PHILIPPINE BIDDING DOCUMENTS

Procurement of INFRASTRUCTURE PROJECTS

Government of the Republic of the Philippines

PROPOSED CONSTRUCTION OF ROAD DEVELOPMENT, UTILITIES AND MAINTENANCE AT QUEZON MEMORIAL CIRCLE

Project number:
23-00108

Sixth Edition
July 2020

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Infrastructure Projects (hereinafter referred to also as the "Works") through Competitive Bidding have been prepared by the Government of the Philippines for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations, government financial institutions, state universities and colleges, local government units, and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

The PBDs are intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contract, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract; (ii) the eligibility requirements of Bidders; (iii) the expected contract duration; and (iv)the obligations, duties, and/or functions of the winning Bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Works to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.

b. Specific details, such as the "*name of the Procuring Entity*" and "*address for bid submission*," should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.

c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.

d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.

f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

TABLE OF CONTENTS

Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender*. (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

Contractor – is a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

Foreign-funded Procurement or Foreign-Assisted Project – Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term "related" or "analogous services" shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;

b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;

c. The deadline for the submission and receipt of bids; and

d. Any important bid evaluation criteria.

The IB should be incorporated into the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.

REPUBLIC OF THE PHILIPPINES
QUEZON CITY GOVERNMENT
BIDS AND AWARDS COMMITTEE FOR INFRASTRUCTURE & CONSULTANCY

2nd floor, Finance Building, Procurement Department, Quezon City Hall Complex, Elliptical Road, Quezon City

July 28, 2023

Invitation to Bid

No.	Project No.	Project Name	Location	Amount	Duration Cal. Days	Office	Source Fund
Buildings – Medium A							
1	23-00107	Proposed Construction of Retention Pond / Water Feature, Botanical Kiosks, and Dog Park at Quezon Memorial Circle	Central	41,405,491.16	210	Department of Engineering	Engineering Department (Continuing Appropriation)
Roads – Medium A							
2	23-00108	Proposed Construction of Road Development, Utilities and Maintenance at Quezon Memorial Circle	Central	129,743,337.24	210	Department of Engineering	Engineering Department (Continuing Appropriation)

1. The **QUEZON CITY LOCAL GOVERNMENT**, through *funding source of various years* intends to apply the sum stated above being the Approved Budget for the Contract (ABC) to payments under the contract *for the above stated Projects.* Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The **QUEZON CITY LOCAL GOVERNMENT** now invites bids for the above Procurement Project. Completion of the Works is required *as stated above*. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

3. Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

4. Interested bidders may obtain further information from **QUEZON CITY LOCAL GOVERNMENT – BAC Secretariat** and inspect the Bidding Documents at the address given below *weekdays from **8:00 am. – 5:00 p.m.***

5. A complete set of Bidding Documents may be acquired by interested bidders on **31 July 2023 (Monday)** from given address and website/s below *and upon payment of a non-refundable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB.* The Procuring Entity shall allow the bidder to present its proof of payment for the fees *presented in person.*

STANDARD RATES:

Approved Budget for the Contract	Maximum Cost of Bidding Documents (in Philippine Peso)
500,000 and below	500.00
More than 500,000 up to 1 Million	1,000.00
More than 1 Million up to 5 Million	5,000.00
More than 5 Million up to 10 Million	10,000.00
More than 10 Million up to 50 Million	25,000.00
More than 50 Million up to 500 Million	50,000.00
More than 500 Million	75,000.00

The following are the requirements for purchase of Bidding Documents;

1. PhilGEPS Registration Certificate (Platinum – 3 Pages)
2. Document Request List (DRL)
3. Authorization to purchase bidding documents
   3.1 Secretary's Certificate (for corporation)
   3.2 Special Power of Attorney (for sole proprietorship)
4. Notarized Joint Venture Agreement (if applicable)
5. Letter of Intent

It must be duly received by the BAC Secretariat at 2nd Floor, Procurement Department, Finance Building, Quezon City Hall Compound.

6. The ***QC- BAC- INFRASTRUCTURE & CONSULTANCY*** will hold a Pre-Bid Conference[1] on **August 8, 2023** at **1:00 PM** at **2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP)** which shall be open to prospective bidders.

   Virtual Conference (ZOOM APP)
   Meeting ID: 854 9489 0133
   Password: 273320

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before **August 23, 2023 – 9:00 AM**. Late bids shall not be accepted.

8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.

9. Bid opening shall be on **August 23, 2023 – 1:00 PM** at **2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or via Zoom. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

   Virtual Conference (ZOOM APP)
   Meeting ID: 810 3646 5257
   Password: 201522

10. The ***Quezon City Local Government*** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

11. For further information, please refer to:

    ATTY. DOMINIC B. GARCIA
    OIC, Procurement Department
    2nd Floor, Procurement Department,
    Finance Building, Quezon City Hall Compound
    Elliptical Road, Barangay Central Diliman, Quezon City.
    Tel. No. (02)8988-4242 loc. 8506/8710
    Email Add: bacinfra.procurement@quezoncity.gov.ph
    Website: **www.quezoncity.gov.ph**

[1] May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a pre-bid conference.

12. You may visit the following websites:

    For downloading of Bidding Documents: **https://quezoncity.gov.ph/public-notices/procurement/**

By:

ARCH. LUCILLE H. CHUA, fuap, piep
Chairperson, BAC-Infra and Consultancy

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, **Quezon City Government** invites Bids for the **PROPOSED CONSTRUCTION OF ROAD DEVELOPMENT, UTILITIES AND MAINTENANCE AT QUEZON MEMORIAL CIRCLE,** with Project Identification Number **23-00108.**

[Note: The Project Identification Number is assigned by the Procuring Entity based on its own coding scheme and is not the same as the PhilGEPS reference number, which is generated after the posting of the bid opportunity on the PhilGEPS website.]

The Procurement Project (referred to herein as "Project") is for the construction of Works, as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for **2023** in the amount of **One Hundred Twenty-Nine Million Seven Hundred Forty-Three Thousand Three Hundred Thirty-Seven Pesos and 24/100 Ctvs. (P 129,743,337.24).**

2.2. The source of funding is:

a. LGUs, the Annual or Supplemental Budget, as approved by the Sanggunian.

3. Bidding Requirements

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

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

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

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

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

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

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

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

5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.

5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that:

a. Subcontracting is not allowed.

7.1. *[If Procuring Entity has determined that subcontracting is allowed during the bidding , state:]* The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criterial stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.

7.2. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

7.3. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier 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. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address on **August 8, 2023, 1:00 P.M. at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP) Meeting ID: 854 9489 0133 Password: 273320**

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

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

10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this

Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.

10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

11. Documents Comprising the Bid: Financial Component

11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Alternative Bids

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

13. Bid Prices

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

14. Bid and Payment Currencies

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

14.2. *Payment of the contract price shall be made in:*

a. Philippine Pesos.

15. Bid Security

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

15.2. The Bid and bid security **in no case shall exceed One Hundred Twenty (120) calendar days from the date of opening of bids, unless duly extended by the bidder upon the request of the Head of the Procuring Entity (HoPE) of the Quezon City Local Government**. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph **5** of the **IB.**

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

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

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

20. Post Qualification

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

21. Signing of the Contract

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

Section III. Bid Data Sheet

Notes on the Bid Data Sheet (BDS)

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

a. Information that specifies and complements provisions of the ITB must be incorporated.

b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

Bid Data Sheet

<table>
<tr><th>ITB Clause</th><th></th></tr>
<tr><td>5.2</td><td>For this purpose, similar contracts shall refer to contracts which have the same major categories of work.</td></tr>
<tr><td>7.1</td><td>Subcontracting is not allowed.</td></tr>
<tr><td>10.3</td><td>No additional contractor license or permit is required

In addition, eligible bidders shall qualify or comply with the following:

1. Bidders with valid Philippine Contractors Accreditation Board (PCAB)

Type

Roads – Medium A</td></tr>
<tr><td>10.4</td><td>The minimum work experience requirements for key personnel are the following:

<table>
<tr><th>Qnty.</th><th>Key Personnel</th><th>General Experience</th><th>Relevant Experience</th></tr>
<tr><td>1</td><td>Project-in-Charge (Project Engineer)</td><td>3 years</td><td>3 years</td></tr>
<tr><td>1</td><td>General Foreman</td><td>3 years</td><td>3 years</td></tr>
<tr><td>1</td><td>Trade Engineer/Leadman for Civil works</td><td>3 years</td><td>3 years</td></tr>
<tr><td>1</td><td>Trade Engineer/Leadman for Electrical works</td><td>3 years</td><td>3 years</td></tr>
<tr><td>1</td><td>Trade Engineer/Leadman for Mechanical works</td><td>3 years</td><td>3 years</td></tr>
<tr><td>1</td><td>Safety Officer</td><td>3 years</td><td>3 years</td></tr>
</table>

In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing personnel shall perform work exclusively for the project until its completion. Please see attached bid forms.</td></tr>
<tr><td>10.5</td><td>The minimum major equipment requirements are the following:

<table>
<tr><th>Equipment</th><th>Capacity</th><th>Number of Units</th></tr>
<tr><td>Dump Truck</td><td>12yd^3</td><td>3</td></tr>
<tr><td>Welding Machine</td><td>500 amp</td><td>3</td></tr>
<tr><td>Concrete Vibrator</td><td></td><td>2</td></tr>
<tr><td>Chipping Gun</td><td></td><td>3</td></tr>
<tr><td>Pumpcrete</td><td></td><td>3</td></tr>
</table>

In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing equipment shall be used exclusively for</td></tr>
</table>

	the project until its completion. Please see attached bid forms.
12	*[Insert Value Engineering clause if allowed.]*
15.1	The bid security shall be in the form of a Bid Securing Declaration with project number, or any of the following forms and amounts: a) The amount of not less than Php 2,594,866.74 or equivalent to two percent (2%) of ABC if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or b) The amount of not less than Php 6,487,166.86 or equivalent to five percent (5%) of ABC if bid security is in Surety Bond.
19.2	**Partial bid is not allowed.** The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.
20	No additional requirement.
21	**Additional Contract Documents relevant to the Project as required:** **1. Construction Schedule and S-curve,** **2. Manpower Schedule,** **3. Construction Methods,** **4. Equipment Utilization Schedule,** **5. PERT/CPM or other acceptable tools of project scheduling, shall be included in the submission of Technical Proposal.**

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Contractor, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special Conditions of Contract.

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

2. Sectional Completion of Works

If sectional completion is specified in the **Special Conditions of Contract (SCC)**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date shall apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC,** which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.

3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

The Contractor shall employ the key personnel named in the Schedule of Key Personnel indicating their designation, in accordance with **ITB** Clause 10.3 and specified in the **BDS**, to carry out the supervision of the Works.

The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.

5. Performance Security

5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.

5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **SCC** supplemented by any information obtained by the Contractor.

7. Warranty

7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.

7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the **SCC**.

8. Liability of the Contractor

Subject to additional provisions, if any, set forth in the **SCC**, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Contractor is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

9. Termination for Other Causes

Contract termination shall be initiated in case it is determined *prima facie* by the Procuring Entity that the Contractor has engaged, before, or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to corrupt, fraudulent, collusive, coercive, and obstructive practices as stated in **ITB** Clause 4.

10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.

11. Program of Work

11.1. The Contractor shall submit to the Procuring Entity's Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC.**

11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC.** If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

12. Instructions, Inspections and Audits

The Contractor shall permit the GOP or the Procuring Entity to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors of the GOP or the Procuring Entity, as may be required.

13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex "E" of the 2016 revised IRR of RA No. 9184.

14. Progress Payments

The Contractor may submit a request for payment for Work accomplished. Such requests for payment shall be verified and certified by the Procuring Entity's Representative/Project Engineer. Except as otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

15. Operating and Maintenance Manuals

15.1. If required, the Contractor will provide "as built" Drawings and/or operating and maintenance manuals as specified in the **SCC.**

15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

a. Information that complements provisions of the GCC must be incorporated.

b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
2	Completion of work shall be within 210 calendar days.
4.1	The Procuring Entity shall give possession of all parts of the Site to the Contractor upon receipt of the Notice to Proceed.
6	The site investigation reports are: *[list here the required site investigation reports.]*
7.2	*[Select one, delete the other.]* *[In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:]* Fifteen (15) years. *[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]* Five (5) years. *[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]* Two (2) years.
10	Dayworks are applicable at the rate shown in the Contractor's original Bid.
13	The amount of the advance payment is no more that fifteen percent (15%) of the Contract Price subject to approval by the HOPE and compliance with the conditions under RA 9184 and its IRR.
14	No further instructions.
15.1	The date by which operating and maintenance manuals are required is *thirty (30) days* The date by which "as built" drawings are required as part of final payment
15.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is ten (10%) percent of the contract price.

Section VI. Specifications

Notes on Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying or conditioning their Bids. In the context of international competitive bidding, the specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of economy, efficiency, and fairness in procurement be realized, responsiveness of Bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is mandatory. Most specifications are normally written specially by the Procuring Entity or its representative to suit the Works at hand. There is no standard set of Specifications for universal application in all sectors in all regions, but there are established principles and practices, which are reflected in these PBDs.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, ports, railways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, although not necessarily to be used in a particular Works Contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for goods, materials, and workmanship, recognized international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or higher quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the SCC.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted

subject to the Procuring Entity's Representative's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity's Representative at least twenty-eight (28) days prior to the date when the Contractor desires the Procuring Entity's Representative's consent. In the event the Procuring Entity's Representative determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These notes are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final Bidding Documents.

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PROJECT TITLE : **PROPOSED CONSTRUCTION OF ROAD DEVELOPMENT, UTILITIES AND MAINTENANCE AT QUEZON MEMORIAL CIRCLE**

LOCATION : **ELLIPTICAL ROAD, BARANGAY CENTRAL DISTRICT 4, QUEZON CITY**

TECHNICAL SPECIFICATIONS

I. GENERAL REQUIREMENTS

A. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations, and standards. Any works performed contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.

B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.

C. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.

D. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location, to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.

E. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.

F. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.

G. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.

H. Mobilization and Demobilization (if applicable)

1. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.

2. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.

I. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.

J. Temporary Facilities and Utilities

1. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

2. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.

3. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.

4. Temporary enclosure shall be provided around the construction site with adequate guard lights, railings and proper signage.

5. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.

6. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly.

K. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property.

1. A fully-trained Medical Aide shall be employed permanently on the site who shall be engaged solely to medical duties.

2. The medical room shall be provided with waterproofing; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.

3. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations and suitable notices in the site.

4. Additional safety precautions shall be provided in the event of a pandemic. Protocols set forth by the government shall be strictly followed.

5. Construction safety shall consist of construction canopy and safety net.

L. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.

M. Final cleaning of the work shall be employed prior to the final inspection for the certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

II. SITE WORKS

A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing work.

B. This Item shall consist of the removal wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the Contract.

Removal and/or demolition of existing structures shall be done in accordance to safety procedures.

C. All excavations shall be made to grade as indicated in the plans. Whenever water is encountered in the excavation process, it shall be removed by pumping, care being taken that the surrounding soil particles are not disturbed or removed.

The Contractor shall notify the Engineer sufficiently in advance of the beginning of any excavation so that cross-sectional elevations and measurements may be taken on the undisturbed ground. The natural ground adjacent to the structure shall not be disturbed without permission of the Engineer.

Trenches or foundation pits for structures or structure footings shall be excavated to the lines and grades or elevations shown on the Plans or as staked by the Engineer. They shall be of sufficient size to permit the placing of structures or structure footings of the full width and length shown. The elevations of the bottoms of footings, as shown on the Plans, shall be considered as approximate only and the Engineer may order, in writing, such changes in dimensions or elevations of footings as may be deemed necessary, to secure a satisfactory foundation.

Boulders, logs, and other objectionable materials encountered in excavation shall be removed.

After each excavation is completed, the Contractor shall notify the Engineer to that effect and no footing, bedding material or pipe culvert shall be placed until the Engineer has approved the depth of excavation and the character of the foundation material.

D. All excavated materials, so far as suitable, shall be utilized as backfill. The surplus materials shall be disposed of in such manner as not to obstruct the stream or otherwise impair the efficiency or appearance of the structure. No excavated materials shall be deposited at any time so as to endanger the partly finished structure.

All backfills shall be placed in layers not exceeding to 150mm in thickness and each layer shall be thoroughly compacted by wetting, tamping and rolling.

E. Soil Poisoning. There are two methods usually adopted in soil poisoning which are as follows:

1. Cordoning. This method is usually adopted when there is no visible evidence of termite infestation. Trenches in concentric circles, squares or rectangles are dug 150mm to 220mm wide and at least one meter apart and applied with Liquid Termicide Concentrate working solution at the rate of 8 liters per linear meter.

2. Drenching. When soil show termite infestation, this method shall be applied. The building area shall be thoroughly drenched with Liquid Termicide Concentrate working solution at the rate of 24 liters per square meter.

III. CIVIL / STRUCTURAL WORKS

A. CONCRETE WORKS

1. Delivery, Storage, and Handling: All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected.

2. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.

3. Materials

   a. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C – 150).

   b. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.

   c. Fine aggregates shall be beach or river sand conforming to ASTM C33, "Specification for Concrete Aggregates". Sand particle shall be course, sharp, clean free from salt, dust, loam, dirt and all foreign matters.

   d. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms.

4. Proportioning and Mixing

a. Proportioning and mixing of concrete shall conform to the requirements for Item 405 of the standard specification with the following proportions:

Cement: Sand: Gravel
Class "A" - 1: 2: 3
Class "B" - 1: 2: 4
Class "C" - 1: 2 ½

b. Concrete mixture to be used for concrete shall conform with the structural requirements.

c. Mixing – concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates.

5. Forms

a. General – Forms shall be used whatever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving from adjacent, excavated surfaces. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss or mortar from the concrete. Forms shall be ¼" (6mm) thick ordinary plywood and form lumber.

b. Cleaning of Forms – before placing the concrete, the contact surfaces of the formed hall be cleaned of encrustations of mortar, the grout or other foreign material.

c. Removal of Forms – forms shall be removed in a manner which will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be formed at once and airing shall be started as soon as the surface is sufficiently hard to permit it without further damage.

6. Placing Reinforcement:

Steel reinforcement shall be provided as indicated, together with all necessary tie wires, chairs, spacers, supports and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from loose, flaky rust and scale, oil, grease, clay and other coating and foreign substances that would reduce or destroy its bond with concrete. Reinforcement shall be placed accurately and secured in place by use of metal or concrete supports, spacers and ties. Such supports shall be used in such manner that they will not be exposed or contribute in any way, to the discoloration or deterioration of the concrete.

7. Conveying and Placing Concrete:

a. Conveying – concrete shall be conveyed from mixer to forms as rapidly as applicable, by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.

b. Placing – concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and imbedded items without permitting the material to segregate, concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or embedded items, or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified.

c. Time interval between mixing and placing. Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer.

d. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower cursed that have commenced initial set; and reinforcement embedded in concepts beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall by hand spading and tamping and vibrators shall not be used.

e. Placing Concrete through reinforcement – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.

8. Curing

a. General – All concrete shall be moist cured for a period not less than seven (7) consecutive days by an approved method or combination applicable to local conditions.

b. Moist Curing – The surface of the concrete shall be kept continuously wet by covering with burlap plastic or other approved materials thoroughly saturated with water and keeping the covering spraying or intermittent hosing.

9. Finishing

a. Concrete surfaces shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be smooth, true to line and shall present or finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be grounded to a smooth surface to remove all joint marks of the form works.

b. Concrete Slabs on Fill. The concrete slabs on fill shall be laid on a prepared foundation consisting of sub grade and granular fill with thickness equal to the thickness of the overlaying slab except when indicated.

B. MASONRY WORKS

1. Masonry Units (Concrete Hollow Blocks):

a. 100mm thick for all interior walls and 150mm thick for all exterior walls unless otherwise indicated.

b. Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.

c. Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns and lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height and other considerations.

2. Sand:

S-1, washed, clean and greenish in color.

3. Mortar:

   One part Portland cement and two parts sand and water but not more than three parts sand and water.

4. Reinforcement

   The concrete hollow blocks shall be reinforced with 10mm diameter deformed bar, spaced not more than 0.8m on centers, both ways.

5. Plaster bond:

   The mixture of cement plaster for concrete hollow block wall finishes indicated in the drawings shall be one part Portland cement and three parts sand.

6. Floor Topping Preparation for Tilework. One part Portland cement and two parts sand and water but not more than three parts sand and water.

C. ROOFING WORKS

1. Corrugated galvanized iron (G.I.) sheets, including plain aluminum sheets for roofing accessories shall be cold-rolled meeting ASTM A-153 and with spelter coating of zinc of not less than0.381 kg/sq.m. (1.25 ounce/sq.ft.) conforming to ASTM A-525 or pns 67:1985. Unless otherwise specified or shown on Plans, roofing sheets shall be gauge 26 (0.48mm thick) and provided in long span sizes to minimize end laps. Sheets shall weigh not less than 3.74 kg/sq.m. and shall be marked or stamped showing the gauge, size amount of zinc coating, brand and name of manufacturer. Test specimens shall stand being bent through 180 degrees flat on itself without fracture of the base metal and without flaking of the zinc coating.

2. Ridge/hip rolls, valleys, flashing and counter flashings, gutters and downspouts, whenever required, shall be fabricated from plain G.I. sheets. Ridge/hip rolls, flashings and counter flashings shall be gauge 26. Valleys, gutters and downspouts shall be gauge 24 unless otherwise specified on Plans. Wire basket strainers shall be galvanized, gauge 24,

   Roof ventilators, whenever required shall be fabricated from gauge 26 plain G.I. sheets and constructed to the dimensions and details shown on Plans.

3. The roofing shall be secured to the purlins with min. 2 ½" max. 3" long Tek screws. Provide all-purpose sealant under the fasteners. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.

4. Polycarbonate roofing and sunbreakers shall be covered with 6mm thick Rib-type polycarbonate sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 ½" max. 3" long Tek screws. Provide all-purpose sealant under the fasteners. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the 6mm thick solid polycarbonate sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.

5. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.

6. Provide 6mm thick thermal insulation with single-side aluminum foil prior to fastening of roofing sheets to serve as thermal protection.

D. METAL FABRICATION

1. Materials:

   a. Steel and Iron. If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for buildings.

   b. Bolts, Nuts, Studs and Rivets. ASTM A 307 and A 325.

   c. Screws. Fed. Spec FF-S-85, Fed. Spec FF-S-92, and Fed. Spec. FF-S-111.

   d. Metal Purlins. High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal.

2. Fabrication:

   By mechanics skilled in the trade and in accordance with the manufacturer's directions. Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

3. Metal Surfaces:

   Surfaces shall be clean and free from all scale, flake, rust and rust pitting; well-formed and finished to shape and size, with sharp lines, angle and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

4. Construction:

   Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

5. Welding:

   Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where tack welding is permitted. Do not tack weld exposed to connections). Grind smooth visible weld in finished installation.

E. MOISTURE PROTECTION

1. **WATERPROOFING**

   a. Cementitious waterproofing powder mix shall be cement-based, aggregate-type, heavy duty, waterproof coating for reinforced concrete surface and masonry exposed to water. Additive binders shall be of special formulation of acrylic polymers and modifiers in liquid form used as additive with cement-based powder mix that improves adhesion and mechanical properties. Water shall be clean, clear and potable.

   b. Concrete surface to be applied with waterproofing shall be structurally sound, clean and free of dirt, loose mortar particles, paint films, oil, protective coats, efflorescence, laitance, etc. All defects shall be properly corrected and carefully formed to provide a smooth surface that is free of marks and properly cured prior to application works.

   c. Furnish all labor, materials, equipment, plant and other facilities required to complete all waterproofing work as shown on the drawings and herein specified. All applications shall be strictly performed by an approved waterproofing Contractor.

d. Test waterproofed area by seventy-two (72) hours and check for any seepages.

Note: Thickness should be as per Manufacturer's Specifications and Installation depending on the areas to be applied with.

2. VAPOR BARRIER

a. Vapor barrier shall be placement of 8mil Polyethylene sheet prior to pouring of concrete for foundation members, slabs-on-fill and slabs-on-grade.

IV. ARCHITECTURAL WORKS

A. FLOOR FINISHES

1. **Ceramic Tiles.** Unglazed ceramic tiles shall be hard, dense tiles of homogeneous composition. Its color and characteristics area determined by the materials used in the body, the method of manufacture and the thermal treatment.

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

2. **Cement Floor Finish.** Mortar topping shall be one part Portland cement and three parts fine aggregate by loose volume.

   Finish topping shall be pure Portland cement properly graded, mixed with water to approved consistency and plasticity. Where required to be colored cement floor finish, red or green oxide powder shall be premixed with Portland cement complying with finish topping requirements and the desired color intensity. Cement floor finish floor hardener shall be premixed as required and applied in accordance with the manufacturer's instruction manual.

B. WALL FINISHES AND PARTITIONING

1. **Ceramic Tiles.** Glazed tiles and trims shall have an impervious face of ceramic materials fused onto the body of the tiles and trims. The glazed surface may be clear white or colored depending on the color scheme approved by the Engineer. Standard glazes may be bright (glossy), semi-matte (less glossy), matte (dull) or crystalline (mottled and textured; good resistance to abrasion).

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

2. **Cement Plaster Finish.** Mortar mixture for brown coat shall be freshly prepared and uniformly mixed in the proportion by volume of one part Portland cement, three (3) parts sand and one fourth (1/4) part hydrated lime.

   Finish coat shall be pure Portland cement properly graded conforming to the requirements and mixed with water to approved consistency and plasticity.

C. CEILING FINISHES

1. Slab Soffit.

D. CARPENTRY WORKS

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

Rough lumber for framing and siding boards shall be air-dried or sundried such that its moisture content shall not exceed 22 percent. Dressed lumber for exterior and interior finishing, for doors and windows, millwork, cabinet work and flooring boards shall be kiln-dried and shall not have a moisture content in excess of 14 percent at the time of installation in the structure.

Plyboard shall be good grade and made of laminated wood strips of uniform width and thickness bounded together with water resistant resin glue. The laminated core shall be finished both faces with select grade Tanguile or red Lauan veneers not less than 2 mm thick similarly bonded to the core. The plyboard of not less than 19 mm thick shall be free from defects such as split in veneer, buckling or warping.

Plywood shall conform to the requirements of the Philippine Trade Standards 631-02. Thickness of a single layer laminae shall not be less than 2 mm. The laminae shall be superimposed in layers with grains crossing at right angles in successive layers to produce stiffness. The face veneers shall be rotary cut from select grade timber. The laminae and face veneers shall be bonded with water resistant resin glue, hot pressed and pressure treated. Ordinary Tanguile or red Lauan plywood with good quality face veneers, 6 mm thick shall be used for double walling and ceiling not exposed to moisture; waterproof or marine plywood shall be used for ceiling exposed to moisture such as at toilets and eaves, and ceiling to be finished with acrytex.

Glue shall be from water resistant resins which, upon hardening, shall not dissolve nor lose its bond or holding power even when soaked with water for extended period.

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

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

2. Screws of adequate size shall be aluminum or brass plated steel with slotted head.

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

4. Bolts and nuts shall be of steel having a yield point of not less than 245 Mpa. Bolts shall have square heads and provided with standard flat steel washers and hexagonal nuts. Threads shall conform to American coarse thread series. Threaded portion shall be long enough so that the nut can be tightened against the bolted members without any need for blocking. The bolt's threaded end shall be finished smooth for ease of engaging and turning the nut.

5. Wrought iron straps or angles, when required in conjunction with bolts or lag screws to provide proper anchorage, shall be of the shape and size shown on the Plans.

E. PAINTING WORKS

1. Paint Materials. All types of paint material and other related products shall be subject to test as to material composition by the Bureau of Research and Standard, DPWH or the National Institute of Science and Technology.

2. Tinting Colors. Tinting colors shall be first grade quality pigment ground in alkyd resin that disperses and mixes easily with paint to produce the color desired. Use the same brand of paint and tinting color to effect good paint body.

3. Skim coat. Skim coat shall be fine powder type material like kalsomine that can be mixed into putty consistency, with oil-based primers and paints to fill minor surface dents and imperfections.

4. Paint Schedule.

   a. Exterior Masonry Wall (plain cement plastered finish to be painted)

      i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish

   b. Interior Masonry Wall (plain cement plastered finish to be painted)

      i. 1 coat skim coating, 1 coat primer, 2 coats latex paint finish

   c. Interior Dry Wall

i. 1 coat primer, 2 coats latex paint finish

d. Ceiling Boards

i. 1 coat primer, 2 coats latex paint finish

e. Slab Soffit

i. 1 coat primer, 2 coats latex paint finish

f. Metal / Steel Surfaces

i. 1 coat primer, 2 coats epoxy enamel finish

5. Surface Preparation. All surfaces shall be in proper condition to receive the finish. Woodworks shall be hand-sanded smooth and dusted clean. All knot-holes pitch pockets or sappy portions shall be sealed with natural wood filler. Nail holes, cracks or defects shall be carefully puttied after the first coat, matching the color of paint.

   Interior woodworks shall be sandpapered between coats. Cracks, holes of imperfections in plaster shall be filled with patching compound and smoothed off to match adjoining surfaces.

   Concrete and masonry surfaces shall be coated with concrete neutralizer and allowed to dry before any painting primer coat is applied. When surface is dried apply first coating. Hairline cracks and unevenness shall be patched and sealed with approved putty or patching compound. After all defects are corrected apply the finish coats as specified on the Plans (color scheme approved).

   Metal shall be clean, dry and free from mill scale and rust. Remove all grease and oil from surfaces. Wash, unprimed galvanized metal with etching solution and allow it to dry. Where required to prime coat surface with Red Lead Primer same shall be approved by the Engineer.

   In addition, the Contractor shall undertake the following:

   a. Voids, cracks, nick etc. will be repaired with proper patching material and finished flushed with surrounding surfaces.

   b. Marred or damaged shop coats on metal shall be spot primed with appropriate metal primer.

   c. Panting and varnishing works shall not be commenced when it is too hot or cold.

   d. Allow appropriate ventilation during application and drying period

   e. All hardware will be fitted and removed or protected prior to painting and varnishing works.

6. Application. Paints when applied by brush shall become non-fluid, thick enough to lay down as adequate film of wet paint. Brush marks shall have flawed out after application of paint.

   Paints made for application by roller must be similar to brushing paint. It must be non-sticky when thinned to spraying viscosity so that it will break up easily into droplets.

   Paint is atomized by high pressure pumping rather than broken up by the large volume of air mixed with it. This procedure changes the required properties of the paint.

7. Application shall be as per paint Manufacturer's specification and recommendation.

8. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.

9. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.

10. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer.

11. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works.

12. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

V. SANITARY / PLUMBING WORKS

A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).

B. Supply, installation and testing of the following:

1. Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.

2. Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system.

3. Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.

4. Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.

C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.

D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work.

E. Install equipment in strict accordance with manufacturers written recommendations.

F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes.

G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided.

H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.

I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.

J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted.

K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other

circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.

L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost.

M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.

N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.

O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.

P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.

Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.

R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.

S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.

T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.

U. Drainage pipe shall be tested by filling the pipe with 3m. of water higher than the test section and wait for 15 min, then check for leakage at every joints.

V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing.

W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.

X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.

Z. Install lateral bracing with pipe hangers and supports to prevent swaying.

AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.

BB. Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.

CC. Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

VI. ELECTRICAL WORKS

A. CONDUITS, BOXES AND FITTINGS

1. This item shall consist of the furnishing and installation of the complete conduit work, consisting of electrical conduits; conduit boxes such as junction boxes, pull boxes, utility boxes, octagonal and square boxes; conduit fittings, such as couplings, locknuts and bushings and other electrical materials needed to complete the conduit roughing-in work of this project.

2. All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark.

3. All works throughout shall be executed in the best practice in a workmanlike manner by qualified and experienced electricians under the immediate supervision of a duly licensed Electrical Engineer.

4. The work to be done under this division of specifications consists of the fabrication, furnishing, delivery and installation, complete in all details of the electrical work, at the subject premises and all work materials incidental to the proper completion of the installation, except those portions of the work which are expressly stated to be done by other fields. All works shall be done in accordance with the rules and regulations and with the specifications.

5. All lighting fixtures and lamps are as specified and listed on lighting fixture schedule.

6. All grounding system installation shall be executed in accordance with the approved plans. Grounding system shall include building perimeter ground wires, ground rods, clamps, connectors, ground wells and ground wire taps as shown in the approved design.

7. All auxiliary systems such as telephone and intercom system, time clock system, fire alarm system and public address/nurse's call/paging system installations shall be done in accordance with the approved design.

8. Upon completion of the electrical construction work, the contractor • shall provide all test equipment and personnel and to submit written copies of all test results.

9. The contractor shall guarantee the electrical installation are done and in accordance with the approved plans and specifications. The contractor shall guarantee that the electrical systems are free from all grounds and from all defective workmanship and materials and will remain so for a period of one year from date and acceptance of works. Any defect shall be remedied by the Contractor at his own expense.

B. WIRES AND WIRING DEVICES

1. This Item shall consist of the furnishing and installation of all wires and wiring devices consisting of electric wires and cables, wall switches, convenience receptacles, heavy duty receptacles and other devices shown on the approved Plans but not mentioned in these specifications.

2. Wires and cables shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark. Unless specified or indicated otherwise, all power and lighting conductors shall be insulated for 600 volts. All wires shall be copper, soft drawn and annealed, smooth and of cylindrical form and shall be centrally located inside the insulation.

3. Conductors or wires shall not be drawn in conduits until after the cement plaster is dry and the conduits are thoroughly cleaned and free from dirt and moisture. In drawing wires into conduits, sufficient slack shall be allowed to permit easy connections for fixtures, switches, receptacles and other wiring devices without the use of additional splices.

4. All conductors of convenience outlets and lighting branch circuit homeruns shall be wired with a minimum of 3.5 mm in size. Circuit homeruns to panelboards shall not be

smaller than 3.5 mm but all homeruns to panelboard more than 30 meters shall not be smaller than 5.5 mm. No conductor shall be less than 2 mm in size.

5. All wires of 14mm and larger in size shall be connected to panels and apparatus by means of approved type lugs or connectors of the solderless type, sufficiently large enough to enclose all strands of the conductors and securely fastened. They shall not loosen under vibration or normal strain.

6. All joints, taps and splices on wires larger than 14 mm shall be made of suitable solderless connectors of the approved type and size. They shall be taped with rubber and PVC tapes providing insulation not less than that of the conductors.

7. No splices or joints shall be permitted in either feeder or branch conductors except within outlet boxes or accessible junction boxes or pull boxes. All joints in branch circuit wiring shall be made mechanically and electrically secured by approved splicing devices and taped with rubber arid PVC tapes in a manner which will make their insulation as that of the conductor.

8. All wall switches and receptacles shall be fitted with standard Bakelite face plate covers. Device plates for flush mounting shall be installed with all four edges in continuous contact with finished wall surfaces without the use of coiled wire or similar devices. Plaster filling shall not be permitted. Plates installed in wet locations shall be gasketed.

9. When more than one switch or device is indicated in a single location, gang plate shall be used.

C. POWER LOAD CENTER, SWITCHGEAR AND PANELBOARDS

1. This Item shall consist of the furnishing and installation of the power load center unit substation or low voltage switchgear arid distribution panelboards at the location shown or the approved Plans complete with transformer, circuit breakers, cabinets and all accessories, completely wired and ready for service.

2. All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark.

3. Power Load Center Unit Substation. The Contractor shall furnish and install an indoor-type Power Load Center Unit Substation at the location shown on the approved Plans if required. It shall be totally metal-enclosed, dead front and shall consist of the following coordinated component parts:

   a. High Voltage Primary Section. High voltage primary incoming line section consisting of the following parts and related accessories:

      i. One (1) Air-filled Interrupter Switch, 2-position (open-close) installed in a suitable air filled metal enclosure and shall have sufficient interrupting capacity to carry the electrical load. It shall be provided with key interlock with the cubicle for the power fuses to prevent access to the fuses unless the switch is open.

      ii. Three (3)-power fuses mounted in separate compartments within the switch housing and accessible by a hinged door.

      iii. One 1) set of high voltage potheads or 3-conductor cables or three single conductor cables.

      iv. Lightning arresters shall be installed at the high voltage cubicle if required.

      Items (i) and (ii) above could be substituted with a power circuit breaker with the correct rating and capacity.

   b. Transformer Section. The transformer section shall consist of a power transformer with ratings and capacities as shown on the plans. it shall be oil liquid-filled non-flammable type and designed in accordance with the latest applicable standards.

The transformer shall be provided with four (4) approximately 2 1/2 % rated KVA taps on the primary winding in most cases one (1) above and three (3) below rated primary voltage and shall be changed by means of externally gang-operated manual tap changer only when the transformer is de-energized. Tap changing under load is acceptable if transformer has been so designed.

The following accessories shall be provided with the transformer, namely: drain valve, sampling device, filling connection, oil liquid level gauge, ground pad, top filter press connection, lifting lugs, diagrammatic nameplate, relief valve, thermometer and other necessary related accessories.

The high-voltage and low-voltage bushings and transition flange shall be properly coordinated for field connection to the incoming line section and low voltage switchboard section, respectively.

c. Low Voltage Switchboard Section. The low-voltage switchboard shall be standard modular-unitized units, metal-built, dead front, safety type construction and shall consist of the following:

   i. Switchboard Housing. The housing shall be heavy gauge steel sheet, dead front type, gray enamel finish complete with frame supports, steel bracings, steel sheet panelboards, removable rear plates, copper busbars, and all other necessary accessories to insure sufficient mechanical strength and safety. It shall be provided with grounding bolts and clamps.

   ii. Secondary Metering Section. The secondary metering section shall consist of one (1) ammeter, AC, indicating type; one (1) voltmeter, AC, indicating type, one (1) ammeter transfer switch for 3-phase; one (1) voltmeter transfer switch for 3-phase; and current transformers of suitable rating and capacity.

   The above-mentioned instruments shall be installed in one compartment above the main breaker and shall be complete with all necessary accessories completely wired, ready for use.

   iii. Main Circuit Breaker. The main circuit breaker shall be draw-out type, manually or electrically operated as required with ratings and capacity as shown on the approved Plans.

   The main breaker shall include insulated control switch if electrically operated, manual trip button, magnetic tripping devices, adjustable time overcurrent protection and instantaneous short circuit trip and all necessary accessories to insure safe and efficient operation.

   iv. Feeder Circuit Breakers. There shall be as many feeder breakers as are shown on the single line diagram or schematic riser diagram and schedule of loads and computations on the plans. The circuit breakers shall be drawout or molded case as required. The circuit breakers shall each have sufficient interrupting capacity and shall be manually operated complete with trip devices and all necessary accessories to insure safe and efficient operation. The number, ratings, capacities of the feeder branch circuit breakers shall be as shown on the approved Plans.

   Circuit breakers shall each he of the indicating type, providing 'ON' - "OFF and "TRIP" positions of the operating handles and shall each be provided with nameplate for branch circuit designation. The circuit breaker shall be so designed that an overload or short on one pole automatically causes all poles to open.

d. Low Voltage Switchgear (For projects requiring low-voltage switchgear only). The Contractor shall furnish and install a low-voltage switchgear at the location shown on the plans. It shall be natal-clad, dead front, free standing, safety type construction and shall have copper busbars of sufficient size, braced to resist allowable root mean square (RMS) symmetrical short circuit stresses, and all necessary accessories. The low-voltage switchgear shall consist of the switchgear housing, secondary metering, main breaker and feeder branch circuit.

e. Grounding System. All non-current carrying metallic parts like conduits, cabinets and equipment frames shall be properly grounded in accordance with the Philippine Electrical Code, latest edition.

The size of the ground rods and ground wires shall be as shown on the approved Plans. The ground resistance shall not be more than 5 ohms.

f. Panelboards and Cabinets. Panelboards shall conform to the schedule of panelboards as shown on the approved Plans with respect to supply characteristics, rating of main lugs or main circuit breaker, number and ratings and capacities of branch circuit breakers.

Panelboards shall consist of a factory completed: dead front assembly mounted in an enclosing flush type cabinet consisting of code gauge galvanized sheet steel box with trim and door. Each door shall be provided with catch lock and two (2) keys. Panelboards shall be provided with directories and shall be printed to indicate load served by each circuit.

Panelboard cabinets and trims shall be suitable for the type of mounting shown on the approved Plans. The inside and outside of panelboard cabinets and trims shall be factory painted with one rust-proofing primer coat and two finish shop coats of pearl gray enamel
paint.

Main and branch circuit breakers for panelboards shall have the rating, capacity and number of poles as shown on the approved Plans. Breakers shall be thermal magnetic type. Multiple breaker shall he of the common trip type having a single operating handle. For 50-ampere breaker or less, it may consist of single-pole breaker permanently assembled at the factory into a multi-pole unit.

4. The Contractor shall install the Power Load Center Unit Substation or Low-Voltage Switchgear and Panelboards at the locations shown on the approved Plans.

Standard panels and cabinets shall be used and assembled on the job. All panels shall be of dead front construction furnished with trims for flush or surface mounting as required.

D. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).

E. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.

F. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.

G. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.

H. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

I. PANELBOARDS

1. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.

2. Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.

a. Rated for environmental conditions at installed location.

i. Indoor Dry and Clean Locations: NEMA, Type 1.

ii. Outdoor Locations: NEMA, Type 3R.

iii. Kitchen and Wash-Down Areas: NEMA, Type 4X, stainless steel.

iv. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 12.

v. Outdoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 5R.

b. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.

c. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.

d. Skirt for Surface-Mounted Panelboards: Same gauge and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.

e. Gutter Extension and Barrier: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.

f. Finishes:

i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.

ii. Back Boxes: Galvanized steel Same finish as panels and trim.

iii. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.

g. Directory Card: Inside panelboard door, mounted in transparent card holder metal frame with transparent protective cover.

3. Incoming Mains Location: Top or Bottom.

4. Phase, Neutral, and Ground Buses:

a. Material: Hard-drawn copper, 98 percent conductivity.

b. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.

c. Neutral Bus: 100 percent of phase bus 4. Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

1. parts of the structure and equipment damaged by the Contractor in the prosecution of the work shall be replaced as shown on the Plans.

ROAD DEVELOPMENT TECHNICAL SPECIFICATIONS

GENERAL NOTES:

1. The above-mentioned project is subject to the Standards Specifications listed herein where applicable.
2. STANDARD SPECIFICATIONS
   All works shall comply with DPWH STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES 2013 Edition supplemental specification pertaining to this project and provision of the contract.
3. DIMENSIONS
   Unless otherwise specified, all dimensions which include stationing, distances between control points and elevations are measured in meters.
4. ALIGNMENT AND GRADE
   No alteration or change in alignment and grade shall be made unless existing field condition so warrant and only upon the written order by the Engineer-In-charge and approved by the propoer authority concerned.
5. REMOVAL OF EXISTING STRUCTURES AND OBSTRUCTIONS
   a. Existing structures affected in this project shall be done with the required tools and equipment. All debris shall be immediately disposed.
   b. Portion of existing utilities such as MWSS Pipelines, PLDT Posts, MERALCO Posts, etc. that may cause obstructions to the construction of ths project shall be relocated by the entity or owner concerned. Extreme precaution shall be exercised, damaged thereof shall be the account of the contractor.
6. SUB-GRADE, SUB BASE AND BASE.
   a. Unsuitable sub-grade material shall be excavated below the ground surface to the required width and depth. The area to be excavated shall be backfilled with approved material.
   b. No embankment material shall be placed until the foundation is stable.
   c. All agregate sub-base and base course shall be spread, laid and compacted in accordance with the required thickness and proposed elevation.
7. CONCRETE AND CONCRETE PAVEMENT
   a. All concrete to be used in this project shall be Class "A" unless otherwise indicated.
   b. No Admixtures or additives will be allowed for all concrete works without prior approval by the City Engineer or his duly representative.
   c. Traffic shall be required to reduced speed when passing the vicinity of the newly laid concrete pavement until such time that it has obtained the required strength.
8. REINFORCING STEEL BARS
   Reinforcing steel shall conform to AASHTO M31 (ASTM615), Grade 40 for Bars 16 mm. diameter and smaller (40,000 psi), fy = 275 MPa, and for Bars greater than 16 mm Diam., Grade 60 (60,000 psi) fy = 414 MPa.
9. DRAINAGE
   a. Exact location, slope, outfalls and invert elevation of drainage structures shall be checked in the field by the Engineer-In-Charge, minor adjustment maybe made by the approval of the Engineer to suit actual field condition.
   b. Existing drainage structures or part thereof removed by the contractor that are still serviceable shall be turned over to the Government and shall be deposited at a place within the project site designated by the Engineer-In-Charge without any extra compensation. Extreme precaution shall be exercised by the contractor not to damage these materials during the removal and handling.
10. CONSTRUCTION STAKES
    a. The contractor will be responsible for the true and proper setting out of the work or improvement and for correctness of position, level slope and continuous profile grade in

road work. He will set construction stakes, establishing lines, slope and continuous profile work and other line and benchmark for bridge work.

Grade in road protective and necessary structures and appurtenances culvert work, as are deemed necessary from the reference date to be furnished by the Engineer-In-Charge in writing.

b. The checking of construction stakes by the Engineer-In-Charge shall not in any way relieve the contractor of his responsibility for the correctness thereof and the contractor shall carefully protect preserve all benchmark, pegs and other things used in setting out of the work.

REMOVAL OF EXISTING STRUCTURES
DESCRIPTION

This Item shall consist of the removal wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed off under other items in the Contract. It shall also include the salvaging of designated materials and backfilling the resulting trenches, holes, and pits.

ROADWAY EXCAVATION
DESCRIPTION

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.

EXCAVATION FOR STRUCTURES
DESCRIPTION

This item shall consist of the necessary excavation for reinforced concrete pipes, lined canal, box culverts and other structures not otherwise provided for in the Specifications. Except as otherwise provided for pipe culverts, the backfilling of completed structures and the disposal of all excavated materials shall be in accordance with this specification and in reasonably close conformity with the Plans or as established by the Engineer-In-Charge. This Item shall include necessary diverting of live streams, bailing, pumping, draining, sheeting, bracing, and the necessary construction of cribs and cofferdams, and furnishing the materials therefore, and the subsequent removal of cribs and cofferdams and the placing of all necessary backfill. It shall also include the furnishing and placing of approved foundation fill material to replace unsuitable material encountered below the foundation elevation of structures.

AGGREGATE SUBBASE COURSE
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-in-charge.

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	

Standard, mm	Alternate US Standard	Mass Percent Passing
50	2"	100
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.

AGGREGATE BASE COURSE
DESCRIPTION

This Item shall consist of furnishing, placing and compacting an aggregate base course on a prepared subgrade/subbase in accordance with this Specification and the lines, grades, thickness and typical cross-sections shown on the Plans, or as established by the Engineer-In-charge.

MATERIAL REQUIREMENTS

Aggregate for base course 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 base. In some areas where the conventional base course materials are scarce or non-available, the use of 40% weathered limestone blended with 60% crushed stones or gravel shall be allowed, provided that the blended materials meet the requirements of this Item. The base course material shall conform to Table 201.1, whichever is called for in the Bill of Quantities.

Table 201.1 – Grading Requirements

Sieve Designation		Mass Percent Passing	
Standard, mm	Alternate US Standard	Grading A	Grading B
50	2"	100	
37.5	1 – ½"	-	100
25	1"	60 – 85	-
19	¾ "	-	60 – 85
12.5	½ "	35 – 85	-
4.75	No. 4	20 - 50	30 – 55
0.425	No. 40	5 – 20 0 -	8 – 25 2
0.075	No. 200	12	- 14

The fraction passing the 0.075 mm (No. 200) sieve shall not be greater than 0.66 (two thirds) of the fractions 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 25 and plasticity index not greater than 6 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 test determined by AASHTO T 96. The material passing the 19 mm (3/4 inch) sieve shall have a soaked CBR value of not less than 80% as determined by AASHTO T 193. The CBR value shall be obtained at the maximum dry density (MDD) as determined by AASHTO T 180, Method D. If filler, in addition to that naturally present, is necessary for meeting the grading requirements or for satisfactory bonding, it shall be uniformly blended with the base course material on the road or in a pug mill unless otherwise specified or approved. Filler shall be taken from sources approved by the Engineer, shall be free from hard lumps and shall not contain more than 15 percent of material retained on the 4.75 mm (No. 4) sieve.

PORTLAND CEMENT CONCRETE PAVEMENT
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. Compressive strength for concrete mix to be used shall not be less than 4,000 psi.

MATERIAL REQUIREMENTS

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 Pozzolana 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 Pozzolana Type IP shall be adopted. Cement which for any reason, has become partially set or which contains lumps of caked cement shall be rejected. Samples of cement shall be obtained in accordance with AASHTO T 127.

FINE AGGREGATES
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 colorimetric 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)	10

COARSE AGGREGATES
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/m^3 (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 Requirements for Coarse Aggregate

Sieve Designation		Mass Percent Passing		
Standard (mm)	Alternate U.S. Standard	Grading A	Grading B	Grading C
75	3 in.	100	-	-
63	2 – ½ in.	90 – 100	100	100
50	2 in.	- 90 – 100	95 – 100 37.5	1 – ½ in.
	25 – 60	35 – 70	-	
25	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

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.

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 straightened 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.

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 were 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.

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.

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.

CALCIUM CHLORIDE/CALCIUM NITRATE
It shall conform to AASHTO M 144, if specified or permitted by the Engineer-in-charge, as accelerator.
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-in-charge. 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.

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 a 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 (econocrete) 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.

STRUCTURAL CONCRETE
DESCRIPTION

This Item shall consist of furnishing, bending, placing and finishing concrete in all structures except pavements in accordance with this Specification and conforming to the lines, grades, and dimensions shown on the Plans. Concrete shall consist of a mixture of Portland Cement, fine aggregate, coarse aggregate, admixture when specified, and water mixed in the proportions specified or approved by the Engineer-In-Charge.

MATERIAL REQUIREMENTS

PORTLAND CEMENT
it shall conform to all the requirements in Portland Cement section
FINE AGGREGATES
it shall conform to all the requirements in Find Aggregates section.
COARSE AGGREGATES
it shall conform to all the requirements in Find Aggregates section.
Except that gradation shall conform to Table 405.1.

Table 405.1 – Grading Requirements for Coarse Aggregate

Sieve Designation		Mass Percent Passing				
Standard, mm	Alternate US Standard	Class A	Class B	Class C	Class p	Class Seal
63	2 – ½"		100			
50	2"	100	95 – 100			
37.5	1-1/2"	95 – 100	-			100
25	1"	-	35 – 70		100	95 – 100
19	¾"	35 – 70	- 100	95 – 100	-12.5	1/2" -
	10 – 30	90– 100	-25 - 60			
9.5	3/8"	10 – 30	-40 – 70	20 – 55	-4.75	No.4
	0 - 5	0 - 5	0- 15*	0 – 10*	0 – 10*	

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

WATER
it shall conform to all the requirements in water section.

REINFORCING STEEL
Reinforcing steel shall conform to the requirements of the following specifications:

(For concrete reinforcement)

Deformed Billet-Steel Bars	AASHTO M 31 (ASTM A615)
Deformed Steel Wire	AASHTO M 225 (ASTM A 496)
Welded Steel Wire Fabric	AASHTO M 55 (ASTM A 185)
Cold-Drawn Steel Wire	AASHTO M 32 (ASTM A 82)
Fabricated Steel Bar or Rod Mats	AASHTO M 54 (ASTM A 184)
Welded Deformed Steel Wire Fabric	AASHTO M 221 (ASTM A 497)
Plastic Coated Dowel Bars	AASHTO M 254
Type A Low Alloy Steel Deformed Bars	ASTM A 206

Bar reinforcement for concrete structures, except No. 2 bars shall be deformed in accordance with AASHTO M 42, M 31 and M 53 for Nos. 3 through 11. Dowel and tie bars shall conform to the requirements of AASHTO M 31 or AASHTO M 42 except that rail steel shall not be used for tie bars that are to be bent and re-straightened during construction. Tie bars shall be deformed bars. Dowel bars shall be plain round bars. They shall be free from burring or other deformation restricting slippage in the concrete. Before delivery to the site of the work, a minimum of one half (1/2) the length of each dowel bar shall be painted with one coat of approved lead or tar paint. The sleeves for dowel bars shall be metal of an approved design to cover 50 mm (2 inches), plus or minus 6.3 mm 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 bar. Sleeves shall be of such design that they do not collapse during construction. Plastic coated dowel bar conforming to AASHTO M 254 may be used.

ADMIXTURES
Admixtures shall conform to the requirements in admixture section.

CURING MATERIALS
Curing materials shall conform to the requirements in curing materials section.

EXPANSION JOIN MATERIALS
Expansion joint materials shall be:
Preformed Sponge Rubber and Cork, conforming to AASHTO M 153.
Hot-Poured Elastic Type, conforming to AASHTO M 173.
Preformed Fillers, conforming to AASHTO M 213.

ELASTOMERIC COMPRESSION JOINT SEALS
These shall conform to AASHTO M 220.

ELASTOMERIC BEARING PADS
These shall conform to AASHTO M 251 or Item 412 - Elastomeric Bearing Pads.

STORAGE OF CEMENT AND AGGREGATES
Storage of cement and aggregates shall conform to all the requirements of Subsection 311.2.10.

SAMPLING AND TESTING OF STRUCTURAL CONCRETE
As work progresses, at least one (1) sample consisting of three (3) concrete cylinder test specimens, 150 x 300mm (6 x 12 inches), shall be taken from each seventy-five (75) cubic meters of each class of concrete or fraction thereof placed each day.

PIPE CULVERT AND STORM DRAINS
DESCRIPTION

This item shall consist of the construction or reconstruction of pipe culverts and storm drains, hereinafter referred to as "conduit" in accordance with this Specification and in conformity with the lines and grades shown on the Plans or as established by the Engineer.

MATERIAL REQUIREMENTS

Material shall meet the requirements specified in the following specifications:

Zinc coated (galvanized) corrugated iron or steel culverts and underdrains	AASHTO M 36
Cast iron culvert pipe	AASHTO M64
Concrete sewer, storm drain and culvert pipe	AASHTO M 86
Reinforced concrete culvert, storm drain and sewer pipe	AASHTO M 170
Bituminous coated corrugated metal culvert pipe and pipe arches	AASHTO M 190
Reinforced concrete arch culvert, storm drain and sewer pipe	AASHTO M 206
Reinforced concrete elliptical culvert, storm drain and sewer pipe	AASHTO M 207
Asbestos cement pipe for culverts and storm drains	AASHTO M 217

JOINT MORTAR
Joint mortar for concrete pipes shall consist of 1 part, by volume of Portland Cement and two (2) parts of approved sand with water as necessary to obtain the required consistency. Portland Cement and sand shall conform to the requirements of Item 405, Structural Concrete. Mortar shall be used within 30 minutes after its preparation.

Rubber gaskets	AASHTO M 198

OAKUM
Oakum for joints in bell and spigot pipes shall be made from hemp (Cannavis Sativa) line or Benares Sunn fiber or from a combination of these fibers. The oakum shall be thoroughly corded and finished and practically free from lumps, dirt and extraneous matter.

Hot poured joint sealing compound	AASHTO M 173

Bedding material shall conform to the requirements of Subsection 500.3.2, Bedding. Backfill material shall conform to the requirements of Subsection 500.3.6, Backfilling. When the location of manufacturing plants allows, the plants will be inspected periodically for compliance with specified manufacturing methods, and material samples will be obtained for laboratory testing for compliance with materials

quality requirements. This shall be the basis for acceptance of manufacturing lots as to quality. Prior to and during incorporation of materials in the work, these materials will be subjected to the latest inspection and approval of the Engineer.

CONCRETE CURB AND GUTTER
DESCRIPTION

This Item shall consist of the construction of curb and gutter either Precast or Cast in place, made of concrete in accordance with this Specification at the location, and in conformity with the lines, grades, dimensions and design, shown on the Plans or as required by the Engineer-in-charge.

MATERIAL FOR BED COURSE
Bed course materials as shown on the Plans shall consist of cinders, sand, slag, gravel, crushed stone, or other approved porous material of such grading that all the particles will pass through 12.5 mm (1/2 inch) sieve.

CONCRETE
Concrete shall be of the class indicated on the Plans and shall conform to the requirements of Item 405, Structural Concrete.

EXPANSION JOINT FILLER
Expansion joint filler shall conform to the requirements of AASHTO M 153/ joint materials.

CEMENT MORTAR
Cement mortar shall consist of one part of Portland cement and two parts of fine aggregates with water added as necessary to obtain the required consistency. The mortar shall be used within 30 minutes of preparation.

BONDING COMPOUND
Where bonding compound is used, it shall conform to AASHTO M 200.

FORMS
Forms shall be of wood or metal as approved by the Engineer and shall extend to the full depth of the concrete. All forms shall be straight, free from warps and of adequate strength to resist distortion.

CONCRETE SIDEWALK
DESCRIPTION

This Item shall consist of the construction of asphalt or Portland Cement
concrete sidewalk in accordance with this Specification and to the lines, grades, levels and dimensions shown on the Plans, or as required by the Engineer-in-charge.

MATERIAL REQUIREMENTS

PORTLAND CEMENT CONCRETE
The cement concrete shall be Class A as specified in Item 405, Structural Concrete.

ASPHALT
Asphaltic material shall be as specified in Item 308, Bituminous Plant-Mix Surface Course, Cold-Laid, or Item 310, Bituminous Concrete Surface Course, Hot- Laid.

EXPANSION JOINT FILLER
Unless otherwise ordered, the preformed joint filler shall have a thickness of 5 mm and shall conform to the requirements of Item 311, Portland Cement Concrete Pavement.

FORMS
Forms shall be of wood or metal as approved by the Engineer and shall extend to the full depth of the

concrete. All forms shall be straight, free from warps and of adequate strength to resist distortion.

BED COURSE MATERIAL
Bed course material consists of cinders, sand, slag, gravel, crushed stone or other approved permeable granular material of such grading that all particles shall pass a 12.5 mm (1/2 inch) sieve.

ASPHALTIC PRIME COAT
Prime coat shall be cut-back asphalt conforming to the requirements of Item 301, Bituminous Prime Coat.

CMH WITH AB AND CAST IRON
DESCRIPTION

This item shall consist of construction of manholes and inlets in accordance with the Standard Specifications for Public Works and Highways and in reasonably close conformity with the lines and grades shown on the plans or as established by the Engineer-In-Charge.

MATERIAL REQUIREMENTS

Concrete for these structures shall meet the requirements of Item 405, Structural Concrete. Other materials shall meet the following specifications:

CORRUGATED METAL UNITS
The units shall conform to Plan dimensions and the metal to AASHTO M 36. Bituminous coating, when specified, shall conform to ASTM D 1187, Asphalt-base Emulsion for use as Protective Coating for Metal.

Sewer and manhole brick (Made from clay or shale)	AASHTO M 91
Building brick (Solid masonry units made from clay or shale)	AASHTO M 114

JOINT MORTAR
Unless otherwise indicated on the Plans, joints mortar shall be composed of one part Portland Cement and two parts fine aggregate by volume to which hydrated lime has been added in an amount equal to 10 percent of the cement by weight. All materials for mortar shall meet the requirements of Item 405, Structural Concrete.

FRAMES, GRATINGS, COVERS AND LADDER RUNGS
Metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials. Metal gratings and covers which are to rest on frames shall bear on them evenly. They shall be assembled before shipment and so marked that the same pieces may be reassembled readily in the same position when installed. Inaccuracy of bearings shall be corrected by machining, if necessary. A frame and a grating or cover to be used with it shall constitute one pair.
All castings shall be uniformly coated with asphalt-based emulsion meeting the requirements of ASTM D 1187, Asphalt-base Emulsion for use as Protective Coating for Metal. Samples of the material in casting shall be taken during the casting of the units and shall be separate casting poured from the same material as the casting they represent

Gray iron casting	AASHTO M 105
Mild to medium-strength carbon steel castings for general application	AASHTO M 103
Structural steel	AASHTO M 183
Galvanizing, where specified for these units, shall conform to the requirements of	AASHTO M 111
Reinforcing Steel	AASHTO M 31

PRE-CAST CONCRETE UNITS

These units shall be cast in substantial permanent steel forms. Structural concrete used shall attain a minimum 28-day compressive strength of 20.682 MPa (3000 psi). The pre-cast units shall be cured in accordance with AASHTO M 171. Water absorption of individual cores taken from such units shall not exceed 7 percent. Additional reinforcement shall be provided as necessary to provide for handling of the pre-cast units. A sufficient number of cylinders shall be cast from the concrete for each unit permit compression tests at 7, 14 and 28 days, and to allow for at least 3 cylinders for each test. If the strength requirement is met at 7 or 14 days, the units shall be certified for use 14 days from the date of casting. If the strength is not met at 28 days, all units made from that batch or load will be rejected. Cracks in units, honeycombed or patched areas in excess of 2,000 square millimeters, excessive water absorption and failure to meet strength requirements shall be the causes for rejection. Pre-cast reinforced concrete manhole risers and tops shall conform to the requirements of AASHTO M 199. The plants will be inspected periodically for compliance with specified manufacturing methods, and material samples will be obtained for laboratory testing for compliance with material quality requirements. This may be the basis for acceptance of manufacturing lots as the quality. All materials shall be subjected to inspection for acceptance as to condition at the latest practicable time the Engineer has the opportunity to check for compliance prior to or during incorporation of materials into the work.

CMH WITH AB AND CAST IRON (Rdwy.)
DESCRIPTION

This item shall consist of construction of manholes and inlets in accordance with the Standard Specifications for Public Works and Highways and in reasonably close conformity with the lines and grades shown on the plans or as established by the Engineer-In-Charge.

MATERIAL REQUIREMENTS

Concrete for these structures shall meet the requirements of Item 405, Structural Concrete. Other materials shall meet the following specifications:

CORRUGATED METAL UNITS
The units shall conform to Plan dimensions and the metal to AASHTO M 36. Bituminous coating, when specified, shall conform to ASTM D 1187, Asphalt-base Emulsion for use as Protective Coating for Metal.

Sewer and manhole brick (Made from clay or shale)	AASHTO M 91
Building brick (Solid masonry units made from clay or shale)	AASHTO M 114

JOINT MORTAR
Unless otherwise indicated on the Plans, joints mortar shall be composed of one part Portland Cement and two parts fine aggregate by volume to which hydrated lime has been added in an amount equal to 10 percent of the cement by weight. All materials for mortar shall meet the requirements of Item 405, Structural Concrete.

FRAMES, GRATINGS, COVERS AND LADDER RUNGS
Metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials. Metal gratings and covers which are to rest on frames shall bear on them evenly. They shall be assembled before shipment and so marked that the same pieces may be reassembled readily in the same position when installed. Inaccuracy of bearings shall be corrected by machining, if necessary. A frame and a grating or cover to be used with it shall constitute one pair.
All castings shall be uniformly coated with asphalt-based emulsion meeting the requirements of ASTM D 1187, Asphalt-base Emulsion for use as Protective Coating for Metal. Samples of the material in casting shall be taken during the casting of the units and shall be separate casting poured from the same material as the casting they represent

Gray iron casting	AASHTO M 105
Mild to medium-strength carbon steel castings for general application	AASHTO M 103

Structural steel	AASHTO M 183
Galvanizing, where specified for these units, shall conform to the requirements of	AASHTO M 111
Reinforcing Steel	AASHTO M 31

PRE-CAST CONCRETE UNITS

These units shall be cast in substantial permanent steel forms. Structural concrete used shall attain a minimum 28-day compressive strength of 20.682 MPa (3000 psi). The pre-cast units shall be cured in accordance with AASHTO M 171. Water absorption of individual cores taken from such units shall not exceed 7 percent. Additional reinforcement shall be provided as necessary to provide for handling of the pre-cast units. A sufficient number of cylinders shall be cast from the concrete for each unit permit compression tests at 7, 14 and 28 days, and to allow for at least 3 cylinders for each test. If the strength requirement is met at 7 or 14 days, the units shall be certified for use 14 days from the date of casting. If the strength is not met at 28 days, all units made from that batch or load will be rejected. Cracks in units, honeycombed or patched areas in excess of 2,000 square millimeters, excessive water absorption and failure to meet strength requirements shall be the causes for rejection. Pre-cast reinforced concrete manhole risers and tops shall conform to the requirements of AASHTO M 199. The plants will be inspected periodically for compliance with specified manufacturing methods, and material samples will be obtained for laboratory testing for compliance with material quality requirements. This may be the basis for acceptance of manufacturing lots as the quality. All materials shall be subjected to inspection for acceptance as to condition at the latest practicable time the Engineer has the opportunity to check for compliance prior to or during incorporation of materials into the work.

CONCRETE CURB

DESCRIPTION

This item shall consist of the construction of concrete curb made of concrete in accordance with the Standard Specifications for Public Works and Highways at the location and in conformity with the lines, grades, dimensions and design shown on the Plans or as required by the Engineer-In-Charge. Compressive strength for concrete mix to be used shall not be less than 4,000 psi.

MATERIAL REQUIREMENTS

MATERIAL FOR BED COURSE

Bed course materials as shown on the Plans shall consist of cinders, sand, slag, gravel, crushed stone, or other approved porous material of such grading that all the particles will pass through 12.5 mm (1/2 inch) sieve.

CONCRETE

Concrete shall be of the class indicated on the Plans and shall conform to the requirements of Item 405, Structural Concrete.

EXPANSION JOINT FILLER

Expansion joint filler shall conform to the requirements of AASHTO M 153/ joint materials.

CEMENT MORTAR

Cement mortar shall consist of one part of Portland cement and two parts of fine aggregates with water added as necessary to obtain the required consistency. The mortar shall be used within 30 minutes of preparation.

BONDING COMPOUND

Where bonding compound is used, it shall conform to AASHTO M 200.

FORMS

Forms shall be of wood or metal as approved by the Engineer and shall extend to the full depth of the concrete. All forms shall be straight, free from warps and of adequate strength to resist distortion.

contract.

THERMOPLASTIC MARKINGS (WHITE/YELLOW)
MATERIAL REQUIREMENTS

Reflectorized thermoplastic pavement material shall be homogeneously composed of pigment, filler, resins, and glass reflectorizing spheres.
The thermoplastic materials shall be available to both white and yellow.
Glass Beads (Pre-mix) shall be uncoated and shall comply with the following requirements:
Refractive Index, min. – 1.5
Spheres Percent, min. – 90

Gradation:

Sieve, mm	Mass Percent Passing
0.850	100
0.600	75 – 95
0.425	-
0.300	15 – 35
0.180	-
0.150	0 – 5

CONSTRUCTION SAFETY AND HEALTH
DESCRIPTION

This item shall include necessary provision of construction safety and health gear such as safety vest, Safety helmet, First Aid Kit, Safety Boots and Gloves. All materials delivered and utilized for the project shall be turned-over to the Implementing agency after the completion of the project.

MATERIAL REQUIREMENTS

Based on the standard design and specifications approved by and material requirement of the implementing agency.

DRAINAGE INTERCEPTOR
DESCRIPTION

This item shall consist of construction of drainage interceptor in accordance with the Standard Specifications for Public Works and Highways and in reasonably close conformity with the lines and grades shown on the plans or as established by the Engineer-In-Charge.

MATERIAL REQUIREMENTS

Concrete for these structures shall meet the requirements of Item 405, Structural Concrete. Other materials shall meet the following specifications:

CORRUGATED METAL UNITS
The units shall conform to Plan dimensions and the metal to AASHTO M 36. Bituminous coating, when specified, shall conform to ASTM D 1187, Asphalt-base Emulsion for use as Protective Coating for Metal.

Sewer and manhole brick (Made from clay or shale)	AASHTO M 91
Building brick (Solid masonry units made from clay or shale)	AASHTO M 114

JOINT MORTAR
Unless otherwise indicated on the Plans, joints mortar shall be composed of one part Portland Cement

and two parts fine aggregate by volume to which hydrated lime has been added in an amount equal to 10 percent of the cement by weight. All materials for mortar shall meet the requirements of Item 405, Structural Concrete.

FRAMES, GRATINGS, COVERS AND LADDER RUNGS

Metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials. Metal gratings and covers which are to rest on frames shall bear on them evenly. They shall be assembled before shipment and so marked that the same pieces may be reassembled readily in the same position when installed. Inaccuracy of bearings shall be corrected by machining, if necessary. A frame and a grating or cover to be used with it shall constitute one pair.

All castings shall be uniformly coated with asphalt-based emulsion meeting the requirements of ASTM D 1187, Asphalt-base Emulsion for use as Protective Coating for Metal. Samples of the material in casting shall be taken during the casting of the units and shall be separate casting poured from the same material as the casting they represent.

Gray iron casting	AASHTO M 105
Mild to medium-strength carbon steel castings for general application	AASHTO M 103
Structural steel	AASHTO M 183
Galvanizing, where specified for these units, shall conform to the requirements of	AASHTO M 111
Reinforcing Steel	AASHTO M 31

PRE-CAST CONCRETE UNITS

These units shall be cast in substantial permanent steel forms. Structural concrete used shall attain a minimum 28-day compressive strength of 20.682 MPa (3000 psi). The pre-cast units shall be cured in accordance with AASHTO M 171. Water absorption of individual cores taken from such units shall not exceed 7 percent. Additional reinforcement shall be provided as necessary to provide for handling of the pre-cast units. A sufficient number of cylinders shall be cast from the concrete for each unit permit compression tests at 7, 14 and 28 days, and to allow for at least 3 cylinders for each test. If the strength requirement is met at 7 or 14 days, the units shall be certified for use 14 days from the date of casting. If the strength is not met at 28 days, all units made from that batch or load will be rejected. Cracks in units, honeycombed or patched areas in excess of 2,000 square millimeters, excessive water absorption and failure to meet strength requirements shall be the causes for rejection. Pre-cast reinforced concrete manhole risers and tops shall conform to the requirements of AASHTO M 199. The plants will be inspected periodically for compliance with specified manufacturing methods, and material samples will be obtained for laboratory testing for compliance with material quality requirements. This may be the basis for acceptance of manufacturing lots as the quality. All materials shall be subjected to inspection for acceptance as to condition at the latest practicable time the Engineer has the opportunity to check for compliance prior to or during incorporation of materials into the work.

DEMOLITION OF EXISTING STRUCTURES

DESCRIPTION

This item shall consist of the removal, wholly or in part, and satisfactorily disposal of all affected trees which are not designated or permitted to remain except for the obstructions to be removed and disposed of under other items in the contract.

REMOVAL OF EXISTING TREES

DESCRIPTION

This item shall consist of the removal. Wholly or in part, and satisfactorily disposal of all existing riprap which are not designated or permitted to remain, except for the obstruction to be removed and disposed of under other items in the contract.

SHORING
DESCRIPTION

This item shall consist of installation of shoring and barricade to prevent soil erosion on the location and in conformity with the lines, grades, dimensions and design shown on the Plans or as required by the Engineer-In-Charge.

MATERIAL REQUIREMENTS
Based on the standard design approved by and material requirement of the implementing agency.

ENGR. KELVIN M. MARZONIA
E.E.,Planning and Programming Division

ENGR. RALPHGREGOR M. MANALO
C.E.,Planning and Programming Division

Section VII. Drawings

[Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section, or annexed in a separate folder.]

Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

a. to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and

b. when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

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

Daywork Schedule

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

a. A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.

b. Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

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

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Procuring Entity to select such specialized contractors. To provide an element of competition among the Bidders in respect of any facilities, amenities, attendance, etc., to be provided by the successful Bidder as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.

Signature Box

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

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

PROJECT TITLE : PROPOSED QUEZON MEMORIAL CIRCLE MASTER DEVELOPMENT PLAN (PHASE 1 / ROAD DEVELOPMENT, UTILITIES AND MAINTENANCE)

LOCATION : BARANGAY CENTRAL, DISTRICT 4, QUEZON CITY

PROJECT NO. : 23 - 00108

DURATION : Two Hundred Ten (210) Calendar Days

BREAKDOWN OF COST

ITEM NO.	DESCRIPTION	ESTIMATED DIRECT COST	TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST
			%	VALUE			
PART I	OTHER GENERAL REQUIREMENTS						
PART II	GUARD HOUSE AND GATEWAY						
PART III	POWER HOUSE						
PART IV	GENSET HOUSE						
PART V	SPORTS FACILITY STORAGE						
PART VI	PUMP HOUSE						
PART VII	ROAD DEVELOPMENT						
TOTAL							

T O T A L C O S T ₱_____

LUMP SUM BID IN WORDS : _____

Contractor : _____

BILL OF QUANTITIES

(Parks Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED QUEZON MEMORIAL CIRCLE MASTER DEVELOPMENT PLAN (PHASE 1 / ROAD DEVELOPMENT, UTILITIES AND MAINTENANCE)

LOCATION : BARANGAY CENTRAL, DISTRICT 4, QUEZON CITY

PROJECT NO. : 23 - 000108

DURATION : Two Hundred Ten (210) Calendar Days

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
PART I	**OTHER GENERAL REQUIREMENTS**											
B.5	Project Billboard / Sign Board	6	ea									
B.7(1)	Occupational Safety and Health	7	mo									
B.9	Mobilization / Demobilization	1	l.s.									
B.24	Scaffolding	189	m^2									
	TOTAL OF PART I											
PART II	**GUARD HOUSE AND GATEWAY**											
PART II-A	**CIVIL, SANITARY/PLUMBING AND ELECTRICAL WORKS**											
PART A	**EARTHWORKS**											
803(1)b	Structure Excavation	82	m^3									
804(1)a	Embankment from Structure Excavation	163	m^3									
804(4)	Gravel Fill	2	m^3									
1000(1)	Soil Poisoning	2	lit									
	TOTAL OF PART A											
PART B	**REMOVAL WORKS**											
800(1)	Clearing and Grubbing	16	m^2									
101(1)	Removal of Actual Structures/Obstruction	1	l.s.									
	TOTAL OF PART B											
PART C	**PLAIN AND REINFORCED CONCRETE WORKS**											
900(5)	Structural Concrete (Ready Mix, 3000 psi, 28 days)	68	m^3									
902(1)a	Reinforcing Steel (Deformed), Garde 40	1,443	kg									
902(1)b	Reinforcing Steel (Deformed), Grade 60	1,665	kg									
1003(15)	Concrete Moulding	3	l.m.									
903(2)	Formworks and Falseworks	194	m^3									

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
	TOTAL OF PART C											
PART D	**FINISHING AND OTHER CIVIL WORKS**											
D.1 Fabricated Materials												
1047(1)	Structural Steel, Truss	1	l.s									
1047(1)	Stainless Steel, Gutter	9	l.m.									
1047(1)	Stainless Steel, Decorative Canopy	1	l.s.									
D.2 Masonry Works												
1046(2)a2	CHB Non-Load Bearing (Including Reinforcing Steel), 100mm	99	m^2									
1027(1)	Cement Plaster Finish	198	m^2									
1021(3)	Floor Topping	24	m^2									
D.3 Moisture Protection												
1016	Vapor Barrier Sheet	24	m²									
1016(1)b	Waterproofing - Liquid	55	m²									
D.4 Carpentry and Joinery												
1003(24)	Aluminum Composite Panel	89	m²									
D.5 Ceramic/Granite Tiles												
1018(5)	Glazed Tiles	49	m²									
1018(2)	Unglazed Tiles	26	m²									
D.6 Painting, Varnishing and Other Related Works												
1032(1)	Painting Works, Masonry/Concrete	120	m^2									
1032(1)c	Painting Works, Steel	14	m^2									
D.7 Installation of Doors												
1006(4)	Swing Type Solid Panel Door	4	m^2									
1006(1)	Swing Type Flush Hollow Core Door	4	m^2									
D.8 Installation of Windows												
1008(1)d	Aluminum Glass Windows (Fixed Type)	5	m^2									
1008(1)c	Aluminum Powder Coated Frame Awning Window	2	m^2									
	TOTAL OF PART D											
PART E	**PLUMBING WORKS**											
500(1)	Pipe Culverts, 460mm dia.,RCPC	22	l.m.									
1001 (8)	Sewer Line Works	1	ls									
1001 (9)	Storm Drainage and Downspout	1	ls									
1001 (13)	Polyethylene Septic Tank	2	ea									
1002 (4)	Sanitary / Plumbing Fixtures	1	ls									

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
1002 (24)	Cold Water Line	1	ls									
1720 (3) a7	Area Drain(HT for 460mm dia. RCPC)	4	ea									
	TOTAL OF PART E											
PART F	**ELECTRICAL WORKS**											
1100 (10)	Conduits, Boxes and Fittings (Conduit works/Conduit Rough-in)	1	l.s									
1101 (33)	Wires and Wiring Devices	1	l.s									
1102 (1)	Panelboard with Main and Branch Breakers	1	l.s									
1103 (1)	Lighting Fixtures and Lamps	1	l.s									
	TOTAL OF PART F											
	TOTAL OF PART II											
PART III	**POWER HOUSE**											
PART III	**CIVIL, SANITARY/PLUMBING AND ELECTRICAL WORKS**											
PART A	**EARTHWORKS**											
803(1)b	Structure Excavation	53	m^3									
804(1)a	Embankment from Structure Excavation	45	m^3									
804(4)	Gravel Fill	4	m^3									
1000(1)	Soil Poisoning	4	lit									
	TOTAL OF PART A											
PART B	**REMOVAL WORKS**											
800(1)	Clearing and Grubbing	46	m^2									
	TOTAL OF PART B											
PART C	**PLAIN AND REINFORCED CONCRETE WORKS**											
900(5)	Structural Concrete (Ready Mix, 3000 psi, 28 days)	42	m^3									
902(1)a	Reinforcing Steel (Deformed), Garde 40	629	kg									
902(1)b	Reinforcing Steel (Deformed), Grade 60	643	kg									
903(2)	Formworks and Falseworks	211	m^3									
	TOTAL OF PART C											
PART D	**FINISHING AND OTHER CIVIL WORKS**											
D.1 Fabricated Materials												
1047(1)	Stainless Steel, Gutter	29	l.m.									

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
D.2 Masonry Works												
1046(2)a2	CHB Non-Load Bearing (Including Reinforcing Steel), 150mm	52	m^2									
1027(1)	Cement Plaster Finish	103	m^2									
1021(3)	Cement Floor Finish	46	m^2									
D.3 Moisture Protection												
1016	Vapor Barrier Sheet	46	m²									
1016(1)b	Waterproofing - Liquid	55	m²									
D.4 Floor Finishes												
1027(3)	Stone Cladding	99	m^2									
D.5 Painting, Varnishing and Other Related Works												
1032(1)	Painting Works, Masonry/Concrete	137	m^2									
D.6 Installation of Doors												
1006(4)	Double-Louvered Steel Door	2	m^2									
1006(4)	Steel Louvered Door	1	m^2									
D.7 Installation of Windows												
1005(5)	Grill Window	3	m^2									
	TOTAL OF PART D											
PART E	**PLUMBING WORKS**											
500(1)	Pipe Culverts, 460mm dia.,RCPC	19	l.m.									
1001 (8)	Sewer Line Works	1	ls									
1001 (9)	Storm Drainage and Downspout	1	ls									
1002 (4)	Sanitary / Plumbing Fixtures	1	ls									
1720 (3) a7	Area Drain(HT for 460mm dia. RCPC)	2	ea									
	TOTAL OF PART E											
PART F	**ELECTRICAL WORKS**											
1100 (10)	Conduits, Boxes and Fittings (Conduit works/Conduit Rough-in)	1	l.s									
1101 (33)	Wires and Wiring Devices	1	l.s									
1102 (1)	Panelboard with Main and Branch Breakers	1	l.s									
1103 (1)	Lighting Fixtures and Lamps	1	l.s									
	TOTAL OF PART F											
	TOTAL OF PART III											

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
PART IV	**GENSET HOUSE**											
PART IV	**CIVIL, SANITARY/PLUMBING AND ELECTRICAL WORKS**											
PART A	**EARTHWORKS**											
803(1)b	Structure Excavation	44	m^3									
804(1)a	Embankment from Structure Excavation	6	m^3									
804(4)	Gravel Fill	2	m^3									
1000(1)	Soil Poisoning	2	lit									
	TOTAL OF PART A											
PART B	**REMOVAL WORKS**											
800(1)	Clearing and Grubbing	29	m^2									
	TOTAL OF PART B											
PART C	**PLAIN AND REINFORCED CONCRETE WORKS**											
900(5)	Structural Concrete (Ready Mix, 3000 psi, 28 days)	15	m^3									
902(1)a	Reinforcing Steel (Deformed), Garde 40	1,334	kg									
902(1)b	Reinforcing Steel (Deformed), Grade 60	726	kg									
903(2)	Formworks and Falseworks	109	m^3									
	TOTAL OF PART C											
PART D	**FINISHING AND OTHER CIVIL WORKS**											
D.1 Fabricated Materials												
1047(1)	Stainless Steel, Gutter	10	l.m.									
D.2 Masonry Works												
1046(2)a2	CHB Non-Load Bearing (Including Reinforcing Steel), 150mm	78	m^2									
1027(1)	Cement Plaster Finish	159	m^2									
1021(1)	Cement Floor Finish	30	m^2									
D.3 Moisture Protection												
1016	Vapor Barrier Sheet	30	m²									
1016(1)b	Waterproofing - Liquid	30	m²									
D.4 Floor Finishes												
1027(3)	Stone Cladding	75	m^2									
D.5 Painting, Varnishing and Other Related Works												
1032(1)	Painting Works, Masonry/Concrete	110	m^2									
D.6 Installation of Doors												
1006(4)	Double-Louvered Steel Door	7	m^2									
1006(4)	Steel Louvered Door	4	m^2									

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
D.7 Installation of Windows												
1005(5)	Louvered Casement Window	10	m^2									
	TOTAL OF PART D											
PART E	**PLUMBING WORKS**											
500(1)	Pipe Culverts, 460mm dia.,RCPC	28	l.m.									
1001 (8)	Sewer Line Works	1	ls									
1001 (9)	Storm Drainage and Downspout	1	ls									
1002 (4)	Sanitary / Plumbing Fixtures	1	ls									
1002 (24)	Cold Water Line	1	ls									
1720 (3) a7	Area Drain(HT for 460mm dia. RCPC)	4	ea									
	TOTAL OF PART E											
PART F	**ELECTRICAL WORKS**											
1100 (10)	Conduits, Boxes and Fittings (Conduit works/Conduit Rough-in)	1	l.s									
1101 (33)	Wires and Wiring Devices	1	l.s									
1102 (1)	Panelboard with Main and Branch Breakers	1	l.s									
1103 (1)	Lighting Fixtures and Lamps	1	l.s									
	TOTAL OF PART F											
	TOTAL OF PART IV											
PART V	**SPORTS FACILITY STORAGE**											
PART V	**CIVIL, SANITARY/PLUMBING AND ELECTRICAL WORKS**											
PART A	**EARTHWORKS**											
803(1)b	Structure Excavation	58	m^3									
804(1)a	Embankment from Structure Excavation	56	m^3									
804(4)	Gravel Fill	1	m^3									
1000(1)	Soil Poisoning	19	lit									
	TOTAL OF PART A											
PART B	**REMOVAL WORKS**											
101(1)	Removal of Actual Structures/Obstruction	1	l.s.									
	TOTAL OF PART B											

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
PART C	**PLAIN AND REINFORCED CONCRETE WORKS**											
900(5)	Structural Concrete (Ready Mix, 3000 psi, 28 days)	9	m^3									
902(1)a	Reinforcing Steel (Deformed), Garde 40	699	kg									
902(1)b	Reinforcing Steel (Deformed), Grade 60	802	kg									
903(2)	Formworks and Falseworks	73	m^3									
	TOTAL OF PART C											
PART D	**FINISHING AND OTHER CIVIL WORKS**											
D.1 Fabricated Materials												
1047(1)	Stainless Steel, Gutter	19	l.m.									
D.2 Masonry Works												
1046(2)a2	CHB Non-Load Bearing (Including Reinforcing Steel), 100mm	81	m^2									
1027(1)	Cement Plaster Finish	160	m^2									
1021(3)a	Floor Topping	19	m^2									
D.3 Moisture Protection												
1016	Vapor Barrier Sheet	19	m^2									
1016(1)b	Waterproofing - Liquid	19	m^2									
D.4 Floor Finishes												
1027(3)	Stone Cladding	67	m^2									
D.5 Ceramic/Granite Tiles												
1018(5)	Glazed Tiles	14	m^2									
1018(2)	Unglazed Tiles	4	m^2									
D.6 Painting, Varnishing and Other Related Works												
1032(1)	Painting Works, Masonry/Concrete	109	m^2									
D.7 Installation of Doors												
1006(4)	Steel Louvered Door	9	m^2									
D.8 Installation of Windows												
1005(5)	Louvered Casement Window	5	m^2									
	TOTAL OF PART D											
PART E	**PLUMBING WORKS**											
500 (1) a1	Pipe Culverts, 610mm dia., RCPC	12	l.m.									
1001 (8)	Sewer Line Works	1	ls									
1001 (9)	Storm Drainage and Downspout	1	ls									
1002 (4)	Sanitary / Plumbing Fixtures	1	ls									

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
1002 (24)	Cold Water Line	1	ls									
1720 (3) a1	Area Drain(HT for 610mm dia. RCPC)	2	ea									
	TOTAL OF PART E											
PART F	**ELECTRICAL WORKS**											
1100 (10)	Conduits, Boxes and Fittings (Conduit works/Conduit Rough-in)	1	l.s									
1101 (33)	Wires and Wiring Devices	1	l.s									
1103 (1)	Lighting Fixtures and Lamps	1	l.s									
	TOTAL OF PART F											
	TOTAL OF PART V											
PART VI	**PUMP HOUSE**											
PART VI	**CIVIL, SANITARY/PLUMBING AND ELECTRICAL WORKS**											
PART A	**EARTHWORKS**											
803(1)b	Structure Excavation	31	m^3									
804(1)a	Embankment from Structure Excavation	12	m^3									
804(4)	Gravel Fill	1	m^3									
1000(1)	Soil Poisoning	2	lit									
	TOTAL OF PART A											
PART B	**REMOVAL WORKS**											
101(1)	Removal of Actual Structures/Obstruction	1	l.s									
	TOTAL OF PART B											
PART C	**PLAIN AND REINFORCED CONCRETE WORKS**											
900(5)	Structural Concrete (Ready Mix, 3000 psi, 28 days)	8	m^3									
902(1)a	Reinforcing Steel (Deformed), Garde 40	561	kg									
902(1)b	Reinforcing Steel (Deformed), Grade 60	374	kg									
903(2)	Formworks and Falseworks	57	m^3									
	TOTAL OF PART C											
PART D	**FINISHING AND OTHER CIVIL WORKS**											
D.1 Fabricated Materials												
1047(1)	Stainless Steel, Gutter	7	l.m.									

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
D.2 Masonry Works												
1046(2)a2	CHB Non-Load Bearing (Including Reinforcing Steel), 100mm	62	m^2									
1027(1)	Cement Plaster Finish	118	m^2									
1021(1)	Cement Floor Finish	16	m^2									
D.3 Moisture Protection												
1016	Vapor Barrier Sheet	16	m²									
1016(1)b	Waterproofing - Liquid	16	m²									
D.4 Floor Finishes												
1027(3)	Stone Cladding	54	m^2									
D.5 Painting, Varnishing and Other Related Works												
1032(1)	Painting Works, Masonry/Concrete	75	m^2									
D.6 Installation of Doors												
1006(4)	Steel Louvered Door	3	m^2									
D.7 Installation of Windows												
1005(5)	Louvered Windows	4	m^2									
	TOTAL OF PART D											
PART E	**PLUMBING WORKS**											
500(1)	Pipe Culverts, 460mm dia.,RCPC	20	l.m.									
1001 (8)	Sewer Line Works	1	ls									
1001 (9)	Storm Drainage and Downspout	1	ls									
1002 (4)	Sanitary / Plumbing Fixtures	1	ls									
1002 (24)	Cold Water Line	1	ls									
1720 (3) a7	Area Drain(HT for 460mm dia. RCPC)	4	ea									
	TOTAL OF PART E											
PART F	**ELECTRICAL WORKS**											
1100 (10)	Conduits, Boxes and Fittings (Conduit works/Conduit Rough-in)	1	l.s									
1101 (33)	Wires and Wiring Devices	1	l.s									
1102 (1)	Panelboard with Main and Branch Breakers	1	l.s									
1103 (1)	Lighting Fixtures and Lamps	1	l.s									
	TOTAL OF PART F											
	TOTAL OF PART VI											

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
PART VII	**ROAD DEVELOPMENT**											
PART VII	**CIVIL, SANITARY/PLUMBING, AND ELECTRICAL WORKS**											
PART A	**REMOVAL WORKS**											
100(1)	Clearing and Grubbing	4,821	m²									
101(1)	Removal of Actual Structures/Obstruction	1	l.s									
101(3)b3	Removal of Actual Structures / Obstruction, PCCP (Unreinforced)	4,564	m²									
101(3)c1	Removal of Actual Structures / Obstruction, Asphalt	4,564	m²									
101(3)d	Removal of Actual Structures / Obstruction, Sidewalk	1,071	m²									
101(4)c	Removal of Actual Structures / Obstruction, Curb & Gutter	1,752	m									
	TOTAL OF PART A											
PART B	**EARTHWORKS**											
102(2)	Roadway Excavation	135	m³									
103(1)c	Structure Excavation	1,538	m³									
103(6)c	Pipe Culvert and Drain Excavation	5,853	m³									
104(7)	Embankment from Structure Excavation	2,701	m³									
	TOTAL OF PART B											
PART C	**SUB-BASE AND BASE COURSE**											
200(1)	Aggregate Subbase Course	485	m³									
201(1)	Aggregate Base Course	1,157	m³									
	TOTAL OF PART C											
PART D	**SURFACE COURSES**											
311(1)d2	Portland Cement Concrete Pavement, 0.25m thick, 7 days	9,693	m²									
600(4)	Curb and Gutter (Cast in Place)	2,172	m									
612(1)	Reflectorized Thermoplastic Pavement Markings White	451	m²									
	TOTAL OF PART D											
PART E	**FINISHING AND OTHER CIVIL WORKS**											
E.1 Site Development												
807(9)	Paver Blocks (Side Walk)	3,750	m²									
807(12)	Wheel Stopper	102	ea									
624(2)	Park Light	244	ea									
	TOTAL OF PART E											

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
PART F	**SANITARY / PLUMBING WORKS**											
500 (1) a1	Pipe Culverts, 610mm dia., RCPC	835	l.m.									
500 (1) a3	Pipe Culverts, 910mm dia., RCPC	870	l.m.									
500(1)a5	Pipe Culverts, 1200mm dia., RCPC	530	l.m.									
502(1)a1-2	Manholes 610mm Concrete	17	ea									
502(1)a3-5	Manholes, 910mm Concrete	25	ea									
502(1)a3-5	Manholes, 1200mm Concrete	5	ea									
502(2)a	Inlets, Hinge type with Stainless Trash Trap	47	set									
502(6)a1	Metal frames and covers, Cast Iron, Class D400 (550 mm x 900 mm), for 610 Manhole	17	pair									
502(6)a2	Metal frames and covers, Cast Iron, Class D400 (1000 mm x 900 mm), for 910 Manhole	25	pair									
502(6)a2	Metal frames and covers, Cast Iron, Class D400 (1000 mm x 900 mm),for 1200 Manhole	5	pair									
1002 (22)	Hose Bibb	21	piece									
1002 (24)	Cold Water Line	1	l.s									
1720 (3) a1	Area Drain(HT for 610mm dia. RCPC)	35	l.s									
1720 (3) a3	Area Drain(HT for 910mm dia. RCPC)	22	l.s									
1720 (3) a5	Area Drain(HT for 1200mm dia. RCPC)	24	l.s									
	TOTAL OF PART F											
PART G	**ELECTRICAL WORKS**											
1100 (10)	Conduits, Boxes and Fittings (Conduit works/Conduit Rough-in)	1	l.s									
1101 (33)	Wires and Wiring Devices	1	l.s									
1102 (1)	Panelboard with Main and Branch Breakers	1	l.s									
1103 (1)	Lighting Fixtures and Lamps	1	l.s									
1106 (1)	CCTV System	1	l.s									
1107 (1)	Public Address System	1	l.s									
1111 (1)	Reinforced Concrete Pole (Service Entrance)	1	l.s									
1111 (1)	Reinforced Concrete Pole (Telecom Service Entrance)	1	l.s									
1111 (4)	Handhole	1	l.s									
1111 (3)	Concrete Encasement	1	l.s									
	TOTAL OF PART G											
	TOTAL OF PART VII											
	GRAND TOTAL											

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

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

a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or

b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

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

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);
and

☐ (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;
and

☐ (c) Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;
and

☐ (e) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Technical Documents

☐ (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid *(please see attached prescribed forms required by the QC – BAC for Infrastructure and Consultancy)*; **and**

☐ (g) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules with an attached Notice of Award, Notice to Proceed, Contract and Certificate of Acceptance *(please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy)*; **and**

☐ (h) Philippine Contractors Accreditation Board (PCAB) License;
or
Special PCAB License in case of Joint Ventures;
and registration for the type and cost of the contract to be bid; **and**

☐ (i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;
or
Original copy of Notarized Bid Securing Declaration; **and**

(j) Project Requirements, which shall include the following:

☐ a. Organizational chart for the contract to be bid;

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data *(please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy)*;

☐ c. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment

lessor/vendor for the duration of the project, as the case may be *(please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy)*; **and**

☐ (k) Original duly signed Omnibus Sworn Statement (OSS);
and if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Additional Technical Requirements:

- ☐ Certificate of Site Inspection or Affidavit of Site Inspection as part of Omnibus Sworn Statement
- ☐ Affidavit of Undertaking for Key Personnel and Equipment *(please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy)*
- ☐ Equipment Utilization Schedule
- ☐ Manpower Schedule
- ☐ Construction Schedule and S-Curve
- ☐ PERT-CMP
- ☐ Construction Methods

Financial Documents

☐ (l) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**

☐ (m) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC) *(please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy)*.

Class "B" Documents

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

II. FINANCIAL COMPONENT ENVELOPE

☐ (o) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

☐ (p) Original of duly signed Bid Prices in the Bill of Quantities; **and**

☐ (q) Duly accomplished Detailed Estimates Form, including a summary shee indicating the unit prices of construction materials, labor rates, and equipmen rentals used in coming up with the Bid; **and**

☐ (r) Cash Flow by Quarter.

Bid Form for the Procurement of Infrastructure Projects

[shall be submitted with the Bid]

BID FORM

Date : _____

Project Identification No. : _____

To: [name and address of Procuring Entity]

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

a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract];*

b. We offer to execute the Works for this Contract in accordance with the PBDs;

c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;

d. The discounts offered and the methodology for their application are: *[insert information]*;

e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties],* which are itemized herein and reflected in the detailed estimates,

f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;

g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines[1] for this purpose;

h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;

i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

---

[1] currently based on GPPB Resolution No. 09-2020

k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity*].*

l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: _____

Legal Capacity: _____

Signature: _____

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

Date: _____

Bid Securing Declaration Form

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

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

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

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.

2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f),of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.

3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:

    a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
    b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
    c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

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

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

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

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

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

AFFIDAVIT

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

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

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

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

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

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

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

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

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

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

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

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

   [If a partnership or cooperative:] None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project

Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

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

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

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

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

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

11. We pledge that the project will be completed in accordance and congruency with the approved plans and programs.

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

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

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

Contract Agreement Form for the Procurement of Infrastructure Projects (Revised)

[not required to be submitted with the Bid, but it shall be submitted within ten (10) days after receiving the Notice of Award]

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 *[contract price in words and figures in specified currency]* 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 as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, *viz.*:

   a. Philippine Bidding Documents (PBDs);
   - i. Drawings/Plans;
   - ii. Specifications;
   - iii. Bill of Quantities;
   - iv. General and Special Conditions of Contract;
   - v. Supplemental or Bid Bulletins, if any;

   b. Winning bidder's bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

   Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents submitted (*e.g.*, Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;

   c. Performance Security;

   d. Notice of Award of Contract and the Bidder's conforme thereto; and

   e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**

3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.

4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

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

[Insert Name and Signature] *[Insert Name and Signature]*

[Insert Signatory's Legal Capacity] *[Insert Signatory's Legal Capacity]*

for: *for:*

[Insert Procuring Entity] *[Insert Name of Supplier]*

Acknowledgment

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

LIST OF ALL ON-GOING GOVERNMENT AND PRIVATE CONTRACTS

NAME OF CONTRACTOR: _____

PROJECT TITLE (Name of the Contract) & EXACT PROJECT LOCATION	DATE OF CONTRACT	CONTRACT DURATION	PROJECT OWNER & POSTAL ADDRESS	NATURE OF WORK	CONTRACTOR'S ROLE (SOLE CONTRACTOR, SUBCONTRACTOR, PARTHNER IN A JV) and PERCENTAGE OF PARTICIPATION	TOTAL CONTRACT VALUE AT AWARD	DATE OF COMPLETION or ESTIMATED COMPLETION TIME	TOTAL CONTRACT VALUE AT COMPLETION *IF APPLICABLE*	PERCENTAGE		VALUE OF OUTSTANDING WORKS (IN PHP)
									ACTUAL ACCOMPLISHMENT	PLANNED ACCOMPLISHMENT	
									TOTAL AMOUNT (Php) OF OUTSTANDING WORKS		

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

LIST OF ALL AWARDED BUT NOT YET STARTED GOVERNMENT AND PRIVATE CONTRACTS OF THE BIDDER

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

PROJECT TITLE & EXACT LOCATION	MAJOR SCOPE OF WORKS & DATE STARTED	NAME AND ADDRESS OF PROJECT OWNER	CONTRACT PRICE (PHP) AS AWARDED	DATE OF SCHEDULED COMPLETION	ROLE OF BIDDER IN THE CONTRACT SOLE CONTRACTOR / SUB-CONTRACTOR/PARTNER IN A
		TOTAL AMOUNT OF CONTRACT (Php)			

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

SINGLE LARGEST COMPLETED CONTRACT SIMILAR TO THE CONTRACT TO BE BID

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

PROJECT TITLE (Name of the Contract) & EXACT PROJECT LOCATION	DATE OF CONTRACT	CONTRACT DURATION	PROJECT OWNER & POSTAL ADDRESS	NATURE OF WORK	CONTRACTOR'S ROLE (SOLE CONTRACTOR, SUBCONTRACTOR, PARTHNER IN A JV) and PERCENTAGE OF PARTICIPATION	TOTAL CONTRACT VALUE AT AWARD	DATE OF COMPLETION or ESTIMATED COMPLETIONTIME	TOTAL CONTRACT VALUE AT COMPLETION IF APPLICABLE

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

LIST OF MAJOR EQUIPMENT TO BE USED FOR THE PROJECT

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

TYPE	DESCRIPTION / CAPACITY	SERIAL NO.	YEAR ACQUIRED	PRESENT LOCATION (SPECIFIC ADDRESS)	STATUS OF AVAILABILITY (OWNED/LEASED)

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

A. LIST OF KEY CONSTRUCTION PERSONNEL TO BE ASSIGNED TO THE PROJECT

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

NAME	POSITION	AGE	EDUCATIONAL ATTAINMENT	TYPE OF CONSTRUCTION EXPERIENCE	NO.OF YEARS WITH THE CONTRACTOR	PROFESSION	PRC NO.

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

COMPUTATION OF NET FINANCIAL CONTRACTING CAPACITY (NFCC)

NAME OF BIDDER: _____

CURRENT ASSETS*		PHP	
(LESS) CURRENT LIABILITIES*	(LESS)	PHP	
NETWORTH		PHP	
NETWORTH x 15	x 15	PHP	
(LESS) VALUE OF ALL OUTSTANDING ON-GOING CONTRACTS**	(LESS)	PHP	
(LESS) VALUE OF ALL AWARDED BUT NOT YET STARTED CONTRACTS AS OF DATE**	(LESS)	PHP	
NET FINANCIAL CONTRACTING CAPACITY		PHP	

NOTES: * CURRENT ASSETS AND LIABILITIES BASED ON AUDITED FINANCIAL STATEMENT FOR THE PRECEDING CALENDAR YEAR SUBMITTED TO B.I.R.

** BASED ON LIST OF ON-GOING AND AWRDED BUT NOT YEY STARTED CONTRACTS SUBMITTED

REPUBLIC OF THE PHILIPPINES)

_____) S. S.

AFFIDAVIT OF UNDERTAKING

I, _____, of legal age, Filipino, _____ ***[OFFICER OR REPRESENTATIVE]*** _____

with office address at _____ after having been duly sworn to in accordance with law, hereby voluntary depose and state:

That I am duly authorized representative of the **[Name of Bidder** _____to execute this undertaking as evidenced by Secretary's Certificate and Board Resolution.

That **[Name of Bidder]** bidding for the (Name of Project)

That relative to the aforementioned Project, the [Name of Bidder] hereby undertake that the equipment to be use and the key personnel to be assign shall exclusively be used and will only perform to the said project until its completion.

That I am executing this affidavit to attest to the truth of the foregoing and in compliance with the submission of the technical requirements for the public bidding of the said project.

IN WITNESS HEREOF, I have hereunto signed my name below this _____ day of_____, _____ at _____.

AFFIANT FURTHER SAYETH NAUGHT.

_____

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME this ___ day of _____, _____ in _____,

affiant exhibiting to me his/her _____ issued at _____ on _____.

Doc. No. ;
Page No. ;
Book No. ;
Series of 2020

_____

Notary Public


Republic of the Philippines
gppb
Government Procurement Policy Board