Aggregates material testing, and PCCP compressive test should passed the DPWH minimum standard.

PART II. Section II. Bid Data Sheet

ITB Clause	
1.1	<p>The PROCURING ENTITY is <i>Municipality of Maragusan</i>.</p> <p>The name of the Contract is <i>Supply For Labor & Materials Intended for Construction of 7,472.35sq.m. Sanitary Landfill, 286.27sq.m. Holding Pond, 225.0sq.m. Aerating Pond and Development Of Ecological Solid Waste Management Park, Brgy. Mapawa Maragusan Comval</i>.</p>
1.3	None
5.3	<p>The Date and Venue of the Pre-Bid Conference is:</p> <p><i>August 13, 2018 at 1:30 PM</i> <i>Mayor's Office Conference Room, Municipal Compound, Maragusan, Compostela Valley</i></p>
7.1	<p>The PROCURING ENTITY's address is:</p> <p><i>Municipality of Maragusan, Compostela Valley</i> <i>Nelson M. Ortiz, BAC Chairman</i> <i>Cel no. 09177177641</i></p>
10.1	<p>All Bids submitted will be opened at the Bid opening ceremony. Determination of a Bidder's qualifications and eligibility will form part of the PROCURING ENTITY's evaluation process and post-qualification.</p> <p>During Bid opening Technical Proposals that lack any of the following documents shall be rejected and returned to the Bidder together with its unopened Price Proposal:</p> <ul style="list-style-type: none"> a) Evidence of financial, technical and production capability; b) Audited Financial Statements; c) NFCC or Credit Line Certificate or Cash Deposit Certificate; d) Bid Security; and e) Authority of the Signatory.
10.1 (a.8)	Minimum Required Equipment

	Type of Equipment	Owned (Qty)	Leased (Qty)
	1. Dump truck	1	
	2. Backhoe	1	
10.1(a.11)	Ten percent (10%) of the bid amount. <i>NOTE: If the Bidder, at its own option provides a cash deposit certificate it must be at least ten percent (10%) of the bid amount.</i>		
10.1(a.15)	None.		
10.1(b.4)	None.		
10.2	There is no ceiling for Financial Proposals.		
11.4	Bid Prices shall be fixed; adjustable Financial Proposals will be rejected.		
12.1	For goods and services that will be supplied from outside of the Philippines. Bid prices therefore shall be quoted in United States Dollars.		
13.1	Bids will be valid until ninety (90) calendar days from the opening of bids.		
13.3	If the period of Bid validity is extended beyond sixty (60) days after the original Bid validity period; or in the request for extension, for the period of delay beyond sixty (60) days after the expiry of the initial Bid validity, up to the notification of award, Bid prices shall be increased on the local component by <i>3% per annum</i> . Bid evaluation will be based on the Bid prices without taking the above correction into consideration.		
14.1 and 14.2	The Bid Security shall be in the following forms and amount: (a) Cash, certified (cashier's or manager's) check at one percent (2%) of the Estimated Project Cost (EPC) in the amount of Php 160,000.00 . (b) Bank Guarantee at one and a half percent (2%) of the Estimated Project Cost in the amount of Php 160,000.00 .		
14.3 and 14.5	Three Hundred Fifty One (351) days from the date set for Bid opening.		
14.6(d)	The following shall be the additional grounds for forfeiture of the Bid Security: 1. Submission of eligibility requirements containing false information or falsified documents. 2. Submission of Bids that contain false information or falsified documents, or the concealment of such information in the Bids in order to influence the outcome of eligibility screening or any other stage of the public bidding. 3. Allowing the use of one's name, or using the name of another for purposes of public bidding.		

	<p>4. Withdrawal of a bid, or refusal to accept an award, or enter into contract with the Government without justifiable cause, after he had been adjudged as having submitted the Lowest Calculated Responsive Bid or Highest Rated Responsive Bid.</p> <p>5. 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.</p> <p>6. Any documented unsolicited attempt by a bidder to unduly influence the outcome of the bidding in his favor.</p> <p>7. All other acts that tend to defeat the purpose of the competitive bidding, such as an eligible contractor not buying bid documents, and contractors habitually withdrawing from bidding or submitting letters of non-participation for at least three (3) times within a year, except for valid reasons.</p>
15.1	None.
16.4	No further instructions.
17.2(d)	<i>None.</i>
18.1	<p>The address for Submission of Bids is <i>BAC Office, Municipal Compound, Maragusan, Compostela Valley.</i></p> <p>The deadline for Submission of Bids is <i>August 28, 2018 at 12:00 PM.</i></p>
21.1	<p>The place of Bid Opening is <i>Mayor's Office Conference Room, Municipal Compound, Maragusan, Compostela Valley.</i></p> <p>The date and time of Bid opening is <i>August 28, 2018 at 1:30 PM.</i></p>
24.1	Not applicable.
30.2	<p>At the Contractor's option the Performance Security is to be in any of the following form:</p> <p>(a) Cash, certified (cashier's or manager's) check, in the amount of five percent (10%) of the contract price; and</p> <p>(b) Bank guarantee in the amount of ten percent (10%) of the contract price.</p> <p>(c) Surety bond(30%) of the contract price.</p>

PART II. Section III. General Conditions of Contract

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1. Definitions

- 1.1. For purposes of this Clause, boldface type is used to identify defined terms.
- 1.2. 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 20.
- 1.3. **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.
- 1.4. The **Completion Date** is the date of completion of the Works as certified by the PROCURING ENTITY's Representative, in accordance with GCC Clause 48.
- 1.5. The **Contract** is the contract between the PROCURING ENTITY and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Clause 2.3.
- 1.6. 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.
- 1.7. **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.
- 1.8. 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.
- 1.9. The **Contractor's Bid** is the signed offer or proposal submitted by the Contractor to the PROCURING ENTITY in response to the Bidding Documents.
- 1.10. **Days** are calendar days; months are calendar months.
- 1.11. **Day works** 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.
- 1.12. A **Defect** is any part of the Works not completed in accordance with the Contract.
- 1.13. The **Defects Liability Certificate** is the certificate issued by PROCURING ENTITY's Representative upon correction of defects by the Contractor.
- 1.14. The **Defects Liability Period** is the one year period between project completion and final acceptance within which the Contractor assumes the responsibility to undertake the repair of any damage to the Works at his own expense.

- 1.15. **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.
- 1.16. **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.
- 1.17. 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.
- 1.18. **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- 1.19. 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.
- 1.20. **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.
- 1.21. **Plant** refers to the machinery, apparatus, and the like intended to form an integral part of the Permanent Works.
- 1.22. The **PROCURING ENTITY** is the party who employs the Contractor to carry out the Works stated in the **SCC**.
- 1.23. 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.
- 1.24. 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.
- 1.25. **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.
- 1.26. **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.

- 1.27. **Specifications** mean 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.
- 1.28. 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.
- 1.29. 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.
- 1.30. **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Permanent Works.
- 1.31. **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).
- 2.3. The documents forming this Contract shall be interpreted in the following order of priority:
 - (a) Contract Agreement;
 - (b) Instructions to Bidders;
 - (c) Addenda to the Bidding Documents;
 - (d) Specifications;
 - (e) Drawings;
 - (f) Special Conditions of Contract;

- (g) General Conditions of Contract; and
- (h) Any other document listed in the SCC as forming part of this Contract.

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**

- 4.1. 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 46.
- 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. The Performance Security shall be submitted to the PROCURING ENTITY not later than the date specified in the Letter of Acceptance and shall be issued

in an amount and form as specified in the SCC, and denominated in the currency in which the contract price is payable. The Performance Security shall be valid for the period specified in the SCC.

- 7.2. 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. **Sub-Contracting**

- 8.1. Unless otherwise indicated in the SCC, the Contractor cannot subcontract more than fifty percent (50%) of the value of the Works,. 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.
- 8.2. All subcontracting arrangements as disclosed and identified during the eligibility check shall not be changed during the implementation of this Contract.

9. **Liquidated Damages**

- 9.1. The Contractor shall pay liquidated damages to the PROCURING ENTITY at the rate per day stated in the SCC for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the SCC. The PROCURING ENTITY may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor. Once the cumulative amount of liquidated damages reaches ten percent (10%) of the amount of this Contract, the PROCURING ENTITY shall rescind this Contract, without prejudice to other courses of action and remedies open to it.
- 9.2. If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer of the PROCURING ENTITY shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Clause 39.1

10. **Site Investigation Reports**

- 10.1. 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**

- 11.1. The PROCURING ENTITY shall, if requested by the Contractor, assist him in applying for permits, licenses or approvals, which are required for the Works.

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

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

- 12.2. The defects liability period for infrastructure projects shall be one year from project completion up to final acceptance by the PROCURING ENTITY. During this period, the Contractor shall undertake the repair works, at his own expense, of any damage to the Works on account of the use of materials of inferior quality within ninety (90) days from the time the Head of the PROCURING ENTITY has issued an order to undertake repair. In case of failure or refusal to comply with this mandate, the PROCURING ENTITY shall undertake such repair works and shall be entitled to full reimbursement of expenses incurred therein upon demand.

In case the Contractor fails to comply with the preceding paragraph, it shall suffer perpetual disqualification from participating in any public bidding and its property or properties shall be subject to attachment or garnishment proceedings to recover the costs. All payables of the PROCURING ENTITY in the Contractor's favor shall be offset to recover the costs.

- 12.3. After final acceptance of the Works by the PROCURING ENTITY, the Contractor shall be held responsible for structural defects and/or failure of the completed project within the following warranty periods from final acceptance, except those occasioned by *force majeure* and those caused by other parties:

- (a) Permanent Structures: Fifteen (15) years

Buildings of types 4 (steel, iron, concrete, or masonry construction with walls, ceilings, and permanent partitions of incombustible fire resistance) and 5 (steel, iron, concrete, or masonry construction), steel and concrete bridges, flyovers, concrete aircraft movement areas, ports, dams, diversion tunnels, causeways, wharves, piers, dikes, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar structures;

- (b) Semi-Permanent Structures: Five (5) years

Buildings of types 1 (wooden), 2 (wood with 1 hour fire resistance), and 3 (masonry and wood construction), **concrete roads**, asphalt roads, river control, drainage, irrigation and drainage canals, municipal ports and river landing, deep wells, rock causeway, pedestrian overpass, and other similar structures; and

- 12.4. 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
1. Cash deposit, cash bond or letter of credit	Five Percent (5%)
2. Bank guarantee	Ten Percent (10%)
3. Surety bond	Thirty Percent (30%)

- 12.5. The warranty security shall be stated in Philippine Pesos and shall remain effective during the applicable warranty period provided in **GCC** Clause 12.3.

- 12.6. In case of structural defects/failure occurring during the applicable warranty period provided in **GCC** Clause 12.3, 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, of 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**.

For purposes of this clause, the term “structural defects” shall mean major faults/flaws/deficiencies in one or more key structural elements of the Works which may lead to structural failure of the completed elements or structure. The term “structural failures” is defined as an occurrence 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.

13. **PROCURING ENTITY’s Risk**

- 13.1. 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:

- (a.1) any type of use or occupation of the Site authorized by the PROCURING ENTITY after the official acceptance of the works; or
- (a.2) 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.

14. Insurance

- 14.1. 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.
- 14.2. 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 through the PROCURING ENTITY's Representative.
- 14.3. 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.

- 14.4. 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.

- 14.5. 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 39 until the Contractor complies with this Clause.
- 14.6. 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:
 - (a.1) become bankrupt;
 - (a.2) been placed under receivership or under a management committee;
 - (a.3) been sued for suspension of payment; or
 - (a.4) been suspended by the Insurance Commission and its license to engage in business or its authority to issue insurance policies cancelled; or
 - (b) Where reasonable grounds exist that the insurer may not be able, fully and promptly, to fulfill its obligation under the insurance policy.

15. Termination for Default of Contractor

- 15.1. The PROCURING ENTITY shall terminate this Contract for default when any of the following conditions attend its implementation:
- 15.2. 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;
- 15.3. 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
- 15.4. 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.

15.5. 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.

16. Termination for Default of PROCURING ENTITY

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

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

17. Termination for Other Causes

17.1. 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.

17.2. The PROCURING ENTITY or the Contractor may terminate this Contract if the other party causes a fundamental breach of this Contract.

17.3. 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:
 - (h.1) corrupt, fraudulent, collusive and coercive practices as defined in ITB Clause 2.1(a);
 - (h.2) drawing up or using forged documents;
 - (h.3) using adulterated materials, means or methods, or engaging in production contrary to rules of science or the trade; and
 - (h.4) Any other act analogous to the foregoing.

- 17.4. 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.
- 17.5. 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 17.3, the PROCURING ENTITY's Representative shall decide whether the breach is fundamental or not.
- 17.6. 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.

18. Procedures for Termination of Contracts

18.1. The following provisions shall govern the procedures for the termination of this Contract:

- (a) Upon receipt of a written report of acts or causes which may constitute ground(s) for termination as aforementioned, or upon its own initiative, the Implementing Unit shall, within a period of seven (7) calendar days, verify the existence of such ground(s) and cause the execution of a Verified Report, with all relevant evidence attached;
- (b) Upon recommendation by the Implementing Unit, the Head of the PROCURING ENTITY shall terminate this Contract only by a written notice to the Contractor conveying the termination of this Contract. The notice shall state:
 - (b.1) 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;
 - (b.2) the extent of termination, whether in whole or in part;
 - (b.3) an instruction to the Contractor to show cause as to why this Contract should not be terminated; and
 - (b.4) special instructions of the PROCURING ENTITY, if any.

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

- (c) Within a period of seven (7) calendar days from receipt of the Notice of Termination, the Contractor shall submit to the Head of the PROCURING ENTITY a verified position paper stating why the contract should not be terminated. If the Contractor fails to show cause after the lapse of the seven (7) day period, either by inaction or

by default, the Head of the PROCURING ENTITY shall issue an order terminating the contract;

- (d) The PROCURING ENTITY may, at anytime before receipt of the Bidder's verified position paper to withdraw the Notice to Terminate if it is determined that certain items or works subject of the notice had been completed, delivered, or performed before the Contractor's receipt of the notice;
- (e) Within a non-extendible period of ten (10) calendar days from receipt of the verified position paper, the Head of the PROCURING ENTITY shall decide whether or not to terminate this Contract. It shall serve a written notice to the Contractor of its decision and, unless otherwise provided in the said notice, this Contract is deemed terminated from receipt of the Contractor of the notice of decision. The termination shall only be based on the ground(s) stated in the Notice to Terminate; and
- (f) The Head of the PROCURING ENTITY may create a Contract Termination Review Committee (CTRC) to assist him in the discharge of this function. All decisions recommended by the CTRC shall be subject to the approval of the Head of the PROCURING ENTITY.

19. Force Majeure, Release from Performance

- 19.1. 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.
- 19.2. 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.
- 19.3. 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.
- 19.4. 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 27.1;

- (b) the cost of his suspension and demobilization;
- (c) any sum to which the PROCURING ENTITY is entitled.

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

20. Resolution of Disputes

20.1. 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.

20.2. Any and all disputes arising from the implementation of this Contract covered by the R.A. 9184 and its IRR-A shall be submitted to arbitration in the Philippines according to the provisions of Republic Act 9285, otherwise known as the "Alternative Dispute Resolution Act of 2004": *Provided, however,* That, disputes that are within the competence of the Construction Industry Arbitration Commission to resolve shall be referred thereto. The process of arbitration shall be incorporated as a provision in this Contract that will be executed pursuant to the provisions of the Act and its IRR-A: *Provided, further,* That, by mutual agreement, the parties may agree in writing to resort to other alternative modes of dispute resolution. Additional instructions on resolution of disputes, if any, shall be indicated in the **SCC**.

21. Suspension of Loan, Credit, Grant, or Appropriation

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

- (a) The PROCURING ENTITY is obligated to notify the Contractor of such suspension within seven (7) days of having received the suspension notice.
- (b) If the Contractor has not received sums due it for work already done within forty five (45) days from the time the Contractor's claim for payment has been certified by the PROCURING ENTITY's Representative, the Contractor may immediately issue a suspension of work notice in accordance with **SCC** Clause 44.2.

22. PROCURING ENTITY's Representative's Decisions

22.1. 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.

22.2. 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.

23. Approval of Drawings and Temporary Works by the PROCURING ENTITY's Representative

23.1. 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.

23.2. The Contractor shall be responsible for design of Temporary Works.

23.3. The PROCURING ENTITY's Representative's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

23.4. The Contractor shall obtain approval of third parties to the design of the Temporary Works, when required by the PROCURING ENTITY.

24. Acceleration and Delays Ordered by the PROCURING ENTITY's Representative

24.1. 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.

24.2. 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.

25. Extension of the Intended Completion Date

25.1. The PROCURING ENTITY's Representative shall extend the Intended Completion Date if a Variation is issued which makes it impossible for the Intended Completion Date to be achieved by the Contractor without taking steps to accelerate the remaining work, which would cause the Contractor to incur additional costs. Unless specified in the **SCC**, no payment shall be made for any event which may warrant the extension of the Intended Completion Date.

25.2. 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.

26. **Right to Vary**

26.1. 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.

26.2. 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.

27. **Contractors Right to Claim**

27.1. 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.

28. **Dayworks**

28.1. Subject to **GCC** Clause 42 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.

28.2. 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.

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

29. **Early Warning**

29.1. 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.

- 29.2. 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.

30. Program of Work

- 30.1. 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.
- 30.2. 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.
- 30.3. 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.
- 30.4. The PROCURING ENTITY's Representative's approval of the Program of Work shall not alter the Contractor's obligations. The Contractor may revise the Program of Work and submit it to the PROCURING ENTITY's Representative again at any time. A revised Program of Work shall show the effect of any approved Variations; and if allowed, any Compensation Event.
- 30.5. 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.
- 30.6. All Variations shall be included in updated Program of Work produced by the Contractor.

31. Management Conferences

- 31.1. 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.

31.2. 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.

32. Bill of Quantities

32.1. The Bill of Quantities shall contain items of work for the construction, installation, testing, and commissioning of work to be done by the Contractor.

32.2. 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.

32.3. 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.

32.4. 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.

33. Instructions, Inspections and Audits

33.1. 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.

33.2. 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.

33.3. 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.

34. Identifying Defects

34.1. 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.

35. Cost of Repairs

- 35.1. 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.

36. Correction of Defects

- 36.1. The PROCURING ENTITY's Representative shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion Date up to final acceptance by the PROCURING ENTITY, unless otherwise specified in the **SCC**. The Defects Liability Period shall be extended for as long as defects remain to be corrected.
- 36.2. 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.
- 36.3. The Contractor shall correct the defects which he notices himself before the end of the Defects Liability Period.
- 36.4. 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.

37. Uncorrected Defects

- 37.1. 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.
- 37.2. 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.

38. Advance Payment

- 38.1. 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 to exceed 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**.

- 38.2. 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.
- 38.3. The advance payment shall be repaid by the Contractor by deducting a percentage equal to that used for the advance payment from periodic progress payments to be made to the Contractor.
- 38.4. 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. **Progress Payments**

- 39.1. 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. 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.
- 39.2. The PROCURING ENTITY shall have the right to deduct from the Contractor's progress billing such amount as may be necessary to cover third party liabilities, as well as uncorrected discovered defects in the project.
- 39.3. Payments shall be adjusted by deducting therefrom the amounts for advance payments and retention. The PROCURING ENTITY shall pay the Contractor the amounts certified by the PROCURING ENTITY's Representative within twenty eight (28) days from the date each certificate was issued. Unless otherwise indicated in the SCC, no payment of interest for delayed payments and adjustments shall be made by the PROCURING ENTITY.
- 39.4. 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.

40. **Payment Certificates**

- 40.1. 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.
- 40.2. The PROCURING ENTITY's Representative shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 40.3. 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.

40.4. 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.

41. **Retention**

41.1. The PROCURING ENTITY shall retain from each payment due to the Contractor an amount equal to a percentage thereof using the rate as specified in SCC Clause 41.2.

41.2. Progress payments are subject to retention of ten percent (10%), unless otherwise specified in the **SCC**, referred to as the "retention money." Such retention shall be based on the total amount due to the Contractor prior to any deduction and shall be retained from every progress payment until fifty percent (50%) of the value of Works, as determined by the PROCURING ENTITY, are completed. If, after fifty percent (50%) completion, the Work is satisfactorily done and on schedule, no additional retention shall be made; otherwise, the ten percent (10%) retention shall again be imposed using the rate specified therefor.

41.3. 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 percentage retained shall be made. Said irrevocable standby letters of credit, bank guarantees and/or surety bonds, to be posted in favor of the PROCURING ENTITY 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 retention is intended, *i.e.*, to cover uncorrected discovered defects and third party liabilities.

41.4. 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.

42. **Variation Orders**

42.1. 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. A Variation Order may either be in the form of a Change Order or Extra Work Order.

- 42.2. A Change Order may be issued by the implementing official to cover any increase/decrease in quantities of original Work items in the contract.
- 42.3. An Extra Work Order may be issued by the implementing official to cover the introduction of new work necessary for the completion, improvement or protection of the project which were not included as items of Work in the original contract, such as, where there are subsurface or latent physical conditions at the site differing materially from those indicated in the contract, or where there are duly unknown physical conditions at the site of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the Work or character provided for in the contract.
- 42.4. 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 the Variation Order beyond ten percent (10%) but not more than twenty percent (20%) 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%).
- 42.5. 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 Head of the PROCURING ENTITY 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 PROCURING ENTITY's Representative.

- (b) The PROCURING ENTITY's Representative, upon receipt of the proposed Change Order or Extra Work Order shall immediately instruct the technical staff of the PROCURING ENTITY 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 PROCURING ENTITY's Representative.
- (c) The PROCURING ENTITY's 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, the PROCURING ENTITY's 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.

43. Contract Completion

- 43.1. 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.

44. Suspension of Work

- 44.1. 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.
- 44.2. 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.

44.3. 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.

45. Payment on Termination

45.1. 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.

45.2. 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.

- 45.3. The net balance due shall be paid or repaid within twenty eight (28) days from the notice of termination.
- 45.4. If the Contractor has terminated the Contract under GCC Clauses 16 or 17, the PROCURING ENTITY shall promptly return the Performance Security to the Contractor.

46. Extension of Contract Time

- 46.1. 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.
- 46.2. 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.
- 46.3. Extension of contract time may be granted only when the affected activities fall within the critical path of the PERT/CPM network.
- 46.4. 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.
- 46.5. 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 penalization 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.

47. Price Adjustment

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

48. Completion

48.1. 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.

49. Taking Over

49.1. 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.

50. Operating and Maintenance Manuals

50.1. If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the SCC.

50.2. 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.

PART II. Section IV. Special Conditions of Contract

GCC Clause	
1.17	The Intended Completion Date is <i>Three Hundred Fifty One (351) Calendar Days from start date</i> inclusive of <i>Fifteen (15)</i> calendar days allotted for unworkable conditions.
1.22	The PROCURING ENTITY is <i>Municipality of Maragusan, Compostela Valley</i> .
1.23	The PROCURING ENTITY's Representative is <i>Hon. Maricel U. Colina- Vendiola, Municipal Mayor</i>
1.24	The Site is located at <i>Brgy. Mapawa, Maragusan, Compostela Valley</i> , and is defined in Sheet No. 1 Vicinity Map. See Part II. Section VI.
1.28	The Start Date is within 10 calendar days upon receipt of the Notice to Proceed.
1.31	The Works consist of <i>Construction Of 7,472.35sq.m. Sanitary Landfill, 286.27sq.m. Holding Pond, 225.0sq.m. Aerating Pond and Development Of Ecological Solid Waste Management Park, Brgy. Mapawa Maragusan Comval.</i>
2.2	Not applicable.
2.3(h)	The other documents forming part of the Contract are: <ul style="list-style-type: none"> 1. Environmental Management Plan 2. Environmental Clearance Certificate/Certificate of Non-Coverage
5.1	The PROCURING ENTITY shall give possession of all parts of the Site to the Contractor upon issuance of NTP.
6.5	The Contractor shall employ the following Key Personnel: <i>Project Engineer, MTQC Engineer, Foreman</i>
7.1	At the Contractor's option the performance security is to be in any of the following form: <ul style="list-style-type: none"> (a) Cash, certified (cashier's or manager's) check, in the amount of five percent (10%) of the contract price; and (b) Bank guarantee in the amount of ten percent (10%) of the contract price. <p>The performance security shall be discharged by the PROCURING</p>

	ENTITY and returned to the Contractor not later than thirty (30) days following the date of the expiration of this Contract.
8.1	No further instructions.
9.1	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 maximum deduction shall be ten percent (10%) of the amount of the contract, the PROCURING ENTITY shall rescind the contract, without prejudice to other courses of action and remedies open to it.
10.1	The site investigation reports are: none
20.1	The Arbiter is: <i>Accredited by:</i> Construction Industry Arbitration Commission Manila
20.2	No further instructions.
25.1	No further instructions.
28.1	No dayworks are applicable to the contract.
30.1	The Contractor shall submit the Program of Work to the PROCURING ENTITY's Representative within 10 days of delivery of the Letter of Acceptance.
30.3	The period between Program of Work updates is 30 days. The amount to be withheld for late submission of an updated Program of Work is 1% of the progress billing.
33.3	The Funding Source is the World Bank.
36.1	The defects liability period is one years.
38.1	The amount of the advance payment is 15% of the Contract Price and to be recouped every progress billing.
39.1	No further instructions.
39.3	No further instructions.
41.2	The amount of retention is ten percent (10%) of the contract value.
47.1	No further instructions.
50.1	The date by which "as built" drawings are required is: 15-30 of days from completion
50.2	The amount to be withheld for failing to produce "as built" drawings by the date required is: 1% of the final contract amount

PART II. Section V. Specifications

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ITEM 102 – EXCAVATION

102.1 Description

This Item shall consist of roadway and drainage and borrow excavation and the disposal of material in accordance with this Specification and in conformity with the lines, grades and dimensions shown on the Plans or established by the Engineer.

102.1.1 Roadway Excavation

Roadway excavation will include excavation and grading for roadways, parking areas, intersections, approaches, slope rounding, benching, waterways and ditches; removal of unsuitable material from the roadbed and beneath embankment areas; and excavating selected material found in the roadway as ordered by the Engineer for specific use in the improvement. Roadway excavation will be classified as “unclassified excavation”, “rock excavation”, “common excavation”, or “muck excavation” as indicated in the Bill of Quantities and hereinafter described.

- (1) **Unclassified Excavation.** Unclassified excavation shall consist of the excavation and disposal of all materials regardless of its nature, not classified and included in the Bill of Quantities under other pay items.
- (2) **Rock Excavation.** Rock excavation shall consist of igneous, sedimentary and metamorphic rock which cannot be excavated without blasting or the use of rippers, and all boulders or other detached stones each having a volume of 1 cubic meter or more as determined by physical measurements or visually by the Engineer.
- (3) **Common Excavation.** Common excavations shall consist of all excavation not included in the Bill of Quantities under “rock excavation” or other pay items.
- (4) **Muck Excavation.** Muck excavation shall consist of the removal and disposal of deposits of saturated or unsaturated mixtures of soils and organic matter not suitable for foundation material regardless of moisture content.

102.1.2 Borrow Excavation

Borrow excavation shall consist of the excavation and utilization of approved material required for the construction of embankments or for other portions of the work, and shall be obtained from approved sources, in accordance with Clause 61 and the following:

- (1) **Borrow, Case 1**
Borrow Case 1 will consist of material obtained from sources designated on the Plans or in the Special Provisions.
- (2) **Borrow, Case 2**
Borrow Case 2 will consist of material obtained from sources provided by the Contractor. The material shall meet the quality requirements determined by the Engineer unless otherwise provided in the Contract.

102.2 Construction Requirements

102.2.1 General

When there is evidence of discrepancies on the actual elevations and that shown on the Plans, a pre-construction survey referred to the datum plane used in the approved Plan shall be undertaken by the Contractor under the control of the Engineer to serve as basis for the computation of the actual volume of the excavated materials.

All excavations shall be finished to reasonably smooth and uniform surfaces. No materials shall be wasted without authority of the Engineer. Excavation operations shall be conducted so that material outside of the limits of slopes will not be disturbed. Prior to excavation, all necessary clearing and grubbing in that area shall have been performed in accordance with Item 100, Clearing and Grubbing.

102.2.2 Conservation of Topsoil

Where provided for on the Plans or in the Special Provisions, suitable topsoil encountered in excavation and on areas where embankment is to be placed shall be removed to such extent and to such depth as the Engineer may direct. The removed topsoil shall be transported and deposited in storage piles at locations approved by the Engineer. The topsoil shall be completely removed to the required depth from any designated area prior to the beginning of regular excavation or embankment work in the area and shall be kept separate from other excavated materials for later use.

102.2.3 Utilization of Excavated Materials

All suitable material removed from the excavation shall be used in the formation of the embankment, sub grade, shoulders, slopes, bedding, and backfill for structures, and for other purposes shown on the Plans or as directed.

The Engineer will designate as unsuitable those soils that cannot be properly compacted in embankments. All unsuitable material shall be disposed off as shown on the Plans or as directed without delay to the Contractor.

Only approved materials shall be used in the construction of embankments and backfills.

All excess material, including rock and boulders that cannot be used in embankments shall be disposed off as directed. Material encountered in the excavation and determined by the Engineer as suitable for topping, road finishing, slope protection, or other purposes shall be conserved and utilized as directed by the Engineer.

Borrow material shall not be placed until after the readily accessible roadway excavation has been placed in the fill, unless otherwise permitted or directed by the Engineer. If the Contractor places more borrow than is required and thereby causes a waste of excavation, the amount of such waste will be deducted from the borrow volume.

102.2.4 Prewatering

Excavation areas and borrow pits may be prewatered before excavating the material. When prewatering is used, the areas to be excavated shall be moistened to the full depth, from the surface to the bottom of the excavation. The water shall be controlled so that the excavated

material will contain the proper moisture to permit compaction to the specified density with the use of standard compacting equipment. Prewatering shall be supplemented where necessary, by truck watering units, to ensure that the embankment material contains the proper moisture at the time of compaction.

The Contractor shall provide drilling equipment capable of suitably checking the moisture penetration to the full depth of the excavation.

102.2.5 Presplitting

Unless otherwise provided in the Contract, rock excavation which requires drilling and shooting shall be presplit.

Presplitting to obtain faces in the rock and shale formations shall be performed by: (1) drilling holes at uniform intervals along the slope lines, (2) loading and stemming the holes with appropriate explosives and stemming material, and (3) detonating the holes simultaneously.

Prior to starting drilling operations for presplitting, the Contractor shall furnish the Engineer a plan outlining the position of all drill holes, depth of drilling, type of explosives to be used, loading pattern and sequence of firing. The drilling and blasting plan is for record purposes only and will not absolve the Contractor of his responsibility for using proper drilling and blasting procedures. Controlled blasting shall begin with a short test section of a length approved by the Engineer. The test section shall be presplit, production drilled and blasted and sufficient material excavated whereby the Engineer can determine if the Contractor's methods are satisfactory. The Engineer may order discontinuance of the presplitting when he determines that the materials encountered have become unsuitable for being presplit.

The holes shall be charged with explosives of the size, kind, strength, and at the spacing suitable for the formations being presplit, and with stemming material which passes a 9.5 mm (3/8 inch) standard sieve and which has the qualities for proper confinement of the explosives.

The finished presplit slope shall be reasonably uniform and free of loose rock. Variance from the true plane of the excavated backslope shall not exceed 300 mm (12 inches); however, localized irregularities or surface variations that do not constitute a safety hazard or an impairment to drainage courses or facilities will be permitted.

A maximum offset of 600 mm (24 inches) will be permitted for a construction working bench at the bottom of each lift for use in drilling the next lower presplitting pattern.

102.2.6 Excavation of Ditches Gutters, etc.

All materials excavated from side ditches and gutters, channel changes, irrigation ditches, inlet and outlet ditches, toe ditchers, furrow ditches, and such other ditches as may be designated on the Plans or staked by the Engineer, shall be utilized as provided in Subsection 102.2.3.

Ditches shall conform to the slope, grade, and shape of the required cross-section, with no projections of roots, stumps, rock, or similar matter. The Contractor shall maintain and keep open and free from leaves, sticks, and other debris all ditches dug by him until final acceptance of the work.

Furrow ditches shall be formed by plowing a continuous furrow along the line staked by the Engineer. Methods other than plowing may be used if acceptable to the Engineer. The ditches

shall be cleaned out by hand shovel work, by ditcher, or by some other suitable method, throwing all loose materials on the downhill side so that the bottom of the finished ditch shall be approximately 450 mm (18 inches) below the crest of the loose material piled on the downhill side. Hand finish will not be required, but the flow lines shall be in satisfactory shape to provide drainage without overflow.

102.2.7 Excavation of Roadbed Level

Rock shall be excavated to a depth of 150 mm (6 inches) below subgrade within the limits of the roadbed, and the excavation backfilled with material designated on the Plans or approved by the Engineer and compacted to the required density.

When excavation methods employed by the Contractor leave undrained pockets in the rock surface, the Contractor shall at his own expense, properly drain such depressions or when permitted by the Engineer fill the depressions with approved impermeable material.

Material below subgrade, other than solid rock shall be thoroughly scarified to a depth of 150 mm (6 inches) and the moisture content increased or reduced, as necessary, to bring the material throughout this 150 mm layer to the moisture content suitable for maximum compaction. This layer shall then be compacted in accordance with Subsection 104.3.3.

102.2.8 Borrow Areas

The Contractor shall notify the Engineer sufficiently in advance of opening any borrow areas so that cross-section elevations and measurements of the ground surface after stripping may be taken, and the borrow material can be tested before being used. Sufficient time for testing the borrow material shall be allowed.

All borrow areas shall be bladed and left in such shape as to permit accurate measurements after excavation has been completed. The Contractor shall not excavate beyond the dimensions and elevations established, and no material shall be removed prior to the staking out and cross-sectioning of the site. The finished borrow areas shall be approximately true to line and grade established and specified and shall be finished, as prescribed in Clause 61, Standard Specifications for Public Works and Highways, Volume 1. When necessary to remove fencing, the fencing shall be replaced in at least as good condition as it was originally. The Contractor shall be responsible for the confinement of livestock when a portion of the fence is removed.

102.2.9 Removal of Unsuitable Material

Where the Plans show the top portion of the roadbed to be selected topping, all unsuitable materials shall be excavated to the depth necessary for replacement of the selected topping to the required compacted thickness.

Where excavation to the finished graded section results in a subgrade or slopes of unsuitable soil, the Engineer may require the Contractor to remove the unsuitable material and backfill to the finished graded section with approved material. The Contractor shall conduct his operations in such a way that the Engineer can take the necessary cross-sectional measurements before the backfill is placed.

The excavation of muck shall be handled in a manner that will not permit the entrapment of muck within the backfill. The material used for backfilling up to the ground line or water level, whichever is higher, shall be rock or other suitable granular material selected from the roadway

excavation, if available. If not available, suitable material shall be obtained from other approved sources. Unsuitable material removed shall be disposed off in designated areas shown on the Plans or approved by the Engineer.

102.3 Method of Measurement

The cost of excavation of material which is incorporated in the Works or in other areas of fill shall be deemed to be included in the Items of Work where the material is used.

Measurement of Unsuitable or Surplus Material shall be the net volume in its original position.

For measurement purposes, surplus suitable material shall be calculated as the difference between the net volume of suitable material required to be used in embankment corrected by applying a shrinkage factor or a swell factor in case of rock excavation, determined by laboratory tests to get its original volume measurement, and the net volume of suitable material from excavation in the original position. Separate pay items shall be provided for surplus common, unclassified and rock material.

The Contractor shall be deemed to have included in the contract unit prices all costs of obtaining land for the disposal of unsuitable or surplus material.

102.4 Basis of Payment

The accepted quantities, measured as prescribed in Section 102.3 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 which price and payment shall be full compensation for the removal and disposal of excavated materials including all labor, equipment, tools, and incidentals necessary to complete the work prescribed in this Item. Payment will be made under:

Pay Item Number	Description	Unit of Measurement
102 (1)	Unsuitable Excavation	Cubic Meter
102 (2)	Surplus Common Excavation	Cubic Meter
102 (3)	Surplus Rock Excavation	Cubic Meter
102 (4)	Surplus Unclassified Excavation	Cubic Meter

ITEM 104 – EMBANKMENT

104.1 Description

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

104.2 Material Requirements

Embankments shall be constructed of suitable materials, in consonance with the following definitions:

1. Suitable Material – Material which is acceptable in accordance with the Contract and which can be compacted in the manner specified in this Item. It can be common material or rock.

Selected Borrow, for topping – soil of such gradation that all particles will pass a sieve with 75 mm (3 inches) square openings and not more than 15 mass percent will pass the 0.075 mm (No. 200) sieve, as determined by AASHTO T 11. The material shall have a plasticity index of not more than 6 as determined by AASHTO T 90 and a liquid limit of not more than 30 as determined by AASHTO T 89.

2. Unsuitable Material – Material other than suitable materials such as:
 - (a) Materials containing detrimental quantities of organic materials, such as grass, roots and sewerage.
 - (b) Organic soils such as peat and muck.
 - (c) Soils with liquid limit exceeding 80 and/or plasticity index exceeding 55.
 - (d) Soils with a natural water content exceeding 100%.
 - (e) Soils with very low natural density, 800 kg/m³ or lower.
 - (f) Soils that cannot be properly compacted as determined by the Engineer.

104.3 Construction Requirements

104.3.1 General

Prior to construction of embankment, all necessary clearing and grubbing in that area shall have been performed in conformity with Item 100, Clearing and Grubbing.

Embankment construction shall consist of constructing roadway embankments, including preparation of the areas upon which they are to be placed; the construction of dikes within or adjacent to the roadway; the placing and compacting of approved material within roadway areas where unsuitable material has been removed; and the placing and compacting of embankment material in holes, pits, and other depressions within the roadway area.

Embankments and backfills shall contain no muck, peat, sod, roots or other deleterious matter. Rocks, broken concrete or other solid, bulky materials shall not be placed in embankment areas where piling is to be placed or driven.

Where shown on the Plans or directed by the Engineer, the surface of the existing ground shall be compacted to a depth of 150 mm (6 inches) and to the specified requirements of this Item.

Where provided on the Plans and Bill of Quantities the top portions of the roadbed in both cuts and embankments, as indicated, shall consist of selected borrow for topping from excavations.

104.3.2 Methods of Construction

Where there is evidence of discrepancies on the actual elevations and that shown on the Plans, a preconstruction survey referred to the datum plane used in the approved Plan shall be undertaken by the Contractor under the control of the Engineer to serve as basis for the computation of the actual volume of the embankment materials.

When embankment is to be placed and compacted on hillsides, or when new embankment is to be compacted against existing embankments, or when embankment is built one-half width at a time, the existing slopes that are steeper than 3:1 when measured at right angles to the roadway shall be continuously benched over those areas as the work is brought up in layers. Benching will be subject to the Engineer's approval and shall be of sufficient width to permit operation of placement and compaction equipment. Each horizontal cut shall begin at the intersection of the original ground and the vertical sides of the previous cuts. Material thus excavated shall be placed

and compacted along with the embankment material in accordance with the procedure described in this Section.

Unless shown otherwise on the Plans or special Provisions, where an embankment of less than 1.2 m (4 feet) below subgrade is to be made, all sod and vegetable matter shall be removed from the surface upon which the embankment is to be placed, and the cleared surface shall be completely broken up by plowing, scarifying, or steeping to a minimum depth of 150 mm except as provided in Subsection 102.2.2. This area shall then be compacted as provided in Subsection 104.3.3. Sod not required to be removed shall be thoroughly disc harrowed or scarified before construction of embankment. Wherever a compacted road surface containing granular materials lies within 900 mm (36 inches) of the subgrade, such old road surface shall be scarified to a depth of at least 150 mm (6 inches) whenever directed by the Engineer. These scarified materials shall then be compacted as provided in Subsection 104.3.3.

When shoulder excavation is specified, the roadway shoulders shall be excavated to the depth and width shown on the Plans. The shoulder material shall be removed without disturbing the adjacent existing base course material, and all excess excavated materials shall be disposed of as provided in Subsection 102.2.3. If necessary, the areas shall be compacted before being backfilled.

Roadway embankment of earth material shall be placed in horizontal layers not exceeding 200 mm (8 inches), loose measurement, and shall be compacted as specified before the next layer is placed. However, thicker layer may be placed if vibratory roller with high comp active effort is used provided that density requirement is attained and as approved by the Engineer. Trial section to this effect must be conducted and approved by the Engineer. Effective spreading equipment shall be used on each lift to obtain uniform thickness as determined in the trial section prior to compaction. As the compaction of each layer progresses, continuous leveling and manipulating will be required to assure uniform density. Water shall be added or removed, if necessary, in order to obtain the required density. Removal of water shall be accomplished through aeration by plowing, blading, disking, or other methods satisfactory to the Engineer.

Where embankment is to be constructed across low swampy ground that will not support the mass of trucks or other hauling equipment, the lower part of the fill may be constructed by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the hauling equipment while placing subsequent layers.

When excavated material contains more than 25 mass percent of rock larger than 150 mm in greatest diameter and cannot be placed in layers of the thickness prescribed without crushing, pulverizing or further breaking down the pieces resulting from excavation methods, such materials may be placed on the embankment in layers not exceeding in thickness the approximate average size of the larger rocks, but not greater than 600 mm (24 inches).

Even though the thickness of layers is limited as provided above, the placing of individual rocks and boulders greater than 600 mm in diameter will be permitted provided that when placed, they do not exceed 1200 mm (48 inches) in height and provided they are carefully distributed, with the interstices filled with finer material to form a dense and compact mass.

Each layer shall be leveled and smoothed with suitable leveling equipment and by distribution of spalls and finer fragments of earth. Lifts of material containing more than mass percent of rock larger than 150 mm in greatest dimensions shall not be constructed above an elevation 300 mm (12 inches) below the finished subgrade. The balance of the embankment shall be composed of

suitable material smoothed and placed in layers not exceeding 200 mm (8 inches) in loose thickness and compacted as specified for embankments.

Dumping and rolling areas shall be kept separate, and no lift shall be covered by another until compaction complies with the requirements of Subsection 104.3.3.

Hauling and leveling equipment shall be so routed and distributed over each layer of the fill in such a manner as to make use of compaction effort afforded thereby and to minimize rutting and uneven compaction.

104.3.3 Compaction

Compaction Trials

Before commencing the formation of embankments, the Contractor shall submit in writing to the Engineer for approval his proposals for the compaction of each type of fill material to be used in the works. The proposals shall include the relationship between the types of compaction equipment, and the number of passes required and the method of adjusting moisture content. The Contractor shall carry out full scale compaction trials on areas not less than 10 m wide and 50 m long as required by the Engineer and using his proposed procedures or such amendments thereto as may be found necessary to satisfy the Engineer that all the specified requirements regarding compaction can be consistently achieved. Compaction trials with the main types of fill material to be used in the works shall be completed before work with the corresponding materials will be allowed to commence.

Throughout the periods when compaction of earthwork is in progress, the Contractor shall adhere to the compaction procedures found from compaction trials for each type of material being compacted, each type of compaction equipment employed and each degree of compaction specified.

Earth

The Contractor shall compact the material placed in all embankment layers and the material scarified to the designated depth below subgrade in cut sections, until a uniform density of not less than 95 mass percent of the maximum dry density determined by AASHTO T99 Method C, is attained, at a moisture content determined by Engineer to be suitable for such density. Acceptance of compaction may be based on adherence to an approved roller pattern developed as set forth in Item 106, Compaction Equipment and Density Control Strips. The Engineer shall during progress of the Work, make density tests of compacted material in accordance with AASHTO T 191, T 205, or other approved field density tests, including the use of properly calibrated nuclear testing devices. A correction for coarse particles may be made in accordance with AASHTO T 224. If, by such tests, the Engineer determines that the specified density and moisture conditions have not been attained, the Contractor shall perform additional work as may be necessary to attain the specified conditions.

At least one group of three in-situ density tests shall be carried out for each 500 m of each layer of compacted fill.

Rock

Density requirements will not apply to portions of embankments constructed of materials which cannot be tested in accordance with approved methods. Embankment materials classified as rock

shall be deposited spread and leveled the full width of the fill with sufficient earth or other fine material so deposited to fill the interstices to produce a dense compact embankment. In addition, one of the rollers, vibrators, or compactors meeting the requirements set forth in Subsection 106.2.1, Compaction Equipment, shall compact the embankment full width with a minimum of three complete passes for each layer of embankment.

104.3.4 Protection of Roadbed during Construction

During the construction of the roadway, the roadbed shall be maintained in such condition that it will be well drained at all times. Side ditches or gutters emptying from cuts to embankments or otherwise shall be so constructed as to avoid damage to embankments by erosion.

104.3.5 Protection of Structure

If embankment can be deposited on one side only of abutments, wing walls, piers or culvert headwalls, care shall be taken that the area immediately adjacent to the structure is not compacted to the extent that it will cause overturning of, or excessive pressure against the structure. When noted on the Plans, the fill adjacent to the end bent of a bridge shall not be placed higher than the bottom of the backfill of the bent until the superstructure is in place. When embankment is to be placed on both sides of a concrete wall or box type structure, operations shall be so conducted that the embankment is always at approximately the same elevation on both sides of the structure.

104.3.6 Rounding and Warping Slopes

Rounding-Except in solid rock, the tops and bottoms of all slopes, including the slopes of drainage ditches, shall be rounded as indicated on the Plans. A layer of earth overlaying rock shall be rounded above the rock as done in earth slopes.

Warping-adjustments in slopes shall be made to avoid injury in standing trees or marring of weathered rock, or to harmonize with existing landscape features, and the transition to such adjusted slopes shall be gradual. At intersections of cuts and fills, slopes shall be adjusted and warped to flow into each other or into the natural ground surfaces without noticeable break.

104.3.7 Finishing Roadbed and Slopes

After the roadbed has been substantially completed, the full width shall be conditioned by removing any soft or other unstable material that will not compact properly or serve the intended purpose. The resulting areas and all other low sections, holes or depressions shall be brought to grade with suitable selected material. Scarifying, blading, dragging, rolling, or other methods of work shall be performed or used as necessary to provide a thoroughly compacted roadbed shaped to the grades and cross-sections shown on the Plans or as staked by the Engineer.

All earth slopes shall be left with roughened surfaces but shall be reasonably uniform, without any noticeable break, and in reasonably close conformity with the Plans or other surfaces indicated on the Plans or as staked by the Engineer, with no variations there from readily discernible as viewed from the road.

104.3.8 Serrated Slopes

Cut slopes in rippable material (soft rock) having slope ratios between 0.75:1 and 2:1 shall be constructed so that the final slope line shall consist of a series of small horizontal steps. The step rise and tread dimensions shall be shown on the Plans. No scaling shall be performed on the

stepped slopes except for removal of large rocks which will obviously be a safety hazard if they fall into the ditchline or roadway.

104.3.9 Earth Berms

When called for in the Contract, permanent earth berms shall be constructed of well graded materials with no rocks having a diameter greater than 0.25 the height of the berm. When local material is not acceptable, acceptable material shall be imported, as directed by the Engineer.

Compacted Berm

Compacted berm construction shall consist of moistening or drying and placing material as necessary in locations shown on the drawings or as established by the Engineer. Material shall contain no frozen material, roots, sod, or other deleterious materials. Contractor shall take precaution to prevent material from escaping over the embankment slope. Shoulder surface beneath berm will be roughened to provide a bond between the berm and shoulder when completed. The Contractor shall compact the material placed until at least 90 mass percent of the maximum density is obtained as determined by AASHTO T 99, Method C. The cross-section of the finished compacted berm shall reasonably conform to the typical cross-section as shown on the Plans.

Uncompacted Berm

Uncompacted berm construction shall consist of drying, if necessary and placing material in locations shown on the Plans or as established by the Engineer. Material shall contain no frozen material, roots, sod or other deleterious materials. Contractor shall take precautions to prevent material from escaping over the embankment slope.

104.4 Method of Measurement

The quantity of embankment to be paid for shall be the volume of material compacted in place, accepted by the Engineer and formed with material obtained from any source.

Material from excavation per Item 102 which is used in embankment and accepted by the Engineer will be paid under Embankment and such payment will be deemed to include the cost of excavating, hauling, stockpiling and all other costs incidental to the work.

Material for Selected Borrow topping will be measured and paid for under the same conditions specified in the preceding paragraph.

104.5 Basis of Payment

The accepted quantities, measured as prescribed in Section 104.4, 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. The payment shall continue full compensation for placing and compacting all materials including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
104 (1)	Embankment	Cubic Meter

104 (2)	Selected, Borrow for topping, <i>Case 1</i>	Cubic Meter
104 (3)	Selected Borrow for topping, <i>Case 2</i>	Cubic Meter
104 (4)	Earth Berm	Meter

Item 105 – SUBGRADE PREPARATION

105.1 Description

This Item shall consist of the preparation of the subgrade for the support of overlying structural layers. It shall extend to full width of the roadway. Unless authorized by the Engineer, subgrade preparation shall not be done unless the Contractor is able to start immediately the construction of the pavement structure.

105.2 Material Requirements

Unless otherwise stated in the Contract and except when the subgrade is in rock cut, all materials below subgrade level to a depth 150 mm or to such greater depth as may be specified shall meet the requirements of Section 104.2, Selected Borrow for Topping.

105.3 Construction Requirements

105.3.1 Prior Works

Prior to commencing preparation of the subgrade, all culverts, cross drains, ducts and the like (including their fully compacted backfill), ditches, drains and drainage outlets shall be completed. Any work on the preparation of the subgrade shall not be started unless prior work herein described shall have been approved by the Engineer.

105.3.2 Subgrade Level Tolerances

The finished compacted surface of the subgrade shall conform to the allowable tolerances as specified hereunder:

Permitted variation from design LEVEL OF SURFACE	+20 mm - 30 mm
Permitted SURFACE IRREGULARITY MEASURED BY 3-m STRAIGHT EDGE	30 mm
Permitted variation from design CROSSFALL OR CAMBER	+0.5 %
Permitted variation from design LONGITUDINAL GRADE over 25 m length	±0.1 %

105.3.3 Subgrade in Common Excavation

Unless otherwise specified, all materials below subgrade level in earth cuts to a depth 150 mm or other depth shown on the Plans or as directed by the Engineer shall be excavated. The material, if suitable, shall be set aside for future use or, if unsuitable, shall be disposed off in accordance with the requirements of Subsection 102.2.9.

Where material has been removed from below subgrade level, the resulting surface shall be compacted to a depth of 150 mm and in accordance with other requirements of Subsection 104.3.3.

All materials immediately below subgrade level in earth cuts to a depth of 150 mm, or to such greater depth as may be specified, shall be compacted in accordance with the requirements of Subsection 104.3.3.

105.3.4 Subgrade in Rock Excavation

Surface irregularities under the subgrade level remaining after trimming of the rock excavation shall be leveled by placing specified material and compacted to the requirements of Subsection 104.3.3.

105.3.5 Subgrade on Embankment

After the embankment has been completed, the full width shall be conditioned by removing any soft or other unstable material that will not compacted properly. The resulting areas and all other low sections, holes, or depressions shall be brought to grade with suitable material. The entire roadbed shall be shaped and compacted to the requirements of Subsections 104.3.3. Scarifying, blading, dragging, rolling, or other methods of work shall be performed or used as necessary to provide a thoroughly compacted roadbed shaped to the cross-sections shown on the Plans.

105.3.6 Subgrade on Existing Pavement

Where the new pavement is to be constructed immediately over an existing Portland Cement concrete pavement and if so specified in the Contract the slab be broken into pieces with greatest dimension of not more than 500 mm and the existing pavement material compacted as specified in Subsection 104.3.3, as directed by the Engineer. The resulting subgrade level shall, as part pavement construction be shaped to conform to the allowable tolerances of Subsection 105.3.2 by placing and compacting where necessary a leveling course comprising the material of the pavement course to be placed immediately above.

Where the new pavement is to be constructed immediately over an existing asphalt concrete pavement or gravel surface pavement and if so specified in the Contract the pavement shall be scarified, thoroughly loosened, reshaped and recompactd in accordance with Subsection 104.3.3. The resulting subgrade level shall conform to the allowable tolerances of Subsection 105.3.2.

105.3.7 Protection of Completed Work

The Contractor shall be required to protect and maintain at his own expense the entire work within the limits of his Contract in good condition satisfactory to the Engineer from the time he first started work until all work shall have been completed. Maintenance shall include repairing and recompactd ruts, ridges, soft spots and deteriorated sections of the subgrade caused by the traffic of the Contractor's vehicle/equipment or that of the public.

105.3.8 Templates and Straight-edges

The Contractor shall provide for use of the Engineer, approved templates and straightedges in sufficient number to check the accuracy of the work, as provided in this Specification.

105.4 Method of Measurement

105.4.1 Measurement of Items for payment shall be provided only for:

1. The compaction of existing ground below subgrade level in cuts of common material as specified in Subsection 105.3.3.
2. The breaking up or scarifying, loosening, reshaping and recompacting of existing pavement as specified in Subsection 105.3.6. The quantity to be paid for shall be the area of the work specified to be carried out and accepted by the Engineer.

105.4.2 Payment for all work for the preparation of the subgrade, including shaping to the required levels and tolerances, other than as specified above shall be deemed to be included in the Pay Item for Embankment.

105.5 Basis of Payment

The accepted quantities, measured as prescribed in Section 105.4, shall be paid for at the appropriate contract unit price for Pay Item listed below that is included in the Bill of Quantities which price and payment shall be full compensation for the placing or removal and disposal of all materials including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
105 (1)	Subgrade Preparation (Common Material)	Square Meter
105 (2)	Subgrade Preparation (Existing Pavement)	Square Meter
105 (3)	Subgrade Preparation (Unsuitable Material)	Square Meter

ITEM 200 – AGGREGATE SUBBASE COURSE

200.1 Description

This item shall consist of furnishing, placing and compacting an aggregate subbase course on a prepared subgrade in accordance with this Specification and the lines, grades and cross-sections shown on the Plans, or as directed by the Engineer.

200.2 Material Requirements

Aggregate for subbase shall consist of hard, durable particles or fragments of crushed stone, crushed slag, or crushed or natural gravel and filler of natural or crushed sand or other finely divided mineral matter. The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable subbase.

The subbase material shall conform to Table 200.1, Grading Requirements

Table 200.1 – Grading Requirements

Sieve Designation		Mass Percent Passing
Standard, mm	Alternate US Standard	
50	2"	55 – 85
25	1"	55 – 85
9.5	3/8"	40 – 75
0.075	No. 200	0 - 12

The fraction passing the 0.075 mm (No. 200) sieve shall not be greater than 0.66 (two thirds) of the fraction passing the 0.425 mm (No. 40) sieve.

The fraction passing the 0.425 mm (No. 40) sieve shall have a liquid limit not greater than 35 and plasticity index not greater than 12 as determined by AASHTO T 89 and T 90, respectively.

The coarse portion, retained on a 2.00 mm (No. 10) sieve, shall have a mass percent of wear not exceeding 50 by the Los Angeles Abrasion Tests as determined by AASHTO T 96.

The material shall have a soaked CBR value of not less than 25% as determined by AASHTO T 193. The CBR value shall be obtained at the maximum dry density and determined by AASHTO T 180, Method D.

200.3 Construction Requirements

200.3.1 Preparation of Existing Surface

The existing surface shall be graded and finished as provided under Item 105, Subgrade Preparation, before placing the subbase material.

200.3.2 Placing

The aggregate subbase material shall be placed at a uniform mixture on a prepared subgrade in a quantity which will provide the required compacted thickness. When more than one layer is required, each layer shall be shaped and compacted before the succeeding layer is placed.

The placing of material shall begin at the point designated by the Engineer. Placing shall be from vehicles especially equipped to distribute the material in a continuous uniform layer or windrow. The layer or windrow shall be of such size that when spread and compacted the finished layer be in reasonably close conformity to the nominal thickness shown on the Plans.

When hauling is done over previously placed material, hauling equipment shall be dispersed uniformly over the entire surface of the previously constructed layer, to minimize rutting or uneven compaction.

200.3.3 Spreading and Compacting

When uniformly mixed, the mixture shall be spread to the plan thickness, for compaction.

Where the required thickness is 150 mm or less, the material may be spread and compacted in one layer. Where the required thickness is more than 150 mm, the aggregate subbase shall be spread and compacted in two or more layers of approximately equal thickness, and the maximum

compacted thickness of any layer shall not exceed 150 mm. All subsequent layers shall be spread and compacted in a similar manner.

The moisture content of subbase material shall, if necessary, be adjusted prior to compaction by watering with approved sprinklers mounted on trucks or by drying out, as required in order to obtain the required compaction.

Immediately following final spreading and smoothening, each layer shall be compacted to the full width by means of approved compaction equipment. Rolling shall progress gradually from the sides to the center, parallel to the centerline of the road and shall continue until the whole surface has been rolled. Any irregularities or depressions that develop shall be corrected by loosening the material at these places and adding or removing material until surface is smooth and uniform. Along curbs, headers, and walls, and at all places not accessible to the roller, the subbase material shall be compacted thoroughly with approved tampers or compactors.

If the layer of subbase material, or part thereof, does not conform to the required finish, the Contractor shall, at his own expense, make the necessary corrections.

Compaction of each layer shall continue until a field density of at least 100 percent of the maximum dry density determined in accordance with AASHTO T 180, Method D has been achieved. In-place density determination shall be made in accordance with AASHTO T 191.

200.3.4 Trial Sections

Before subbase construction is started, the Contractor shall spread and compact trial sections as directed by the Engineer. The purpose of the trial sections is to check the suitability of the materials and the efficiency of the equipment and construction method which is proposed to be used by the Contractor. Therefore, the Contractor must use the same material, equipment and procedures that he proposes to use for the main work. One trial section of about 500 m² shall be made for every type of material and/or construction equipment/procedure proposed for use.

After final compaction of each trial section, the Contractor shall carry out such field density tests and other tests required as directed by the Engineer.

If a trial section shows that the proposed materials, equipment or procedures in the Engineer's opinion are not suitable for subbase, the material shall be removed at the Contractor's expense, and a new trial section shall be constructed.

If the basic conditions regarding the type of material or procedure change during the execution of the work, new trial sections shall be constructed.

200.3.5 Tolerances

Aggregate subbase shall be spread with equipment that will provide a uniform layer which when compacted will conform to the designed level and transverse slopes as shown on the Plans. The allowable tolerances shall be as specified hereunder:

Permitted variation from design THICKNESS OF LAYER	± 20 mm
Permitted variation from design LEVEL OF SURFACE	+10 mm -20 mm

Permitted SURFACE IRREGULARITY Measured by 3-m straight-edge	20 mm
Permitted variation from design CROSSFALL OR CAMBER	±0.3%
Permitted variation from design LONGITUDINAL GRADE over 25 m in length	±0.1%

200.4 Method of Measurement

Aggregate Subbase Course will be measured by the cubic meter (m³). The quantity to be paid for shall be the design volume compacted in-place as shown on the Plans, and accepted in the completed course. No allowance will be given for materials placed outside the design limits shown on the crosssections. Trial sections shall not be measured separately but shall be included in the quantity of subbase herein measured.

200.5 Basis of Payment

The accepted quantities, measured as prescribed in Section 200.4, shall be paid for at the contract unit price for Aggregate Subbase Course which price and payment shall be full compensation for furnishings and placing all materials, including all labor, equipment, tools and incidentals necessary to complete the work prescribed in this Item.

Payment will be made under:

Pay Item	Number Description	Unit of Measurement
200	Aggregate Subbase Course	Cubic Meter

ITEM 311 – PORTLAND CEMENT CONCRETE PAVEMENT

311.1 Description

This Item shall consist of pavement of Portland Cement Concrete, with or without reinforcement, constructed on the prepared base in accordance with this Specification and in conformity with lines, grades, thickness and typical cross-section shown on the Plans.

311.2 Material Requirements

311.2.1 Portland Cement

It shall conform to the applicable requirements of Item 700, Hydraulic Cement. Only Type I Portland Cement shall be used unless otherwise provided for in the Special Provisions. Different brands or the same brands from different mills shall not be mixed nor shall they be used alternately unless the mix is approved by the Engineer. However, the use of Portland Pozzolan Cement Type IP meeting the requirements of AASHTO M 240/ASTM C 695, Specifications for Blended Hydraulic Cement shall be allowed, provided that trial mixes shall be done and that the mixes meet the concrete strength requirements, the AASHTO/ASTM provisions pertinent to the use of Portland Pozzolan Type IP shall be adopted.

Cement which for any reason has become partially set or which contains lumps of caked cement will be rejected. Cement salvaged from discarded or used bags shall not be used.

Samples of Cement shall be obtained in accordance with AASHTO T 127.

311.2.2 Fine Aggregate

It shall consist of natural sand, stone screenings or other inert materials with similar characteristics, or combinations thereof, having hard, strong and durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of concrete without the approval of the Engineer.

It shall not contain more than three (3) mass percent of material passing the 0.075 mm (No. 200 sieve) by washing nor more than one (1) mass percent each of clay lumps or shale. The use of beach sand will not be allowed without the approval of the Engineer.

If the fine aggregate is subjected to five (5) cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 10 mass percent.

The fine aggregate shall be free from injurious amounts of organic impurities. If subjected to the colorimatic test for organic impurities and a color darker than the standard is produced, it shall be rejected. However, when tested for the effect of organic impurities of strength of mortar by AASHTO T 71, the fine aggregate may be used if the relative strength at 7 and 28 days is not less than 95 mass percent.

The fine aggregate shall be well-graded from coarse to fine and shall conform to Table 311.1

Table 311.1 – Grading Requirements for Fine Aggregate

Sieve Designation	Mass Percent Passing
9.5 mm (3/8 in)	100
4.75 mm (No. 4)	95 – 100
2.36 mm (No. 8)	-
1.18 mm (No. 16)	45 – 80
0.600 mm (No. 30)	-
0.300 mm (No. 50)	5 – 30
0.150 mm (No. 100)	0 – 10

311.2.3 Coarse Aggregate

It shall consist of crushed stone, gravel, blast furnace slag, or other approved inert materials of similar characteristics, or combinations thereof, having hard, strong, durable pieces and free from any adherent coatings.

It shall contain not more than one (1) mass percent of material passing the 0.075 mm (No. 200) sieve, not more than 0.25 mass percent of clay lumps, nor more than 3.5 mass percent of soft fragments.

If the coarse aggregate is subjected to five (5) cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 12 mass percent.

It shall have a mass percent of wear not exceeding 40 when tested by AASHTO T 96.

If the slag is used, its density shall not be less than 1120 kg/m³ (70 lb./cu.ft.). The gradation of the coarse aggregate shall conform to Table 311.2.

Only one grading specification shall be used from any one source.

Table 311.2 – Grading Requirement for Coarse Aggregate

Sieve Designation		Mass Percent Passing		
Standard Mm	Alternate U. S. Standard	Grading A	Grading B	Grading C
75.00	3 in.	100	-	-
63.00	2-1/2 in.	90-100	100	100
50.00	2 in.	-	90-100	95-100
37.5	1-1/2 in.	25-60	35-70	-
25.0	1 in.	-	0-15	35-70
19.0	¾ in.	0-10	-	-
12.5	½ in.	0-5	0-5	10-30
4.75	No. 4	-	-	0-5

311.2.4 Water

Water used in mixing, curing or other designated application shall be reasonably clean and free of oil, salt, acid, alkali, grass or other substances injurious to the finished product. Water will be tested in accordance with and shall meet the requirements of Item 714, Water. Water which is drinkable may be used without test. Where the source of water is shallow, the intake shall be so enclosed as to exclude silt, mud, grass or other foreign materials.

311.2.5 Reinforcing Steel

It shall conform to the requirements of Item 404, Reinforcing Steel. Dowels and tie bars shall conform to the requirements of AASHTO M 31 or M 42, except that rail steel shall not be used for tie bars that are to be bent and restraightened during construction. Tie bars shall be deformed bars. Dowels shall be plain round bars. Before delivery to the site of work, one-half of the length of each dowel shall be painted with one coat of approved lead or tar paint.

The sleeves for dowel bars shall be metal of approved design to cover 50 mm (2 inches), plus or minus 5 mm (1/4 inch) of the dowel, with a closed end, and with a suitable stop to hold the end of the sleeve at least 25 mm (1 inch) from the end of the dowel. Sleeves shall be of such design that they do not collapse during construction.

311.2.6 Joint Fillers

Poured joint fillers shall be mixed asphalt and mineral or rubber filler conforming to the applicable requirements of Item 705, Joint Materials.

Preformed joint filler shall conform to the applicable requirements of Item 705. It shall be punched to admit the dowels where called for in the Plans. The filler for each joint shall be furnished in a single piece for the full depth and width required for the joint.

311.2.7 Admixtures

Air-entraining admixture shall conform to the requirements of AASHTO M 154.

Chemical admixtures, if specified or permitted, shall conform to the requirements of AASHTO M 194.

Fly Ash, if specified or permitted as a mineral admixture and as 20% partial replacement of Portland Cement in concrete mix shall conform to the requirements of ASTM C 618.

Admixture should be added only to the concrete mix to produce some desired modifications to the properties of concrete where necessary, but not as partial replacement of cement.

311.2.8 Curing Materials

Curing materials shall conform to the following requirements as specified;

- a) Burlap cloth - AASHTO M 182
- b) Liquid membrane forming compounds - AASHTO M 148
- c) Sheeting (film) materials - AASHTO M 171

Cotton mats and water-proof paper can be used.

311.2.9 Calcium Chloride/Calcium Nitrate

It shall conform to AASHTO M 144, if specified or permitted by the Engineer, as accelerator.

311.2.10 Storage of Cement and Aggregate

All cement shall be stored, immediately upon delivery at the Site, in weatherproof building which will protect the cement from dampness. The floor shall be raised from the ground. The buildings shall be placed in locations approved by the Engineer. Provisions for storage shall be ample, and the shipments of cement as received shall be separately stored in such a manner as to allow the earliest deliveries to be used first and to provide easy access for identification and inspection of each shipment. Storage buildings shall have capacity for storage of a sufficient quantity of cement to allow sampling at least twelve (12) days before the cement is to be used. Bulk cement, if used, shall be transferred to elevated air tight and weatherproof bins. Stored cement shall meet the test requirements at any time after storage when retest is ordered by the Engineer. At the time of use, all cement shall be free-flowing and free of lumps.

The handling and storing of concrete aggregates shall be such as to prevent segregation or the inclusion of foreign materials. The Engineer may require that aggregates be stored on separate platforms at satisfactory locations.

In order to secure greater uniformity of concrete mix, the Engineer may require that the coarse aggregate be separated into two or more sizes. Different sizes of aggregate shall be stored in separate bins or in separate stockpiles sufficiently removed from each other to prevent the material at the edges of the piles from becoming intermixed.

311.2.11 Proportioning, Consistency and Strength of Concrete

The Contractor shall prepare the design mix based on the absolute volume method as outlined in the American Concrete Institute (ACI) Standard 211.1, "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete".

It is the intent of this Specification to require at least 364 kg of cement per cubic meter of concrete to meet the minimum strength requirements. The Engineer shall determine from laboratory tests of the materials to be used, the cement content and the proportions of aggregate and water that will produce workable concrete having a slump of between 40 and 75 mm (1-1/2 and 3 inches) if not vibrated or between 10 and 40 mm (1/2 and 1-1/2 inches) if vibrated, and flexural strength of not less than 3.8 MPa (550 psi) when tested by the third-point method or 4.5 MPa (650 psi) when tested by the mid-point method at fourteen (14) days in accordance with AASHTO T97 and T177, respectively; or a compressive strength of 24.1 MPa (3500 psi) for cores taken at fourteen (14) days and tested in accordance with AASHTO T24.

Slump shall be determined using AASHTO T 119.

The designer shall consider the use of lean concrete (econcrete) mixtures using local materials or specifically modified conventional concrete mixes in base course and in the lower course composite, monolithic concrete pavements using a minimum of 75 mm (3 inches) of conventional concrete as the surface course. The mix design shall be submitted to the Engineer for approval and shall be accompanied with certified test data from an approved laboratory demonstrating the adequacy of the mix design. A change in the source of materials during the progress of work may necessitate a new design mix.

311.3 Construction Requirements

311.3.1 Quality Control of Concrete

1. General

The Contractor shall be responsible for the quality control of all materials during the handling, blending, and mixing and placement operations.

2. Quality Control Plan

The Contractor shall furnish the Engineer a Quality Control Plan detailing his production control procedures and the type and frequency of sampling and testing to insure that the concrete produces complies with the Specifications. The Engineer shall be provided free access to recent plant production records, and if requested, informational copies of mix design, materials certifications and sampling and testing reports.

3. Qualification of Workmen

Experienced and qualified personnel shall perform all batching or mixing operation for the concrete mix, and shall be present at the plant and job site to control the concrete productions whenever the plant is in operation. They shall be identified and duties defined as follows:

a. Concrete Batcher. The person performing the batching or mixing operation shall be capable of accurately conducting aggregate surface moisture determination and establishing correct scale weights for concrete materials. He shall be capable of assuring that the proportioned batch weights of materials are in accordance with the mix design.

b. Concrete Technician. The person responsible for concrete production control and sampling and testing for quality control shall be proficient in concrete technology and shall have a sound knowledge of the Specifications as they relate to concrete production. He shall be capable of conducting tests on concrete and concrete materials in accordance with these Specifications. He shall be capable of adjusting concrete mix designs for improving workability and Specification compliance and preparing trial mix designs. He shall be qualified to act as the concrete batcher in the batcher's absence.

4. Quality Control Testing

The Contractor shall perform all sampling, testing and inspection necessary to assure quality control of the component materials and the concrete.

The Contractor shall be responsible for determining the gradation of fine and coarse aggregates and for testing the concrete mixture for slump, air content, water-cement ratio and temperature. He shall conduct his operations so as to produce a mix conforming to the approved mix design.

5. Documentation

The Contractor shall maintain adequate records of all inspections and tests. The records shall indicate the nature and number of observations made, the number and type of deficiencies found, the quantities approved and rejected, and nature of any corrective action taken.

The Engineer may take independent assurance samples at random location for acceptance purposes as he deems necessary.

311.3.2 Equipment

Equipment and tools necessary for handling materials and performing all parts of the work shall be approved by the Engineer as to design, capacity and mechanical condition. The equipment shall be at the jobsite sufficiently ahead of the start of construction operations to be examined thoroughly and approved.

1. Batching Plant and Equipment

a. General. The batching shall include bins, weighing hoppers, and scales for the fine aggregate and for each size of coarse aggregate. If cement is used in bulk, a bin, a hopper, and separate scale for cement shall be included. The weighing hopper shall be properly sealed and vented to preclude dusting operation. The batch plant shall be equipped with a suitable non-resettable batch counter which will correctly indicate the number of batches proportioned.

b. Bins and Hoppers. Bins with adequate separate compartments for fine aggregate and for each size of coarse aggregate shall be provided in the batching plant.

c. Scales. Scales for weighing aggregates and cement shall be of either the beam type or the springless-dial type. They shall be accurate within one-half percent (0.5%) throughout the range of use. Poises shall be designed to be locked in any position and to prevent unauthorized change. Scales shall be inspected and sealed as often as the Engineer may deem necessary to assure their continued accuracy.

d. Automatic Weighing Devices. Unless otherwise allowed on the Contract, batching plants shall be equipped with automatic weighing devices of an approved type to proportion aggregates and bulk cement.

2. Mixers.

a. General. Concrete may be mixed at the Site of construction or at a central plant, or wholly or in part in truck mixers. Each mixer shall have a manufacturer's plate attached in a prominent place showing the capacity of the drum in terms of volume of mixed concrete and the speed of rotation of the mixing drum or blades.

b. Mixers at Site of Construction. Mixing shall be done in an approved mixer capable of combining the aggregates, cement and water into a thoroughly mixed and uniform mass within the specified mixing period and discharging and distributing the mixture without segregation on the prepared grade. The mixer shall be equipped with an approved timing device which will automatically lock the discharge lever when the drum has been charged and released it at the end of the mixing period. In case of failure of the timing device, the mixer may be used for the balance of the day while it is being repaired, provided that each batch is mixed 90 seconds. The mixer shall be equipped with a suitable non-resettable batch counter which shall correctly indicate the number of the batches mixed.

c. Truck Mixer and Truck Agitators. Truck mixers used for mixing and hauling concrete, and truck agitators used for hauling central-mixed concrete, shall conform to the requirements of AASHTO M 157.

d. Non-Agitator Truck. Bodies of non-agitating hauling equipment for concrete shall be smooth, mortar-tight metal containers and shall be capable of discharging the concrete at a satisfactory controlled rate without segregation.

3. Paving and Finishing Equipment

The concrete shall be placed with an approved paver designed to spread, consolidate, screed and float finish the freshly placed concrete in one complete pass of the machine in such a manner that a minimum of hand finishing will be necessary to provide a dense and homogeneous pavement in conformance with the Plans and Specifications.

The finishing machine shall be equipped with at least two (2) oscillating type transverse screed.

Vibrators shall operate at a frequency of 8,300 to 9,600 impulses per minute under load at a maximum spacing of 60 cm.

4. Concrete Saw

The Contractor shall provide sawing equipment in adequate number of units and power to complete the sawing with a water cooled diamond edge saw blade or an abrasive wheel to the required dimensions and at the required rate. He shall provide at least one (1) stand-by saw in good working condition and with an ample supply of saw blades.

5. Forms

Forms shall be of steel, of an approved section, and of depth equal to the thickness of the pavement at the edge. The base of the forms shall be of sufficient width to provide necessary stability in all directions. The flange braces must extend outward on the base to not less than 2/3 the height of the form.

All forms shall be rigidly supported on bed of thoroughly compacted material during the entire operation of placing and finishing the concrete. Forms shall be provided with adequate devices for secure setting so that when in place, they will withstand, without visible spring or settlement, the impact and vibration of the consolidation and finishing or paving equipment.

311.3.3 Preparation of Grade

After the subgrade of base has been placed and compacted to the required density, the areas which will support the paving machine and the grade on which the pavement is to be constructed shall be trimmed to the proper elevation by means of a properly designed machine extending the prepared work areas compacted at least 60 cm beyond each edge of the proposed concrete pavement. If loss of density results from the trimming operations, it shall be restored by additional compaction before concrete is placed. If any traffic is allowed to use the prepared subgrade or base, the surface shall be checked and corrected immediately ahead of the placing concrete.

The subgrade or base shall be uniformly moist when the concrete is placed.

311.3.4 Setting Forms

1. Base Support.

The foundation under the forms shall be hard and true to grade so that the form when set will be firmly in contact for its whole length and at the specified grade. (Any roadbed, which at the form line is found below established grade, shall be filled with approved granular materials to grade in lifts of three (3) cm or less, and thoroughly rerolled or tamped.) Imperfections or variations above grade shall be corrected by tamping or by cutting as necessary.

2. Form Setting

Forms shall be set sufficiently in advance of the point where concrete is being placed. After the forms have been set to correct grade, the grade shall be thoroughly tamped, mechanically or by hand, at both the inside and outside edges of the base of the forms.

The forms shall not deviate from true line by more than one (1) cm at any point.

3. Grade and Alignment

The alignment and grade elevations of the forms shall be checked and corrections made by the Contractor immediately before placing the concrete. Testing as to crown and elevation, prior to placing of concrete can be made by means of holding an approved template in a vertical position and moved backward and forward on the forms. When any form has been disturbed or any grade has become unstable, the form shall be reset and rechecked.

311.3.5 Conditioning of Subgrade or Base Course

When side forms have been securely set to grade, the subgrade or base course shall be brought to proper cross-section. High areas shall be trimmed to proper elevation. Low areas shall be filled and compacted to a condition similar to that of surrounding grade. The finished grade shall be maintained in a smooth and compacted condition until the pavement is placed.

Unless waterproof subgrade or base course cover material is specified, the subgrade or base course shall be uniformly moist when the concrete is placed. If it subsequently becomes too dry,

the subgrade or base course shall be sprinkled, but the method of sprinkling shall not be such as to form mud or pools of water.

311.3.6 Handling, Measuring and Batching Materials

The batch plant site, layout, equipment and provisions for transporting material shall be such as to assure a continuous supply of material to the work. Stockpiles shall be built up in layers of not more than one (1) meter in thickness. Each layer shall be completely in place before beginning the next which shall not be allowed to “cone” down over the next lower layer. Aggregates from different sources and of different grading shall not be stockpiled together.

All washed aggregates and aggregates produced or handled by hydraulic methods, shall be stockpiled or binned for draining at least twelve (12) hours before being batched.

When mixing is done at the side of the work. Aggregates shall be transported from the batching plant to the mixer in batch boxes, vehicle bodies, or other containers of adequate capacity and construction to properly carry the volume required. Partitions separating batches shall be adequate and effective to prevent spilling from one compartment to another while in transit or being dumped. When bulk cement is used, the Contractor shall use a suitable method of handling the cement from weighing hopper to transporting container or into the batch itself for transportation to the mixer, with chute, boot or other approved device, to prevent loss of cement, and to provide positive assurance of the actual presence in each batch of the entire cement content specified.

Bulk cement shall be transported to the mixer in tight compartments carrying the full amount of cement required for the batch. However, if allowed in the Special Provisions, it may be transported between the fine and coarse aggregate. When cement is placed in contact with the aggregates, batches may be rejected unless mixed within 1-1/2 hours of such contact. Cement in original shipping packages may be transported on top of the aggregates, each batch containing the number of sacks required by the job mix.

The mixer shall be charged without loss of cement. Batching shall be so conducted as to result in the weight to each material required within a tolerance of one (1) percent for the cement and two (2) percent for aggregates.

Water may be measured either by volume or by weight. The accuracy of measuring the water shall be within a range of error of not over than one (1) percent. Unless the water is to be weighed, the water-measuring equipment shall include an auxiliary tank from which the measuring tank shall be equipped with an outside tap and valve to provide checking the setting, unless other means are provided for readily and accurately determining the amount of water in the tank. The volume of the auxiliary tank shall be at least equal to that of the measuring tank.

311.3.7 Mixing Concrete

The concrete may be mixed at the site of the work in a central-mix plant, or in truck mixers. The mixer shall be of an approved type and capacity. Mixing time will be measured from the time all materials, except water, are in the drum. Ready-mixed concrete shall be mixed and delivered in accordance with requirements of AASHTO M 157, except that the minimum required revolutions at the mixing speed for transit-mixed concrete may be reduced to not less than that recommended by the mixer manufacturer. The number of revolutions recommended by the mixer manufacturer shall be indicated on the manufacturer’s serial plate attached to the mixer. The Contractor shall furnish test data acceptable to the Engineer verifying that the make and model of the mixer will

produce uniform concrete conforming to the provision of AASHTO M 157 at the reduced number of revolutions shown on the serial plate.

When mixed at the site or in a central mixing plant, the mixing time shall not be less than fifty (50) seconds nor more than ninety (90) seconds, unless mixer performance tests prove adequate mixing of the concrete is a shorter time period.

Four (4) seconds shall be added to the specified mixing time if timing starts at the instant the skip reaches its maximum raised positions. Mixing time ends when the discharge chute opens. Transfer time in multiple drum mixers is included in mixing time. The contents of an individual mixer drum shall be removed before a succeeding batch is emptied therein.

The mixer shall be operated at the drum speed as shown on the manufacturer's name plate attached on the mixer. Any concrete mixed less than the specified time shall be discarded and disposed off by the Contractor at his expense. The volume of concrete mixed per batch shall not exceed the mixer's nominal capacity in cubic metre, as shown on the manufacturer's standard rating plate on the mixer, except that an overload up to ten (10) percent above the mixer's nominal capacity may be permitted provided concrete test data for strength, segregation, and uniform consistency are satisfactory, and provided no spillage of concrete takes place.

The batches shall be so charged into the drum that a portion of the mixing water shall be entered in advance of the cement and aggregates. The flow of water shall be uniform and all water shall be in the drum by the end of the first fifteen (15) seconds of the mixing period. The throat of the drum shall be kept free of such accumulations as may restrict the free flow of materials into the drum.

Mixed concrete from the central mixing plant shall be transported in truck mixers, truck agitators or non-agitating truck specified in Subsection 311.3.2, Equipment. The time elapsed from the time water is added to the mix until the concrete is deposited in place at the Site shall not exceed forty five (45) minutes when the concrete is hauled in non-agitating trucks, nor ninety (90) minutes when hauled in truck mixers or truck agitators, except that in hot weather or under other conditions contributing to quick hardening of the concrete, the maximum allowable time may be reduced by the Engineer.

In exceptional cases and when volumetric measurements are authorized for small project requiring less than 75 cu.m. of concrete per day of pouring, the weight proportions shall be converted to equivalent volumetric proportions. In such cases, suitable allowance shall be made for variations in the moisture condition of the aggregates, including the bulking effect in the fine aggregate. Batching and mixing shall be in accordance with ASTM C 685, Section 6 through 9.

Concrete mixing by chute is allowed provided that a weighing scales for determining the batch weight will be used.

Retempering concrete by adding water or by other means shall not be permitted, except that when concrete is delivered in truck mixers, additional water may be added to the batch materials and additional mixing performed to increase the slump to meet the specified requirements, if permitted by the Engineer, provided all these operations are performed within forty-five (45) minutes after the initial mixing operation and the water-cement ratio is not exceeded. Concrete that is not within the specified slump limits at the time of placement shall not be used. Admixtures for increasing the workability or for accelerating the setting of the concrete will be permitted only when specifically approved by the Engineer.

311.3.8 Limitation of Mixing

No concrete shall be mixed, placed or finished when natural light is insufficient, unless an adequate and approved artificial lighting system is operated.

During hot weather, the Engineer shall require that steps be taken to prevent the temperature of mixed concrete from exceeding a maximum temperature of 90°F (32°C)

Concrete not in place within ninety (90) minutes from the time the ingredients were charged into the mixing drum or that has developed initial set shall not be used. Retempering of concrete or mortar which has partially hardened, that is remixing with or without additional cement, aggregate, or water, shall not be permitted.

In order that the concrete may be properly protected against the effects of rain before the concrete is sufficiently hardened, the Contractor will be required to have available at all times materials for the protection of the edges and surface of the unhardened concrete.

311.3.9 Placing Concrete

Concrete shall be deposited in such a manner to require minimal rehandling. Unless truck mixers or non-agitating hauling equipment are equipped with means to discharge concrete without segregation of the materials, the concrete shall be unloaded into an approved spreading device and mechanically spread on the grade in such a manner as to prevent segregation. Placing shall be continuous between transverse joints without the use of intermediate bulkheads. Necessary hand spreading shall be done with shovels, not rakes. Workmen shall not be allowed to walk in the freshly mixed concrete with boots or shoes coated with earth or foreign substances.

When concrete is to be placed adjoining a previously constructed lane and mechanical equipment will be operated upon the existing lane, that previously constructed lane shall have attained the strength for fourteen (14) day concrete. If only finishing equipment is carried on the existing lane, paving in adjoining lanes may be permitted after three (3) days.

Concrete shall be thoroughly consolidated against and along the faces of all forms and along the full length and on both sides of all joint assemblies, by means of vibrators inserted in the concrete. Vibrators shall not be permitted to come in contact with a joint assembly, the grade, or a side form. In no case shall the vibrator be operated longer than fifteen (15) seconds in any one location.

Concrete shall be deposited as near as possible to the expansion and contraction joints without disturbing them, but shall not be dumped from the discharge bucket or hopper into a joint assembly unless the hopper is well centered on the joint assembly. Should any concrete material fall on or be worked into the surface of a complete slab, it shall be removed immediately.

311.3.10 Test Specimens

As work progresses, at least one (1) set consisting of three (3) concrete beam test specimens, 150 mm x 150 mm x 525 mm or 900 mm shall be taken from each 330 m² of pavement, 230 mm depth, or fraction thereof placed each day. Test specimens shall be made under the supervision of the Engineer, and the Contractor shall provide all concrete and other facilities necessary in making the test specimens and shall protect them from damage by construction operations. Cylinder samples shall not be used as substitute for determining the adequacy of the strength of concrete.

The beams shall be made, cured, and tested in accordance with AASHTO T 23 and T 97.

311.3.11 Strike-off of Concrete and Placement of Reinforcement

Following the placing of the concrete, it shall be struck off to conform to the cross-section shown on the Plans and to an elevation such that when the concrete is properly consolidated and finished, the surface of the pavement will be at the elevation shown on the Plans. When reinforced concrete pavement is placed in two (2) layers, the bottom layer shall be struck off and consolidated to such length and depth that the sheet of fabric or bar mat may be laid full length on the concrete in its final position without further manipulation. The reinforcement shall then be placed directly upon the concrete, after which the top layer of the concrete shall be placed, struck off and screeded. Any portion of the bottom layer of concrete which has been placed more than 30 minutes without being covered with the top layer shall be removed and replaced with freshly mixed concrete at the Contractor's expense. When reinforced concrete is placed in one layer, the reinforcement may be firmly positioned in advance of concrete placement or it may be placed at the depth shown on the Plans in plastic concrete, after spreading by mechanical or vibratory means.

Reinforcing steel shall be free from dirt, oil, paint, grease, mill scale and loose or thick rust which could impair bond of the steel with the concrete.

311.3.12 Joints

Joints shall be constructed of the type and dimensions, and at the locations required by the Plans or Special Provisions. All joints shall be protected from the intrusion of injurious foreign material until sealed.

1. Longitudinal Joint

Deformed steel tie bars of specified length, size, spacing and materials shall be placed perpendicular to the longitudinal joints, they shall be placed by approved mechanical equipment or rigidly secured by chair or other approved supports to prevent displacement. Tie bars shall not be painted or coated with asphalt or other materials or enclosed in tubes or sleeves. When shown on the Plans and when adjacent lanes of pavement are constructed separately, steel side forms shall be used which will form a keyway along the construction joint. Tie bars, except those made of rail steel, may be bent at right angles against the form of the first lane constructed and straightened into final position before the concrete of the adjacent lane is placed, or in lieu of bent tie bars, approved two-piece connectors may be used.

Longitudinal formed joints shall consist of a groove or cleft, extending downward from and normal to, the surface of the pavement. These joints shall be effected or formed by an approved mechanically or manually operated device to the dimensions and line indicated on the Plans and while the concrete is in a plastic state. The groove or cleft shall be filled with either a premolded strip or poured material as required.

The longitudinal joints shall be continuous, there shall be no gaps in either transverse or longitudinal joints at the intersection of the joints.

Longitudinal sawed joints shall be cut by means of approved concrete saws to the depth, width and line shown on the Plans. Suitable guide lines or devices shall be used to assure cutting the longitudinal joint on the true line. The longitudinal joint shall be sawed before the end of the

curing period or shortly thereafter and before any equipment or vehicles are allowed on the pavement. The sawed area shall be thoroughly cleaned and, if required, the joint shall immediately be filled with sealer.

Longitudinal pavement insert type joints shall be formed by placing a continuous strip of plastic materials which will not react adversely with the chemical constituent of the concrete.

2. Transverse Expansion Joint

The expansion joint filler shall be continuous from form to form, shaped to subgrade and to the keyway along the form. Preformed joint filler shall be furnished in lengths equal to the pavement width or equal to the width of one lane. Damaged or repaired joint filler shall not be used.

The expansion joint filler shall be held in a vertical position. An approved installing bar, or other device, shall be used if required to secure preformed expansion joint filler at the proper grade and alignment during placing and finishing of the concrete. Finished joint shall not deviate more than 6 mm from a straight line. If joint fillers are assembled in sections, there shall be no offsets between adjacent units. No plugs of concrete shall be permitted anywhere within the expansion space.

3. Transverse Contraction Joint/Weakened Joint

When shown on the Plans, it shall consist of planes of weakness created by forming or cutting grooves in the surface of the pavement and shall include load transfer assemblies. The depth of the weakened plane joint should at all times not be less than 50 mm, while the width should not be more than 6 mm.

a. Transverse Strip Contraction Joint. It shall be formed by installing a parting strip to be left in place as shown on the Plans.

b. Formed Groove. It shall be made by depressing an approved tool or device into the plastic concrete. The tool or device shall remain in place at least until the concrete has attained its initial set and shall then be removed without disturbing the adjacent concrete, unless the device is designed to remain in the joint.

c. Sawed Contraction Joint. It shall be created by sawing grooves in the surface of the pavement of the width not more than 6 mm, depth should at all times not be less than 50 mm, and at the spacing and lines shown on the Plans, with an approved concrete saw. After each joint is sawed, it shall be thoroughly cleaned including the adjacent concrete surface.

Sawing of the joint shall commence as soon as the concrete has hardened sufficiently to permit sawing without excessive raveling, usually 4 to 24 hours. All joints shall be sawed before uncontrolled shrinkage cracking takes place. If necessary, the sawing operations shall be carried on during the day or night, regardless of weather conditions. The sawing of any joint shall be omitted if crack occurs at or near the joint location prior to the time of sawing. Sawing shall be discounted when a crack develops ahead of the saw. In general, all joints should be sawed in sequence. If extreme condition exist which make it impractical to prevent erratic cracking by early sawing, the contraction joint groove shall be formed prior to initial set of concrete as provided above.

4. Transverse Construction Joint

It shall be constructed when there is an interruption of more than 30 minutes in the concreting operations. No transverse joint shall be constructed within 1.50 m of an expansion joint, contraction joint, or plane of weakness. If sufficient concrete has been mixed at the time of interruption to form a slab of at least 1.5 m long, the excess concrete from the last preceding joint shall be removed and disposed off as directed.

5. Load Transfer Device

Dowel, when used, shall be held in position parallel to the surface and center line of the slab by a metal device that is left in the pavement.

The portion of each dowel painted with one coat of lead or tar, in conformance with the requirements of Item 404, Reinforcing Steel, shall be thoroughly coated with approved bituminous materials, e.g., MC-70, or an approved lubricant, to prevent the concrete from binding to that portion of the dowel. The sleeves for dowels shall be metal designed to cover 50 mm plus or minus 5 mm (1/4 inch), of the dowel, with a watertight closed end and with a suitable stop to hold the end of the sleeves at least 25 mm (1 inch) from the end of the dowel.

In lieu of using dowel assemblies at contraction joints, dowel may be placed in the full thickness of pavement by a mechanical device approved by the Engineer.

311.3.13 Final Strike-off (Consolidation and Finishing)

1. Sequence

The sequence of operations shall be the strike-off and consolidation, floating and removal of laitance, straight-edging and final surface finish. Work bridges or other devices necessary to provide access to the pavement surface for the purpose of finishing straight-edging, and make corrections as hereinafter specified, shall be provided by the Contractor.

In general, the addition of water to the surface of the concrete to assist in finishing operations will not be permitted. If the application of water to the surface is permitted, it shall be applied as fog spray by means of an approved spray equipment.

2. Finishing Joints

The concrete adjacent to joints shall be compacted or firmly placed without voids or segregation against the joint material assembly, also under and around all load transfer devices, joint assembly units, and other features designed to extend into the pavement. Concrete adjacent to joints shall be mechanically vibrated as required in Subsection 311.3.9, Placing Concrete.

After the concrete has been placed and vibrated adjacent to the joints as required in Subsection 311.3.9, the finishing machine shall be brought forward, operating in a manner to avoid damage or misalignment of joints. If uninterrupted operation of the finishing machine, to over and beyond the joints causes segregation of concrete, damage to, or misalignment of the joints, the finishing machine shall be stopped when the front screed is approximately 20 cm (8 inches) from the joint. Segregated concrete shall be removed from in front of and off the joint. The front screed shall be lifted and set directly on top of the joint and the forward motion of the finishing machine resumed. When the second screed is close enough to permit the excess mortar in front of it to flow over the joint, it shall be lifted and carried over the joint. Thereafter, the finishing machine may be run over the joint without lifting the screeds, provided there is no segregated concrete immediately between the joint and the screed or on top of the joint.

3. Machine Finishing

a. Non-vibratory Method. The concrete shall be distributed or spread as soon as placed. As soon as the concrete has been placed, it shall be struck off and screeded by an approved finishing machine. The machine shall go over each area of pavement as many times and at such intervals as necessary to give the proper compaction and leave a surface of uniform texture. Excessive operation over a given area shall be avoided. The tops of the forms shall be kept clean by an effective device attached to the machine and the travel of the machine on the forms shall be maintained true without wobbling or other variation tending to affect the precision finish.

During the first pass of the finishing machine, a uniform ridge of concrete shall be maintained ahead of the front screed in its entire length.

b. Vibratory Method. When vibration is specified, vibrators for full width vibration of concrete paving slabs, shall meet the requirements in Subsection 311.3.2, Equipment. If uniform and satisfactory density of the concrete is not obtained by the vibratory method at joints, along forms, at structures, and throughout the pavement, the Contractor will be required to furnish equipment and method which will produce pavement conforming to the Specifications. All provisions in item (a) above not in conflict with the provisions for the vibratory method shall govern.

4. Hand Finishing

Hand finishing methods may only be used under the following conditions:

a. In the event of breakdown of the mechanical equipment, hand methods may be used to finish the concrete already deposited on the grade.

b. In narrow widths or areas of irregular dimensions where operations of the mechanical equipment is impractical, hand methods may be used.

Concrete, as soon as placed, shall be struck off and screeded. An approved portable screed shall be used. A second screed shall be provided for striking off the bottom layer of concrete if reinforcement is used.

The screed for the surface shall be at least 60 cm (2 feet) longer than the maximum width of the slab to be struck off. It shall be of approved design, sufficiently rigid to retain its shape, and constructed either of metal or other suitable material shod with metal.

Consolidation shall be attained by the use of suitable vibrator or other approved equipment.

In operation, the screed shall be moved forward on the forms with a combined longitudinal and transverse shearing motion, moving always in the direction in which the work is progressing and so manipulated that neither end is raised from the side forms during the striking off process. If necessary, this shall be repeated until the surface is of uniform texture, true to grade and cross-section, and free from porous areas.

5. Floating

After the concrete has been struck off and consolidated, it shall be further smoothed, trued, and consolidated by means of a longitudinal float, either by hand or mechanical method.

a. Hand Method. The hand-operated longitudinal float shall be not less than 365 cm (12 feet) in length and 15 cm (6 inches) in width, properly stiffened to prevent flexibility and warping. The longitudinal float, operated from foot bridges resting on the side forms and spanning but not touching the concrete, shall be worked with a sawing motion while held in a floating position parallel to the road center line, and moving gradually from one side of the pavement to the other. Movement ahead along the center line of the pavement shall be in successive advances of not more than one-half the length of the float. Any excess water or soupy material shall be wasted over the side forms on each pass.

b. Mechanical Method. The mechanical longitudinal float shall be of a design approved by the Engineer, and shall be in good working condition. The tracks from which the float operates shall be accurately adjusted to the required crown. The float shall be accurately adjusted and coordinated with the adjustment of the transverse finishing machine so that a small amount of mortar is carried ahead of the float at all times. The forward screed shall be adjusted so that the float will lap the distance specified by the Engineer on each transverse trip. The float shall pass over each areas of pavement at least two times, but excessive operation over a given area will not be permitted. Any excess water or soupy material shall be wasted over the side forms on each pass.

c. Alternative Mechanical Method. As an alternative, the Contractor may use a machine composed of a cutting and smoothing float or floats suspended from and guided by a rigid frame. The frame shall be carried by four or more visible wheels riding on, and constantly in contact with the side forms. If necessary, following one of the preceding method of floating, long handled floats having blades not less than 150 cm (5 feet) in length and 15 cm (6 inches) in width may be used to smooth and fill in open textured areas in the pavement. Long-handled floats shall not be used to float the entire surface of the pavement in lieu of, or supplementing, one of the preceding methods of floating. When strike off and consolidation are done by the hand method and the crown of the pavement will not permit the use of the longitudinal float, the surface shall be floated transversely by means of the long-handled float. Care shall be taken not to work the crown out of the pavement during the operation. After floating, any excess water and laitance shall be removed from the surface of the pavement by a 3-m straight-edge or more in length. Successive drags shall be lapped one-half the length of the blade.

6. Straight-edge Testing and Surface Correction After the floating has been completed and the excess water removed, but while the concrete is still plastic, the surface of the concrete shall be tested for trueness with a 300 cm long straight-edge. For this purpose, the Contractor shall furnish and use an accurate 300-cm straight-edge swung from handles 100 cm (3 feet) longer than one-half the width of the slab. The straight-edge shall be held in contact with the surface in successive positions parallel to the road center line and the whole area gone over from one side of the slab to the other as necessary. Advances along the road shall be in successive stages of not more than one-half the length of the straightedge. Any depressions found shall be immediately filled with freshly mixed concrete, struck off, consolidated and refinished. High areas shall be cut down and refinished. Special attention shall be given to assure that the surface across joints meets the requirements for smoothness. Straight-edge testing and surface corrections shall continue until the entire surface is found to be free from observable departures from the straight-edge and the slab conforms to the required grade and cross-section.

7. Final Finish

If the surface texture is broom finished, it shall apply when the water sheen has practically disappeared. The broom shall be drawn from the center to the edge of the pavement with adjacent strokes slightly overlapping. The brooming operation should be so executed that the corrugations produced in the surface shall be uniform in appearance and not more than 1.5 mm in depth.

Brooming shall be completed before the concrete is in such condition that the surface will be unduly roughened by the operation. The surface thus finished shall be free from rough and porous areas, irregularities, and depressions resulting from improper handling of the broom. Brooms shall be of the quality size and construction and be operated so as to produce a surface finish meeting the approval of the Engineer. Subject to satisfactory results being obtained and approval of the Engineer, the Contractor will be permitted to substitute mechanical brooming in lieu of the manual brooming herein described.

If the surface texture is belt finished, when straight-edging is complete and water sheen has practically disappeared and just before the concrete becomes non-plastic, the surface shall be belted with 2- ply canvass belt not less than 20 cm wide and at least 100 cm longer than the pavement width. Hand belts shall have suitable handles to permit controlled, uniform manipulation. The belt shall be operated with short strokes transverse to the center line and with a rapid advances parallel to the center line.

If the surface texture is drag finished, a drag shall be used which consists of a seamless strip of damp burlap or cotton fabric, which shall produce a uniform of gritty texture after dragging it longitudinally along the full width of pavement. For pavement 5 m or more in width, the drag shall be mounted on a bridge which travels on the forms. The dimensions of the drag shall be such that a strip of burlap or fabric at least 100 cm wide is in contact with the full width of pavement surface while the drag is used. The drag shall consist of not less than 2 layers of burlap with the bottom layer approximately 15 cm wider than the layer. The drag shall be maintained in such condition that the resultant surface is of uniform appearance and reasonably free from grooves over 1.5 mm in depth. Drag shall be maintained clean and free from encrusted mortar. Drags that cannot be cleaned shall be discarded and new drags be substituted.

Regardless of the method used for final finish, the hardened surface of pavement shall have a coefficient of friction of 0.25 or more. Completed pavement that is found to have a coefficient of friction less than 0.25 shall be grounded or scored by the Contractor at his expense to provide the required coefficient of friction.

8. Edging at Forms and Joints

After the final finish, but before the concrete has taken its initial set, the edges of the pavement along each side of each slab, and on each side of transverse expansion joints, formed joints, transverse construction joints, and emergency construction joints, shall be worked with an approved tool and rounded to the radius required by the Plans. A well – defined and continuous radius shall be produced and a smooth, dense mortar finish obtained. The surface of the slab shall not be unduly disturbed by tilting the tool during the use.

At all joints, any tool marks appearing on the slab adjacent to the joints shall be eliminated by brooming the surface. In doing this, the rounding of the corner of the slab shall not be disturbed. All concrete on top of the joint filler shall be completely removed.

All joints shall be tested with a straight-edge before the concrete has set and correction made if one edge of the joint is higher than the other.

311.3.14 Surface Test

As soon as the concrete has hardened sufficiently, the pavement surface shall be tested with a 3-m straight-edge or other specified device. Areas showing high spots of more than 3 mm but not exceeding 12 mm in 3 m shall be marked and immediately ground down with an approved

grinding tool to an elevation where the area or spot will not show surface deviations in excess of 3 mm when tested with 3 m straight-edge. Where the departure from correct cross-section exceeds 12 mm, the pavement shall be removed and replaced by and at the expense of the Contractor.

Any area or section so removed shall be not less than 1.5 m in length and not less than the full width of the lane involved. When it is necessary to remove and replace a section of pavement, any remaining portion of the slab adjacent to the joints that is less than 1.5 m in length, shall also be removed and replaced.

311.3.15 Curing

Immediately after the finishing operations have been completed and the concrete has sufficiently set, the entire surface of the newly placed concrete shall be cured in accordance with either one of the methods described herein. Failure to provide sufficient cover material of whatever kind the Contractor may elect to use, or the lack of water to adequately take care of both curing and other requirements, shall be a cause for immediate suspension of concreting operations. The concrete shall not be left exposed for more than ½ hour between stages of curing or during the curing period.

In all congested places, concrete works should be designed so that the designed strength is attained.

1. Cotton of Burlap Mats

The surface of the pavement shall be entirely covered with mats. The mats used shall be of such length (or width) that as laid they will extend at least twice the thickness of the pavement beyond the edges of the slab. The mat shall be placed so that the entire surface and the edges of the slab are completely covered. Prior to being placed, the mats shall be saturated thoroughly with water. The mat shall be so placed and weighted down so as to cause them to remain in intimate contact with the covered surface. The mat shall be maintained fully wetted and in position for 72 hours after the concrete has been placed unless otherwise specified.

2. Waterproof Paper

The top surface and sides of the pavement shall be entirely covered with waterproof paper, the units shall be lapped at least 45 cm. The paper shall be so placed and weighted down so as to cause it to remain in intimate contact with the surface covered. The paper shall have such dimension but each unit as laid will extend beyond the edges of the slab at least twice the thickness of the pavement, or at pavement width and 60 cm strips of paper for the edges. If laid longitudinally, paper not manufactured in sizes which will provide this width shall be securely sewed or cemented together, the joints being securely sealed in such a manner that they do not open up or separate during the curing period. Unless otherwise specified, the covering shall be maintained in place for 72 hours after the concrete has been placed. The surface of the pavement shall be thoroughly wetted prior to the placing of the paper.

3. Straw Curing

When this type of curing is used, the pavement shall be cured initially with burlap or cotton mats, until after final set of the concrete or, in any case, for 12 hours after placing the concrete. As soon as the mats are removed, the surface and sides of the pavement shall be thoroughly wetted and covered with at least 20 cm of straw or hay, thickness of which is to be measured after wetting. If

the straw or hay covering becomes displaced during the curing period, it shall be replaced to the original depth and saturated. It shall be kept thoroughly saturated with water for 72 hours and thoroughly wetted down during the morning of the fourth day, and the cover shall remain in place until the concrete has attained the required strength.

4. Impervious Membrane Method

The entire surface of the pavement shall be sprayed uniformly with white pigmented curing compound immediately after the finishing of the surface and before the set of the concrete has taken place, or if the pavement is cured initially with jute or cotton mats, it may be applied upon removal of the mass. The curing compound shall not be applied during rain.

Curing compound shall be applied under pressure at the rate 4 L to not more than 14 m² by mechanical sprayers. The spraying equipment shall be equipped with a wind guard. At the time of use, the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. During application, the compound shall be stirred continuously by effective mechanical means. Hand spraying of odd widths or shapes and concrete surface exposed by the removal of forms will be permitted. Curing compound shall not be applied to the inside faces of joints to be sealed, but approved means shall be used to insure proper curing at least 72 hours and to prevent the intrusion of foreign material into the joint before sealing has been completed. The curing compound shall be of such character that the film will harden within 30 minutes after application. Should the film be damaged from any cause within the 72 hour curing period, the damaged portions shall be repaired immediately with additional compound.

5. White Polyethylene Sheet

The top surface and sides of the pavement shall be entirely covered with polyethylene sheeting. The units used shall be lapped at least 45 cm. The sheeting shall be so placed and weighted down so as to cause it to remain intimate contact with the surface covered. The sheeting as prepared for use shall have such dimension that each unit as laid will extend beyond the edges of the slab at least twice the thickness of the pavement. Unless otherwise specified, the covering shall be maintained in place for 72 hours after the concrete has been placed.

311.3.16 Removal of Forms

After forms for concrete shall remain in place undisturbed for not less than twenty four (24) hours after concrete pouring. In the removal of forms, crowbars should be used in pulling out nails and pins. Care should be taken so as not to break the edges of the pavement. In case portions of the concrete are spalled, they shall be immediately repaired with fresh mortar mixed in the proportion of one part of Portland Cement and two parts fine aggregates. Major honeycomb areas will be considered as defective work and shall be removed and replaced at the expense of the Contractor. Any area or section so removed shall not be less than the distance between weakened plane joint nor less than the full width of the lane involved.

311.3.17 Sealing Joints

Joints shall be sealed with asphalt sealant soon after completion of the curing period and before the pavement is opened to traffic, including the Contractor's equipment. Just prior to sealing,

each joint shall be thoroughly cleaned of all foreign materials including membrane curing compound and the joint faces shall be clean and surface dry when the seal is applied.

The sealing material shall be applied to each joint opening to conform to the details shown on the Plans or as directed by the Engineer. Material for seal applied hot shall be stirred during heating so that localized overheating does not occur. The pouring shall be done in such a manner that the material will not be spilled on the exposed surfaces of the concrete. The use of sand or similar material as a cover for the seal will not be permitted.

Preformed elastomeric gaskets for sealing joints shall be of the crosssectional dimensions shown on the Plans. Seals shall be installed by suitable tools, without elongation and secured in place with an approved lubricant adhesive which shall cover both sides of the concrete joints. The seals shall be installed in a compressive condition and shall at time of placement be below the level of the pavement surface by approximately 6 mm.

The seals shall be in one piece for the full width of each transverse joint.

311.3.18 Protection of Pavement

The Contractor shall protect the pavement and its appurtenances against both public traffic and traffic caused by his own employees and agents. This shall include watchmen to direct traffic and the erection of and maintenance of warning signs, lights, pavement bridges or cross-overs, etc. The Plans or Special Provisions will indicate the location and type of device or facility required to protect the work and provide adequately for traffic.

All boreholes after thickness and/or strength determinations of newly constructed asphalt and concrete pavements shall be immediately filled/restored with the prescribed concrete/asphalt mix after completion of the drilling works.

Any damage to the pavement, occurring prior to final acceptance, shall be repaired or the pavement be replaced.

311.3.19 Concrete Pavement – Slip Form Method

If the Contract calls for the construction of pavement without the use of fixed forms, the following provisions shall apply:

1. Grade

After the grade or base has been placed and compacted to the required density, the areas which will support the paving machine shall be cut to the proper elevation by means of a properly designed machine. The grade on which the pavement is to be constructed shall then be brought to the proper profile by means of properly designed machine. If the density of the base is disturbed by the grading operation, it shall be corrected by additional compaction before concrete is placed. The grade should be constructed sufficiently in advance of the placing of the concrete. If any traffic is allowed to use the prepared grade, the grade shall be checked and corrected immediately before the placing of concrete.

2. Placing Concrete

The concrete shall be placed with an approved slip-form paver designed to spread, consolidate, screed and float-finish the freshly placed concrete in one complete pass of the machine in such a

manner that a minimum of hand finish will be necessary to provide a dense and homogenous pavement in conformance with the Plans and Specifications. The machine shall vibrate the concrete for the full width and depth of the strip of pavement being placed. Such vibration shall be accompanied with vibrating tubes or arms working in the concrete or with a vibrating screed or pan operating on the surface of the concrete. The sliding forms shall be rigidly held together laterally to prevent spreading of the forms. The forms shall trail behind the paver for such a distance that no appreciable slumping of the concrete will occur, and that necessary final finishing can be accomplished while the concrete is still within the forms. Any edge slump of the pavement, exclusive of edge rounding, in excess of 6 mm shall be corrected before the concrete has hardened.

The concrete shall be held at a uniform consistency, having a slump of not more than 40 mm (1-12/ inches). The slip form paver shall be operated with as nearly as possible a continuous forward movement and that all operations of mixing, delivering and spreading concrete shall be coordinated so as to provide uniform progress with stopping and starting of the paver held to a minimum. If, for any reason, it is necessary to stop the forward movement of the paver the vibratory and tamping elements shall also be stopped immediately. No tractive force shall be applied to the machine, except that which is controlled from the machine.

3. Finishing

The surface smoothness and texture shall meet the requirements of Subsections 311.3.13 and 311.3.14.

4. Curing

Unless otherwise specified, curing shall be done in accordance with one of the methods included in Subsection 311.3.15. The curing media shall be applied at the appropriate time and shall be applied uniformly and completely to all surfaces and edges of the pavement.

5. Joints

All joints shall be constructed in accordance with Subsection 311.3.12.

6. Protection Against Rain

In order that the concrete may be properly protected against rain before the concrete is sufficiently hardened, the Contractor will be required to have available at all times, materials for the protection of the edges and surface of the unhardened concrete. Such protective materials shall consist of standard metal forms or wood planks having a nominal thickness of not less than 50 mm (2 inches) and a nominal width of not less than the thickness of the pavement at its edge for the protection of the pavement edges, and covering material such as burlap or cotton mats, curing paper or plastic sheeting materials for the protection of the surface of the pavement. When rain appears imminent, all paving operations shall stop and all available personnel shall begin placing forms against the sides of the pavement and covering the surface of the unhardened concrete with the protective covering.

311.3.22 Acceptance of Concrete

The strength level of the concrete will be considered satisfactory if the averages of all sets of three (3) consecutive strength test results equal or exceed the specified strength, f_c' and no individual strength test result is deficient by more than 15% of the specified strength, f_c' .

Concrete deemed to be not acceptable using the above criteria may be rejected unless the Contractor can provide evidence, by means of core tests, that the quality of concrete represented by failed test results is acceptable in place. At least three (3) representative cores shall be taken from each member or area of concrete in place that is considered deficient. The location of cores shall be determined by the Engineer so that there will be at least impairment of strength of the structure. The obtaining and testing of drilled cores shall be in accordance with AASHTO T 24.

Concrete in the area represented by the cores will be considered adequate if the average strength of the cores is equal to at least 85% of, and if no single core is less than 75% of, the specified strength, f_c' .

If the strength of control specimens does not meet the requirements of this Subsection, and it is not feasible or not advisable to obtain cores from the structure due to structural considerations, payment of the concrete will be made at an adjusted price due to strength deficiency of concrete specimens as specified hereunder:

Deficiency in Strength of Concrete Specimens, Percent (%)	Percent (%) of Contract Price Allowed
Less than 5	100
5 to less than 10	80
10 to less than 15	70
15 to less than 20	60
20 to less than 25	50
25 or more	0

311.3.23 Opening to Traffic

The Engineer will decide when the pavement may be opened to traffic. The road will not be opened to traffic until test specimens molded and cured in accordance with AASHTO T 23 have attained the minimum strength requirements in Subsection 311.2.11. If such tests are not conducted prior to the specified age the pavement shall not be operated to traffic until 14 days after the concrete was placed. Before opening to traffic, the pavement shall be cleaned and joint sealing completed.

311.3.24 Tolerance and Pavement thickness

1. General

The thickness of the pavement will be determined by measurement of cores from the completed pavement in accordance with AASHTO T 148.

The completed pavement shall be accepted on a lot basis. A lot shall be considered as 1000 linear meters of pavement when a single traffic lane is poured or 500 linear meters when two lanes are poured concurrently. The last unit in each slab constitutes a lot in itself when its length is at least 1/2 of the normal lot length. If the length of the last unit is shorter than 1/2 of the normal lot length, it shall be included in the previous lot.

Other areas such as intersections, entrances, crossovers, ramp, etc., will be grouped together to form a lot. Small irregular areas may be included with other unit areas to form a lot.

Each lot will be divided into five (5) equal segments and one core will be obtained from each segment in accordance with AASHTO T 24.

2. Pavement Thickness

It is the intent of this Specification that the pavement has a uniform thickness as called for on the Plans for the average of each lot as defined. After the pavement has met all surface smoothness requirements, cores for thickness measurements will be taken.

In calculating the average thickness of the pavement, individual measurements which are in excess of the specified thickness by more than 5 mm will be considered as the specified thickness plus 5 mm and measurement which are less than the specified thickness by more than 25 mm shall not be included in the average. When the average thickness for the lot is deficient, the contract unit price will be adjusted for thickness in accordance with paragraph (3 below).

Individual areas within a segment found deficient in thickness by more than 25 mm shall be evaluated by the Engineer, and if in his judgment, the deficient areas warrant removal, they shall be removed and replaced by the Contractor with pavement of the specified thickness at his entire expense. However, if the evaluation of the Engineer is that the deficient area should not be removed and replaced, such area will not be paid.

When the measurement of any core is less than the specified thickness by more than 25 mm, the actual thickness of the pavement in this area will be determined by taking additional cores at no less than 5 m intervals parallel to the center line in each direction from the affected location until a core is found in each direction, which is not deficient in thickness by more than 25 mm. The area of slab for which no payment will be made shall be the product of the paving width multiplied by the distance along the center line of the road between transverse sections found not deficient in thickness by more than 25 mm. The thickness of the remainder of the segment to be used to get the average thickness of each lot shall be determined by taking the average thickness of additional cores which are not deficient by more than 25 mm.

3. Adjustment for Thickness

When the average thickness of the pavement per lot is deficient, payment for the lot shall be adjusted as follows:

Deficiency in the Average Thickness per lot (mm)	Percent (%) of Contract Price Per Lot
0 – 5	100% payment
6 – 10	95% payment
11 – 15	85% payment
16 – 20	70% payment
21 – 25	50% payment
More than 25	Remove and replace/ No payment

No acceptance and final payment shall be made on completed pavement unless core test for thickness determination is conducted, except for Barangay Roads where the implementing office is allowed to waive such test.

311.4 Method of Measurement

The area to be paid for under this Item shall be the number of square meters (m²) of concrete pavement placed and accepted in the completed pavement. The width for measurements will be the width from outside edge to outside edge of completed pavement as placed in accordance with the Plans or as otherwise required by the Engineer in writing. The length will be measured horizontally along the center line of each roadway or ramp. Any curb and gutter placed shall not be included in the area of concrete pavement measured.

311.5 Basis of Payment

The accepted quantity, measured as prescribed in Section 311.4, shall be paid for at the contract unit price for Portland Cement Concrete Pavement, which price and payment shall be full compensation for preparation of roadbed and finishing of shoulders, unless otherwise provided by the Special Provisions, furnishing all materials, for mixing, placing, finishing and curing all concrete, for furnishing and placing all joint materials, for sawing weakened plane joints, for fitting the prefabricated center metal joint, for facilitating and controlling traffic, and for furnishing all labor, equipment, tools and incidentals necessary to complete the Item.

Payment will be made under:

Pay Item Number	Description	Unit of Measurement
311 (1)	PCC Pavement (Plain)	Square meter
311 (2)	PCC Pavement (Reinforced)	Square meter

Equipments

1. Bulldozer (1 unit)
 - 25 cu.m./hr. capacity
2. Dumptruck (2 units)
 - 10 wheeler
 - 9 cu.m. capacity
3. Backhoe (1 unit)
 - 30 cu.m./hr. capacity
4. Grader (1 unit)
 - 125 HP
5. Road Roller (1 unit)
 - 12 – 18 tons
6. Water Truck (1 unit)
 - 500 – 1000 gallons capacity
7. One-bagger Mixer (1 unit)
 - 6 bags per hour
8. Concrete Cutter (1 unit)
9. Bar Cutter (1 unit)
10. Batching Plant (1 unit)
11. Steel Form (52 unit)

PART II. Section VI. Drawings

SHEET NUMBER	DRAWING TITLE
I	PROJECT TITLE PAGE
II	LOCATION MAP <ul style="list-style-type: none">• Provincial Map• Municipal Map• Quarry Location Map
III-IX	ROAD CUT AND FILL SECTION
X	TYPICAL ROAD WAY SECTION <ul style="list-style-type: none">• Typical Fill Section with PCCP• Typical Cut Section with PCCP• Typical Cut and Fill Section with PCCP

PART II. Section VII. Bill of Quantities

Item No.	Scope of Work	Unit	Quantity	Unit Price	Total Price
I	CLEARING & GRABBING	Ls.	1.00	196,875.00	196,875.00
II	TEMPORARY FACILITY	Ls.	1.00	90,747.00	90,747.00
III	OTHER GENERAL REQUIREMENTS (Includes Mobilization/Demobilization & Project Signboards)	Ls.	1.00	447,288.00	447,288.00
IV	SANITARY LANDFILL	Ls.	1.00	6,000,000.00	6,000,000.00
V	SANITARY LANDFILL MONITORING WELLS	Ls.	1.00	75,000.00	75,000.00
VI	FUEL & EQUIPMENT MAINTENANCE COST	Ls.	25,975.00	39.00	1,013,025.00
	OVERHEAD, CONTINGENCIES & MISCELLANEOUS	Ls.	1.00	300,025.00	300,025.00
Total Project Cost					8,000,000.00

***PART II. Section VIII. Forms and Qualification
Information***

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Bid Form

Date: _____

IAEB No: _____

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.

Name: _____

In the capacity of: _____

Signed: _____

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

Date: _____

Form of Bid Security (Bank Guarantee)

[Letterhead of the Issuing Bank]

WHEREAS, *[insert name of Bidder]* (hereinafter called the “Bidder”) has submitted his bid dated *[insert date]* for the *[insert name of contract]* (hereinafter called the “Bid”).

KNOW ALL MEN by these presents that We *[insert name of Bank]* of *[insert name of Country]* having our registered office at *[insert address]* (hereinafter called the “Bank”) are bound unto *[insert name of PROCURING ENTITY]* (hereinafter called the “Entity”) in the sum of *[insert amount]*¹ for which payment well and truly to be made to the said Entity the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this ____ day of _____ 20____.

THE CONDITIONS of this obligation are:

1. If the Bidder:
 - (a) withdraws his Bid during the period of bid validity specified in the Form of Bid; or
 - (b) does not accept the correction of arithmetical errors of his bid price in accordance with the Instructions to Bidder; or
2. If the Bidder having been notified of the acceptance of his bid by the Employer during the period of bid validity:
 - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
 - (b) fails or refuses to furnish the Performance Security in accordance with the Instructions to Bidders.

¹ *The Bidder should insert the amount of the guarantee in words and figures, denominated in the currency of the Entity’s country or an equivalent amount in a freely convertible currency. This figure should be the same as shown of the Instructions to Bidders.*

We undertake to pay to the Entity up to the above amount upon receipt of his first written demand, without the Entity having to substantiate his demand, provided that in his demand the Entity will note that the amount claimed by him is due to him owing to the occurrence of one or both of the two (2) conditions, specifying the occurred condition or conditions.

The Guarantee will remain in force up to and including the date 120 days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Entity, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

(Signature, Name and Address)

Qualification Information

NOTES: The information to be filled in by Bidders in the following pages will be used for purposes of qualification as provided for in Part I, PART I. Section II. Eligibility Documents. This information will not be incorporated in the Contract. Attach additional pages as necessary.

1. Individual Bidders or Individual Members of Joint Ventures

1.1 Constitution or legal status of Bidder: *[attach copy]*

Place of registration: *[insert]*

Principal place of business: *[insert]*

Power of attorney of signatory of Bid: *[attach]*

1.2* Total annual volume of construction work performed in the past five years as listed in the Eligibility Data Sheet, reflected using the currency specified for the Bid.

Annual turnover data (construction only)	
Year	Turnover (in specified currency)
1.	
2.	
3.	
4.	
5.	

1.3 Work performed as prime contractor on works of a similar nature and volume over the last ten years. Proof of completion, e.g. Certificate of Completion signed by the Employer or Owner, shall be submitted. Also list details of work under way or committed, including expected completion date.

Project Name and Country	Name of Employer and contact person	Type of work performed and year of completion	Total Value of Contract (in specified currency)
1.			
2.			

1.4 Major items of contractor's Equipment proposed for carrying out the Works. List all information requested below.

Item of equipment	Description, make, and age (years)	Owned, leased (from whom?), or to be purchased (from whom?)
1. <i>[Employer to specify]</i>		
2.		
3.		

1.5* Qualifications and experience of Contract Manager proposed for administration and execution of the Contract. Attach bio-data.

Name (primary candidate and alternate)	Years of experience in similar works	Years of experience as Contract Manager
1.		
2.		

1.6* Financial statements for the last five (5) years. Attach audited financial statements.

1.7 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attaché copies of support documents.

Source of financing	Amount (in specified currency)
1.	
2.	
3.	

1.8 Name, address, and telephone and facsimile numbers of banks that may provide references if contacted by the Entity.

1.9 Proposed Program of Work (work method and schedule). Attach descriptions, drawings and charts, as necessary, to comply with the requirements of the Bidding Documents.

1.10* Proposed subcontracts and firms involved. Refer to **GCC** Clause 8.

Section of the Works	Value of subcontract	Subcontractor (Name and address)	Experience in similar work

2. Joint Ventures*

2.1 The information listed in 1.1 - 1.9 above shall be provided for each partner of the joint venture.

2.2 Attach the power of attorney of the signatory(ies) of the Bid authorizing signature of the Bid on behalf of the joint venture.

2.3 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that:

- (a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
- (b) one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and
- (c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

Letter of Acceptance

[Letterhead of the Entity]

Date: *[insert date]*

To: *[Name and address of Contractor]*

This is to notify you that your Bid dated *[insert date]* for execution of the *[insert name of Contract and identification number as given in the ITB]* for the Contract Price of *[insert amount in specified currency]*, as corrected and or modified² if applicable, in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are hereby instructed to come to our office located at *[insert address]* to sign the formal agreement on *[date]* at *[time]*.

Authorized Signature: _____

Name: _____

Designation: _____

² Delete "corrected and" or "corrected and modified" if not applicable.

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 such as Environmental Management Plan, Environmental Clearance Certificate/Certificate of Non-Coverage..
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]

Form of Performance Security (Bank Guarantee)

[Letterhead of the Issuing Bank]

To : *[Name of PROCURING ENTITY]*
[Address of PROCURING ENTITY]

WHEREAS, *[name and address of contractor]* (hereinafter called the “Contractor”) has undertaken, in pursuance of Contract No. *[insert number]* dated *[insert date]* to execute *[name of Contract and brief description of Works]* (hereinafter called the “Contract”);

AND WHEREAS, it has been stipulated by you in the said Contract that the contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS, we have agreed to give the contractor such a Bank Guarantee;

NOW THEREFORE, we hereby affirm that we are the Guarantor and responsible to you, on behalf of the contractor, up to a total of *[insert amount of Guarantee in numbers and in words]*³ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of *[amount of Guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of demand of the said debt from the contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the contractor shall in any way release us from any

³ *An amount is to be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract, and denominated in the specified currency.*

liability under this Guarantee, and we hereby waive notice of any such change, addition, or modification.

This Guarantee shall be valid until a date twenty eight (28) days from the date of issue of the Certificate of Completion.

Signature and seal of the Guarantor _____

Name of Bank _____

Address _____

Date _____

Bank Guarantee for Advance Payment

[Letterhead of the Issuing Bank]

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

Gentlemen:

In accordance with the provisions of the **GCC** Clause 32 of the above-mentioned Contract, *[name and address of contractor]* (hereinafter called “the contractor”) shall deposit with *[name of PROCURING ENTITY]* a Bank Guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of *[amount of Guarantee]* *[amount in words]*⁴

We, the *[Bank or Financial Institution]*, as instructed by the contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to *[name of PROCURING ENTITY]* on his first demand without whatsoever right of objection on our part and without his first claim to the contractor, in the amount not exceeding *[amount of Guarantee]* *[amount in words]*⁵

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed there under or of any of the Contract documents which may be made between *[name of PROCURING ENTITY]* and the contractor, shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any such change, addition, or modification.

This Guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until *[name of PROCURING ENTITY]* receives full repayment of the same amount from the contractor.

Yours truly,

Signature and seal: _____

Name of Bank/Financial Institution: _____

Address: _____

Date: _____

⁴ An amount is to be inserted by the Bank or Financial Institution representing the amount of the Advance Payment, and denominated in the specified currency of the Advance Payment as specified in the Contract.

⁵ An amount is to be inserted by the Bank or Financial Institution representing the amount of the Advance Payment, and denominated in the specified currency of the Advance Payment as specified in the Contract.

Affidavit of Disclosure of No Relationship

[See ITB Clause 3.2 of the Bidding Documents]

I, *[name of the affiant]*, *[state nationality]*, of legal age, *[state status]*, after having been duly sworn in accordance with law, do hereby depose and state that:

1. I am the authorized representative of *[insert name of Bidder]* with office address at *[insert address]* an established and reputable Constructor of *[insert name and/or description of the Works]* for the bidding of *[insert name of the Project]* by the *[insert name of PROCURING ENTITY]* (hereinafter referred to as the "PROCURING ENTITY");
2. None of the *[officers / directors / controlling stockholders / members / owners]* of the *[name of the Bidder]* are related by consanguinity or affinity up to the third civil degree to the Head of the PROCURING ENTITY or any of the PROCURING ENTITY's officers or employees having direct access to information that may substantially affect the result of the bidding, such as, but not limited to, the members of the Bids and Awards Committee (BAC), the members of the Technical Working Group (TWG), the BAC Secretariat, the members of the Project Management Office (PMO), and the designers of the project;
3. I am making this statement in compliance with Section 47 of the Implementing Rules and Regulations Part A of Republic Act 9184, and in accordance with the requirements of the *PROCURING ENTITY*;
4. I understand and accept that any false statement in this respect will render *[name of the Bidder]*, and its authorized officers liable for prosecution to the full extent of the law.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of _____, 20____, in the City of _____, Philippines.

Affiant

SUBSCRIBED AND SWORN to before me this ____ day of _____, 20____, in the City of _____, Philippines.

Notary Public

Doc. No. _____;
Page No. _____;
Book No. _____;
Series of 20_____.