

PHILIPPINE BIDDING DOCUMENTS
(As Harmonized with Development Partners)

**Procurement of
INFRASTRUCTURE
PROJECTS**

Government of the Republic of the Philippines

PROPOSED CONSTRUCTION OF LUCRECIA KASILAG
PERFORMING ARTS BUILDING

Project No.: 20-00050

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.

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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

October 3, 2020

INVITATION TO BID

No.	Project No.	Project Name	Location	Amount	Duration Cal. Days	Office	Source Fund
<u>Buildings – Small B</u>							
1	20-00035	Proposed Improvement of Electrical System of Nick M. Joaquin Senior High School	Bahay Toro	2,158,497.58	120	City Engineering Department	Special Educational Fund (SEF)
2	20-00036	Proposed Construction of Stage at Mines Elementary School	Vasra	2,322,428.36	90	City Engineering Department	Special Educational Fund (SEF)
3	20-00037	Proposed Rehabilitation of Roof Deck and Upper Roof Deck at QCRRMO Building	Central	2,515,087.12	120	City Engineering Department	General Fund-Engineering Dept.
4	20-00038	Proposed Construction of Flagpole, Stage and Covered Court at Nick Joaquin Senior High School	Bahay Toro	2,873,144.07	120	City Engineering Department	Special Educational Fund (SEF)
5	20-00039	Proposed Improvement of Barangay Hall with Daycare Center	West Kamias	2,927,446.02	120	City Engineering Department	General Fund-Engineering Dept.
6	20-00040	Proposed Renovation and Expansion of Senior Citizen Multi Purpose Hall	Pinagkaisahan	3,433,214.27	120	City Engineering Department	City Engineering Dept-Continuing
7	20-00041	Proposed Rehabilitation of Sitio Maligaya Multi-Purpose Hall	Bahay Toro	3,501,733.92	90	City Engineering Department	City Engineering Dept-Continuing
8	20-00042	Proposed Construction of Covered Pathwalk at Bagong Pag-Asa Elementary School	Bagong Pag-Asa	4,338,083.07	120	City Engineering Department	Special Educational Fund (SEF)
9	20-00043	Proposed Construction of Exit Gate, Covered Pathwalk and Standard Toilet facilities at Ramon Magsaysay Elementary School	Lourdes	6,359,701.62	120	City Engineering Department	Special Educational Fund (SEF)
10	20-00044	Proposed Improvement of Covered Court and Stage at GSIS Village Elementary School	Sangandaan	6,532,001.97	150	City Engineering Department	Special Educational Fund (SEF)
11	20-00045	Proposed Upgrading of Main Electrical Service Entrance of San Agustin Elementary School	San Agustin	6,804,995.05	150	City Engineering Department	Special Educational Fund (SEF)
12	20-00046	Proposed Renovation of Vice Mayor's Office, Information Desk and QCADDAAC	Central	7,245,482.39	150	City Engineering Department	General Fund-Engineering Dept.
13	20-00047	Proposed Construction of two (2) storey Multi Purpose Hall at R.T. Gonzales Park	San Bartolome	7,991,277.39	180	City Engineering Department	City Engineering Dept-Continuing
14	20-00048	Proposed Construction of Covered Pathwalk, Waiting Area, Hand Washing Area and Exit Gate at Placido Del Mundo Elementary School	Talipapa	9,006,063.18	150	City Engineering Department	Special Educational Fund (SEF)
15	20-00049	Proposed Construction of Covered Pathwalk / Waiting Area at Toro Hills Elementary School	Bahay Toro	9,623,352.25	120	City Engineering Department	Special Educational Fund (SEF)
<u>Building – Medium A</u>							
16	20-00050	Proposed Construction of Lucrecia Kasilag Performing Arts Building	Veterans Village	34,314,107.16	180	City Engineering Department	General Fund-Engineering Dept.

1. The **QUEZON CITY LOCAL GOVERNMENT** now invites bids for Various Projects. 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
2. A complete set of Bidding Documents may be acquired by interested Bidders on **October 4, 2020** upon submission of a Document Request List (DRL) printed from the Philippine Government Electronic Procurement System (PhilGEPS) website from the address below *and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB.*

STANDARD RATES:

Approved Budget for the Contract	Maximum Cost of Bidding Documents (in Philippine Peso)
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

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of the bids.

3. 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 on or before **October 11, 2020 - 5:00PM**

4. The **QC- BAC- INFRASTRUCTURE & CONSULTANCY** will hold a Pre-Bid Conference on **October 14, 2020 at 11:00 AM** 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)**
Meeting ID : 89111859539
Password : 598996
5. Bids must be duly received by the BAC Secretariat at the address below on or before **October 28, 2020 – 11:00AM**. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause.

 Bid opening will be on **October 28, 2020 - 1:00PM** at **2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound**. Bids will be opened in the presence of the bidders’ representatives who choose to attend at the address below. Late bids shall not be accepted.
6. 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 Section 41 of RA 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.

7. 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: procurement@quezoncity.gov.ph
Website: www.quezoncity.gov.ph

By:


ATTY. MARK DALE DIAMOND P. PERRAL
Chairman 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, *[indicate name]* invites Bids for the *[insert Procurement Project]*, with Project Identification Number *[indicate number]*.

[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 *[indicate funding year]* in the amount of *[indicate amount]*.

2.2. The source of funding is:

[If an early procurement activity, select one and delete others:]

- a. NGA, the National Expenditure Program.
- b. GOCC and GFIs, the proposed Corporate Operating Budget.
- c. LGUs, the proposed Local Expenditure Program.

[If not an early procurement activity, select one and delete others:]

- a. NGA, the General Appropriations Act or Special Appropriations.
- b. GOCC and GFIs, the Corporate Operating Budget.
- c. 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:
[Select one, delete other/s]

- a. Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS**, which shall not exceed fifty percent (50%) of the contracted Works.
- b. 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 criterion 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 *{[insert if applicable]}* and/or through videoconferencing/webcasting as indicated in paragraph 6 of the **IB**.

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

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

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

11. Documents Comprising the Bid: Financial Component

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

12. Alternative Bids

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

13. Bid Prices

All bid prices for the given scope of work in the Project as awarded shall be considered as fixed prices, and therefore not subject to price escalation during

contract implementation, except under extraordinary circumstances as determined by the NEDA and approved by the GPPB pursuant to the revised Guidelines for Contract Price Escalation guidelines.

14. Bid and Payment Currencies

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

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

[Select one, delete other/s]

a. Philippine Pesos.

b. *[indicate currency if procurement involves a foreign-denominated bid as allowed by the Procuring Entity, which shall be tradeable or acceptable by the BSP.]*

15. Bid Security

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

15.2. The Bid and bid security shall be valid until *[indicate date]*. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB**.

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

- 19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 16 shall be submitted for each contract (lot) separately.

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

20. Post Qualification

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

21. Signing of the Contract

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

Section III. Bid Data Sheet

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

ITB Clause	
1.1	<p>The Procuring Entity is Quezon City Government</p> <p>The name of the Contract is PROPOSED CONSTRUCTION OF LUCRECIA KASILAG PERFORMING ARTS BUILDING, BARANGAY VETERANS VILLAGE</p> <p>The identification number of the Contract is 20-00050</p>
2	<p>The Funding Source is:</p> <p>The Government of the Philippines (GOP) through General Fund-Engineering Dept. in the amount of Thirty Four Million Three Hundred Fourteen Thousand One Hundred Seven Pesos & 16/100 Cts. (P 34,314,107.16).</p> <p><i>NOTE: In the case of National Government Agencies, the General Appropriations Act and/or continuing appropriations; in the case of Government-Owned and/or –Controlled Corporations, Government Financial Institutions, and State Universities and Colleges, the Corporate Budget for the contract approved by the governing Boards; in the case of Local Government Units, the Budget for the contract approved by the respective Sanggunian.</i></p> <p>The name of the Project is Proposed Construction of Lucrecia Kasilag Performing Arts Building, Barangay Veterans Village, District 1, Quezon City</p>
3.1	No further instructions.
5.1	<p>In addition, eligible bidders shall qualify or comply with the following:</p> <p>1. Bidders with valid Philippine Contractors Accreditation Board (PCAB) Type</p> <p><input type="checkbox"/> Buildings_Medium A</p> <p>2. Completed construction project(s) which is similar to the Project and which cost at least fifty percent (50%) of the ABC.</p>
5.2	Bidding is restricted to eligible bidders as defined in ITB Clause 5.1.
5.4(a)	No further instructions.
5.4(b)	For this purpose, similar contracts shall refer to contracts which have the same major categories of work.
8.1	Subcontracting is not allowed

8.2	Not applicable																												
9.1	<p>The QC-BAC- Infrastructure and Consultancy will hold a pre-bid conference for this Project on October 14, 2020 11:00 A.M. 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) Meeting ID: 89111859539 Password : 598996</p>																												
10.1	<p>The Procuring Entity’s address is:</p> <p>QUEZON CITY GOVERNMENT Quezon City Hall Compound Barangay Central, Quezon City</p> <p>ATTY. DOMINIC B. GARCIA Procurement Department 2nd Floor, Finance Building, Quezon City Hall Compound, Barangay Central, Quezon City 8988-4242 loc. 8709/8710 Email Add: procurement@quezoncity.gov.ph Website: www.quezoncity.gov.ph</p>																												
10.4	No further instructions.																												
12	<p>Bidders are encouraged but not required to comply with the following:</p> <p>-all copy documents be originally stamped “Certified True Copy”and duly signed by the authorized signatory;</p> <p>-use of more visible color of ink other than black when stamping for Certified True Copy; and</p> <p>-tabbing of the required documents</p>																												
12.1(a)	In the statement of all on-going and completed contracts, all requirements in support of the enumerated projects shall be presented in proper sequence as they appear in the issued bid documents.																												
12.1(a)(ii)	Each contractor shall submit its relevant and number of completed projects which shall be subjected to detailed evaluation later on.																												
12.1(b)(ii.2)	<p>The minimum work experience requirements for key personnel are the following:</p> <table><tr><th>Qnty.</th><th><u>Key Personnel</u></th><th><u>General Experience</u></th><th><u>Relevant Experience</u></th></tr><tr><td>1</td><td>Project Engineer</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Materials Engineer</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Foreman</td><td>3 years</td><td>3 years</td></tr><tr><td>20</td><td>Skilled Worker</td><td>3 years</td><td>3 years</td></tr><tr><td>33</td><td>Laborer/Helper</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Driver</td><td>3 years</td><td>3 years</td></tr></table>	Qnty.	<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>	1	Project Engineer	3 years	3 years	1	Materials Engineer	3 years	3 years	1	Foreman	3 years	3 years	20	Skilled Worker	3 years	3 years	33	Laborer/Helper	3 years	3 years	1	Driver	3 years	3 years
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	<i>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.</i>																								
12.1(b)(iii.3)	<p>The minimum major equipment requirements are the following:</p> <table><tr><td><u>Equipment</u></td><td><u>Capacity</u></td><td><u>Number of Units</u></td></tr><tr><td><i>Scaffolding (H-Frame)</i></td><td></td><td><i>11</i></td></tr><tr><td><i>Power Tools</i></td><td></td><td><i>22</i></td></tr><tr><td><i>Minor Tools</i></td><td></td><td><i>31</i></td></tr><tr><td><i>Welding Machine</i></td><td></td><td><i>2</i></td></tr><tr><td><i>Insulation Resistance Tester</i></td><td></td><td><i>1</i></td></tr><tr><td><i>Cut-Off Machine</i></td><td></td><td><i>1</i></td></tr><tr><td><i>Elf Truck</i></td><td></td><td><i>1</i></td></tr></table> <p><i>In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing equipment shall be used exclusively for the project until its completion. Please see attached bid forms.</i></p>	<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>	<i>Scaffolding (H-Frame)</i>		<i>11</i>	<i>Power Tools</i>		<i>22</i>	<i>Minor Tools</i>		<i>31</i>	<i>Welding Machine</i>		<i>2</i>	<i>Insulation Resistance Tester</i>		<i>1</i>	<i>Cut-Off Machine</i>		<i>1</i>	<i>Elf Truck</i>		<i>1</i>
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12.1.(b).(iii)	<p>The bidder’s authorized signatory is the one who executes the Omnibus Sworn Statement, otherwise, a separate Special Power of Attorney (SPA) shall be attached in support of the Omnibus Sworn Statement.</p> <p>An Affidavit of Site Inspection shall also be submitted or as part of the Omnibus Sworn Statement.</p>																								
13.1	“No additional Requirements.																								
13.1(b)	<p>This shall include all of the following documents:</p> <ul style="list-style-type: none">• Bid prices in the Bill of Quantities;• Detailed estimates, including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid; and• Cash flow by quarter or payment schedule.																								
13.2	<p>The ABC is Thirty Four Million Three Hundred Fourteen Thousand One Hundred Seven Pesos & 16/100 Cts. (₱ 34,314,107.16). Any bid with a financial component exceeding this amount shall not be accepted.</p>																								
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16.1	The bid prices shall be quoted in Philippine Pesos.																								
16.3	No further instructions.																								
17.1	<p>Bids will be valid until 120 calendar days from opening of bids</p> <p>Surety Bond issued by the private insurance company shall be callable on demand, valid up to 120cd, affixed with documentary stamps, with original Official Receipt of premium payment, and accompanied by a Certificate of Authority to issue such security by the Insurance Commission. For bonds issued by the GSIS certification by the Insurance Commission and documentary stamps are not required.</p>																								

18.1	<p>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</p> <ul style="list-style-type: none"> • The amount of not less than ₱ 686,282.14 [2% of ABC], if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; • The amount of not less than ₱ 1,715,705.36 [5% of ABC] if bid security is in Surety Bond.
18.2	The bid security shall be valid until 120 calendar days from opening of bids
20.3	Each Bidder shall submit <i>one</i> (1) original) and one (1) copies of the first and second components of its bid.
21	<p>The address for submission of bids is at Bids and Awards Committee (BAC) <i>Bidding Room, Procurement Department, 2nd Floor, Civic Center Building F, Quezon City Hall Compound, Barangay Central, Quezon City</i></p> <p>The deadline for submission of bids is 11:00 AM, October 28, 2020.</p>
24.1	<p>The place of bid opening is at Bids and Awards Committee (BAC) <i>Bidding Room, Procurement Department, 2nd Floor, Civic Center Building F, Quezon City Hall Compound, Barangay Central, Quezon City</i></p> <p>The date and time of bid opening is 1:00 PM, October 28, 2020.</p>
24.2	No further instructions.
24.3	No further instructions.
27.3	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.
27.4	No further instructions.
28.2	None
31.4(f)	<p>Additional Contract Documents relevant to the Project as required:</p> <ol style="list-style-type: none"> 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

4.1. 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.

4.2. 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.

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.



Republic of the Philippines
Quezon City
Office of the City Mayor
QUEZON CITY BIDS & AWARDS COMMITTEE
(QC-BAC-INFRA)



DEB2020_00159

PROJECT : PROPOSED CONSTRUCTION OF LUCRECIA KASILAG PERFORMING ARTS BUILDING

LOCATION : Barangay Veterans Village, Quezon City

SUBJECT : GENERAL CONDITIONS AND TECHNICAL SPECIFICATIONS

20-00059

I. GENERAL CONDITIONS

1.0 DEFINITIONS

- a. **OWNER :** LOCAL GOVERNMENT OF QUEZON CITY
- b. **CONTRACTOR :** Any individual, firm, corporation, partnership or association that enters into an agreement with the Owner for furnishing the materials and/or labor, tools, equipment, plant and other facilities required for the erection and completion of the project subject to the accompanying plans and working drawings.
- c. The Owner/Implementing Agency and the Contractor are treated through the contract documents as if each were of the regular number, masculine gender.

1.1 EXAMINATION OF MEMBER

The Contractor shall carefully examine the premises before submitting any bids to enable him to have full knowledge of conditions existing therein.

1.2 LOCATION

The Proposed Construction of Lucrecia Kasilag Performing Arts Building shall be built along Barangay Veterans Village, Quezon City, refer to the approved Location Plan.

1.3 EXECUTION, CORRELATION & INTENT OF DOCUMENTS

- a. The Contract Documents are signed in sufficient number of copies by all parties concerned. In case anybody fails to sign copies of any item forming part of the set contract documents, the Implementing Agency's identification thereon shall suffice.
- b. The items, specifications and all other documents forming the contract documents are complementary. Anything shown on plans but not mentioned in the specifications or vice versa or anything not expressly set forth in either, but necessarily implied, shall be furnished or done as if specifically shown and mentioned in both, with no extra charge. Where dimensions are given in figures, follow them in preference to measurement by scale.
- c. Execute work as per agreement, making no changes or deviations whatsoever, without prior permission from the Implementing Agency.
- d. The Contractor shall verify and check all dimensions particularly those on the plans. He will be held directly responsible in case of any discrepancy that may be discovered during the progress of work.

1.4 DETAIL DRAWINGS AND INSTRUCTIONS

Plans furnished for use at the jobsite are whenever necessary, supplemented by detail drawings and instructions essential to the proper execution of the work. Such supplementary detail drawings and instructions shall be treated as of equal force as though originally issued.

1.5 PLANS AND PROJECT SITE

Keep at project site, in good order and condition, one (1) set of approved plans, specifications, supplementary detail drawings and instructions.

1.6 SHOP DRAWINGS

Shop drawings shall be provided by the Implementing Agency and/or Contractor during the progress of construction. The contractor should not place any item subject to shop drawings until the Implementing Agency shall have duly approved such drawings.

1.7 CHANGES

20-00050

The Owner and the Implementing Agency reserve the right to make alterations or additions, including changes during the progress of work. The same shall be carried into effect without in any way deviating from or violating any agreement. Whatever amount shall necessarily be entailed in the cost of labor or materials or both shall be added to or deducted from the original contract price.

1.8 TIME OF COMPLETION AND SCHEDULE OF CONSTRUCTION

The Contractor shall, before actual commencement of the project operations, prepare and submit to the Implementing Agency for verification and approval, a complete and comprehensive work schedule covering the entire duration of construction. He shall also include therein, the estimated number of days within which the entire project shall be completed stage by stage by phase.

1.9 WORKMANSHIP

The project shall be executed with the use of first class workmanship to the full intent and meaning of the plans and specifications and to the complete approval and acceptance by the Implementing Agency.

1.10 MATERIALS

All materials to be used shall be the best of their respective types and kind. They shall be properly stored and protected from damage or injury.

1.11 SAMPLES

Submit samples as specified and proceed with the work with the use of materials procured based on the samples previously approved by the Implementing Agency.

1.12 INSPECTION OF WORK

The Contractor shall provide the facility for inspecting the work to the Implementing Agency, the Owner and other personnel having jurisdiction over the work.

1.13 DEFECTIVE OR IMPROPER WORK

All work or materials not acceptable to the Architect shall be removed immediately and replaced with appropriate work or materials without extra charge. All condemned materials shall be taken away from the premises without delay.

1.14 BUILDING LAWS AND REGULATIONS

The Contractor shall be held responsible for strict compliance with existing labor laws and regulations and shall free the Owner from any responsibility in connection therewith, he shall pay on time at his own expense, all taxes, fees and/or licenses due to the government, both national and local arising from his work on the project.

1.15 MANNER OF PAYMENT

Payments to the Contractor shall be based on the periodic work accomplishments subject to verification, approval and recommendation by the Implementing Agency.

1.16 RETENTION MONEY

Progress payments shall be subject to a ten percent (10%) deduction, referred to as retention money. All retained amounts shall be released upon satisfactory completion of the work and issuance of the Certificate of Final Completion and Acceptance.

1.17 TEMPORARY WATER, POWER AND TELEPHONE FACILITIES

The Contractor shall make the necessary arrangements with the local utility companies so as to provide temporary facilities for the supply of water, power and telephone for the duration of construction, and all expenses in connection therewith shall be borne by the Contractor.

1.18 PRIVY

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The Contractor shall provide a temporary privy in a most inconspicuous and sanitary manner, and shall have it removed at the termination of the work.

1.19 CLEARING AND CLEANING

Upon its completion, the project and its premises shall be cleared and cleaned as directed by the Implementing Agency, and make ready for immediate occupancy.

1.20 TEMPORARY BARRICADES, SIGNAL LIGHTS, BILLBOARDS, ETC.

The Contractor shall provide all temporary barricades, signal lights, Architect and Contractor's billboards, the required official building billboard, etc., necessary for the protection of the public and for the proper prosecution of the work and display of construction requirements.

1.21 PERFORMANCE AND GUARANTEE BOND

To guarantee the faithful performance of the Contractor under the contract, he shall post a Performance Bond in the amount of thirty percent (30%) of the contract price in the form of cash, manager's check or surety bond, callable on demand.

1.22 QUESTIONS AND DISAGREEMENTS

All questions and disagreements between the Contractor and the Owner relative to the interpretation of the plans and specifications shall be referred to the Implementing Agency whose decision on the matter shall be final.

II. TECHNICAL SPECIFICATIONS

2.0 SITE WORK

WORK INCLUDED

- 2.0.1 Staking out and establishment of additional wall lines, grades and benchmarks.
- 2.0.2 Site clearing and preparation, removal of site debris
- 2.0.3 All excavation works including all necessary shoring, bracing and drainage of storm water from the site.
- 2.0.4 All soil treatment, backfilling, filling, compaction and grading, removal of excess material from site.
- 2.0.5 Protection of property, work and structures, workmen and other people from damage and injury.
- 2.0.6 Soil Poisoning / Termite Proofing
- 2.0.7 Gravel Bedding and Compaction (Ordinary Gravel).
- 2.0.8 Backfill and compaction

2.0.10 Demolition works

2.1 LINES, GRADES AND BENCHMARKS

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2.1.1 Stake out accurately the lines of the building and/or the other structures included in the contract, and establish grades therefore, after which secure approval of the Project Manager before any excavation work is commenced.

2.1.2 Erect basic batter boards and basic reference marks at such places where they will not be disturbed during the construction of the foundation.

2.2 EXCAVATION

Structural Excavations: Excavations shall be to the depths indicated in the drawings where bearing value as indicated in the Soils Investigation Report provided as part of the Construction Documents shall be attained. Excavations for footings and foundations carried below required depths shall be filled with lean concrete and bottom of such shall be level. All structural excavations shall extend a sufficient distance from the walls and footings to allow for proper erection and dismantling of forms, for installation of service and for inspection.

All excavations shall be inspected and approved before pouring any concrete laying underground utility and auxiliary lines for placing select fill materials. The Contractor shall control the grading in the vicinity of all excavated areas to prevent surface drainage running into excavations. Water that accumulates in excavated areas shall be removed by pumping before fill is placed herein.

2.3 SOIL TREATMENT

Treat soil with 2% Chlordane or Andrex solution in water to provide an unbroken horizontal and vertical chemical barrier between the proposed structure and the possible termite colonies in the soil after excavation is completed and prior to pouring of concrete foundation and ground floor slabs. At the time the soil treatment is to be applied, the soil shall be in a friable condition with a sufficient low moisture content to allow uniform distribution of the treatment solution throughout the soil.

Do not apply pesticide during or immediately after heavy rains, or whenever climatic conditions are such that runoff will occur to create an environmental hazard. Cover treated areas with polyethylene or waterproof sheeting if concrete is not poured on the same day as the soil treatment. Take adequate precautions to prevent disturbance of the pesticide barrier. Re-treat the soil or fill is disturbed after the treatment and before the placement of structural components. Apply pesticide prior to placement of vapor barrier or waterproofing membrane.

2.4 SHORING

Excavation shall be shored and braced by members of suitable sizes where necessary to prevent danger to persons, injurious caving or erosions. Shoring bracing and sheathing shall be removed, as the excavations are backfilled, in a manner such as to prevent injurious caving. The contractor shall keep all excavations free from water while construction is in progress.

2.5 FILLING AND BACKFILLING

After forms have been removed and when concrete work is hard enough to resist pressure resulting from fill, backfilling may then be done. Materials excavated may be used for backfilling. All filling shall be placed in layers not exceeding six (6) inches in thickness, each layer being thoroughly compacted and rammed by wetting, tamping, rolling.

2.6 PLACING AND COMPACTING FILL

- 2.6.1 Committed Fill: shall be approved imported/site-excavated material free from stumps and other perishable or objectionable matter.
- 2.6.2 Select Fill: shall be placed where indicated and shall consist of crushed gravel, crushed rock or a combination thereof. The material shall be free from adobe, vegetable matters and shall be thoroughly tamped after lacing.
- 2.6.3 Before placing fill materials, the surface upon which it shall be placed shall be cleared of all brush roots, vegetable matter and debris, and thoroughly wetted to ensure good bonding between grounds.
- 2.6.4 Compaction: Fills shall be evenly spread in horizontal layers of not more than 200mm in thickness. Each layer shall be wetted and compacted by approved mechanical compaction machine, roller or portable to a density of at least 90% or its maximum density for non-cohesive soils as determined by ASTM Method D-1557 or AASHTO Method T-160.

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2.7 FINISH GRADING

The contractor shall fill and grade the whole area to the indicated sub-grade elevations as directed by the Architect or Engineer. The contractor shall verify the finish grade elevations of the proposed pavements. Prior to grading operations, the areas shall be cleared of all heavy growth or vegetation stumps, roots, cables, wires, rocks and other debris. The finished sub-grade shall be reasonably smooth and compacted and ready to receive the base course for the proposed pavement.

2.8 DISPOSAL OF EXCESS MATERIALS

Any excess and demolished materials remaining after completion of the earthwork shall be disposed of by hauling and transported out of the premises at the contractor's own expense.

2.9 SUB-GRADE PREPARATION

2.9.1 SCOPE

The sub-grade preparation shall be that part of the work which is the preparation for the support of the bases for pavements and structures. It shall extend to the full width of pavements including shoulders and lay-bys as shown on the drawings or as specified herein. Unless otherwise agreed upon by the Engineer, sub-grade preparation or a section of the road shall not be commenced unless the contractor is able, after the completion and acceptance of the work, to commence immediately pavement construction.

2.9.2 PRODUCTS

All materials and equipment necessary for proper completion of this work shall be subject to the approval of the Engineer.

2.9.3 EXECUTION

- 2.9.3.1 Prior Works: Prior to commencing the preparation of the sub-grade, all culverts, cross drains, and other similar structures (including the fully compacted backfill) shall be completed. No work shall be started on the preparation of the sub-grade before the prior works herein approved by the Engineer.
- 2.9.3.2 Sub-grade Level Tolerance: The finish compacted surface of the sub-grade shall conform to AASHTO M-145.
- 2.9.3.3 Sub-grade in Cutting Common Material
- Unless otherwise specified, all materials below sub-grade level in earth cutting to a depth of 150mm or other depth shown on the drawings or directed by the Engineer shall be excavated. The material, if suitable, shall be placed to one side for re-use, or if

- b. Where material has been removed from below sub-grade level, the base of the resulting cutting shall be compacted to a depth of 150mm to the requirements of AASHTO M-145 Table 1. If necessary, the moisture content of the material shall be adjusted.

2.10 GRADED AGGREGATES AND BASE COURSE

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2.10.1 SUBMITTALS

- a. Test Reports: Before delivery of materials, submit the following test reports:

1. Gradation
2. Bearing Ratio
3. Attenberg Limits

2.10.2 DELIVERY AND STORAGE

Do not construct base course when rainfall or other weather conditions will detrimentally affect the quality of the finished course.

2.11 PRODUCTS

2.11.1 MATERIALS

- a. Aggregates: Consist of durable sound crushed gravel, crushed stone, free of lumps and balls of clay or other objectionable matter. Crushed stone shall be free from flat, soft or disintegrated pieces. Crushed gravel retained on a No. 4 sieve shall have at least ninety percent (90%) by weight with at least two fractured faces one hundred percent (100%) by weight with at least one fractured face.
- b. Base course materials samples shall have a Bearing Ratio of at least 100 as determined by laboratory tests on a 4-day soaked specimen in accordance with ASTM D 1883; compact specimen in accordance with ASTM D 1557, Method D. Determine grain size in accordance with ASTM C-117.
- c. Soil binder material, the surface of the layer by a combination of rolling and blading. Final surface shall be smooth and free from waves, irregularities and from ruts of soft yielding spots.

III CONCRETE

3.0 GENERAL

- 3.0.1 Unless otherwise specified herein, concrete work shall conform to the requirements of ACI Building Code. Full cooperation shall be given other 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.

3.1 SUBMITTALS

- 3.1.1 Shop Drawings: Reproduction of contract drawings is unacceptable.
- 3.1.2 Shop Drawings for Reinforcing Steel: ACI 318. Indicate bending diagrams, assembly diagrams, splicing and lap of bars, shapes. Dimensions and details of bar reinforcing, accessories and concrete cover. Do not scale dimensions from structural drawings to determine lengths of reinforcing bars.
- 3.1.3 Contractor Mix Design: Thirty (30) days prior to concrete placement, submit a design for each strength and type of concrete. Furnish a complete list of materials including type, brand, source and amount of cement and admixtures; applicable reference specifications and copies of test reports showing that the mix has been successfully

tested to produce concrete with the properties specified and will be suitable for use under the specified conditions. Provide fly ash and pozzolan test results performed within six (6) months of submittal date. Obtain approval before concrete placement.

3.1.4 Certificates of Compliance

- a. Aggregates
- b. Admixtures
- c. Reinforcement
- d. Cement

3.1.5 Catalogue Data

- a. Water stops
- b. Materials for Curing Concrete
- c. Joint Sealant
- d. Joint Filter
- e. Vapor Barrier
- f. Epoxy Bonding Agents

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3.2 MATERIALS

- 3.2.1 Cement for concrete shall conform to the requirements of specifications for Portland cement (ASTM C-150).
- 3.2.2 Water used in mixing concrete shall be clean and free from other injurious amounts of oil, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.
- 3.2.3 Fine Aggregates shall consist of hard, tough, durable uncoated particles. The shape of the particles shall be generally rounded or cubicle and reasonably free from flat or elongated particles. The stipulated percentages of fines in the sand shall be obtained either by processing sand or by the production of suitable graded manufactured sand.
- 3.2.4 Coarse Aggregates shall consist of gravel. Crushed gravel or rock. Or a combination of gravel and rock. Coarse aggregates shall consist of hard, tough, durable, clean and uncoated particles. The size of coarse aggregates to be used in the various parts of the Work shall be ¾".
- 3.2.5 Reinforcing bars shall conform to the requirements of ASTM Standard specifications for Billet Steel Bars for concrete reinforcement (A15-625) and to Specification for minimum requirements for the deformed steel bars for concrete reinforcement (A305-56). Tensile strength and grade for all reinforcing bars such as main horizontal (for beams), vertical (for columns), ties, stirrups and inserts shall be as follows:

No. 3 (3/8")	10 mm	- fy	=	40,000 psi	Grade 40)
No. 4 (1/2")	12 mm	- fy	=	40,000 psi	(Grade 40)
No. 5 (5/8")	16 mm	- fy	=	60,000 psi	(Grade 60)
No. 6 (3/4")	20 mm	- fy	=	60,000 psi	(Grade 60)
No. 8 (1")	25 mm	- fy	=	60,000 psi	(Grade 60)

3.3 PROPORTIONING AND MIXING

- 3.3.1 Proportioning of all materials entering into the concrete mixture of 3,000 psi concrete shall be as follows:
- | | | | |
|--------------|---------------|-------------|---------------|
| <u>Class</u> | <u>Cement</u> | <u>Sand</u> | <u>Gravel</u> |
| A | 1 | 2.0 | 4 |
- 3.3.2 Strength of Concrete: Concrete shall have 28-day cylinder strength of 3,000 psi shall be for slab on grade, site pavements and wall footings.
- 3.3.3 Mixing: Concrete of 3,000 psi compressive strength shall be ready-mixed in transit from batching plant as scheduled order from qualified supplier, **accredited by Engineer**. The 3,000 psi concrete can be machine mixed on-site or also ready mixed in transit from batching plant. On-site mixing shall be within 30 minutes after the cement has been added to the aggregates.

- 3.4.1 General: Forms shall be used whenever necessary to continue the concrete and shape it to the required lines, or to ensure the concrete 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 of mortar from the concrete. Forms for exposed surfaces against which backfill is not to be placed shall be lined with a form grade plywood or metal panels.
- 3.4.2 Cleaning and Use of Forms: Before placing the concrete, the contact surfaces of the form shall be cleansed of encrustation of mortar, the grout or other foreign material, and shall be coated with commercial form oil that will prevent sticking and will not stain the concrete surfaces.
- 3.4.3 Removal of Forms: Forms shall be removed in a manner that will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be performed at once and airing shall be started as soon as the surface is sufficiently hard to permit it without further damage.

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3.5 PLACING REINFORCEMENT

General: Steel reinforcement shall be provided as indicated, together with all necessary gauge 16 G.I. wire ties, 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 of sufficient strength to maintain the operation. The 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.

3.6 CONVEYING AND PLACING CONCRETE

- 3.6.1 Conveying: Concrete shall be conveyed from mixer to forms as rapidly as practicable, by methods that 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.
- 3.6.2 Placing: Concrete shall be worked readily into the corners and angles of forms and around all reinforcement and embedded 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 consequent 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.
- 3.6.3 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.
- 3.6.4 Consolidation of concrete: Concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by hand spading and tamping. Vibrators shall not be inserted into lower courses that have commenced initial set and reinforcement embedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall be by hand spading and tamping and vibrators shall not be used.
- 3.6.5 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 ratio as used in concrete shall be first deposited to cover the surface.

3.7 CURING

- 3.7.1 General. All concrete shall be moist-cured for a period not less than 558000_00159 consecutive days by an approved method or combination applicable to local conditions.

- 3.7.2 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 wet spraying or intermittent hosing.

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3.8 FINISHING

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

- 3.8.2 Concrete slabs on fill. The concrete slabs on fill laid on a prepared foundation consisting of sub-grade and granular fill with thickness equal to the thickness of overlaying slab except as indicated otherwise.

3.9 SURFACE FINISHES

- 3.9.1 Defects. Repair formed surfaces by removing minor honeycombs, pits greater than one square inch surface area or 0.25 inch maximum depth, or otherwise defective areas. Provide edges perpendicular to the surface and patch with non-shrink f=grout. Patch the holes and defects when the forms are removed.

- 3.9.2 Floor slabs, Pavements and Miscellaneous Construction. Unless otherwise specified, slab at the fountain area are straight to finish with waterproofing. Slope floors uniformly to drains where drains are provided. Depress the concrete base slab where Granite or Ceramic tiles are indicated.

- 3.9.3 Finish. Place, consolidate and immediately strike-off concrete to obtain proper contour, grade and elevation. A set sufficient for floating and supporting the weight of the finisher and equipment.

- 3.9.4 Pavements. Screed the concrete with a template advanced with a combined longitudinal and crosswise motion. Maintain a slight surplus of concrete ahead of the template. After screeding, float the concrete longitudinally and refloat as necessary. Obtain final finish by belting. Lay belt flat on the concrete surface and advance with a sawing motion; continue until a uniform but gritty non-slip surface is obtained. Round edges and joints with an edger having a radius of 1/8 inch.

- 3.9.5 Broomed. Provide for exterior walks, platforms, patios and ramps. Unless otherwise indicated, provide a floated finish, and then finish with a flexible bristle broom. Permit surface to harden sufficiently to retain the scoring or ridges. Broom traverse to traffic or at right angles to the slope of the slab.

- 3.9.6 Pits and Trenches. Place bottoms and walls monolithically or provide water stops and keys.

- 3.9.7 Curbs and Gutters. Provide contraction joints spaced at every 10 feet maximum unless otherwise indicated. Cut contraction joints 3/4-inch deep with a jointing tool after the surface has been finished. Provide expansion joints 1/2-inch thick and spaced at every 100 feet maximum unless otherwise indicated. Provide a pavement finish.

3.10 MISCELLANEOUS

- 3.10.1 Construction Joints. Locate joints to least impair strength; continue reinforcement across joints unless otherwise indicated.

- 3.10.2 Expansion Joints and Contraction Joints. For slab on grade, provide at edges of interior floor slab, adjacent to walls as indicated. Completely fill joints exposed to weather with joint filler material and joint sealant. Do not extend reinforcement or other embedded metal items bonded to the concrete through any expansion joints.

unless an expansion sleeve is used. Provide contraction joints, either formed or cut or cut with a jointing tool, to the indicated depth after the surface has been finished. Sawed joints shall be completed within 4 to 12 hours after concrete placement. Protect joints from intrusion of foreign matter.

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4.0 METALS WORKS

4.0.1 DESCRIPTION

4.0.1.1 Metal works shall conform to the approved plans and to the Standard Specifications.

4.0.2 REFERENCE STANDARDS

4.0.2.1 Comply with the latest edition of the following as applicable, unless otherwise specified or modified.

4.0.2.1.1 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 1978: Specification for the Design, Fabrication and Erection of Structural Steel for Buildings. Code of Standard Practice for Steel Buildings and Bridges; Specification for Architecturally Exposed Structural Steel.

4.0.2.1.2 AMERICAN WELDING SOCIETY (AWS): Standard Welding Symbols A2.0-68; Standard Welding Code D1.1-1973 (Rev 1-73 & 2-74) (To govern if in conflict with AISC).

4.0.2.1.3 RESEARCH COUNCIL ON RIVETED AND BOLTED JOINTS OF THE ENGINEERING FOUNDATION (RCRBJ): Specification for Structural Joists using ASTM A-325-76s Bolts.

4.0.2.1.4 STRUCTURAL STEEL PAINTING COUNCIL (SSPC): Painting Manual, Vol. 1; Good Painting Practice, Painting Manual, Vol. 2; Systems and Specifications.

4.0.3 SOURCE QUALITY CONTROL

Errors of Shop Drawings, fabrication, correct fitting and alignment of the various metal items or component members shall be the responsibility of the Contractor. However, the Contractor shall permit the Architect or an independent inspection agency, if engaged by the Owner, to inspect work in progress in his shop. Such inspections shall not relieve the Contractor of his responsibility to furnish materials and workmanship in accordance with the Contract Documents.

4.0.4 PRODUCT DELIVERY, HANDLING AND STORAGE

Handle and store in such manner as to prevent damage or disfigurement. Store finished items or components above ground on platforms, pallets or other supports and protect from harmful elements.

4.0.5 PROTECTION

The Contractor shall protect any existing work subject to damage during the installation of the specified work and shall adequately protect specified work during installation.

4.0.6 FIELD QUALITY CONTROL

Facilities shall be provided by the Contractor as needed for the proper inspection of the specified work, including temporary platforms, hoists, protective devices, electric current, etc. Improper workmanship, as determined by the Architect shall be corrected and replaced, at no additional cost to the Owner.

4.0.7 MATERIALS

Products shall conform to the respective reference specifications and standards and to the requirements specified herein:

4.0.7.1 **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.

4.0.7.2 **BOLTS, NUTS, STUDS AND RIVETS:** ASTM A 325

4.0.7.3 **SCREWS:** Fed. Spec FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111

4.0.8 FABRICATION

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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.

4.0.9 MEASUREMENTS

Before fabrication, provide necessary field measurements and verify all measurements.

4.0.10 METAL 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, angles 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.

4.0.11 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.

4.0.12 SHOP FABRICATION

Fabrication and assembly shall be done in the shop to the greatest extent possible.

4.0.13 SUBMITTALS

Shop Drawings: Submit along with catalogue, cuts, templates, and erection and installation details, indicating thickness, type, grade, class of metal and dimensions. Show construction details, reinforcement, anchorage, and installation with relation to the construction.

4.0.14 QUALIFICATION OF WELDERS

In accordance with AWS D1.1 using procedures, materials and equipment of the type required for the work.

4.0.15 DELIVERY AND STORAGE

Protect from corrosion, deformation and other types of damage. Store items in an enclosed area free from contact with soil and weather. Contractor shall replace and remove damaged items with new items.

4.0.16 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.

Metal purlins shall be of high grade galvanized steel with minimum tensile strength of 275 MPa, 2mm in thickness manufactured by Philmetal or approved equal.

VI MASONRY

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6.0 MATERIALS

- 6.0.1 All materials and workmanship shall be in accordance with the applicable standard and specifications of the Structural Code of the Philippines and uniform Building Code.
- 6.0.2 Concrete Hollow Blocks (CHB) shall have a minimum face thickness of 1" (25mm). Nominal size shall be 4" x 8" x 16", minimum compressive strength shall be 500 psi for non-load bearing and 700-1000 psi for load bearing. All units shall be stored for a period not less than 28 days (including curing period) and shall not be delivered to the job site prior to that time unless the structure is equal or more than the specified.
- 6.0.3 Prior to commencing the preparation of the sub-grade, all culverts, cross drains, and other similar structures (including the fully compacted backfill) shall be completed. No work shall be started on the preparation of the sub-grade before the prior works herein approved by the Engineer.
- 6.0.4 Cement shall be standard Portland cement ASTM 270 - Type N.
- 6.0.5 Mortar. Mix mortar from 3 to 5 minutes in such quantities as needed for immediate use. Re-tempering will not be permitted if mortar stiffens because of premature setting. Discard such materials as well as those that have not been used within one hour after mixing. Proportioning shall be one (1) part Portland cement and two (2) parts and by volume, but not more than one (1) Portland cement and three (3) parts and by volume.

6.1 SUBMITTALS

- 6.1.0 Submit samples for approval two (2) samples each of each type of wall reinforcement and wall ties.
- 6.1.1 Certificates of Conformance: Submit certificate attesting that masonry cement, masonry units, aggregates and accessories meet the requirements specified.

6.2 ERECTION

- 6.2.0 All masonry shall be laid plumb, true to line, with level and accurately spaced courses; and with each course breaking joint with the source below. Bond shall be kept throughout corners and reveals shall be plumb and true. Units with greater than 12% absorption shall be wet before laying. Work required to be built in masonry, including anchors, wall plugs and accessories shall be built-in as the erection progresses.
- 6.2.1 Masonry Units: Each course shall be solidly bedded in Portland cement mortar. All units shall be damp when laid units shall be showed into place not laid, in a full bed of un-furrowed mortar. All horizontal and vertical points shall be completely filled with mortar when and as laid. Each course shall be bonded at corners and intersections. No cells shall be left open in face surfaces. All cells shall be filled up with mortar for exterior walls. Units terminating against beam or slab soffits shall be wedged tight with mortar. Do not lay cracked, broken or defaced block.
- 6.2.2 Plastering: Clean and evenly wet surfaces. Apply scratch coat with sufficient force to form good keys. Cross scratch coat upon its initial set; keep damp. Apply coat after each scratch coat has set at least 24 hours after scratch coat application. Lightly scratch brown coat; keep moist for two (2) days; allow drying out. Do not apply finish until brown coat has seasoned for seven (7) days. Just before applying coat, wet brown coat again. Float finish coat to true even surface; trowel in manner that will force sand particles down into plaster, with final trowling, leave surfaces banished smooth free from rough areas, trowel marks, checks, other blemishes. Keep finish coat moist for at least two (2) days; thereafter protect against rapid drying until properly, thoroughly cured.

6.3 SCAFFOLDING

- 6.4.4 Provide safe wood or metal scaffolding required for masonry and other related work, including cleaning down on completion. Remove upon demobilization.

6.4 SURFACE PREPARATION

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- 6.4.0 Lay floors without borders from centerline outward. Make adjustments at walls. Clean concrete sub-floor and moisten it without soaking. Sprinkle dry cement over surface. Spread setting bed mortar on concrete and tamp to assure good bond over the entire area then screed to smooth, level bed. Set average setting bed thickness at $\frac{3}{4}$ " but not less than $\frac{1}{2}$ ".
- 6.4.1 Wall: Scratch coat application as foundation coat shall be at most $\frac{3}{4}$ ". While still plastic, deeply score scratch coat or scratch and cross-scratch. Protect scratch coat and keep reasonably moist within seasoning period. Use mortar for scratch floor coats, within one hour after mixing. Re-tempering of partially hardened mortar is not permitted. Set scratch coat be cured for at least two (2) days before starting the setting.

6.5 CLEANING

- 6.5.0 Protection: Protect work which may be damaged, stained or discolored during cleaning operations.
- 6.5.1 Pointing: Upon completion of masonry work, cut out defective mortar joints and tuck joints and all holes solidly with mortar.
- 6.5.2 Cleaning: Clean exposed masonry surface with clear water and stiff fiber brushes and rinse with clean water. Where stains, mortar or other soil remain, continue cleaning as follows: Clean masonry surfaces by scrubbing with warm water and soap and rinsing thoroughly with clean water. Restore damaged, stained and discolored work to its original conditions or replace with new work.

VII ARCHITECTURAL

7.0 FLOOR AND WALL AND FINISHES

7.0.0 Exterior/Interior Walls & Floor finishes

- a. 600mm x 600mm Ceramic Tiles including tile adhesive
- b. 300mm x 300mm Ceramic Tiles including tile adhesive
- c. 600mm x 600mm Non-Skid Ceramic Tiles including tile adhesive
- d. 300mm x 600mm Non-Skid Ceramic Tiles with Grooved Nosing including tile adhesive
- e. Rubberized Paint finish
- f. Wood floor finish
- g. Plain cement with grooves
- h. 50mm Concrete topping with plain cement finish
- i. 25mm concrete topping (for tiles)
- j. Solid wood Planks Stage Stair Finish
- k. Urinal partition including stainless steel support and accessories.
- l. Toilet partition including stainless steel support and accessories.
- j. $\frac{1}{4}$ " Hardiflex board on metal studs, Double wall.

- k. Green wall including framing and growing medium.
- l. 300mm x 300mm Ceramic tiles including tile adhesive
- m. 50mm concrete topping with plain cement finish
- n. Plastering guide / grooves

7.0.1 CEILING FINISHES

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- a. 12mm thk. Gypsum Board including framing and accessories.
- b. 12mm thk. Moisture Resistant Gypsum Board on lightweight aluminum frames.
- c. Fiber cement board on metal frames
- d. Rubbed Concrete

7.0.2 ROOFING WORKS

- a. Rib type Roofing Ga. 24, Pre-painted Long span with 10mm thk. P.E foam Aluminum insulation, Double Sided and complete Accessories with Flashing.
- b. Stainless Roof Gutter Ga. 24 including framing and accessories.
- c. 1" x 12" Fascia Board including framing and accessories, painted finish.

7.0.3 WINDOWS

Follow as per approved plan and specifications.

7.0.4 DOORS

Follow as per approved plan and specifications.

7.0.5 PAINTING

1. All paints shall meet the required specifications and shall be delivered at the site in the original container. Use non Volatile Organic Compound (V.O.C.) paint or approved by the implementing agency and only accredited painters of the manufacturer shall execute the work to ensure the true origin and quality of paint and warranty of work.
2. Concrete walls shall be treated with neutralizers. Exterior walls without wall veneer shall be applied with a primer before final coat. In general, rough surfaces of concrete, cabinets and woodworks surfaces shall be properly sandpapered and puffed before any application of paint.
 - a. Quick Dry Enamel Paint Finish (steel members)
 - b. Latex Paint Finish (exterior masonry walls)
 - c. Latex Paint Finish (interior masonry walls, stairs and Slab Soffit)
 - d. Latex Paint Finish (ceiling)
 - e. Painting of Doors and jambs
 - f. Painting of Windows

7.0.6 WATERPROOFING AND DAMP-PROOFING

- a. Roof Decks protected. : Terragum A – Torch applied membrane, UV
- b. Toilets : Cementitious capillary type waterproofing.

7.0.7 HARDWARE

1. Provide all rough hardware required for the construction of works: nails, straps, lag screws, etc.
2. Butt Hinges : Use Toyo Butt Hinges, 4" x 4" with bearings for panel door
3. Locksets : For PVC plastic, wood and metal swing doors use ABLOY stainless mortise locksets with striker plate.
4. Door Stop : Locate position where no traffic could be obstructed. For restroom doors where tile finish abuts the door swing side, use IVES 65 6" above inside floor finish on door panel.
5. Door Closers : Posse/MBC Door closer for metal doors.
6. Exit Door Panic Device: Use Toyo Panic Exit Device, horizontal without key for single panel for fire exits.

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7.0.8 HANDRAILS AND RAILINGS

Follow as per approved plan and specifications.

7.0.9 OTHER FINISHES / SPECIALTY WORKS

- a. QC Logo
- b. Aluminum Composite Panel cladding, 4mm thk. nano finish including structural angular framing sections, backer rod and sealant (Facade and canopies)

Note: Finishes under these items 7.0.9 please follow the approve plans and programs of works or consult the assign Architect/Engineer in case of complex between plans and program of works.

7.0.10 CLEAN-UP

When the work is completed, the Contractor shall remove all temporary structures and surplus materials of every sort, restore what has been removed before, and leave the premises or site in as good condition as he had originally found them.

THERMAL CONTROL AND MOISTURE PROTECTION**7.1 WATERPROOFING**

Use waterproofing cementitious powder, capillary type, flexible type-liquid applied waterproofing seamless membrane latex-modified rubber reinforced on slabs. Refer to manufacturer's recommendation on proper application of the product listed herein: Lanko manufactured by VSL.

7.2 VAPOR BARRIER

Use 8 mils thick, 6 feet wide roll plastic vapor barrier laid over compacted base course at ground floor slab with 300mm minimum overlap prior to setting up of steel reinforcing bars. Submit samples for approval.

7.3 WATERSTOPS

Use Rebstop Ultra Seal chemical grout water-stop specially formulated for construction joints to replace the use of conventional water-stop used for cold expansion joints on pipes, etc. manufactured by Rebtrade International Corporation or approved equal.

VIII AIR CONDITIONING AND VENTILATING SYSTEM

8.0.0 Standards Compliance

8.0.1 Philippine Society of Mechanical Engineers Code

8.0.2 Philippine National Building Code

8.0.3 Philippine Electrical Code

8.0.4 Philippine Plumbing Code

8.0.5 Fire Code of the Philippines

8.0.6 American Society of Heating, Refrigeration and Air Conditioning Engineer (ASHRAE)

8.0.7 Sheet Metal and Air Conditioning Contractors National Association (SMACNA)

8.0.8 National Fire Protection Association

8.0.9 American Society of Testing Materials (ASTM)

8.0.10 Air Moving and Conditioning Association (AMCA)

8.0.11 American National Standard Institute (ANSI)

8.0.12 National Electrical Manufacturing Association (NEMA)

8.0.13 Underwriters Laboratory

8.0.14 American Society of Mechanical Engineers (ASME)

8.1 Scope of Work

8.1.0 Supply and Installation of Equipment and Materials. Complete.

8.1.2 Supply and installation of pipes and fittings, valves and appurtenances, ducts, miscellaneous and consumables.

8.1.3 Fabrication and installation of hangers and supports.

8.1.4 Supply and installation of control, wiring from Split-Type Air-conditioner to circuit breakers and others to complete the control system.

8.1.5 Testing, adjusting, balancing and commissioning.

8.1.6 Provide shop drawings and two (2) sets of "As-Built" plans.

8.1.7 Furnishing of written one (1) year warranty of ventilation and air-conditioning system

8.1.8 Submittals

- a. Within fifteen (15) days after award of contract, the mechanical contractor shall submit for engineer's approval, four (4) copies of all complete list of manufacturer's name of all materials he proposes to use.
- b. After approval of the above list and before purchase of any equipment or materials, the mechanical contractor shall submit to the engineer for approval, four (4) complete sets of detailed information consisting of manufacturer's bulletins, shop drawings and partial list of materials to be provided under this contract.
- c. The mechanical contractor shall assume the loss of and the entire responsibility of any change in the work as shown in the contract drawings which may be occasioned by approval of materials other than those specified.

8.2 PRODUCTS

8.2.0 AIR COOLED CONDENSING UNITS

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8.2.0.0 Units shall have capacity and configuration as shown on the drawings and as manufactured by a reputable manufacturer. All units shall be furnished factory assembled, tested and piped complete with compressors, fan, motors, integrally wired control panel, starters, spring type vibration isolators, steel base and refrigerant control accessories. Unit shall have gauge corrosion protected weatherproof casing.

8.2.0.1 Compressors for units with capabilities of up to 35160 watts and above shall be of semi-hermetic type and rated to operate at not more than 1750 RPM at full load. Compressors for units with capabilities of 26375 watts and below shall be of the hermetic type and rated to operate at not more than 3500 RPM at full load.

8.2.0.2 Condenser coils shall be seamless copper with mechanically bonded aluminum plate fins. Coil size, refrigerant circuiting and number of rows deep shall be compatible with the compressor displacement and capacity at the specified operating conditions with minimum refrigerant pressure drop.

8.2.0.3 Condenser fans shall be statically and dynamically balanced propeller-type fans directly driven by totally enclosed and inherently protected motors.

8.2.0.4 Motor starters, control components and power terminal shall be grouped in an accessible control box inside the unit casing. Electrical components shall be pre-wired and control circuits shall be independently protected with fuses or breakers. Compressor protection shall include automatic relays to prevent excessive compressor short cycling.

8.2.0.5 A complete charge of refrigerant 410A and compressor oil shall be furnished.

8.2.1 FAN COIL UNITS

8.2.1.0 Units shall either be of the floor-mounted or the ceiling-mounted, free blow type and/or ducted type as shown on the drawings.

8.2.1.1 Units shall have capacities at the operating conditions specified. They shall include an evaporator coil, expansion valve, centrifugal type air circulation blower, permanent type air filter, condensate drip pan and insulated decorative cabinet with discharge plenum, supply and return air grilles.

8.2.1.2 Fan motors shall be equipped with overload protection. They shall have fan switch and thermostat mounted on the unit.

8.2.2 CEILING-MOUNTED TYPE FANS

8.2.2.0 Units shall be ceiling-mounted type, direct driven and equipped with reverse flow prevention damper.

8.2.2.1 It shall have one-touch spring type louver for ease of cleaning and maintenance.

8.2.2.2 Fan casing shall be seam-welded and finished with corrosion resistant paint.

8.2.2.3 Fan shall have capacity and motor size as indicated in the plans.

8.3.0 BASIC MATERIALS AND METHODS

8.3.0.0 REFRIGERANT PIPING

8.3.0.0.0 Refrigerant piping shall be type L hard drawn seamless copper, suitable for a working pressure of 2,413 KPa. Fitting shall be wrought copper or brass designed for use with high temperature solder and suitable for a working pressure of not less than 2,413. Joints from soldered to threaded joints shall be made with standard adapter fittings using high temperature solder. Pipes or tubing shall be cut accurately to measurements established at the building lines. All piping shall be laid straight and no pipe shall be laid against other metal without insulation. After cutting, the tubing shall be reamed, all burrs removed and the internal surfaces thoroughly cleaned. While soldering pipes and fittings together, a continuous flow of

- 8.3.0.0.1 Condensate drain piping shall be of galvanized iron sh. 40 pipes and sized to liberally dispose of the condensate to the nearest floor drain. A P-trap without cleanout plugs shall be provided at the outlet for every drain.
- 8.3.0.0.2 Pipe supports and hangers shall be provided and fabricated in a workmanship manner out of steel angles, rods and flat bars. Metal to metal contact between pipes and hangers must be avoided by providing a 3mm thick rubber in between.
- 8.3.0.0.3 Supports on horizontal lines shall be spaced at not more than 1.80 meters on center. All piping must be properly anchored so that no stress is placed on equipment connection by expansion.
- 8.3.0.0.4 Pipe sleeves shall be of standard pipes with sufficient diameter to provide a minimum clearance of 6mm around the pipe and in case of insulated pipe, approximately 6mm around the insulation. Pipes should not be permitted to pass through the bearing walls, beams or columns.
- 8.3.0.0.5 Refrigerant pipes sizes shown on the drawings are for guide purposes only. Contractor is advised to confirm with the equipment supplier the required pipe sleeves for the units prior to installation at the jobsite.

8.3.1 AIR CONDITIONING CONTROL SYSTEM

- 8.3.1.0 Operation of the air conditioning system shall be fully automatic. They shall be capable of maintaining at full or partial loads inside conditions of 25 C.D.B. (plus or minus 1.11°C) and 50% relative humidity (plus or minus 5% RH). Room thermostat shall control the operation of the compression through relays.
- 8.3.1.1 The controls shall be wired in such a way that whenever a condensing unit is in operation, the fan coil unit or air handling unit is also in operation.
- 8.3.1.2 The compressor crankcase heater must be of such capacity as to provide sufficient heat to the oil in the crankcase during the inoperative periods so that the serious oil foaming and slugging shall be prevented. The heater must be automatically energized whenever compressor operation stops and de-energized when the compressor starts.

8.3.2 REFRIGERANT VALVES AND ACCESSORIES

- 8.3.2.0 Refrigerant valves shall be installed in the suction and discharge lines adjacent to the compressor and on the liquid line discharge side of the condenser. The valves should be wrought copper or brass for use with R-410A and suitable for a working pressure of 2,413 KPa.
- 8.3.2.1 Thermostatic expansion valves of the properly capacity shall be installed in the refrigerant supply line to the evaporator. They shall be of the diaphragm type, externally equalized and must be of such optimum size as to maintain a full active evaporator under all conditions and yet reduce the possibility of flooding the refrigerant to the compressors during part load conditions.
- 8.3.2.2 Solenoid valves shall be installed on units with capacities of 26,375 watts and above and shall be designed for the operating pressure of the system. Valve capacities shall be based on a pressure drop across them not exceeding 20 KPa.
- 8.3.2.3 Dehydrators in combination with strainers shall be installed in the refrigerant line on the inlet side of the thermostatic expansion and solenoid valves. They shall have brass or copper bodies designed for a working pressure of 2,413 KPa.
- 8.3.2.4 Sight glasses shall be a combination of liquid and moisture indicators and shall be installed in the refrigerant to indicate whether or not the systems are properly charged and whether or not refrigerant in the system is dry.

8.3.3 REFRIGERANT PIPE INSULATION

- 8.3.3.0 Refrigerant piping insulation shall be applied on all refrigerant suction and condensate drain lines. Insulation material shall be flexible elastomeric pipe insulation 25mm thk. Joints shall be sealed with appropriate contact adhesive. Pipes installed outdoor shall be provided with Ga.26 aluminum cladding.

8.3.4 ELECTRICAL MATERIALS

8.3.4.0 ELECTRIC MOTORS

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- 8.3.4.0.0 All motors shall operate at speed and electrical characteristics specified. They shall be guaranteed to operate at rated out-put with plus or minus ten (10) percent voltage variation at their terminals.
- 8.3.4.0.1 Motors 750 watts and above shall be 3-phase squirrel cage induction type, constant speed. Motors 560 watts and below shall be single-phase capacitor start induction run, or split type or shaded pole type as approved for the service.
- 8.3.4.0.2 Motor driving indoor equipment shall be of the open drip-proof construction. Motors driving outdoor equipment shall be of the totally enclosed fan cooled construction.
- 8.3.4.0.3 Motors driving equipment through pulleys and belts shall be provided with belt guards. The belt guards shall be made of heavy wire mesh or expanded metal set in a suitable frame covering the motor pulleys, belt and driving sheaves with access plates for tachometer reading.

8.3.5 MOTOR CONTROLERS

- 8.3.5.0 All motors starters shall be of magnetic type complete with overload and relays manufactured in accordance with NEMA standards. Enclosures shall be a suitable for the application
- 8.3.5.1 Starters for motor 3.73 kw and below shall be across the line type. Starters for motor above 3.73 Kw shall be of the reduced voltage type
- 8.3.5.2 Circuit breakers shall operate on the thermal magnetic principle. Aside from serving as disconnecting means, they shall afford protection for motor against phasing circuits faults. They shall be provided with enclosures suitable for the application
- 8.3.5.3 All motors shall be provided with an over and under voltage protection device.

8.3.6 WIRING

- 8.3.6.0 All electrical power and control wiring necessary to be provided by the contractor shall be accomplished in accordance with the requirements of the electrical plans and specifications and shall conform to the Philippine Electrical Code. Wiring system including materials shall also comply with the specifications under the electrical division of the project

8.3.7 ELECTRICAL INTERLOCKS

- 8.3.7.0 For motors requiring electrical interlocks, remote control or sequence starting control features, starters shall be equipped with necessary auxiliary contacts or terminals to provide the control feature required. A separate set of terminal is required for each control circuit. Such starter shall be provided with "man-off-auto" selection switches. Other starters shall have a start-stop push buttons mounted in covers.
- 8.3.7.1 Except where otherwise specified, enclosure shall be sheet metal with hinged cover, NEMA type I for the general purpose indoor application. Starters shall be arranged for floor or wall mounting as shown or as indicated.
- 8.3.7.2 Pilot light shall be provided for all starters where the equipment is not visible from the starter and for all remote control stations.

- 8.3.7.3 When possible, relays and switches that are not part of the automatic control system shall be mounted on the same panel as the corresponding motor starter. All supports for the starting equipment shall be furnished and installed by the A/C contractor.
- 8.3.7.4 This contractor shall furnish detailed wiring diagram to those installing the electrical wire and furnish all information necessary to assure the proper connection, operation and control of motorized equipment including interlocks, automatic and safety control auxiliary circuit.

8.3.8 PAINTING AND FINISHING

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- 8.3.8.0 Pipe hangers, duct hangers, uninsulated piping and other ferrous metal work that have not received factory painting shall be thoroughly cleaned and given two (2) coats of rust preventive paint.

8.4 EXECUTION

8.4.0 EQUIPMENT

- 8.4.0.0 Install all equipment as indicated and in accordance with the manufacturer's instructions. Provide clearance for inspection, repair, replacement and service. Provide conduits for wirings. Equip motors with unfused safety switches and overload protection in the operating disconnects switches and magnetic starters. Schedule and administer specified test.

8.4.1 PIPING SYSTEM

- 8.4.1.0 Install piping and piping components to ensure proper and efficient operation of the equipment and controls. Proper supports for the mounting of vibration isolators, stands, guides, anchors, clamps and brackets shall be provided. Piping connections to equipment shall be arranged so that removal or equipment can be accomplished with the least amount of disassembly or removal of the piping system. Allow sufficient pitch to ensure adequate drainage and venting. Hydrotest the piping system and conduct testing, adjusting and balancing of water flow to ensure efficient system performance.

8.4.2 GUARANTEE AND SERVICE

- 8.4.2.0 The air conditioning and ventilating system equipment and accessories furnished and installed under this part of the specifications shall be guaranteed for a period of one (1) year from the date of acceptance thereof, and materials and equipment furnished shall be free from any defects in the materials, workmanship and design.
- 8.4.2.1 At any time within one year after the acceptance and upon proper notice, the contractor shall rectify any and all deficiencies including replacements of parts or the entire units without additional cost of the owner, if such deficiencies have been caused directly or indirectly by inferior materials, faulty workmanship and/or defective design or parts.
- 8.4.2.2 Expendable items such as oil, refrigerant, belts, filters, etc. are included in this one-year guarantee. During the guarantee period, the contractor shall perform free monthly inspection and service and make adjustments if necessary for the proper and efficient operation of the system.

IX PLUMBING

GENERAL

9.0 DESCRIPTION

- 9.0.0 Applicable provisions of General Conditions govern work under this section.

- 9.0.0.0 All fittings, connections and piping embedded in concrete shall be subject to inspection by the Architect and/or his representative before covering and/or completion.

- 9.0.0.0 The contractor shall provide all items, articles, materials, operations of methods listed, mentioned or scheduled on the drawings and/or herein, including labor, materials and incidentals necessary and required for their completion.
- 9.0.0.1 The contract drawings and specifications are complementary to each other, and any labor or materials called for by either, whether or not called for by both, if necessary, for the successful operation of any of the particular type of equipment furnished and installed will be without additional cost to the owner.
- 9.0.0.2 Intent: It is not intended that the drawings shall show every pipe fitting. All such items, whether specifically mentioned or not, or indicated in the drawings shall be furnished and installed, if necessary to complete the system in accordance with the best practice of the plumbing trade and to the satisfaction of the engineer and the owner.
- 9.0.0.3 The plumbing contractor is required to refer to all architectural, structural and electrical plans and specifications and shall investigate all possible interferences and conditions affecting his work.

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9.1 SCOPE OF WORK

Work included under this section of this specification consists of furnishing all labor, tools and equipment, appliances and materials necessary for complete installation, testing and operation of the storm drainage system in accordance with the contract.

- a. Arrange for, obtain and bear the cost of necessary permits, bonds and fees, private or government shall be paid by the contractor.
- b. Supply and installation of Sanitary lines of the Building.
- c. Supply and Installation of waterlines of the Building.
- d. Storm drainage system and connection to the nearest storm drainage outlets.
- e. The contractor shall provide all necessary shop drawings and two (2) sets of As-Built Plans.
- f. Excavation and backfilling in connection with the work shall be included.
- g. Furnishing of written one (1) year warranty of the plumbing system.

9.2 SUBMITTALS

- 9.2.0 Within fifteen (15) days after award of contract, the contractor shall submit for engineer's approval, four (4) copies of all complete list of manufacturer's name of all materials he proposes to use.
- 9.2.1 After approval of the above list and before purchase of any materials, the contractor shall submit to the engineer for approval, four (4) complete sets of detailed information consisting of manufacturer's bulletins, shop drawings and partial list of materials to be provided under this contract.
- 9.2.2 The contractor shall assume the loss of and the entire responsibility of any change in the work as shown in the contract drawings, which may be occasioned by approval of materials other than those specified.

9.3 APPLICABLE CODE AND STANDARD

- 9.3.0 All Storm Drainage works to be done and the sizes of pipes to be used shall be in accordance with the National Plumbing Code and the Plumbing Code of the Philippines.
- 9.3.1 The plumbing contractor shall verify the above paragraphs with each section of the specifications and coordinate his work so that the general contractor will understand clearly the intent of the work to be done.

9.4 PRODUCTS

All materials to be used shall conform to the standards specified. Use of materials shall be governed by other requirements imposed on other section of these specifications. Materials shall be subject to tests necessary to ascertain their fitness if the engineer so requires.

9.4.1 Alternate Materials

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

9.4.2 Identification of Materials

Each length of pipe, fittings, traps, fixtures and devices used in the storm drainage system shall have case, stamped or indelibly marked on it the manufacturer's trademark or name, type and classes of products when so required by the standards mentioned. All materials and equipment mentioned in these specifications, including all incidental items not specifically indicated, but required to complete the contract shall be new and free from defects. If damaged during the course of construction, it shall be repaired or replaced as directed by the Project Manager at no additional cost for the owner.

9.4.3 Pipes and Fittings Schedule

9.4.3.0 Drain, Waste and Vent – shall be unplasticized polyvinyl chloride (uPVC) conforming to ASTM D1784, Crown Pipes or approved equivalent.

9.4.3.1 Storm Drainage Lines – Pipe sizes 250mmØ and above shall be reinforced concrete pipe. Pipe sizes 200mmØ and below shall be non-reinforced concrete pipe.

9.4.3.2 Water lines shall be UPVC pipe, blue sch. 40, push on or solvent type.

9.4.4 Drains

9.4.4.0 Floor drain for genset room shall be ASA 40-9F, pipe size 100mmØ by ASA Metals or approved equal.

9.4.4.1 Area Drain/Catch Basin shall be 140kg/sq. cm. (2000psi) reinforced concrete with GI cutting cover.

9.4.4.3 Site storm drain shall be reinforced concrete for 250mmØ and above, 200mmØ and below shall be concrete pipe.

9.4.5 Valves and Appurtenances

9.4.5.0 Ball valve shall be screwed, bronze, class 150 psi, kitz or approved equal.

9.4.5.1 Check valve shall be screwed, bronze, class 150 psi, kitz or approved equal

9.4.5.2 Pumps (Please refer specifications on plans)

9.4.6 Pipe Sleeves

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

9.4.7 EXECUTION

9.4.7.0 Piping Installation

Piping shall be installed as shown on the drawings, as recommended by the manufacturer and as directed during installation, straight and direct as possible, forming right angles or parallel lines with building walls and other pipes and neatly spaced. Erect pipe risers plumb and true, parallel with walls and other pipes neatly spaced. All piping shall be supported or suspended on stands, clamps, hangers or equivalent or approved design. Supports shall be installed in such a manner to permit pipe free expansion and contraction while minimizing vibration.

9.4.7.1 Plumbing System Test

The entire system of drains shall be tested. Water test shall be in accordance with the plumbing Code. Every portion of the system shall be tested to a hydrostatic pressure equivalent to at least 10-foot head water for a period of ½ hour before covering. Defects disclosed by the test shall be repaired with new materials at the expense of the contractor.

X ELECTRICAL WORKS**20-00050****10.0 WORK INCLUDED**

- 10.0.0 The work to be done under this Division comprises the furnishing of all tools, labor, equipment, fixtures and materials, unless otherwise herein specified, required to complete and leave ready for use the electrical system of the Proposed Construction of Lucrecia Kasilag Performing Arts Building, Barangay Veterans Village, Quezon City in accordance with this specification and accompanying drawings of materials and finishes.
- 10.0.0 The electrical contractor shall coordinate his work so that the general contractor and all other subcontractors will understand clearly the work to be done. The electrical contractor shall finish all electrical facilities and provision necessary for the installations and operations of other trades such as mechanical, air-conditioning, plumbing, sanitary and others.
- 10.0.1 All contractors and all companies or persons providing labor, materials or both for this project, are specifically referred to the General Conditions of the specifications, to the general contract plans, to all Divisions of specifications and to the various other contract documents, which may affect the completion of the contract work.

10.1 CODES, INSPECTIONS, PERMITS AND FEES

- 10.1.0 The work under this contract shall be done according to the requirements of the latest edition of the Philippine Electrical Code, the rules and regulations of the Local Government Authorities of Quezon City and the requirements of Manila Electric Company. Nothing contained in this specification or shown on the drawings shall be construed as conflict with national and local ordinances or laws governing the installation of Electrical Works, and all such laws and ordinances are hereby made part of these specifications. The contractor is required to meet the requirements hereof.
- 10.1.1 All permits and electrical fees required for this work shall be obtained at the expense of the Contractor. The Contractor shall furnish the Architect or the Owner or the same maybe, a final certificate of electrical inspection and approval from the proper government authorities after completion of the work.

10.2 TEST

- 12.2.0 The electrical contractor shall apply such test, replace or remedy all defective work and adjust such system as needed or as the Architect or the owner shall direct. He shall also instruct the proper use of the system and equipments to persons designated by the owner.

10.3 MEASUREMENTS

- 10.3.0 The Electrical Contractor shall procure from the Architect detailed drawings of those parts of the work not fully shown on the plans and he shall compare and verify with the Owner. Any lack of agreement shall be submitted at once to the Architect for adjustments.

10.4 SLEEVES AND FORMS FOR OPENINGS

- 10.4.0 The Electrical Contractor shall provide and places all sleeves, for piping penetrating floors, walls, partitions, etc. He shall locate all necessary slots and openings for his work and it shall be done at such time as not to delay the general contractor of the project.

10.5 LOCATION OF OUTLETS

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- 10.5.0 All Outlets shall be truly centered in panels and spaces provided thereof. Any discrepancy in the outlet location between the electrical plan and architectural plans shall be submitted to the Architect at once, to be verified before outlets are installed.

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10.6 GROUNDINGS

- 10.6.0 If metallic conduits, supports, cabinets and equipment shall be properly grounded and bonded by means of copper straps. The conduits of such system shall be grounded by connecting to the grounding rod.
- 10.6.1 All ground connections shall have clean outlet surfaces and shall be tinned and sealed while bolting. Unless otherwise specified, ground wire shall be installed in exposed conduits and connections made readily accessible for inspection. Connection shall not be made underground or concealed in floors or walls.

10.7 WIRING METHODS

- 10.7.0 All wiring shall in general be installed inside standard conduits. All conduits shall run embedded in concrete, underground but in concrete envelope, embedded in hollow blocks partition, concrete slab, walls and roof above, between double wall wooden partitions if any, where the installation of concealed and/or embedded conduit wiring may be used, but only upon approval of the Owner's authorities concerned. Exposed conduits shall be Intermediate Metal Conduits unless otherwise specified.

10.8 GUARANTEE

- 10.8.0 The Electrical Contractor shall guarantee his work for a period of one (1) year from the date of final acceptance by the owner except for particulars items specifically mentioned in these specifications.
- 10.8.1 The Electrical Contractor shall, without additional compensation for the period specified, replace any work materials or equipment furnished and installed by him under this contract, which develop defects except from ordinary wear and tear.

10.9 MATERIALS

- 12.9.0 All materials shall be new and shall conform to the standards of *Underwriter's Laboratories, Inc.*
- 12.9.1 All materials on all systems shall comply with the following specifications unless specified and all materials not specified shall be of the best of their respective kind.
- 12.9.2 Materials sample shall be submitted for approval as required by the Architect and Electrical Engineer.

10.10 WIRES

- 10.10.0 All wires shall be copper, soft drawn and annealed, shall be 98% conductivity or better, shall be smooth and true of a cylindrical form and shall be within the actual size called for.
- 10.10.1 All wires and cables shall comply with the requirements of the *Underwriter's Laboratories Inc.*, the ASTM and the IPCEA as to their particular usage.
- 10.10.2 Wires and cables for outdoor and indoor lighting and power system shall be moisture and Heat Resistant Thermoplastic insulated for 600volts working pressure type THHN unless otherwise noted on the plans or specified.
- 10.10.3 For lighting and power system, no wire smaller than 3.5mm² shall be used except for control leads/ grounding wire.
- 10.10.4 All wires and cables shall be manufactured by *AMERICAN WIRES AND CABLES* or any approved equal brand manufactured by a reliable manufacturing company acceptable to the Electrical Engineer of the owner.

10.11 CONDUITS

10.11.0 The conduit system shall consist of the following

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Intermediate Metal Conduit (IMC) & Electrical Metallic Tubing (EMT)

They shall be of standard sizes and weight, mild steel hot dipped galvanized with inside enamel or epoxy coating, equivalent to *NICH* or any approved brand equal and acceptable to the Electrical Engineer of the Owner.

Polyvinyl Chloride Conduit (PVC)

They shall be of standard size and weight, made of polyvinyl chloride, extruded, heavy wall, rated for 90-degree centigrade cable, schedule 40, by *ATLANTA/ NELTEX* pipes or approved equal pipes.

Limitations of use shall be as follows:

- a. As per requirement of the latest edition of PEC and/or NEC.
- b. Not permitted where subject to mechanical damage.

- 10.11.1 All conduits shall be of true cylindrical form and shall be within the actual size called for.
- 10.11.2 No conduits shall be used in any system smaller than 15-mm electrical trade size, not shall have more than four 90 degrees bend in any one run, and where necessary, hand hole and pull boxes shall be provided.
- 10.11.3 No wires shall be pulled in any conduit until the conduit system is complete in all details. In case of underground work, until concrete envelope or masonry has been completed in every detail. In case of concealed work, until rough plastering has been completed.
- 10.11.4 The ends of all conduits shall be tightly plugged to exclude plaster dust sand and soil including moisture while the renovation of the perimeter is in the process.

10.12 OUTLET BOXES AND FITTINGS

- 10.12.0 At all outlets of every kind, for all systems, there shall be provided a suitable fittings which shall be either a box or other device especially designed to receive the type of fitting to be mounted thereon.
- 10.12.1 The Contractor shall consult with the Electrical Engineer as to the nature of various fittings to be used before installing his outlet fittings and shall conform strictly in the use of fittings so that the work when completed will be finished design.
- 10.12.2 In case of lamp post, the outlet of fittings shall be provided with suitable fixtures supports or a support of a size and a kind required by the fixture to be erected.

10.13 SWITCHES

- 10.13.0 Local lighting switches shall be flush type, heavy duty, 15- ampere size 250 volts, bakelite case, quick connect terminal similar to *PANASONIC* made in Japan, or approved equal. Outdoor lights shall be automatically operated by means of photo switch and manual selection. Or it might be a manual switch by means of breaker switch inside the lighting panel.

10.14 RECEPTACLES

- 10.14.0 Standard receptacles shall be 15- ampere size 250volts, parallel slots, duplex, flush mounted composition case, side wired with the insulated mounting yoke. If weatherproof wall plate is required, standard factory made metal waterproof plate shall be provided similar to *PANASONIC*.

10.15 PLATES

- 10.15.0 All switches and receptacles plates shall be bakelite plastic, ivory-colored or as directed by the Architect.

10.16 SWITCH GEAR, PANEL BOARDS AND CABINETS

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- 10.16.0 Panel boards for outdoor lightings shall conform as indicated in the drawings with respect to supply characteristics, rating of main lug or main circuit breaker, main magnetic contactor, number and sizes of branch circuit breakers. All should have factory-wired control wirings with terminal block connection for external leads.
- 10.16.1 Lighting and power panel board either wall mounted or free standing shall consist of a factory complete dead front assembly of back plan, main busses, overcurrent and switching units, sheet metal cabinet and trim. Cabinet shall be fabricated from code gauge galvanized sheet metal with cover capped and fastened.
- 10.16.2 Panel boards and trim shall be suitable for the type of mounting shown on the drawings. The inside and outside of the panel boards cabinet and trim shall be factory painted and having two (2) coats of rust proof prime coat and one finish shop of gray enamel paint.
- 10.16.3 All cabinets and enclosure shall be general purpose, NEMA type 1 for indoor installation. Except where specifically noted on plans for outdoor use shall be rain tight and dust type NEMA 4X type enclosure.
- 10.16.4 All circuit breakers with frame size above 100AT shall have minimum interrupting capacity of 22 KAIC at 230 volts and frame size 100AT and below shall have minimum interrupting capacity of 18 KAIC at 230 volts. All circuit breakers shall be molded case, bolt on type with thermal magnetic trip elements. Number of poles, trip coil rating and frame size shall be as indicated on plans. All circuit breakers shall be SCHNEIDER ELECTRIC brand or approved equal.
- 10.16.5 Switchgear main circuit breaker shall be stationary type, programmable trip device, an electronic relay that employs microprocessors-based technology. Functions to overload protection, short circuit protection, with selectivity, instantaneous short circuit protection with adjustment and ground fault protection.
- 10.16.6 Cardholder on inside of door with clear plastic cover and complete typewritten schedule of panel branch circuit shall be provided. Leave spare circuit blank.
- 10.16.7 Local panel boards and switchgear manufacture shall include among others, *ELECTROASIA, Incorporated* or approved equal.
- 10.16.8 Submit samples and or product description of panel board to be used for approval prior to ordering and installation.

10.17 ELECTRIC SERVICE

- 10.17.0 The electric service shall be three (3)-phase, 4 wire, 230volts, 60 hertz. The sizes of service entrance conductor and conduit are shown in the plans.
- 10.17.1 The electrical contractor shall inspect the site, consult with *MERALCO* and check the orientation of the proposed service entrance before commencing work to avoid field problems.

10.18 LIGHTING SYSTEM

- 10.18.0 The lighting system shall be complete in every respect as indicated on the electrical plans or as specified in the Architectural plans. Exact fixture location shall be determined.

10.18.1 All wiring shall be installed in conduits, and in general shall be concealed underground in concrete encasement and/or embedded in concrete.

10.18.2 Mounting height of devices shall be as indicated in the plans and/or subject to Architect's approval prior to installations as follows

Local switches	- 1.4 above finish floor line
Receptacles	- 0.3 above finish floor line

10.19 DISTRIBUTION FEEDERS

20-00050

10.19.0 Distribution voltage shall be 230volts, three (3)-phase, 4 wire. Feeder conductors and raceway shall be installed as shown on drawings and no change in size shall be made without the written consent of the Architect. Feeder conductors shall be continuous, and without splices between terminals. When feeders are run in multiple, they shall be exactly of the same length to avoid unbalanced division of the current.

10.20 CONNECTORS AND INSULATION

10.20.0 Use solderless mechanical pressure type lugs, copper connectors for splicing wires greater than no 8mm.sq. All splices shall be properly insulated using #M brand rubber tape and plastic electrical tape. Application of tapes shall be equivalent to the insulation of wire concerned, edges to provide smooth surfaces before taping.

10.21 BRANCH CIRCUITS

The drawings indicate the general methods of installation of all circuit wirings and the power lighting outlets which are to be supplied from this circuit. Branch circuit raceways shall be run from outlets to panel boards as direct as the ground and level condition will allow. Circuit allocations shall be as indicated on the drawings. Where it becomes necessary to connect any outlet to the circuit other than the one shown on the drawings, this shall be done without extra charge and only upon written consent of the Architect. No wire smaller than 3.5mm sq. shall be used for any lighting or power branch circuit. All lighting outlet shall be supplied from 2-wire single phase circuits. Number of wires for other outlets shall be as indicated on the drawings.

10.22 MOTOR CONNECTIONS

10.22.0 Connect the motor starting devices for all motors, except where otherwise specifically provided for under other contracts. Furnish all necessary connections between controllers and motors in conduit, and leave motor ready to start. The power supply leads to the motor from the controller shall be the same as the feeder indicated on the drawings, except for six terminal lead motor where wye-delta starting method is being applied.

10.22.1 Other trades, i.e. mechanical contractor, except as otherwise noted or specified will supply and deliver all controllers and shall erect and connect up safe complete.

10.22.2 The Electrical Contractor or trade people shall be held responsible as far as power supply to the controller is concerned. He shall ascertain the exact location of the motor controller and motors from other trades before installing the circuit work.

10.23 RECORD DRAWINGS AND AS BUILT PLANS

10.23.0 The Electrical Contractor shall keep an active record of the actual installation works during the progress job. This shall become the reference for the preparation of the As-Built Plans which shall include all pertinent information, complete in all aspects of the actual installations, all new information not originally shown in the contract drawings. The As-Built Plans shall be prepared by the Electrical Contractor at his expense and shall be submitted to the Architect and the Engineer for approval upon the completion of the work. The approval of the As-Built drawings shall be a prerequisite for the final acceptance of the electrical works.

10.23.1 Two (2) copies of the As-Built drawings, signed and sealed by the Electrical Contractor's Professional Electrical Engineer, shall be submitted to the Architect and Engineer consultants. Original tracing/ reproducible copy shall also be submitted.

Note: In contrast between these Technical Specifications and the approved Plans issued to the Contractor, the approved Plans shall prevail. See also the approved program of works. In case of doubt, for clearer outlooks consult the assigned Architect/Engineer.

20-000.50

Prepared by:

PABLO S. CABUGAWAN JR.

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.

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT : PROPOSED CONSTRUCTION OF LUCRECIA KASILAG PERFORMING ARTS BUILDING

LOCATION : BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY

PROJECT NO.: 20 - 00050

DURATION : One Hundred Eighty (180) Calendar Days

SCOPE OF WORKS:

- 1 General Requirements including temporary enclosure, temporary lighting and water facilities, billboard, scaffolding and construction safety and health equipment.
- 2 Site Works including layout and staking, site cleaning, backfill and compaction, excavation for structures, soil treatment, gravel bedding, polyethylene sheet, demolition of existing structures and hauling of waste materials.
- 3 Civil and Structural Works including concreting, reinforcing steel bars, formworks and scaffoldings, masonry works, metal fabrication and thermal proofing.
- 4 Architectural Works including floor finishes, wall finishes, ceiling finishes, roofing works, doors and windows, painting works and miscellaneous works.
- 5 Electrical Works including installation of lighting and power system
- 6 Plumbing Works including installation of waterline system, sanitary line system, storm drainage system and plumbing fixtures.
- 7 Mechanical Works including installation of air conditioning system and ventilation system.
- 8 All necessary testing & commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Temporary Enclosure around the Construction Area (H=2.4m)	lm	125	₱	₱
	Temporary Lighting and Water Facilities	day	180		
	Construction Health and Safety Equipment	unit	1		
	Billboard	pc	1		
	Scaffolding Rental	sq.m	966		
	Direct Cost I				₱
II	SITE WORKS				
	Demolition Works				
	Demolition of Existing Structures	sq.m	491		
	Hauling and Disposal of Demolished Material	t.l	13		
	Site Cleaning and preparation	sq.m	857		
	Layout and Staking	sq.m	857		
	Excavation for Structures (Solid Rock Adobe)				
	Column Footing	cu.m	139		
	Wall Footing	cu.m	94		
	Septic Tank	cu.m	29		
	Subtotal				₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
	Soil Treatment	sq.m	857		
	Polyethylene Sheet	sq.m	857		
	Gravel Bedding and Compaction (Ordinary Gravel)	cu.m	43		
	Materials Cost				P
	Labor Cost				
	Subtotal				P
	Backfill and Compaction	cu.m	168		
	Subtotal				P
	Imported Earthfill	cu.m	359		P
	Materials Cost				P
	Labor Cost				
	Subtotal				P
	Materials Cost II				P
	Labor Cost II				
	Direct Cost II				P
III	CIVIL WORKS / STRUCTURAL WORKS				
A	Concrete Works				
	Ready Mix Concrete, 4000psi, 3/4" Gravel @ 28 days				
	Column Footing	cu.m	32		
	Column	cu.m	40		
	Suspended Slab	cu.m	6		
	Beam	cu.m	24		
	Main Stairs, Stage Stairs & Entrance Step	cu.m	6		
	Ready Mix Concrete, 3000psi, 3/4" Gravel @ 28 days				
	Wall Footing	cu.m	33		
	Slab-on-Fill & Ramp	cu.m	103		
	On Site Mix Concrete, Class AA				
	Stiffener Beams & Columns				
	Cement	bag	120		
	Gravel	cu.m	5		
	Sand	cu.m	10		
	Septic Tank				
	Cement	bag	72		
	Gravel	cu.m	3		
	Sand	cu.m	6		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
	On Site Mix Concrete, Class A				
	Countertop				
	Cement	bag	12		
	Gravel	cu.m	1		
	Sand	cu.m	1		
	Catch Basin				
	Cement	bag	9		
	Gravel	cu.m	1		
	Sand	cu.m	1		
	Condenser Concrete Pad				
	Cement	bag	20		
	Gravel	cu.m	1		
	Sand	cu.m	2		
B	Reinforcing Steel Bars				
	Grade 60 Reinforcing Steel Bars				
	Column Footing	kg	4,193		
	Column	kg	3,676		
	Beam	kg	4,679		
	Grade 40 Reinforcing Steel Bars				
	Column	kg	3,419		
	Beam	kg	1,997		
	Wall Footing	kg	1,663		
	Slab on Fill & Ramp	kg	3,481		
	Suspended Slab	kg	997		
	Stiffener Beams & Columns	kg	1,414		
	Main Stairs, Stage Stairs & Entrance Step	kg	1,309		
	Septic Tank	kg	406		
	Countertop	kg	63		
	Catch Basin	kg	74		
	Condenser Concrete Pad	kg	39		
	G.I. Tie Wire	kg	225		
C	Formworks				
	Column	sq.m	391		
	Beam	sq.m	304		
	Suspended Slab	sq.m	49		
	Stiffener Beams & Columns	sq.m	191		
	Stairs	sq.m	31		
	Septic Tank	sq.m	25		
	Condenser Concrete Pad	sq.m	8		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
D	Scaffoldings / Shoring				
	Column	lm	209		
	Beam	lm	293		
	Suspended Slab	sq.m	49		
	Stiffener Beam & Column	lm	254		
	Septic Tank	sq.m	25		
	Stairs	sq.m	31		
E	Thermal and Moisture Protection				
	Cementitious Capillary Type Waterproofing				
	Septic Tank	sq.m	44		
	Toilet	sq.m	75		
F	Masonry Works				
	Laying of 100mm CHB including Mortar and Reinforcement				
	Interior Wall	sq.m	230		
	Septic Tank	sq.m	9		
	Catch Basin	sq.m	44		
	Laying of 150mm CHB including Mortar and Reinforcement				
	Exterior Wall	sq.m	957		
	Septic Tank	sq.m	34		
	Plastering of Door and Window Opening	sq.m	44		
	Plastering of Column and Beam	sq.m	591		
	Plastering of CHB Walls	sq.m	2,548		
G	Metal Works				
	Roof Framing				
	2" x 2" x 3/16" Angle Bar	kg	1,458		
	2" x 2" x 1/4" Angle Bar	kg	177		
	2-1/2" x 2-1/2" x 1/4" Angle Bar	kg	5,631		
	2-1/2" x 2-1/2" x 5/16" Angle Bar	kg	184		
	3" x 3" x 5/16" Angle Bar	kg	4,085		
	2" x 4" x 1.4mm C Purlin	kg	1,135		
	2" x 6" x 1.6mm C Purlin	kg	3,505		
	16mm Ø Sag Rod	kg	76		
	25mm Ø Sag Rod	kg	1,642		
	350mm x 250mm x 25mm Steel Plate	kg	121		
	25mm Ø x 250mm (A-325) Embedded Anchor Bolt	pc	24		
	Entrance Canopy				
	Built-up Section	kg	364		
	2" x 4" x 1.2mm C Purlin	kg	57		
	2" x 6" x 1/4" Metal Channel	kg	161		
	350mm x 550mm x 25mm Steel Plate	kg	152		
	25mm Ø x 250mm (A-325) Embedded Anchor Bolt	pc	18		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
	Louver Wall				
	6" x 12" x 1.2mm Tubular Bar	kg	1,063		
	Steel Railings				
	38mm Ø B.I. Pipe Steel Railing for Main Stairs	lm	8		
	38mm Ø Stainless Steel Handrail for Entrance Railing	lm	3		
	50mm Ø Stainless Steel Railing for PWD Comfort Room	lm	2		
	50mm Ø Stainless Steel Handrail for Ramp Railing	lm	48		
	Miscellaneous & Consumables				
	Assorted Metal Drill Bit	pc	10		
	Cut Off Blade	pc	10		
	Grinding Disc Metal	pc	10		
	Welding Machine Rental	unit	4		
	Welding Rod	box	24		
H	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	sq.m	958		
	Pre-Painted G.I. End Flashing	lm	134		
	Pre-Painted G.I. Gutter	lm	61		
	Heat Insulation	sq.m	958		
	Tekscrew	pc	3,928		
	1/2" x 300mm Fiber Cement Fascia Board	lm	61		
	Silicon Sealant	tube	5		
	G.I. Clamp	pc	154		
	1/2" x 1/2" Stainless Wire Mesh	sq.m	19		
				Materials Cost III	P
				Labor Cost III	
				Direct Cost III	P
IV	ARCHITECTURAL WORKS				
A	Floor Finishes				
	Rubberized Paint Finish	sq.m	356		
	Wood Floor Finish	sq.m	76		
	300mm x 300mm Ceramic Tiles	sq.m	131		
	600mm x 600mm Ceramic Tiles	sq.m	110		
	300mm x 600mm Non Skid Ceramic Tiles	sq.m	10		
	600mm x 600mm Non Skid Ceramic Tiles with Grooved Nosing	sq.m	56		
	Plain Cement with Grooves	sq.m	31		
	Solid Wood Planks Stage and Steps Finish	sq.m	102		
	50mm thick Concrete Topping with Plain Cement Finish	sq.m	356		
	50mm thick Concrete Topping for tiles	sq.m	307		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
B	Wall Partitioning and Finishes				
	4mm thick Aluminum Composite Panel including accessories	sq.m	321		
	1/4" Hardiflex Board on Metal Studs - Double Wall	sq.m	49		
	Toilet Partition including Stainless Steel Supports & Ledges	sq.m	36		
	Urinal Partition including Stainless Steel Supports & Ledges	sq.m	3		
	300mm x 600mm Non Skid Ceramic Tiles	sq.m	144		
	Plastering Guide / Grooves	lm	145		
C	Ceiling Finishes				
	12mm thick Gypsum Board on Metal Frame	sq.m	604		
	12mm thick Moisture Resistant Gypsum Board	sq.m	60		
	on Metal Frame				
	Fiber Cement Board on Metal Frame	sq.m	279		
	Materials Cost				P
	Labor Cost				
	Subtotal				P
D	Installation of Doors				
	D1 - 2.00m x 2.40m Leaf Swing Type with	set	2		
	Fixed Side Panels on Aluminum Frame				
	D2 - 2.00m x 2.40m Leaf Swing Type Wooden Panel Door with Transom and 6mm thick Fixed Glass	set	2		
	D3 - 1.00m x 2.40m Wooden Panel Door with	set	3		
	Transom and 6mm thick Fixed Glass Panels				
	D4 - 0.90m x 2.10m PVC Door	set	1		
	D5 - 0.80m x 2.10m PVC Door with Louver	set	4		
	D6 - 0.90m x 2.10m Wooden Panel Door	set	1		
	D7 - 1.20m x 2.10m Bi-Fold Wooden Panel Door with Louver	set	3		
		lm	87		
	Hardwares and Accessories				
	Door Hinge	pc	51		
	Door Knob	pc	14		
E	Installation of Windows				
	W1 - 3.20m x 1.70m Sliding Glass Window	set	3		
	on Aluminum Frame				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
	W2 - 2.40m x 0.60m Awning Glass Window	set	7		
	on Aluminum Frame				
	W3 - 0.60m x 1.50m Fixed Glass Window	set	12		
	on Aluminum Frame				
	W4 - 1.50m x 9.00m Fixed and Awning Glass Window	set	1		
	on Aluminum Frame				
	W5 - 0.60m x 0.60m Awning Glass Window	set	3		
	on Aluminum Frame				
	CW - 12.50m x 3.30m 10mm thick Tinted Fixed Glass	set	1		
	on Powder Coated Aluminum Frame				
				Materials Cost	P
				Labor Cost	
				Subtotal	P
F	Painting Works				
	Skim Coating	sq.m	2495		
	Elastomeric Paint Finish for Exterior Concrete Wall	sq.m	957		
	Flat Latex Paint Finish				
	Interior Concrete Wall and Dry Wall	sq.m	1477		
	Ceiling	sq.m	943		
	Epoxy Enamel Finish for Steel Members	sq.m	669		
	Painting for Plumbing and Electrical Works				
	1" Paint Brush	pc	5		
	3" Paint Brush	pc	2		
	Paint Thinner	liter	1		
	Red Oxide Paint	liter	5		
	Silver Gray Quick Dry Enamel Paint	liter	3		
G	Logos and Letterings				
	Quezon City Logo	set	1		
	Stainless Steel Signage with Neon Backlights				
	"PERFORMING" (32" x 28")	sq.in	8,960		
	"A" (60" x 52")	sq.in	3,120		
	"rts" (24" x 24")	sq.in	1,728		
	"LUCRECIA" (20" x 20")	sq.in	3,200		
	"KASILAG" (16" x 16")	sq.in	1,792		
	"HIGH SCHOOL" (12" x 12")	sq.in	1,440		
				Materials Cost	P
				Labor Cost	
				Subtotal	P
				Materials Cost IV	P
				Labor Cost IV	
				Direct Cost IV	P

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
V	PLUMBING WORKS				
A	Sanitary Line / Sewer Line / Storm Drainage System				
	PVC Pipe, S-1000				
	50mm Ø x 3m PVC Pipe	pc	33		
	75mm Ø x 3m PVC Pipe	pc	17		
	100mm Ø x 3m PVC Pipe	pc	52		
	PVC Fittings				
	PVC Wye				
	75mm Ø x 75mm Ø PVC Wye	pc	12		
	100mm Ø x 50mm Ø PVC Wye	pc	36		
	100mm Ø x 75mm Ø PVC Wye	pc	15		
	100mm Ø x 100mm Ø PVC Wye	pc	10		
	PVC Tee				
	50mm Ø x 50mm Ø PVC Tee	pc	65		
	75mm Ø x 50mm Ø PVC Tee	pc	16		
	100mm Ø x 50mm Ø PVC Tee	pc	8		
	100mm Ø x 100mm Ø PVC Tee	pc	4		
	PVC 1/4 Bend				
	50mm Ø PVC 1/4 Bend	pc	60		
	75mm Ø PVC 1/4 Bend	pc	4		
	100mm Ø PVC 1/4 Bend	pc	4		
	PVC 1/8 Bend				
	50mm Ø PVC 1/8 Bend	pc	30		
	75mm Ø PVC 1/8 Bend	pc	32		
	100mm Ø PVC 1/8 Bend	pc	59		
	PVC Cleanout with Adapter				
	50mm Ø PVC Cleanout	pc	7		
	75mm Ø PVC Cleanout	pc	1		
	100mm Ø PVC Cleanout	pc	12		
	PVC P-Trap				
	50mm Ø PVC P-Trap	pc	33		
B	Waterline System				
	PPR Pipe, PN 16				
	20mm Ø x 4m PPR Pipe	pc	9		
	25mm Ø x 4m PPR Pipe	pc	7		
	32mm Ø x 4m PPR Pipe	pc	4		
	40mm Ø x 4m PPR Pipe	pc	10		
	50mm Ø x 4m PPR Pipe	pc	8		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
	PPR Fittings				
	PPR Tee				
	20mm Ø x 20mm Ø PPR Tee Equal	pc	14		
	25mm Ø x 25mm Ø PPR Tee Equal	pc	10		
	40mm Ø x 40mm Ø PPR Tee Equal	pc	1		
	40mm Ø x 20mm Ø PPR Tee Unequal	pc	4		
	50mm Ø x 20mm Ø PPR Tee Unequal	pc	4		
	20mm Ø x 12mm Ø PPR Female Threaded Tee	pc	25		
	25mm Ø x 20mm Ø PPR Female Threaded Tee	pc	7		
	PPR Male Adaptor				
	20mm Ø PPR Male Adaptor	pc	6		
	25mm Ø PPR Male Adaptor	pc	6		
	32mm Ø PPR Male Adaptor	pc	2		
	50mm Ø PPR Male Adaptor	pc	2		
	PPR End Cap				
	20mm Ø PPR End Cap	pc	25		
	25mm Ø PPR End Cap	pc	7		
	PPR 90° Elbow				
	20mm Ø PPR 90° Elbow	pc	18		
	25mm Ø PPR 90° Elbow	pc	13		
	32mm Ø PPR 90° Elbow	pc	5		
	40mm Ø PPR 90° Elbow	pc	8		
	50mm Ø PPR 90° Elbow	pc	12		
	Union Patent				
	20mm Ø PPR Union Patent	pc	3		
	25mm Ø PPR Union Patent	pc	3		
	32mm Ø PPR Union Patent	pc	1		
	50mm Ø PPR Union Patent	pc	2		
	PPR Coupling				
	20mm Ø PPR Coupling	pc	7		
	25mm Ø PPR Coupling	pc	6		
	32mm Ø PPR Coupling	pc	3		
	40mm Ø PPR Coupling	pc	8		
	50mm Ø PPR Coupling	pc	5		
	PPR Nipple				
	25mm Ø PPR Nipple	pc	2		
	50mm Ø PPR Nipple	pc	4		
	PPR Socket Reducer				
	25mm Ø x 20mm Ø PPR Socket Reducer	pc	3		
	32mm Ø x 20mm Ø PPR Socket Reducer	pc	3		
	32mm Ø x 25mm Ø PPR Socket Reducer	pc	2		
	40mm Ø x 25mm Ø PPR Socket Reducer	pc	4		
	40mm Ø x 32mm Ø PPR Socket Reducer	pc	2		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
	PPR Valves & Appurtenances				
	20mm Ø PPR Gate Valve	pc	3		
	25mm Ø PPR Gate Valve	pc	3		
	32mm Ø PPR Gate Valve	pc	1		
	50mm Ø PPR Gate Valve	pc	1		
	50mm Ø PPR Check Valve	pc	1		
	50mm Ø PPR Water Meter	pc	1		
C	Plumbing Fixtures and Accessories				
	Tank-type Water Closet	unit	11		
	Coutertop-mounted Lavatory	unit	9		
	Wall-hung Lavatory	unit	1		
	Flush-valve Urinal	unit	5		
	Stainless Slop Sink	unit	2		
	Stainless Lavatory Faucet	pc	10		
	Slop Sink Faucet	pc	2		
	Stainless Bidet	pc	11		
	Ceramic Soap Holder	pc	15		
	Ceramic Toilet Tissue Holder	pc	11		
	6mm thick Face Mirror	sq.m	9		
	100mm Stainless Floor Drain	pc	18		
	100mm Ø Roof Drain	pc	8		
	75mm Ø Roof Drain	pc	2		
	Fixture Accessories				
	Stainless Flexible Hose	pc	21		
	Stainless One-way Angle Valve	pc	10		
	Stainless Two-way Angle Valve	pc	11		
D	Pipe Hangers & Supports				
	For horizontal pipes less than 2" diameter	l.m.			
	For horizontal pipes greater than 2" diameter	l.m.			
	Bracket for Pipe Stack spaced at 1m	lm	14		
	Downspout Bracket	pc	80		
	Tekscrew	pc	160		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
E	Miscellaneous & Consumables				
	1-1/2" x 1/8" thick x 20' Flat Bar	pc	4		
	3/8" Ø Concrete Drill Bit	pc	2		
	3/8" Ø Expansion Bolt with Shield	set	5		
	3/8" Ø Metal Drill Bit	pc	1		
	Hacksaw Blade	pc	2		
	PPR Fusion Machine Rental	unit	1		
	Solvent Cement (400cc)	can	23		
	Teflon Tape	roll	45		
	Waste Cloth	kg	3		
	Materials Cost V				P
	Labor Cost V				
	Direct Cost V				P
VI	ELECTRICAL WORKS				
A	Roughing-ins				
	Conduits and Raceway				
	1/2" Ø x 3m Flex Metal Conduit	lm	70		
	1/2" Ø x 3m PVC Pipe	pc	471		
	3/4" Ø x 3m PVC Pipe	pc	154		
	1" Ø x 3m PVC Pipe	pc	73		
	3" Ø x 3m IMC Pipe	pc	3		
	4" Ø x 3m IMC Pipe	pc	12		
	Fittings and Accessories				
	Adaptor				
	1/2" Ø PVC Adaptor	pc	672		
	3/4" Ø PVC Adaptor	pc	32		
	1" Ø PVC Adaptor	pc	12		
	Locknut & Bushing				
	1/2" Ø PVC Locknut & Bushing	pair	672		
	3/4" Ø PVC Locknut & Bushing	pair	32		
	1" Ø PVC Locknut & Bushing	pair	12		
	3" Ø IMC Locknut & Bushing	pair	2		
	4" Ø IMC Locknut & Bushing	pair	3		
	Elbow				
	1" Ø PVC Elbow	pc	16		
	3" Ø x 3m IMC Elbow	pc	3		
	4" Ø IMC Elbow	pc	3		
	Coupling and Connectors				
	1/2" Ø x 3m Straight Connector	pc	36		
	1/2" Ø x 3m Angle Connector	pc	28		
	3" Ø IMC Coupling	pc	2		
	4" Ø IMC Coupling	pc	11		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
	Accessories				
	4" Ø Weatherproof Entrance Cap	pc	1		
	4" Ø IMC Metal "C" Clamp	pc	4		
	2" x 4" PVC Utility Box	pc	55		
	4" x 4" PVC Junction Box with cover	pc	188		
	4-11/16" PVC Square Box with cover	pc	8		
	250mm ² Solderless Split-type Connector	pc	3		
	325mm x 200mm x 200mm Pullbox	pc	2		
B	Wires and Cables				
	THHN/THWN Wire				
	3.5mm ² THHN Wire	roll	23		
	8.0mm ² THHN Wire	lm	593		
	14.0mm ² THHN Wire	lm	1167		
	38.0mm ² THHN Wire	lm	8		
	60.0mm ² THHN Wire	lm	35		
	150.0mm ² THHN Wire	lm	24		
	250.0mm ² THHN Wire	lm	105		
	THW Wire				
	2.0mm ² THW Wire	roll	10		
	TW Wire				
	5.5mm ² TW Wire	roll	4		
	Building Grounding System				
	60.0mm ² Bare Copper Wire	lm	8		
	16mm Ø x 3000mm Grounding Rod with Ground Clamp	pc	1		
	Auxiliary Wire				
	AWG #12 Speaker Wire, Z=300 Ohms (150m/roll)	lm	480		
	Microphone Wire (XLR Cable)	lm	244		
C	Wiring Devices				
	Single Convenience Outlet with Ground	pc	15		
	Duplex Convenience Outlet with Ground	pc	14		
	Stainless Steel Pop-up Type Floor Mounted Outlet	pc	2		
	Special Purpose Outlet for	pc	2		
	Theater Lightings and Audio-Visual Effects				
	Single Gang Switch with Plate and Cover	pc	9		
	Two Gang Switch with Plate and Cover	pc	11		
	Three Way Switch with Plate and Cover	pc	2		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
D	Lighting Fixtures				
	Emergency Light, Twin Head	pc	12		
	Fire Exit LED Light	pc	4		
	Square LED Downlight, 15W Slim Type	pc	27		
	Outdoor Triangular Façade Luminaire with 2 x 18W LED Tube	pc	8		
	600mm x 1200mm Recessed Type Troffer fixture	pc	12		
	6" Ø Round Recessed Pinlight (Case)	pc	30		
	T8, 20W LED Tube Light, Box Type	pc	12		
	4" Ø Receptacle	pc	12		
	20W LED Bulb	pc	30		
	9W LED Globe Bulb	pc	12		
E	Installation of Panelboard				
	MDP	assy	1		
	Main: 400AT / 400AF 45KAIC @240V TM MCCB				
	Branches: 2 - 70AT 3P TMCB				
	1 - 300AT 3P TMCB				
	LPP	assy	1		
	Main: 70AT / 100AF 3P TMCB				
	Branches: 9 - 20AT 2P Bolt-on				
	3 - 30AT 2P Bolt-on				
	LPC	assy	1		
	Main: 70AT / 100AF 3P TMCB				
	Branches: 7 - 20AT 2P Bolt-on				
	5 - 30AT 2P Bolt-on				
	PACU	assy	1		
	Main: 300AT / 400AF 3P TM MCCB				
	10 - 70AT 2P Bolt-on				
	Enclosed Circuit Breaker (ECB)				
	30AT 2P Bolt-on	set	4		
	40AT 2P Bolt-on	set	2		
	70AT 2P Bolt-on	set	10		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
F	Miscellaneous & Consumables				
	1" x 1" x 1/8" x 20' Angle Bar	pc	2		
	1/2" Ø Concrete Drill Bit	pc	5		
	1/2" Ø x 2-1/2" Expansion Bolt	pc	60		
	1/2" Ø x 4' Full Thread Rod	pc	30		
	1/2" x 1-1/2" Tox with Screw	box	3		
	1/4" x 1-1/2" Tox with Screw	box	2		
	3" Concrete Nail	kg	5		
	3/8" Ø Drill Bit	pc	5		
	Electrical Tape	roll	25		
	GI Tie Wire, Ga. 16	kg	8		
	Hacksaw Blade	pc	20		
	Masking Tape	roll	20		
	Pulling Lubricant	can	4		
	PVC Solvent Cement (400cc)	can	7		
	Rubber Tape	roll	10		
	Torch with Butane	set	5		
	Waste Cloth	pc	10		
	Materials Cost VI				P
	Labor Cost VI				
	Direct Cost VI				P
VII	MECHANICAL WORKS				
A	Refrigerant Piping				
	1/4" Ø x 50' Copper Coil Tubing	roll	2		
	3/8" Ø x 50' Copper Coil Tubing	roll	21		
	5/8" Ø x 50' Copper Coil Tubing	roll	19		
	1/4" Ø x 3/4" thick Rubber Foam Insulation	lm	30		
	3/8" Ø x 3/4" thick Rubber Foam Insulation	lm	315		
	5/8" Ø x 3/4" thick Rubber Foam Insulation	lm	285		
	Refrigerant Freon, 11.3 kg	pc	3		
B	Condensate Water Drainage System				
	20mm Ø x 3m uPVC Pipe	pc	7		
	32mm Ø x 3m uPVC Pipe	pc	117		
	20mm Ø uPVC Coupling	pc	11		
	32mm Ø uPVC Coupling	pc	176		
	20mm Ø uPVC Elbow	pc	6		
	32mm Ø uPVC Elbow	pc	56		
	3/4" Ø x 1/2" thick Rubber Foam Insulation	lm	21		
	1-1/4" Ø x 1/2" thick Rubber Foam Insulation	lm	351		
	Materials Cost				P
	Labor Cost				
	Subtotal				P

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
C	Mechanical Equipment				
	Split-type Air Conditioning Unit				
	SAC 1, Floor Mounted ACU, 10.0kW Cooling Capacity, 9.52mm Ø liquid, 15.88mm Ø gas, 32mm Ø drain pipe, 3120W, 220V / 1φ / 60Hz	unit	10		
	SAC 2, Ceiling Cassette ACU, 10.0kW Cooling Capacity, 9.52mm Ø liquid, 15.88mm Ø gas, 32mm Ø drain pipe, 2160W, 220V / 1φ / 60Hz	unit	2		
	SAC 3, Ceiling Cassette ACU, 5.6kW Cooling Capacity, 9.52mm Ø liquid, 15.88mm Ø gas, 32mm Ø drain pipe, 1520W, 220V / 1φ / 60Hz	unit	2		
	SAC 4, Wall Mounted ACU, 2.5kW Cooling Capacity, 6.35mm Ø liquid, 9.52mm Ø gas, 20mm Ø drain pipe, 735W, 220V / 1φ / 60Hz	unit	2		
				Equipment Cost	P
				Labor Cost w/ Technical supervision	
				Subtotal	P
D	Exhaust Fan				
	EF 1, Ceiling Mounted Ductless Fan, 120-150cmh, 22W, 220V / 1φ / 60Hz	unit	11		
				Equipment Cost	P
				Labor Cost	
				Subtotal	P
E	Pipe Hangers and Supports				
	2" Ø Clevis Hanger	pc	12	P	
	2-1/2" Ø Clevis Hanger	pc	177		
	4" Ø Clevis Hanger	pc	156		
	Vibration Isolator	pc	64		
F	Miscellaneous & Consumables				
	50m long x 1" wide Polyethylene Tape	roll	120		
	Brazing Rod (10pcs/box)	box	3		
	Copper Tube Cutter	unit	2		
	Hacksaw Blade	pc	10		
	Solvent Cement (400cc)	can	5		
	Waste Cloth	kg	5		
				Materials Cost	P
				Labor Cost	
				Subtotal	P
				Materials Cost VII	P
				Labor Cost VII	
				Direct Cost VII	P

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	UNIT	QTY	UNIT COST	TOTAL COST
VIII	SITE DEVELOPMENT WORKS				
	Removal of Existing Asphalt Pavement	sq.m	769	P	
	Excavation for Structures	cu.m	128		
	Aggregate Base Course	cu.m	77		
	Bituminous Prime Coat	m.t	1		
	Bituminous Concrete Surface Course	m.t	91		
	460mm Ø Manhole with Cover	pc	4		
	460mm Ø Reinforced Concrete Circular Pipe	lm	125		
				Direct Cost VIII	P
TOTAL DIRECT COST Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT PROJECT COST					P
SUMMARY					
I	GENERAL REQUIREMENTS				P
II	SITE WORKS				
III	CIVIL WORKS / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	PLUMBING WORKS				
VI	ELECTRICAL WORKS				
VII	MECHANICAL WORKS				
VIII	SITE DEVELOPMENT WORKS				
TOTAL DIRECT COST					P
Overhead, Contingencies and Miscellaneous Expenses (OCM)					
Profit					
VAT					
TOTAL PROJECT COST					P

PROJECT : PROPOSED CONSTRUCTION OF LUCRECIA KASILAG PERFORMING ARTS BUILDING

LOCATION : BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY

PROJECT NO.: 20 - 00050

DURATION : One Hundred Eighty (180) Calendar Days

BREAKDOWN OF COST

ITEM NO	WORK DESCRIPTION	MATERIALS COST	LABOR COST	INDIRECT COST	AGGREGATE COST
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL WORKS / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	PLUMBING WORKS				
VI	ELECTRICAL WORKS				
VII	MECHANICAL WORKS				
VIII	SITE DEVELOPMENT WORKS				

TOTAL COST P_____

MP SUM BID IN WORDS : _____

Contractor : _____

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.

Bid Form

Date: _____

IB¹ N°: _____

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

Address: *[insert address]*

We, the undersigned, declare that:

- (a) We have examined and have no reservation to the Bidding Documents, including Addenda, for the Contract *[insert name of contract]*;
- (b) We offer to execute the Works for this Contract in accordance with the Bid and Bid Data Sheet, General and Special Conditions of Contract accompanying this Bid;

The total price of our Bid, excluding any discounts offered below is: *[insert information]*;

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

- (c) Our Bid shall be valid for a period of *[insert number]* days from the date fixed for the Bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract;
- (e) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from the following eligible countries: *[insert information]*;
- (f) We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- (g) Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the Contract, has not been declared ineligible by the Funding Source;
- (h) We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

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

- (i) We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.
- (j) 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].
- (k) 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: _____

In the capacity of: _____

Signed: _____

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

Date: _____

Form of Contract Agreement

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

WHEREAS, the Entity is desirous that the Contractor execute *[name and identification number of contract]* (hereinafter called “the Works”) and the Entity has accepted the Bid for *[insert the amount in specified currency in numbers and words]* by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be attached, deemed to form, and be read and construed as integral part of this Agreement, to wit:
 - (a) General and Special Conditions of Contract;
 - (b) Drawings/Plans;
 - (c) Specifications;
 - (d) Invitation to Bid;
 - (e) Instructions to Bidders;
 - (f) Bid Data Sheet;
 - (g) Addenda and/or Supplemental/Bid Bulletins, if any;
 - (h) Bid form, including all the documents/statements contained in the Bidder’s bidding envelopes, as annexes, 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;
 - (i) Eligibility requirements, documents and/or statements;
 - (j) Performance Security;
 - (k) Notice of Award of Contract and the Bidder’s conforme thereto;
 - (l) Other contract documents that may be required by existing laws and/or the Entity.
3. In consideration of the payments to be made by the Entity to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Entity to execute and complete the Works and remedy any defects therein in conformity with the provisions of this Contract in all respects.

4. The Entity hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects wherein, the Contract Price or such other sum as may become payable under the provisions of this Contract at the times and in the manner prescribed by this Contract.

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

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

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

Binding Signature of Procuring Entity

Binding Signature of Contractor

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

Omnibus Sworn Statement

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

AFFIDAVIT

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

1. *Select one, delete the other:*

If a sole proprietorship: I am the sole proprietor 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]* *[insert "as shown in the attached duly notarized Special Power of Attorney" for the authorized representative]*;

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]*, accompanied by the duly notarized Special Power of Attorney, Board/Partnership Resolution, or Secretary's Certificate, 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;
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 following responsibilities as a Bidder:
- a) Carefully examine all of the Bidding Documents;
 - b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;
 - c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and
 - d) Inquire or secure Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.
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.

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

Bidder's Representative/Authorized Signatory

SUBSCRIBED AND SWORN to before me this ____ day of *[month]* *[year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert type of government identification card used]*, with his/her photograph and signature appearing thereon, with no. _____ and his/her Community Tax Certificate No. _____ issued on ____ at _____.

Witness my hand and seal this ____ day of *[month]* *[year]*.

NAME OF NOTARY PUBLIC

Serial No. of Commission _____

Notary Public for _____ until _____

Roll of Attorneys No. _____

PTR No. _____ *[date issued]*, *[place issued]*

IBP No. _____ *[date issued]*, *[place issued]*

Doc. No. _____

Page No. _____

Book No. _____

Series of _____

* This form will not apply for WB funded projects.

Bid-Securing Declaration

(REPUBLIC OF THE PHILIPPINES)

CITY OF _____) S.S.

X-----X

Invitation to Bid *[Insert reference 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 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 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 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;
 - c. I am/we are declared as 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'S AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]

Affiant

SUBSCRIBED AND SWORN to before me this ____ day of *[month]* *[year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert type of government identification card used]*, with his/her photograph and signature appearing thereon, with no. _____.

Witness my hand and seal this ____ day of *[month]* *[year]*.

NAME OF NOTARY PUBLIC

Serial No. of Commission _____
Notary Public for _____ **until** _____
Roll of Attorneys No. _____
PTR No. __, *[date issued]*, *[place issued]*
IBP No. __, *[date issued]*, *[place issued]*
Doc. No. ____
Page No. ____
Book No. ____
Series of ____.

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

