PHILIPPINE BIDDING DOCUMENTS

(As Harmonized with Development Partners)

REPAIR AND REHABILITATION OF THE EVSU MAIN EVFIC FOR FOOD MANUFACTURING AND LTO COMPLIANCE

(Project Identification No. IB-2024-07-16)

EASTERN VISAYAS STATE UNIVERSITY

Sixth Edition
July 2020

Preface

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

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

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

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

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

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

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

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

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

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

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

TABLE OF CONTENTS

Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Republic of the Philippines
EASTERN VISAYAS STATE UNIVERSITY
Tacloban City

Project Identification Number: IB-2024-07-16

BIDS AND AWARDS COMMITTEE

INVITATION TO BID

REPAIR AND REHABILITATION OF THE EVSU MAIN EVFIC FOR FOOD MANUFACTURING AND LTO COMPLIANCE

1. The ***Eastern Visayas State University***, through the ***INTERNALLY GENERATED FUND (IGF) FY 2024*** intends to apply the sum of ***Three Million Two Hundred Thirteen Thousand One Hundred Eighty-One Pesos and 67/100 (Php3,213,181.67)*** being the Approved Budget for the Contract (ABC) to payments under the contract for ***IB-2024-07-16 Repair and Rehabilitation of the EVSU Main EVFIC for Food Manufacturing and LTO Compliance***. Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The ***Eastern Visayas State University*** now invites bids for the above Procurement Project. Completion of the Works is required ***within One Hundred Twenty (120) calendar days (CD) upon receipt of Notice to Proceed (NTP)***. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

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

4. Interested bidders may obtain further information from ***Eastern Visayas State University*** and inspect the Bidding Documents at the address given below from ***during office hours from 9:00 A.M. to 5:00 P.M, Monday to Friday***.

5. A complete set of Bidding Documents may be acquired by interested bidders on ***July 13, 2024 – August 6, 2024 (except on Saturdays, Sundays & Holidays)*** from given address and website/s below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of ***Five Thousand Pesos (Php5,000.00)***.The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person or through e-mail at *evsu.bacsecretariat@evsu.edu.ph.*

   Prospective bidders who intend to purchase the bidding documents may opt for the following mode of payment:

   a. **Payment in person at the EVSU Cashiering (transaction hours: 8:00AM-3:30PM)**:
      i. Step 1: Proceed to the Office of the BAC Secretariat for the issuance of payment slip.
      ii. Step 2: Present payment slip to the Cashiering Office for payment of the bid docs fee.

iii. Step 3: Present proof of payment/official receipt to the Office of the BAC Secretariat.
iv. Step 4: BAC Secretariat release copy of the PBD, its Bid Bulletin/s, and other attachments.

b. Payment thru bank:

i. Account name: **EVSU TACLOBAN CAMPUS**
ii. Bank: **DEVELOPMENT BANK OF THE PHILIPPINES**
iii. Account number: **000-00090-775-3**

Note: Bidder must send its proof of payment for the fees to *evsu.bacsecretariat@evsu.edu.ph.*

Bidding Documents may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) (*wwwphilgeps.gov.ph*) and the Eastern Visayas State University website (*https://www.evsu.edu.ph/philgeps-posting-2024-public-bidding/*) provided that Bidders shall pay the nonrefundable fee for the bidding documents not later than the submission of their bids.

6. The ***Eastern Visayas State University*** will hold a *Pre-Bid Conference through a hybrid platform on* ***July 23, 2:00 P.M. at the Office of the Vice President for Administration and Finance Conference Room, Tacloban City, Leyte & through video conferencing via Google Meet,*** which shall be open to prospective bidders.

   Prospective bidders are encouraged to discuss any concerns or clarifications about the eligibility requirements including the technical specifications in the said conference.

7. Bids must be duly received by the BAC Secretariat through (i) manual submission at the office address as indicated below or (ii) online or electronic submission, on or before the time and date indicated below:

   a. The bidder has the option to submit a bid electronically or manually on or before ***August 6, 2024, 1:30 P.M***. If a bidder chooses to submit an electronic bid, the same bidder shall submit a bid manually for the same project on or before ***August 8, 2024, 2:00 P.M.***, for evaluation purposes during post-Qualification. Further instructions on the submission and receipt of electronic bids are provided in BDS (ITB Clause 15); and,

   b. If a bidder chooses to submit manually, the manual bid shall be sufficient for evaluation purposes during the Opening of Bids, and electronic submission shall no longer be required. The same shall be submitted at the address indicated below on or before ***August 6, 2024, 1:30 P.M. (BAC Secretariat time).***

   Late bids shall not be accepted.

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

9. Bid opening shall be through a hybrid platform at the ***Office of Vice President for Administration and Finance Conference Room, Tacloban City, Leyte & through video conferencing via Google Meet*** on ***August 6, 2024, 3:00 P.M.*** Bids will be

opened in the presence of the bidders' representatives who choose to attend the activity.

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

11. You may visit the following websites:

    For downloading of Bidding Documents:
    PhilGEPS Website*: wwwphilgeps.gov.ph*
    EVSU Website*: https://www.evsu.edu.ph/philgeps-posting-2024-public-bidding/*

    For online bid submission:
    Send to evsu.bacsecretariat@evsu.edu.ph

12. For further information, please refer to:

    THE SECRETARIAT
    Bids and Awards Committee
    Eastern Visayas State University
    Arch. Lino R. Gonzaga Avenue,
    Tacloban City, Philippines 6500
    Telephone No. 0953-355-7046 Tm
    Email: *evsu.bacsecretariat@evsu.edu.ph*

(SGD) BENEDICTO T. MILITANTE, JR., Ph.D., J.D.
Vice President for Administration & Finance
Chairperson, Bids and Awards Committee

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, ***EASTERN VISAYAS STATE UNIVERSITY*** invites Bids for the ***REPAIR AND REHABILITATION OF THE EVSU MAIN EVFIC FOR FOOD MANUFACTURING AND LTO COMPLIANCE***, with Project Identification Number ***IB-2024-07-16.***

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 2024 in the amount of ***Three Million Two Hundred Thirteen Thousand One Hundred Eighty-One Pesos and 67/100 (Php3,213,181.67)***.

2.1. The source of funding is ***INTERNALLY GENERATED FUND (IGF) FY 2024.***

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 **subcontracting is not allowed.**

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 ***Office of Vice President for Administration and Finance Conference Room, Tacloban City*** and/or ***through video conferencing via Google Mee*****t** 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 special PCAB License in case of Joint Ventures, 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 **Philippine Pesos.**

15. Bid Security

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

15.2. The Bid and bid security shall be valid until **120 calendar days from the date of opening of bids**. 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 15 shall be submitted for each contract (lot) separately.

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

20. Post Qualification

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

21. Signing of the Contract

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

Section III. Bid Data Sheet

Bid Data Sheet

<table>
<tr><th>ITB Clause</th><th></th></tr>
<tr><td>5.2</td><td>For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be:

Repair and Rehabilitation of Buildings especially in Food Manufacturing.</td></tr>
<tr><td>7.1</td><td>Subcontracting is NOT allowed.</td></tr>
<tr><td>9.1</td><td>Prospective bidders may submit their written request for clarification on and/or interpretation of any part of the Bidding Documents, either to EVSU BAC Secretariat Office or through electronic mail at evsu.bacsecretariat@evsu.edu.ph not later than July 24, 2024 , 5:00PM. Clarifications made and submitted beyond the abovementioned date shall not be accepted and/or entertained further.</td></tr>
<tr><td>10.3</td><td>The prospective Contractor/Developer must possess a valid PCAB License of at least Category C and be registered with classification General Building GB1-(Building or Industrial Plant).</td></tr>
<tr><td>10.4</td><td>The following are the key personnel required for the project:

<table>
<tr><th>TECHNICAL PERSONNEL REQUIRED</th><th>NUMBER</th></tr>
<tr><td>Civil Engineer</td><td>1</td></tr>
<tr><td>Construction Foreman</td><td>1</td></tr>
<tr><td>Part Time Safety Officer</td><td>1</td></tr>
</table>
</td></tr>
<tr><td>10.5</td><td>The minimum major equipment requirements are the following:

<table>
<tr><th>EQUIPMENT</th><th>NUMBER OF UNITS</th></tr>
<tr><td>Welding Machine 300Amp</td><td>1</td></tr>
<tr><td>Bar Cutter</td><td>1</td></tr>
<tr><td>Bar Bender</td><td>1</td></tr>
<tr><td>Concrete Vibrator</td><td>1</td></tr>
<tr><td>Pump Crete</td><td>1</td></tr>
<tr><td>Dump Truck (12 yd^3)</td><td>1</td></tr>
<tr><td>Plate Compactor</td><td>1</td></tr>
<tr><td>Jackhammer</td><td>1</td></tr>
</table>
</td></tr>
</table>

15.1 The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts:

FORMS OF BID SECURITY	AMOUNT OF BID SECURITY (EQUAL TO PERCENTAGE OF THE ABC)
• Bid Securing Declaration; **OR**	**NOTARIZED**
• Cash, Cashier's/ manager's check issued by a Universal or Commercial Bank equivalent to Two Percent (2%); **OR**	**64,263.63**
• Surety Bond equivalent to Five Percent (5%) (If security bond, attach the original copy of the official receipt of premium payment and certification issued by the Insurance Commission)	**160,659.08**

16.1 Each Bidder shall submit one (1) original and four (4) readable authenticated copies of the first and second components of its (SEALED) bid. Documents to be submitted shall be properly tabbed and labeled according to the title of the document attached for prompt identification: e.g., PhilGEPS Certificate of Registration (Platinum) – PhilGEPS

All envelopes shall:

- be addressed to the Procuring Entity's BAC;
- bear the name and address of the Bidder in capital letters;
- contain the name of the contract to be bid in capital letters;
- bear the specific identification of this bidding process indicated in the ITB Clause 1; and bear a warning "DO NOT OPEN BEFORE…" the date and time for the opening of bids, as specified in the IB.

TO : **THE BIDS AND AWARDS COMMITTEE**
EASTERN VISAYAS STATE UNIVERSITY

FROM : _____
(*Name of Bidder in Capital Letters)*

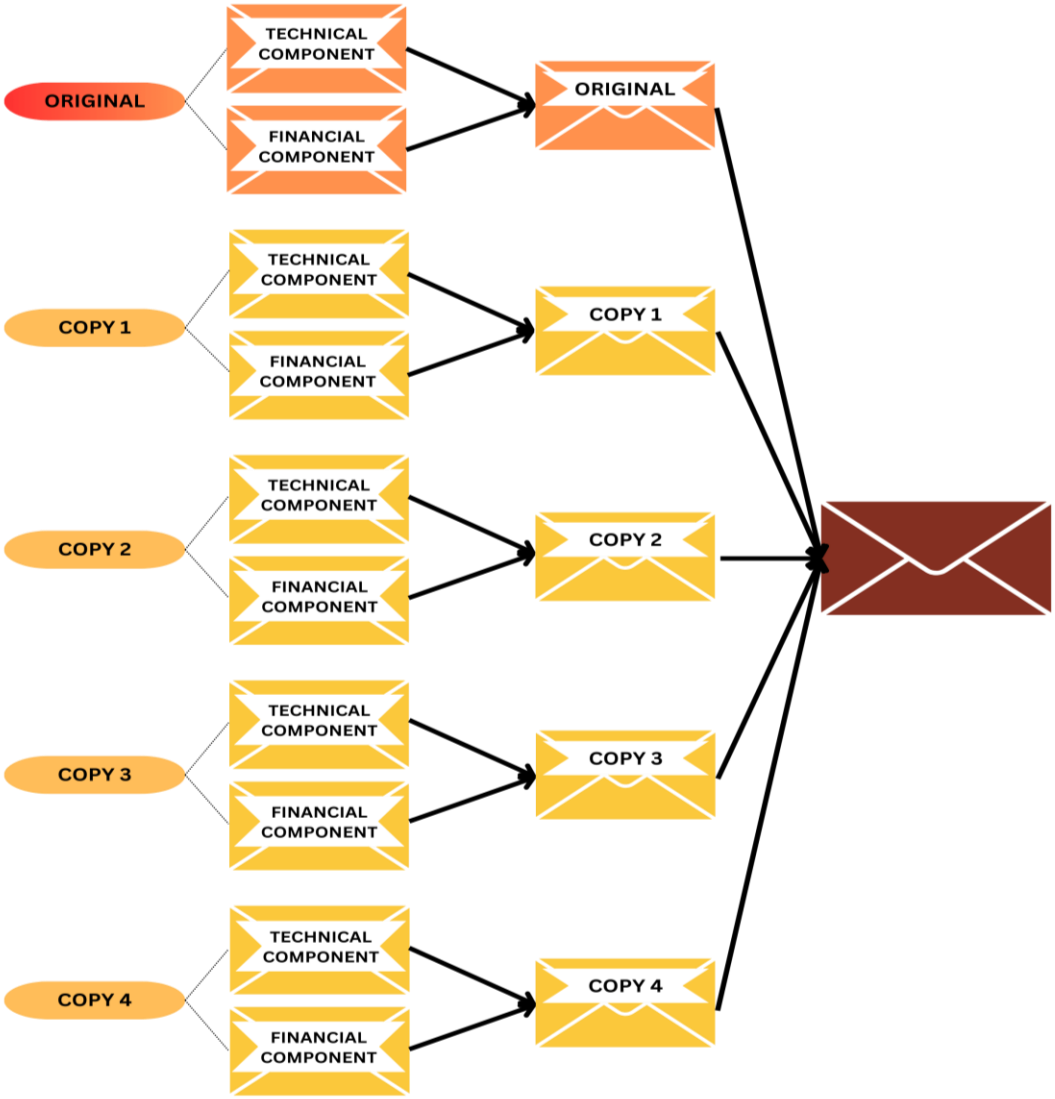
ADDRESS : _____
(Address of Bidder in Capital Letters)

BID REF. NO. : _____

(*In Capital Letters, Indicate the Pharse):*
"DO NOT OPEN BEFORE: _____"

For details in the preparation of sealed bids, please refer to the diagram below:

Figure 1. Sealing of Bids (Illustration of bids with 1 original and 4 copies, each box in the diagram represents a sealed envelope)



16.2 Guidelines for Electronic Submission of Bids:

a) The Bidder must submit a soft copy of their bids through e-mail to **evsu.bacsecretariat@evsu.edu.ph** at any time before ***August 6, 2024, 1:30 P.M.***

b) In the online submission of bids, a two-folder system will be utilized. The first folder contains the requirements of the Technical Component checklist as presented under Section VIII and shall be labeled "**TECHNICAL COMPONENT**". The second folder contains the requirements of the Financial Component checklist and is marked "**FINANCIAL COMPONENT**".

c) The documentary requirements shall be segregated and labelled according to the type of document for prompt identification (e.g., PhilGEPS

<table>
<tr><td></td><td>
Certificate of Registration (Platinum) labelled as PhilGEPS) and each shall be in Portable Document Format (PDF).

d) Each folder shall be compressed in Zip, RAR or 7z format with password protection. Submitted bidding documents that are not in compressed archive format and are not password protected, will be automatically rejected.

e) The password for accessing the file shall be disclosed by the Bidders during the bid opening which may be done in person or face-to-face through videoconferencing, webcasting, e-mail or similar technology.

f) An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

g) For further information, please refer to:

VINCENT B. CABANTOC
Head, BAC Secretariat
CP No. 0953-355-7046 - TM
Email Add: <u>evsu.bacsecretariat@evsu.edu.ph</u>
</td></tr>
<tr><td>19.2</td><td>
The goods are grouped in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.

<table>
<tr><th colspan="5">IB-2024-07-16 REPAIR AND REHABILITATION OF THE EVSU MAIN EVFIC FOR FOOD MANUFACTURING AND LTO COMPLIANCE</th></tr>
<tr><th>ITEM NO.</th><th>P.R. NO.</th><th>QTY</th><th>UNIT</th><th>TOTAL AMOUNT</th></tr>
<tr><td>1</td><td>05-0440-24 IPDO</td><td>1</td><td>LOT</td><td>Php8,718,887.71</td></tr>
</table>
</td></tr>
<tr><td>21</td><td>
Additional contract documents relevant to the Project that are required by existing laws and/or the Procuring Entity, such as:

• Construction Schedule and S-curve
• Manpower Schedule
• Construction Methods
• Equipment Utilization Schedule
• Construction Safety and Health Program approved by the DOLE
• Contractor’s All-Risk Insurance (CARI)
• and other acceptable tools of project scheduling.

Note: The successful Bidder shall furnish these documents within ten (10) calendar days from receipt of the approved Notice of Award (NOA) from the Procuring Entity but in no case later than the signing of the contract by both parties.
</td></tr>
</table>

Section IV. General Conditions of Contract

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

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

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

4. The Contractor's Obligations

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

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

5. Performance Security

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

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

6. Site Investigation Reports

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

7. Warranty

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

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

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the

Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.

11. Program of Work

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

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

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

14. Progress Payments

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

15. Operating and Maintenance Manuals

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

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

Section V. Special Conditions of Contract

Special Conditions of Contract

<table>
<tr><th>GCC Clause</th><th></th></tr>
<tr><td>2</td><td>The Intended Completion Date is One Hundred Twenty (120) calendar days from receipt of approved Notice to Proceed.</td></tr>
<tr><td>4.1</td><td>The turnover of the site shall be simultaneous to the receipt by the Contractor of the Notice to Proceed.</td></tr>
<tr><td>6</td><td>Conduct site investigation at EVSU-Main Campus and secure Certification of Site Inspection issued by the Institutional Planning and Development Office (IPDO).</td></tr>
<tr><td>7.2</td><td>[In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:] Fifteen (15) years.

All projects shall have a minimum Defects Liability Period of one (1) year after contract completion or as provided for in the contract documents. This is without prejudice, however, to the liabilities imposed upon the engineer/architect who drew up the plans and specification for a building sanctioned under Section 1723 of the New Civil Code of the Philippines.

To guarantee that the contractor shall perform his responsibilities as prescribed in Section 62.2.3.1(a) of the 2016 RIRR of RA 9184, it shall be required to post a warranty security in accordance with the following schedule:

<table>
<tr><th>FORM OF WARRANTY SECURITY</th><th>AMOUNT OF WARRANTY SECURITY (NOT LESS THAN THE REQUIRED PERCENTAGE OF THE TOTAL CONTRACT PRICE)</th></tr>
<tr><td>• Cash or Letter of Credit issued by a Universal or Commercial Bank: Provided, however, That the Letter of Credit shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.</td><td>Five percent (5%)</td></tr>
<tr><td>• Bank guarantee confirmed by a Universal or Commercial Bank.</td><td>Ten percent (10%)</td></tr>
<tr><td>• Surety bond callable upon demand issued by GSIS or a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.</td><td>Thirty percent (30%)</td></tr>
</table>

The warranty security shall be denominated in Philippine Pesos, remain effective for one (1) year from the date of issuance of the Certificate of</td></tr>
</table>

	Final Acceptance by the Procuring Entity, and returned only after the lapse of the said one (1) year period.
10	No dayworks are applicable to the contract.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within ***Seven (7) calendar days*** of delivery of the Notice of Award that shall include, among others: a) The order in which it intends to carry out the work including anticipated timing for each stage of design/ detailed engineering and construction, b) Sequence of timing for inspections and tests as specified in the contract documents, c) General description of the design and construction methods to be adopted, d) Number and names of personnel to be assigned for each stage of the work, e) List of equipment required on site for each major stage of the work, and, f) Description of the quality control system to be utilized for the project.
11.2	The amount to be withheld for late submission of an updated Program of Work **is ten percent (10%) of the Monthly Progress Billing.**
13	An advance payment **not to exceed fifteen percent (15%) of the Contract Price** in Philippine Peso shall be made upon the submission of a written request per stage of work by the Contractor to cover the cost of Mobilization. The advance payment shall be deducted by the EVSU in equal installments against the statements for the progress billings of the Services until the Advance Payment has been fully deducted. Advance Payment shall be made only upon the submission to and acceptance by EVSU of an Irrevocable Standby Letter of Credit or equivalent value from a commercial bank, a bank guarantee or a surety bond callable on demand. issued by a duly licensed surety or insurance company and confirmed by EVSU.
14	The materials and equipment delivered on the site but not completely put in place shall be **excluded** from payment.
15.1	The contractor shall cause the preparation and submission of "as-built" plans duly signed and sealed by a professional architect/ civil/ electrical/ mechanical/ auxiliary/ sanitary engineer in the same sheet size and scale as the original drawings within one (1) month after the completion of the project. All As-Built Plans and Documents shall be delivered in sets as follows: 1. One (1) set Original Copies, with the working drawings in the smallest scale of 1:100 meters prepared in CAD format, printed/plotted in Mylar paper original copies; 2. Five (5) sets of Blueprint copies for each plan 3. Two (2) sets of soft copies of AutoCAD plans/drawings and PDF

	format of Cost Estimates, Specifications, PERT-CPM, Schedule of Timeline, and other related documents in CD-ROM/Flash Drive Storage device; 4. Other documents processed and issued in favor of EVSU during the construction period (i.e. Inspection Reports, Record Book, Building/ Mechanical/ Electrical Permits, Fire Safety Reports, Clearances, Certificates and related documents)
15.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is **five percent (5%) of the Final Progress Billing.**

Section VI. Specifications

Republic of the Philippines
EASTERN VISAYAS STATE UNIVERSITY
Physical Plant and Infrastructure Development Office

OUTLINE SPECIFICATIONS

NAME OF PREOJECT: **REPAIR AND REHABILITATION OF THE EVSU MAIN EVFIC FOR FOOD MANUFACTURING AND LTO COMPLIANCE**

LOCATION: **EVSU MAIN CAMPUS – TACLOBAN CITY**

GENERAL CONDITIONS

All parts of the construction shall be finished with first class workmanship, to the fullest talent and meaning of the plans and these Specifications, and to the entire satisfaction of the Architect/Engineer and the University.

The construction shall conform to all the requirements of the National Building Code, as well as the local rules and regulations of Tacloban City.

ITEM B.3 – PERMITS AND CLEARANCES

GENERAL

The Contractor shall secure necessary permits and clearances as per revised National Building Code of the Philippines before the construction commences. Clearances from other government institutions must also be acquired if deemed necessary to comply with other existing building laws and ordinances.

The Contractor shall complete the application of building permits as reflected in their submitted PERT-CPM and Construction schedule. It is the contractor's obligation and responsibility to pay all fees pertaining to building permit application including the basic fees of all the professionals/designers signing and sealing the building plans.

Once the approved building permit is given to the contractor, it is their duty to submit the approved building permit to the procuring entity thru the Physical Plant and Infrastructure Development Office (PPIDO) and post the same on site using the required tarpaulin size by the Office of the Building Official (OBO) and Commission on Audit.

ITEM B.3 – PROJECT BILLBOARD

Preparation and installation of project billboard:

1. The billboard design layout, dimension and letter sizes on white background shall be depicted on a standard billboard measuring 1200mm x 2440mm (4ft x 8 ft) using 12.50mm (½ inch) marine plywood or tarpaulin of the same size posted on 5mm (3/16 inch) marine plywood.
2. Billboard shall be replaced with the new one adopting the above guidelines.
3. The billboard shall be installed in front of the project site.
4. Name(s) and/or picture(s) of any personages should not appear in the billboard.

ITEM NO. B.7 - OCCUPATIONAL SAFETY AND HEALTH

GENERAL

Personal Protective Equipment

The Contractor shall, at his own expense, furnish his workers with protective equipment for eyes, face, hands and feet, lifeline, safety belt/harness, protective shields and barriers whenever necessary by reason of the hazardous work process or environment, chemical or radiological or other mechanical irritants or hazards capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical agent.

Provision of personal protective equipment (PPE) shall be in accordance with Rule 1080 of the OSHS. The equivalent cost for the provision of PPE (life span, depreciation, replacement, etc.) shall be an integral part of the project cost.

- The employer shall provide adequate and approved type of protective equipment. Workers within the construction project site shall be required to wear the necessary PPE at all times.
- Construction workers who are working from unguarded surfaces six (6) meters or more above water or ground, temporary or permanent floor platform, scaffold or where they are exposed to the possibility of falls hazardous to life or limb, must be provided with safety harnesses and life lines.
- Specialty construction workers must be provided with special protective equipment, such as specialized goggles or respirators for welders and painters or paint applicators.
- All other persons who are either authorized or allowed to be at a construction site shall wear appropriate PPE.

Construction Safety Signages

Construction Safety Signages must be provided to warn the workers and the public of hazards existing in the workplace. Signages shall be posted in prominent positions at strategic location as assigned by the architect and, as far as practicable, be in the language understandable to most of the workers employed.

The signages include but are not limited to:

- Mandatory requirement on the usage of personal protective equipment prior to entry to the project site.
- Areas where there are potential risks of falling objects.
- Areas where there are potential risks of falling.
- Areas where explosives and flammable substances are used or stored.
- Areas where there are tripping or slipping hazards.
- Approaches to working areas where danger from toxic or irritant airborne contaminants/substances may exist which should indicate the name of the contaminant/substance involved and the type of respiratory equipment to be worn.
- All places where contact with or proximity to electrical/facility equipment can cause danger.
- All places where workers may come in contact with dangerous moving parts of machineries or equipment.
- Location of fire alarms and firefighting equipment.
- Instructions on the usage of specific construction equipment.
- Periodic updating of man-hours lost.

Signages should be regularly inspected and maintained in good condition. Signages that are damaged or illegible or that no longer apply should be removed and replaced by the safety officer, as needed.

Note: The contractor shall also provide at his own expense, furnish the assessment and inspectorate team of the procuring entity with protective equipment for eyes, face, hands and feet, lifeline, safety belt/harness, protective shields and barriers whenever necessary by reason of the hazardous work process or environment, chemical or radiological or other mechanical irritants or hazards capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical agent.

ITEM 803 (1) a, b, c STRUCTURE EXCAVATION

DESCRIPTION

This Item shall consist of the necessary excavation for foundation structures not otherwise provided for in the Specifications. the backfilling of completed structures and the disposal of all excavated surplus materials, shall be in accordance with these Specifications and in reasonably close conformity with the Plans or as established by the Engineer.

It shall also include the furnishing and placing of approved foundation fill material to replace unsuitable material encountered below the foundation elevation of structures.

No allowance will be made for classification of different types of material encountered.

Construction Requirements

Clearing and Grubbing

Prior to starting excavation operations in any area, all necessary clearing and grubbing in that area shall have been performed in accordance with Clearing and Grubbing.

Excavation

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

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

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

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

(2) Structures other than pipe culverts. All rock or other hard foundation materials shall be cleaned all loose materials, and cut to a firm surface, either level, stepped, or serrated as directed by the Engineer. All seams or crevices shall be cleaned and grouted. All loose and disintegrated rocks and thin strata shall be removed. When the footing is to rest on material other than rock, excavation to final grade shall not be made until just before the footing is to be placed. When the foundation material is soft or mucky or otherwise unsuitable, as determined by the Engineer, the Contractor shall remove the unsuitable material and backfill with approved granular material. This foundation fill shall be placed and compacted in 150 mm (6 inches) layers up to the foundation elevation.

When foundation piles are used, the excavation of each pit shall be completed before the piles are driven and any placing of foundation fill shall be done after the piles are driven. After the driving is completed, all loose and displaced materials shall be removed, leaving a smooth, solid bed to receive the footing.

UTILIZATION OF EXCAVATED MATERIALS

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

Preservation of Channel

If any excavation or dredging is made at the side of the structure before caissons, cribs, or cofferdams are sunk in place, the Contractor shall, after the foundation base is in place, backfill all such excavations to the original ground surface or stream bed with material satisfactory to the Engineer.

Backfill and Embankment for Structures

Excavated areas around structures shall be backfilled with free draining granular material approved by the Engineer and placed in horizontal layers not over 150 mm (6 inches) in thickness, to the level of the original ground surface. Each layer shall be moistened or dried as required and thoroughly compacted with mechanical tampers.

In placing backfills or embankment, the material shall be placed simultaneously in so far as possible to approximately the same elevation on both sides of an abutment, pier, or wall. If conditions require placing backfill or embankment appreciably higher on one side than on the opposite side, the additional material on the higher side shall not be placed until the masonry has been in place for 14 days, or until tests made by the laboratory under the supervision of the Engineer establishes that the masonry has attained sufficient strength to withstand any pressure created by the methods used and materials placed without damage or strain beyond a safe factor.

All embankments adjacent to structures shall be constructed in horizontal layers and compacted as prescribed in Subsection 104.3.3 except that mechanical tamper may be used for the required compaction. Special care shall be taken to prevent any wedging action against the structure and slopes bounding or within the areas to be filled shall be benched or serrated to prevent wedge action. The placing of embankment and the benching of slopes shall continue in such a manner that at all times there will be horizontal berm of thoroughly compacted material for a distance at least equal to the height of the abutment or wall to the backfilled against except insofar as undisturbed material obtrudes upon the area.

Broken rock or coarse sand and gravel shall be provided for a drainage filter at weep holes as shown on the Plans.

(3) Method of Measurement

(3.1) Structure Excavation

The volume of excavation to be paid for will be the number of cubic meters measured in original position of material acceptably excavated in conformity with the Plans or as directed by the Engineer, but in no case, except as noted, will any of the following volumes be included in the measurement for payment:

- The volume outside of neat lines of under drains as shown on the Plans, and outside the limits of foundation fill as ordered by the Engineer.

- The volume included within the stacked limits of the roadway excavation, contiguous channel changes, -ditches, etc., for which payment is otherwise provided in the Specification.
- Volume of water or other liquid resulting from construction operations and which can be pumped or drained away.
- The volume of any excavation performed prior to the taking of elevations and measurements of the undisturbed ground.
- The volume of any material except that where the Plans indicate or the Engineer directs the excavation after embankment has been placed and except that when installation of pipe culverts by the imperfect trench method specified in Item 500 is required, the volume of material re-excavated as directed will be included.
- The volume of excavation for footings ordered at a depth more than 1.5 m (60 inches) below the lowest elevation for such footings shown on the original Contract Plans, unless the Bill of Quantities contains a pay item for excavation ordered below the elevations shown on the Plans for individual footings.

SPECIAL ITEM – DEMOLITION WORK

PART 1 - GENERAL

1.1 DESCRIPTION:

This section specifies demolition and removal of buildings, portions of buildings, utilities, other structures and debris from trash dumps shown.

1.2 RELATED WORK:

A. Demolition and removal of roads, walks, curbs, and on-grade slabs outside buildings to be demolished:
B. Safety Requirements ACCIDENT PREVENTION PLAN (APP).
C. Disconnecting utility services prior to demolition GENERAL REQUIREMENTS.
D. Reserved items that are to remain the property of the Government GENERAL REQUIREMENTS.
E. Asbestos Removal: TRADITIONAL ASBESTOS ABATEMENT.
F. Lead Paint LEAD-BASED PAINT REMOVAL AND DISPOSAL.
G. Environmental Protection: TEMPORARY ENVIRONMENTAL CONTROLS.
H. Construction Waste Management: CONSTRUCTION WASTE MANAGEMENT.
I. Infectious Control: SAFETY REQUIREMENTS, INFECTION CONTROL.

2 PROTECTION:

A. Perform demolition in such manner as to eliminate hazards to persons and property; to minimize interference with use of adjacent areas, utilities and structures or interruption of use of such utilities; and to provide free passage to and from such adjacent areas of structures. Comply with requirements of GENERAL CONDITIONS Article, ACCIDENT PREVENTION.
B. Provide safeguards, including warning signs, barricades, temporary fences, warning lights, and other similar items that are required for protection of all personnel during demolition and removal operations. GENERAL REQUIREMENTS, Article PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES AND IMPROVEMENTS.
C. Maintain fences, barricades, lights, and other similar items around exposed excavations until such excavations have been completely filled.
D. Provide enclosed dust chutes with control gates from each floor to carry debris to truck beds and govern flow of material into truck. Provide overhead bridges of tight board or prefabricated metal construction at dust chutes to protect persons and property from falling debris.

E. Prevent spread of flying particles and dust. Sprinkle rubbish and debris with water to keep dust to a minimum. Do not use water if it results in hazardous or objectionable condition such as, but not limited to; ice, flooding, or pollution. Vacuum and dust the work area daily.
F. Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The contractor shall take necessary precautions to avoid damages to existing items to remain in place, to be reused, or to remain the property of the // Medical Center // Cemetery Property //; any damaged items shall be repaired or replaced as approved by the Resident Engineer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition or removal works. Repairs, reinforcement, or structural replacement must have Resident Engineer's approval.

1.4 UTILITY SERVICES:

A. Demolish and remove outside utility service lines shown to be removed.
B. Remove abandoned outside utility lines that would interfere with installation of new utility lines and new construction.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.1 DEMOLITION:

A. Completely demolish and remove buildings and structures, including all appurtenances related or connected thereto, as noted below:
   1. As required for installation of new utility service lines.
   2. To full depth within an area defined by hypothetical lines located 1500 mm (5 feet) outside building lines of new structures.

B. Debris, including brick, concrete, stone, metals and similar materials shall become property of Contractor and shall be disposed of by him daily, Materials that cannot be removed daily shall be stored in areas specified by the Resident Engineer. Break up concrete slabs below grade that do not require removal from present location into pieces not exceeding 600 mm (24 inches) square to permit drainage. Contractor shall dispose debris in compliance with applicable federal, state or local permits, rules and/or regulations.

D. Remove and legally dispose of all materials, other than earth to remain as part of project work, from any trash dumps shown. Materials removed shall // become property of contractor and shall be disposed of in compliance with applicable federal, state or local permits, rules and/or regulations // be hauled to VA specified disposal site //. All materials in the indicated trash dump areas, including above surrounding grade and extending to a depth of 1500mm (5feet) below surrounding grade, shall be included as part of the lump sum compensation for the work of this section. Materials that are located beneath the surface of the surrounding ground more than 1500 mm (5 feet), or materials that are discovered to be hazardous, shall be handled as unforeseen. The removal of hazardous material shall be referred to Hazardous Materials specifications.

E. Remove existing utilities as indicated or uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Resident Engineer. When Utility lines are encountered that are not indicated on the drawings, the Resident Engineer shall be notified prior to further work in that area.

3.2 CLEAN-UP:

On completion of work of this section and after removal of all debris, leave site in clean condition satisfactory to the Resident Engineer.

ITEM 804 (4)- GRAVEL FILL

SCOPE

The work consists of gravel filling specifications required by the drawings.

MATERIAL

Gravel fill is composed of sand, gravel, crushed stone or mixtures thereof. They shall be selected as necessary to avoid the inclusion of organic matter, clay balls, excessive fine particles or other substances that would interfere with their free-draining properties. Unless specified in the plans, the material shall be well graded with 3-inch maximum size, no more than 50 percent by weight finer than the #4 sieve and no more than 5 percent by weight finer than the #200 sieve. The types of material used in the various fills shall be specified as one of the types described above or as described on the drawings.

ITEM NO. 900 (1)c1 – STRUCTURAL CONCRETE (Ready Mix Concrete, Class A, 28 Days)

SCOPE

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

CLASSES AND USES OF CONCRETE

Five classes of concrete are provided for in this Item, namely: A, B, C, P and Seal. Each class shall be used in that part of the structure as called for on the Plans. The classes of concrete will generally be used as follows:

- Class A – All superstructures and heavily reinforced substructures. The important parts of the structure included are slabs, beams, girders, columns, arch ribs, box culverts, reinforced abutments, retaining walls, and reinforced footings.
- Class B – Footings, pedestals, massive pier shafts, pipe bedding, and gravity walls, unreinforced or with only a small amount of reinforcement.
- Class C – Thin reinforced sections, railings, precast R.C. piles and cribbing and for filler in steel grid floors.
- Class P – Pre-Stressed concrete structures and members.
- Seal – Concrete deposited in water.

Material Requirements

Portland Cement (APO Portland Cement or Approved equal)
It shall conform to all the requirements of Subsection 311.2.1.

Fine Aggregate
It shall conform to all the requirements of Subsection 311.2.2.

Coarse Aggregate
It shall conform all the requirements of Subsection 311.2.3 except that gradation shall conform to Table 900.1.

Table 900.1 – Grading Requirements for Coarse Aggregate

Sieve Designation		Mass Percent Passing				
Standard Mm	Alternate US Standard	Class A	Class B	Class C	Class P	Class Seal
63	2-1/2”		100			
50	2”	100	95-100			
37.5	1-1/2”	95-100	-			100
25	1”	-	35-70		100	95-100
19.0	¾”	35-70	-	100	95-100	-
12.5	½”	-	10-30	90-100	-	25-60
9.5	3/8”	10-30	-	40-70	20-55	-
4.75	No.4	0-5	0-5	0-15*	0-10*	0-10*

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

Water
It shall conform to the requirements of Subsection 311.2.4

Admixtures
Admixtures shall conform to the requirements of Subsection 311.2.7

Curing Materials
Curing materials shall conform to the requirements of Subsection 311.2.8.

Expansion Joint Materials
Expansion joint materials shall be:
1. Preformed Sponge Rubber and Cork, conforming to AASHTO M 153.
2. Hot-Poured Elastic Type, conforming to AASHTO M 173.
3. Pre-formed Fillers, conforming to AASHTO M 213.]

Elastomeric Compression Joint Seals
These shall conform to AASHTO M 220.

Elastomeric Bearing Pads
These shall conform to AASHTO M 251 or Item 412 – Elastomeric Bearing Pads.

Storage of Cement and Aggregates
Storage of cement and aggregates shall conform to all the requirements of Subsection 311.2.10.

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

Compliance with the requirements of this Section shall be determined in accordance with the following standard methods of AASHTO:

Sampling of fresh concrete
T 141
Weight per cubic metre and air content (gravi- Metric) of concrete
T 121
Sieve analysis of fine and coarse aggregates
T 27

Slump of Portland Cement Concrete
T 119
Specific gravity and absorption of fine aggregate
T 84

Tests for strength shall be made in accordance with the following:

Making and curing concrete compressive and flexural tests specimens in the field
T 23
Compressive strength of molded concrete
Cylinders
T 22

Production Requirements
Proportioning and Strength of Structural Concrete.

The concrete materials shall be proportioned in accordance with the requirements for each class of concrete as specified in Table 900.2, using the absolute volume method as outlined in the American Concrete Institute (ACI) Standard 211.1. "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete". Other methods of proportioning may be employed in the mix design with prior approval of the Architect/Engineer. The mix shall either be designed or approved by the Architect/Engineer. A change in the source of materials during the progress of work may necessitate a new mix design.

The strength requirements for each class of concrete shall be as specified in Table 900.2.

Table 900.2 - Composition and Strength of Concrete for Use in Structures

Class Of Concrete	Minimum Cement Content Per m^3 Kg (bag**)	Maximum Water/ Cement Ratio kg/kg	Consistency Range in Slump mm (inch)	Designated Size of Coarse Aggregate Square Opening Std.mm	Minimum Compressive Strength of 150x300mm Concrete Cylinder Specimen at 28 days, MN/m^2(psi)
A	360 (9bags)	0.53	50 – 100 (2 – 4)	37.5 -4.75 (1-1/2" – No.4)	20.7 (3000)
B	320 (8 bags)	0.58	50 – 100 (2 – 4)	50 – 4.75 (2" – No.4)	16.5 (2400)
C	380 (9.5 bags)	0.55	50 – 100 (2 - 4)	12.5 – 4.75 (1/2" – No.4)	20.7 (3000)
P	440 (11 bags)	0.49	100 max. (4 max.)	19.0 – 4.75 (3/4" – No.4)	37.7 (5000)
Seal	380 (9.5 bags)	0.58	100 – 200 (4 – 8)	25 – 4.75 (1" – No.4)	20.7 (3000)

* The measured cement content shall be within plus or minus 2 mass percent of the design cement content.
** Based on 40 kg/bag

Consistency
Concrete shall have a consistency such that it will be workable in the required position. It shall be of such a consistency that it will flow around reinforcing steel but individual particles of the coarse

aggregate when isolated shall show a coating of mortar containing its proportionate amount of sand. The consistency of concrete shall be gauged by the ability of the equipment to properly place it and not by the difficulty in mixing and transporting. The quantity of mixing water shall be determined by the Architect/Engineer and shall not be varied without his consent. Concrete as dry as it is practical to place with the equipment specified shall be used.

Batching

Measuring and batching of materials shall be done at a batching plant.

1. Portland Cement
   Either sacked or bulk cement may be used. No fraction of a sack of cement shall be used in a batch of concrete unless the cement is weighed. All bulk cement shall be weighed on an approved weighing device. The bulk cement weighing hopper shall be properly sealed and vented to preclude dusting operation. The discharge chute shall not be suspended from the weighing hopper and shall be so arranged that cement will neither be lodged in it nor leak from it. Accuracy of batching shall be within plus (+) or minus (-) 1 mass percent.

2. Water
   Water may be measured either by volume or by weight. The accuracy of measuring the water shall be within a range of error of not more than 1 percent.

3. Aggregates
   Stockpiling of aggregates shall be in accordance with Subsection 311.2.10. All aggregates whether produced or handled by hydraulic methods or washed, shall be stockpiled or binned for draining for at least 12 hours prior to batching. Rail shipment requiring more than12 hours will be accepted as adequate binning only if the car bodies permit free drainage. If the aggregates contain high or non-uniform moisture content, storage or stockpile period in excess of 12 hours may be required by the Architect/Engineer. Batching shall be conducted as to result in a 2 mass percent maximum tolerance for the required materials.

4. Bins and Scales
   The batching plant shall include separate bins for bulk cement, fine aggregate and for each size of coarse aggregate, a weighing hopper, and scales capable of determining accurately the mass of each component of the batch. Scales shall be accurate to one-half (0.5) percent throughout the range used.

5. Batching
   When batches are hauled to the mixer, bulk cement shall be transported either in waterproof compartments or between the fine and coarse aggregate. When cement is placed in contact with moist aggregates, batches will be rejected unless mixed within 1-1/2 hours of such contact. Sacked cement may be transported on top of the aggregates.

   Batches shall be delivered to the mixer separate and intact. Each batch shall be dumped cleanly into the mixer without loss, and, when more than one batch is carried on the truck, without spilling of material from one batch compartment into another.

6. Admixtures
   The Contractor shall follow an approved procedure for adding the specified amount of admixture to each batch and will be responsible for its uniform operation during the progress of the work. He shall provide separate scales for the admixtures which are to be proportioned by weight, and accurate measures for those to be proportioned by volume. Admixtures shall be measured into the mixer with an accuracy of plus or minus three (3) percent. The use of Calcium Chloride as an admixture will not be permitted.

Mixing and Delivery

Concrete may be mixed at the site of construction, at a central point or by a combination of central point and truck mixing or by a combination of central point mixing and truck agitating. Mixing and

delivery of concrete shall be in accordance with the appropriate requirements of AASHTO M 157 except as modified in the following paragraphs of this section, for truck mixing or a combination of central point and truck mixing or truck agitating. Delivery of concrete shall be regulated so that placing is at a continuous rate unless delayed by the placing operations. The intervals between delivery of batches shall not be so great as to allow the concrete in place to harden partially, and in no case shall such an interval exceed 30 minutes.

In exceptional cases and when volumetric measurements are authorized, for small project requiring less than 75 cu.m. per day of pouring, the weight proportions shall be converted to equivalent volumetric proportions. In such cases, suitable allowance shall be made for variations in the moisture condition of the aggregates, including the bulking effect in the fine aggregate. Batching and mixing shall be in accordance with ASTM C 685, Section 6 through 9. Concrete mixing, by chute is allowed provided that a weighing scales for determining the batch weight will be used.

For batch mixing at the site of construction or at a central point, a batch mixer of an approved type shall be used. Mixer having a rated capacity of less than a one-bag batch shall not be used. The volume of concrete mixed per batch shall not exceed the mixer's nominal capacity as shown on the manufacturer's standard rating plate on the mixer except that an overload up to 10 percent above the mixer's nominal capacity may be permitted, provided concrete test data for strength, segregation, and uniform consistency are satisfactory and provided no spillage of concrete takes place. The batch shall be so charge into the drum that a portion of the water shall enter in advance of the cement and aggregates. The flow of water shall be uniform and all water shall be in the drum by the end of the first 15 seconds of the mixing period. Mixing time shall be measured from the time all materials, except water, are in the drum. Mixing time shall not be less than 60 seconds for mixers having a capacity of $1.5m^3$ or less. For mixers having a capacity greater than $1.5m^3$, the mixing time shall not be less than 90 seconds. If timing starts, the instant the skip reaches its maximum raised position, 4 seconds shall be added to the specified mixing time. Mixing time ends when the discharge chute opens.

The mixer shall be operated at the drum speed as shown on the manufacturer's name plate on the mixer. Any concrete mixed less than the specified time shall be discarded and disposed off by the Contractor at his own expenses.

The timing device on stationary mixers shall be equipped with a bell or other suitable warning device adjusted to give a clearly audible signal each time the lock is released. In case of failure of the timing device, the Contractor will be permitted to continue operations while it is being repaired, provided he furnishes an approved timepiece equipped with minute and second hands. If the timing device is not placed in good working order within 24 hours, further use of the mixer will be prohibited until repairs are made.

Re-tampering concrete will not be permitted. Admixtures for increasing the workability, for retarding the set, or for accelerating the set or improving the pumping characteristics of the concrete will be permitted only when specifically provided for in the Contract, or authorized in writing by the Architect/Engineer.

Mixing Concrete:

1. General

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

Equipment having components made of aluminum or magnesium alloys, which would have contact with plastic concrete during mixing, transporting or pumping of Portland Cement concrete, shall not be used. Concrete mixers shall be equipped with adequate water storage and a device of accurately measuring and automatically controlling the amount of water used.

Materials shall be measured by weighing. The apparatus provided for weighing the aggregates and cement shall be suitably designed and constructed for this purpose. The accuracy of all weighing devices except that for water shall be such that successive quantities can be measured to within one percent of the desired amounts. The water measuring device shall be accurate to plus or minus 0.5 mass percent. All measuring devices shall be subject to the approval of the Architect/Engineer. Scales and measuring devices shall be tested at the expense of the Contractor as frequently as the Architect/Engineer may deem necessary to insure their accuracy.

Weighing equipment shall be insulated against vibration or movement of other operating equipment in the plant. When the entire plant is running, the scale reading at cut-off shall not vary from the weight designated by the Architect/Engineer more than one mass percent for cement, 1-1/2 mass percent for any size of aggregate, or one (1) mass percent for the total aggregate in any batch.

2. Mixing Concrete at Site

Concrete mixers may be of the revolving drum or the revolving blade type and the mixing drum or blades shall be operated uniformly at the mixing speed recommended by the manufacturer. The pick-up and throw-over blades of mixers shall be restored or replaced when any part or section is worn 20mm or more below the original height of the manufacturer's design. Mixers and agitators which have an accumulation of hard concrete or mortar shall not be used.

When bulk cement is used and volume of the batch is $0.5m^3$ or more, the scale and weigh hopper for Portland Cement shall be separate and distinct from the aggregate hopper or hoppers. The discharge mechanism of the bulk cement weigh hopper shall be interlocked against opening before the full amount of cement is in the hopper. The discharging mechanism shall also be interlocked against opening when the amount of cement in the hopper is underweight by more than one (1) mass percent or overweight by more than 3 mass percent of the amount specified.

When the aggregate contains more water than the quantity necessary to produce a saturated surface dry condition, representative samples shall be taken and the moisture content determined for each kind of aggregate.

The batch shall be so charged into the mixer that some water will enter in advance of cement and aggregate. All water shall be in the drum by the end of the first quarter of the specified mixing time. Cement shall be batched and charged into the mixer so that it will not result in loss of cement due to the effect of wind, or in accumulation of cement on surface of conveyors or hoppers, or in other conditions which reduce or vary the required quantity of cement in the concrete mixture.

The entire content of a batch mixer shall be removed from the drum before materials for a succeeding batch are placed therein. The materials composing a batch except water shall be deposited simultaneously into the mixer.

All concrete shall be mixed for a period of not less than 1-1/2 minutes after all materials, including water, are in the mixer. During the period of mixing, the mixer shall operate at the speed for which it has been designed. Mixers shall be operated with an automatic timing device that can be locked by the Architect/Engineer. The time device and discharge mechanics shall be so interlocked that during normal operation no part of the batch will be charged until the specified mixing time has elapsed.

The first batch of concrete materials placed in the mixer shall contain a sufficient excess of cement, sand, and water to coat inside of the drum without reducing the required mortar content of

the mix. When mixing is to cease for a period of one hour or more, the mixer shall be thoroughly cleaned.

3. Mixing Concrete at Central Plant

   Mixing at central plant shall conform to the requirements for mixing at the site.

4. Mixing Concrete in Truck

   Truck mixers, unless otherwise authorized by the Architect/Engineer, shall be of the revolving drum type, water-tight, and so constructed that the concrete can be mixed to insure a uniform distribution of materials throughout the mass. All solid materials for the concrete shall be accurately measured and charged into the drum at the proportioning plant. Except as subsequently provided, the truck mixer shall be equipped with a device by which the quantity of water added can be readily verified. The mixing water may be added directly to the batch, in which case a tank is not required. Truck mixers may be required to be provided with a means of which the mixing time can be readily verified by the Architect/Engineer.

   The maximum size of batch in truck mixers shall not exceed the minimum rated capacity of the mixer as stated by the manufacturer and stamped in metal on the mixer. Truck mixing, shall, unless other-wise directed be continued for not less than 100 revolutions after all ingredients, including water, are in the drum. The mixing speed shall not be less than 4 rpm, nor more than 6 rpm.

   Mixing shall begin within 30 minutes after the cement has been added either to the water or aggregate, but when cement is charged into a mixer drum containing water or surface wet aggregate and when the temperature is above 32^{o}C, this limit shall be reduced to 15 minutes. The limitation in time between the introduction of the cement to the aggregate and the beginning of the mixing may be waived when, in the judgement of the Architect/Engineer, the aggregate is sufficiently free from moisture, so that there will be no harmful effects on the cement.

   When a truck mixer is used for transportation, the mixing time specified in Subsection 405.4.4 (3) at a stationary mixer may be reduced to 30 seconds and the mixing completed in a truck mixer. The mixing time in the truck mixer shall be as specified for truck mixing.

5. Transporting Mixed Concrete

   Mixed concrete may only be transported to the delivery point in truck agitators or truck mixers operating at the speed designated by the manufacturers of the equipment as agitating speed, or in non-agitating hauling equipment, provided the consistency and workability of the mixed concrete upon discharge at the delivery point is suitable point for adequate placement and consolidation in place.

   Truck agitators shall be loaded not to exceed the manufacturer’s guaranteed capacity. They shall maintain the mixed concrete in a thoroughly mixed and uniform mass during hauling.

   No additional mixing water shall be incorporated into the concrete during hauling or after arrival at the delivery point.

   The rate of discharge of mixed concrete from truck mixers or agitators shall be controlled by the speed of rotation of the drum in the discharge direction with the discharge gate fully open.

   When a truck mixer or agitator is used for transporting concrete to the delivery point, discharge shall be completed within one hour, or before 250 revolutions of the drum or blades, whichever comes first, after the introduction of the cement to the aggregates. Under conditions contributing to quick stiffening of the concrete or when the temperature of the concrete is 3^{o}C, or above, a time less than one hour will be required.

6. Delivery of Mixed Concrete

The Contractor shall have sufficient plant capacity and transportation apparatus to insure continuous delivery at the rate required. The rate of delivery of concrete during concreting operations shall be such as to provide for the proper handling, placing and finishing of the concrete. The rate shall be such that the interval between batches shall not exceed 20 minutes. The methods of delivering and handling the concrete shall be such as will facilitate placing of the minimum handling.

Method of Measurement

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

SPECIAL ITEM – COMMON BORROW

DESCRIPTION

This item shall consist of the excavation and placing of suitable material obtained from locations outside the right-of-way. Excavation of roadways, roadway ditches and slopes thereof, in accordance with the typical drawings and/or as noted in the Special Provisions, either inside or outside of the right-of-way, will not be classified as Borrow Excavation. When the Consultant directs that a roadway excavation be widened from that shown on the typical drawings or as noted in the Special Provisions, for the purpose of obtaining additional material, the material excavated outside the right-of-way will be classified as Common Excavation.

BORROW PLACEMENT

- Place roadway excavation or borrow or both in the embankment section with the highest quality material in the top portion of the embankment.
- Scarify and compact the top 8 inches of the surface of the working platform or foundation to at least 90 percent of maximum laboratory density when the embankment height is 6 ft or less.
- Break and scarify all underlying concrete pavement surfaces so that pieces do not exceed 1 ft2 before placing embankment over an existing concrete pavement surface that is outside the limits of removal or excavation shown.
  1. Remove other pavement surfaces that are not Portland Cement Concrete
- Maintain Drainage
  1. Grade and maintain the roadway to ensure adequate drainage.
  2. Maintain drainage pipes and drainage ditches or provide temporary facilities when interrupting items such as irrigation systems, sewers, and under-drains.
- Place an initial layer to act as a working platform over soft, wet ground when approved by the Engineer.
  1. Density requirements do not apply to the working platform.
  3. Meet density requirements for embankment placed above the working platform.
- Do not place initial layer of embankment until Engineer inspects and accepts the working platform or foundation.
- Spread embankment materials uniformly in layers not exceeding 1 ft (uncompacted depth) and compact to the density requirements.
  1. Reduce the lift thickness or modify operations if tests show unsatisfactory density.
- Finish subgrade surface within ±0.2 ft of line and grade.
- Do not use rock or broken concrete materials over 1 ft in any dimension.
- Distribute larger particles so space exists for placing and compacting embankment material.
- Do not place rocks larger than 4 inches or broken concrete within 1 ft of the subgrade surface.
- Do not use compacting equipment that causes shear failure in the embankment.

ITEM NO. 902(1)a- REINFORCING STEEL(DEFORMED)

DESCRIPTION

This Item shall consist of furnishing, bending, fabricating and placing of steel reinforcement of the type, size, shape and grade required in accordance with this Specification and in conformity with the requirements shown on the Plans or as directed by the Architect/Engineer.

Reinforcing shall conform to the requirements of the following Specifications:

Deformed & Plain Billet Steel
(ASTM A 615)
Bars for Concrete Reinforcement
(AASHTO M 31)
Deformed rail -Steel and Plain
Bars for Concrete Reinforcement
(ASTM A 616)
Deformed A & b – Steel and Plain
Bars for Concrete Reinforcement
(ASTM A 617)

ORDER LISTS

Before materials are ordered, all order lists and bending diagrams shall be furnished by the Contractor, for approval of the Architect/Engineer. The approval of order lists and bending diagrams by the Architect/Engineer shall in no way relieve the Contractor of responsibility for the correctness of such lists and diagrams. Any expense incident to the revisions of materials furnished in accordance with such lists and diagrams to make them comply with the Plans shall be borne by the Contractor.

BENDING

All reinforcing bars requiring bending shall be cold-bent to the shapes shown on the Plans or required by the Architect/Engineer. Bars shall be bent around a circular pin having the following diameters (D) in relation to the diameter of the bar (d):

Nominal diameter, d, mm	Pin diameter (D)
10 to 20	6d
25 to 28	8d
32 and greater	10d

Bends and hooks in stirrups or ties may be bent to the diameter of the principal bar enclosed therein.

SPLICING

All reinforcement shall be furnished in the full lengths indicated on the Plans. Splicing of bars, except where shown on the Plans, will not be permitted without the written approval of the Architect/Engineer. Splices shall be staggered as far as possible and with a minimum separation of not less than 40 bar diameters. Not more than one-third of the bars may be spliced in the same cross-section, except where shown on the Plans.

Unless otherwise shown on the Plans, bars shall be lapped a minimum distance of:

Splice Type	Grade 40	Grade 60	But not less
	min. lap	min. lap	than
Tension	24 bar dia	36 bar dia	300 mm
Compression	20 bar dia	24 bar dia	300 mm

In lapped splices, the bars shall be placed in contact and wired together. Lapped splices will not be permitted at locations where the concrete section is insufficient to provide minimum clear distance of one and one-third the maximum size of coarse aggregate between the splice and the nearest adjacent bar. Welding of reinforcing steel shall be done only if detailed on the Plans or if authorized by the Architect/Engineer in writing. Spiral reinforcement shall be spliced by lapping at least one and a half turns or by butt welding unless otherwise shown on the Plans.

REINFORCING BARS

- Use Rebar with a grade 40 designations that offers minimum yield strength of 40,000 pounds per square inch and conforms to ASTM A-615 performance standards.
- If RSB 10mm thk and below, use grade 40.
- If RSB 16mm thk and above, use grade 40.

ITEM 903 (2)- FORMS AND FALSEWORKS

- Forms shall be used whenever necessary to confined concrete and shapes it to the requires lines and dimensions and to protect from contamination.
- Forms shall have a sufficient strength to withstand pressure resulting from placement and vibration of concrete.
- Before placing of concrete, all contact surfaces of the forms shall be cleaned of entrustment of mortals, grout and other foreign materials. Forms must be coated with standard oil that can effectively eliminate stick and stain on concrete surfaces.
- Forms shall be removed in a manner that shall prevent damage of a structure and if possible, this activity shall require a concurrence of the supervising engineer following the minimum time schedule.
- Support bottom of structures with shoring after removal of bottom forms until 28 CD.
- Any repair of surface imperfection shall start as soon as the surface is sufficiently hard to permit repair without causing further damage to concrete.

ITEM NO. 1002 – PLUMBING WORKS

GENERAL

- The Contractor shall furnish all labor, materials and equipment necessary to complete all the works for the sanitary, drainage and water supply system. The owner shall provide necessary drilling of water well and shall yield substantial quantity/volume of water needed to have a functional water supply system to project site either in rainy or dry seasons. The Owner shall likewise arrange/secure consent/approval of tapping to existing water line if necessary or requested by authorities concerned.

- All works shall comply with the provisions of the Philippine National Plumbing Code, MWSS regulations, DPWH guidelines and all other codes and ordinance other local authorities having jurisdiction over the project.

- “Roughing-in” for all pipes and fixtures shall be carried along with the building construction. Correct location for the pipes shall be kept in the walls and floor as specified on the plans.

MATERIALS

- All materials must bear the trademarks as reference of the manufacturers. The Contractor shall furnish the Engineer with the original and copies of the certificate of origin of materials to be used.

- Soil, waste, Vent Pipes and Fittings shall be made of Unplasticised Polyvinyl Chloride (uPVC) - Series 1000 or whatever is indicated in the drawing and shall be manufactured by "Neltex" or its approved equivalent on property certificated by Bureau of Product Standard.

- Water pipes shall be made of G.I Pipes and fittings shall be made of G.I or whatever indicated in the drawings and shall be approved equal in property certificated by Bureau of Product Standard.

- Cleanouts shall be the same as pipe Ø, installed in connection with UPVC hubs and spigot pipes consist of a long sweep quarter extended as indicated in the drawings. An extra heavy cast brass ferrule with countersunk trap screw cover caulked into hub of the fittings shall be flushed with the floors.

- Floor drains shall be stainless steel plated or approved equal, and locally manufactured.

- Gate valves shall be G.I or bronze solid wedge type with screwed ends, or its equivalent as approved by the Engineer.

- Plumbing fixtures and equipment shall be properly identified to illustrate the quality and design of fixture that will be required. All fixtures shall have supply line with cut-off valves having chromium finish and shall be as manufactured by Philippine Standards as follows:

- *Stainless Steel Sink* shall be used in all counters with sink as indicated in the drawings. Lavatory shall be complete with necessary fittings.

- Provide traps at every plumbing fixture and other equipment requiring connection to the drainage system.

- Adapters shall be used to join pipes, fittings of different types and sizes and different combination approved by the Engineer.

Materials Use:

- Stainless Kitchen Sink (Single/ Double)
- Faucet (Cool Brand)
- 360° Rotation Flexible Gooseneck Kitchen Faucet
- Stainless Steel Grease Trap
- 4" Stainless Floor drain
- PPRC. Pipe 25mmØ X 4m, PN16
- PPRC. Pipe 20mmØ X 4m, PN16
- Gate Valve 1/2" dia
- Wye, 3"x 2" dia.
- Clean Out w/ Cover, 3"dia.
- P-trap, 2" dia.
- Check Valve 1/2" dia
- Flexible Hoose
- Angle Valve
- PVC Pipe, 4" Ø x 3m, S-1000
- PVC Pipe, 3" Ø x 3m, S-1000
- PVC Pipe, 2' Ø x 3m, S-1000
- PVC Elbow, 4" dia. x 90 deg. Bend
- PVC Wye, 4"dia.

METHODS OF CONSTRUCTION

All work shall be done by a skilled worker only under the supervision of a master plumber. Contractor shall perform the work in accordance with good workmanlike practice to the satisfaction and approval of the Engineer.

On completion of the sanitary, drainage and water supply system and plumbing work and upon delivery of the building, the Contractor shall submit the "as-built" drawings of the entire plumbing system layout as actually installed in the building for future reference.

INSTALLATION

- Install plumbing fixtures free and open to afford easy access for cleaning. Install fixtures as indicated on drawings, furnishings all brackets, cleats, plates and anchors required to support fixtures rigidly in place.

- Install fixture and accessories in locations directed in accordance with manufacturer's instructions, minimizing pipe fittings.
- Protect items with approval means to maintain perfect conditions. Remove work damaged or defective and replace with perfect work without extra cost to the University.

- All G.I. solid and drainage pipes shall have a minimum slope of 1%.

- Vertical pipes shall be secured strongly by hooks to building framing. Provide suitable bracket or chairs at the floors from which they start.

- Where an end or circuit vent pipe from any fixtures or line of fixtures is connected to a vent line serving other fixtures, connection shall be at least four (4) feet 1.20 M above floor on which fixtures are allocated, to prevent use of any vent line as a waste.

- Horizontal pipes shall be supported by well secured strap hangers.

- Connection of water closets to soil pipes shall be made by means of flanged Plates and asbestos packing without use of rubber putty or cement.

- Make all joints air and water-tight; for jointing pipes, caulk with oakum or jute and soft pig lead.

- For bell and spigot jointed cast iron and waste pipes, caulk with oakum or jute and soft pig lead.

- Lead to cast iron pipes use brass ferrule wiped on lead side and caulked into ball of cast iron soil pipe.

- Concrete pipes: bell or spigot or tongue and groove use yarning material and cement mortar.

- G.I. Pipes – Use Teflon Tape or white lead when tightening threaded joints.

ROUGH-IN

- Provide correctly located opening of proper sizes where required in walls and floors for passage of pipes.

- All items to be embedded in concrete shall be thoroughly clean and free from all rust, scale and paint.

- All changes in pipe sizes on soil, wash and drain lines shall be provided with reducing fittings or recesses reducers. For changes in pipe sizes provide reducing fittings.
- High corrosive nature ground within site shall be taken into account by a plumber. Protective features shall be installed to prevent corrosion of all water pipes installed underground.

- Extend piping to all fixtures, outlets and equipment from gate valves installed in the branch near the riser.

- All pipes shall be cut accurately to measurements, and worked into place without springing or forcing.

- Care shall be taken as not to weaken structural portion of the Building.

TESTING

Materials shall be subjected to such standard tests as may be required to ascertain their fitness, and the complete plumbing system shall be tested with the presence of the Engineer of the following methods.

The water test shall be applied to the plumbing system in its entirety or in sections. If applied to the entire system, all openings in the piping system shall be tightly closed except the highest opening and the entire system filled with water to the pint of overflow. All dead ends shall be relieved of air during the process whether the test is by section or it's entirely. If the system is tested by sections, each opening of the section shall be filled with water.

DISINFECTION

The entire water distribution system shall be thoroughly flushed and disinfected with a solution containing not less than fifty (50) part per million (50 ppm) of available chloride. The chlorinating materials shall be either liquid chloride or calcium hypo chloride or chloride lime. The disinfecting solution shall be allowed to remain in the system for a period of sixteen (16) hours, during which all valves and faucets shall be opened and closed several times. After disinfection, the solution shall be flushed from the system with clean water until the residual chorine content is not greater than 0.2 parts per million.

CLEANING AND PAINTING

All exposed metal surfaces shall be rid of grease dirt or other foreign materials. Chrome or nickel-plated piping, fittings and trimmings shall be polished upon completion. All equipment, pipes, valves and fittings shall be cleaned of greased and sludge.

a. Any damages to the building finish or furnishing due to the Contractor's failure to properly clean the piping system shall be repaired by the Contractor at his expense.
b. All exterior surfaces of piping to be installed in or through concrete, tile floors and underground shall be given one coat of acid-resisting paint with a bituminous base.
c. After completion of all work the fixtures, fittings, accessories and other materials shall be thoroughly cleaned and delivered in a good condition satisfactory to the Engineer.

MAINTENANCE

The Contractor shall maintain and keep the works in good condition in accordance with Specification. During the period of maintenance, the Contractor shall make good all defects which may appear in the pipelines trench, and in the lots in which the pipes are lined.

DESCRIPTION

This item shall consist of furnishing all materials, tools, equipment and fixtures required as shown on the Plans for the satisfactory performance of the entire plumbing system including installation in accordance with the latest edition of the National Plumbing Code, and this Specification.

MATERIAL REQUIREMENTS

All piping materials, fixtures and appliances fitting accessories whether specifically mentioned or not but necessary to complete this item shall be furnished and installed.

SEPTIC TANK

The septic tank shall be provided as shown on the Plans including all pipe vents and fittings. The various construction materials such as concrete masonry work shall conform to the corresponding items of this specification. Inlet and outlet pipes shall conform to the latest edition of the National Plumbing Code.

APPROVED ALTERNATE PIPES AND FITTINGS

Pipes and fittings for sanitary and potable water lines as approved alternate shall be Unplasticized Polyvinyl Chloride Pipes and Fittings (UPVC). Pipes and fittings shall be made of virgin materials conforming to specification requirements defined in ASTM D-2241 and PNS 65:1986. Fittings shall be molded type and designed for solvent cement joint connection for water lines and rubber O-ring seal joint for sanitary lines.

PLUMBING FIXTURES AND FITTINGS

All fittings and trimmings for the fixtures shall be chromium plated and polished brass unless otherwise approved. Exposed traps and supply pipes for the fixtures shall be connected to the roughing in, piping system at the wall unless otherwise indicated on the Plans. Built in fixtures shall be watertight with provision of water supply and drainage outlet, fittings and trap seal. Unless otherwise specified, all plumbing fixtures shall be made of vitreous china complete with fittings.

Water closet shall be vitreous china, free standing toilet combination, round front bottom outlet siphonic washdown bowl with extended rear self and closed coupled tank with cover complete with fittings and mounting accessories. Model make and color shall be submitted for approval prior to delivery at jobsite by the Architect/Engineer.

Lavatory shall be vitreous china, wall hung with rear overflow and cast in soap dishes, pocket hanger with integral china brackets, complete with twin faucets, supply pipes, P-trap and mounting accessories. Model make and color shall be approved by the Architect/Engineer.

Bathroom and Toilet Accessories

Shower head and fitting shall be movable, cone type with escutcheon arm complete with stainless steel shower valve and control lever, all exposed surface to be chromium finish. Grab bars shall be made of tubular stainless steel pipe provided with safety grip and mounting flange. Floor drains shall be made of stainless steel beehive type, measuring 100mmx 100mm and provided with detachable stainless strainer, expanded metal lath type. Toilet paper holder shall be vitreous china wall mounted. Color shall reconcile with the adjacent fixture and facing tiles. Soap holder shall be vitreous china wall mounted. Color shall reconcile with the adjacent tile works. Faucet(s) shall be made of stainless steel for interior use. Hose-bib(s) shall be made of bronze cast finish.1

CONSTRUCTION REQUIREMENTS

The Contractor before any installation work is started shall carefully examine the Plans and shall investigate actual structural and finishing work condition affecting all his work. Where actual condition necessitates a rearrangement of the approved pipe layout, the contractor shall prepare Plan(s) of the proposed pipe layout for approval by the Architect /Engineer.

Installation of Soil, Waste, Drain and Vent Pipes

- All pvc pipe shall be pitch 6mm per 300mm but in no case flatter than 3mm per 300mm.

- Horizontal lines shall be supported by well secured length heavy strap hangers. Vertical lines shall be secured strongly by hooks to the building frame and a suitable brackets or chairs shall be provided at the floor from which they start.

- All main vertical soil and waste stacks shall be extended full size to and above the roof line to act as vents, except otherwise indicated in the Plans.

- Vent pipes in roof spaces shall be run as close as possible tpo under side of roof with vertical piping pitched down to stacks without forming traps. Vertical vent pipes may be connected into one main vent riser above the highest vented fixtures. Where an end or circuit vent pipe from any fixtures is connected to a vent line serving other fixtures, the connections shall be at least 1.20m above the floor on which the fixtures are located.

- Horizontal waste line receiving the discharge from two or more fixtures shall be provided with end vents unless separate venting of fixture is noted on the Plans.

- All charges in pipe sizes on soil and waste lines shall be made with reducing fittings or recessed reducers. All changes in directions shall be made by appropriate use of 45 degrees' wyes, half wyes, long sweep quarter bends or elbows may be used in soil and waste lines where the change of direction of flow is from the horizontal to the vertical and on the discharge from waste closets. Where it becomes necessary to use short radius fittings in other locations the approval of the Architect/Engineer shall be obtained prior to installation of the same.

- All joints of cast iron pipes in bell and spigot shall be firmly packed with oakum or hemp and caulked with pig lead at least 25mm deep.

- Each fixture and place of equipment requiring connection to the drainage system except fixtures with continuous waste shall be equipped with a trap. Each trap shall be placed as near to the fixture as possible.

Water Pipe, Fittings and Connections

- All water pipings inside the building and underground, 100mm. diameter and smaller shall be galvanized iron threaded pipe with malleable iron fittings.

- The water piping shall be extended to all fixtures, outlets and equipment from the gate valves installed in the branch near the riser.

- The cold water system shall be installed with a fall towards a main plugged and left ready for future connections.

Main branches

- All pipes shall be cut accurately to measurements and shall be worked into place without springing or forcing. Care shall be taken so as not to weaken the structural portions of the building.

- All piping above the ground shall be run parallel with the lines of the building unless otherwise indicated in the plans.
- All service pipes, valves and fittings shall be kept at sufficient distance from other work to permit finished covering not less than 12.5mm from such work or from finished covering on the different service.

- No water piping shall be buried in floors, unless specifically indicated on the plans and approved by the Architect/Engineer.
- Changes in pipes shall be made with reducing fittings.

Valves and Hose Bibs

- Valves shall be provided on all supplied fixtures as herein specified.

- The cold water connections to the domestic hot water heater shall be provided with gate valves and the return circulation connection shall have gate and a check valve.

- All connection to domestic hot water heaters shall be equipped with unions between valves and tanks.

- Valve shall not be installed with its stem below the horizontal. All valves shall be gate valves unless otherwise indicated on the plans.

- Valves up to and including 50mm diameter shall be threaded ends, rough bodies and finished trimmings, except those on chromium plated brass pipe.

- Valves 63mm in diameter and larger shall have iron bodies, brass mounted and shall have either screws or flange ends.
- Hose bibs shall be made of brass with 12.5 mm inlet threads, hexagon shoulders and 199mm male.

Fixtures, Equipment and Fastening

- All fixtures and equipment shall be supported and fastened in a safe and satisfactory workmanship as practiced.

- All fixtures, where required to be wall mounted on concrete or concrete hollow block wall, fasten with brass expansion bolts.

- Expansion bolts shall be 6mm diameter with 20mm threads to 25 mm into solid concrete, fitted with loose tubing or sleeves of proper length to acquire extreme rigidity.

- Inserts shall be secured anchored and properly flushed into the walls. Inserts shall be concealed and rigid. Bolts and nuts shall be horizontal and exposed. It shall be provided with washers and chromium plate finish.

Pipe Hangers, Inserts and Supports

- Pipe hangers shall be wrought iron or malleable iron pipe spaced not more than 3m part for horizontal runs or pipe, except hub and spigot soil pipe which shall have hanger spaced not over 1.50 m apart located near the hub.

- Chains, straps perforated turn-buckles or other approved means of adjustment except the turn-buckles may be omitted for hangers on soil or waste lines or individual toilet rooms to maintain stacks when spaced does not permit.

- Trapeze hangers may be used in lieu of separate hangers on pipe running parallel to and close to each other.

- Inserts shall be cast steel and shall be of type to receive a machine bolt or nut after installation. Insert may be permitted adjustment of the bolts in one horizontal direction and shall be installed before pouring of concrete.

- Wrought iron clamps or collars to support vertical runs of pipe shall be spaced not more than 6m apart for as indicated on the plans.

Plates and Flashing

- Plates to cover exposed pipes passing through floor finished walls or ceiling shall be fitted with pvc pipe.

- Plates shall be large enough to cover and close the hole around the area where pipes pass. It shall be properly installed to insure permanence.

- Roof areas penetrated by vent pipes shall be rendered watertight by lead sheet flashing and counter flashing. It shall extend at least 150mm above the pipe and 300 mm along the roof.

Protection and Cleaning

- During installation of fixtures and accessories and until final acceptance, protect items with strippable plastic or other approved means to maintain fixtures in perfect conditions.

- All exposed metal surfaces shall be polished clean and rigid of grease, dirt or other foreign materials upon completion.

- Upon completion, thoroughly clean fixtures and accessories to leave the work in polished condition.

Inspection, Warranty Test and Disinfection

All pipes, fittings, traps, fixtures, appurtenance and equipment of the plumbing and drainage system shall be inspected and approved by the Architect/Engineer to insure compliance with all requirement of all codes and regulations referred to in this specifications.

DRAINAGE SYSTEM TEST

The entire drainage and venting system shall have all necessary openings which can be plugged to permit the entire system to be filled with water to the level of the highest stack vent above the roof.

The system shall hold this water for a full 30 minutes during which time there shall no drop greater than102 mm.

Where only a portion of the system is to be tested, the test shall be conducted in the same manner as described for the entire system except the vertical stack 3.00 m highest horizontal line to be tested may be installed and filled with water to maintain sufficient pressure or water pump may be used to supply the required pressure.

If and when the Architect/Engineer decides that an additional test is needed, such as an air to smoke test on the drainage system, the Contractor shall perform such test without any additional cost.

WATER TEST SYSTEM

Upon completion of the roughing-in and before connecting fixtures the entire cold water piping system shall be tested shall be tested at a hydrostatic pressure 1 ½ times the expected working pressure in the system during operation and remained tight and leak-proofed.

Where piping system is to be concealed the piping system shall be separately in manner similar to that described for the entire system and in the presence of the Architect/Engineer or his duly designated representative.

DEFECTIVE WORK

- All defective materials replaced and tested will be repeated until satisfactory performance is attained.

- Any material replaced for the satisfactory performance of the system made shall be at the expense of the Contractor.

- Caulking of screwed joints or holes will not be permitted.

AS-BUILT DRAWINGS

Upon completion of work, the Contractor shall submit two sets of prints with all as-built changes shown on the drawings in a neat workmanship manner. Such prints shall show changes or actual installation and conditions of the plumbing system in comparison with the original drawings.

ITEM NO. 1003(1)a1, 1003(2)a1 – CEILING WORKS

CEILING SUSPENSION SYSTEM

SCOPE

This specification covers the furnishing of materials and labor including equipment necessary to complete the installation of fiber cement board panels/ceiling as shown on the drawings and as specified herein.

MATERIALS

(Hardiflex) Fiber Cement sheets shall be manufactured from asbestos-free materials.

a. 4.5-mm thick for ceilings.
b. Composition: Fiber cement board shall be asbestos free, fiber-reinforced cement sheets.
c. Density: 1380 kg/m3 minimum

Marine Plyboard

a. 25.4-mm thick for outlines and 19.05-mm for crowning.
b. Density: 680 kg/m3 minimum

Steel framing for suspended and furred ceilings

a. Furring Channels: ASTM C 645-gauge 25 standard channels
b. Accessories: Hangers and inserts
c. Installation Standard: ASTM C 754

FASTENERS

- Provide fasteners of type, material size, corrosion resistance, holding power and other properties required for fastening furring and framing members to substrates indicated.
- Trim Accessories: Provide metal trims accessories of profile and materials as shown on the drawings, or as otherwise required by the Architect/manufacturer.

METAL SUPPORT INSTALLATION

Ceiling and Soffit Support Systems

a. Secure hangers or rods to structural support by connecting directly to structure where possible; otherwise connect to inserts, clips or other anchorage devices or fasteners indicated.
b. Space main runners, hangers and furring according to requirements of ASTM C754, except as otherwise indicated.
c. Where spacing of structural members, or width of ducts or other equipment, prevents regular spacing of hangers, provide supplemental hangers and suspension members and reinforce nearest affected hangers to span extra distance.
d. Attach directly to structural elements only; do not attaché to metal deck. Loop hangers and wire-tie directly or provide anchors or inserts.
e. Install compression posts, splay wires and other accessories as required to comply with seismic requirements.
f. Extend runners to within 6 inches of walls.
g. Wire-tie or clip furring members to main runners and to other structural supports indicated. In fire resistance rated assemblies, wire-tie furring members, do not clip.
h. Do not permit furring or runners to contact masonry or concrete walls.

APPLICATION AND FINISHING OF FIBER CEMENT PANELS GENERAL

a. Apply and finish fiber cement panels as per specifications by manufacturer for flush-jointed applications.
b. Install fiber cement panels in manner which minimizes the number of end-butt joints or avoids them entirely where possible.

c. Install exposed fiber cement panel with face side out. Do not install imperfect, damages or damp boards. Bat boards together for slight contact at edges and ends with not more than 1.5 mm open space between boards. Do not force into place.
d. Locate either edge or end joints over supports, except in horizontal applications where intermediate support is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered ends. Do no place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
e. Attach fiber cement panel for supplementary framing and blocking provided for additional support at openings and cutouts.
f. Space fasteners in fiber cement boards in accordance with referenced application and finishing standard and manufacturer specifications.

ACCESSORY INSTALLATION

a. Trim:
   1. Use same fasteners to anchor trim accessory flanges as required to fasten plaster board to supports, unless otherwise recommended by trim manufacturer.
   2. Install metal corner beads at external corners.
   3. Install metal casing bead trim whenever edge of plaster board would otherwise be exposed or semi-exposed.
b. Control Joints:
   1. Install control joints at junction of plaster board partitions with walls or partitions of other finish material.
   2. Install control within long runs of partitions, ceilings or soffits at approximately 30’-0” on center or as indicated.
   3. Where plaster board is vertically continuous, as at stairwells, provide horizontal control joints at each floor level.
c. Special Trim: Install as indicated on drawings and in accordance with manufacturer’s instructions. (See Approved Plans and Specifications)
   1. Formica Laminates must be attached to the ceiling with proper adhesion as recommended by the architect and the manufacturer.

Note: **(All materials to be used must be inspected and approved by the architect in charge of records prior to installation)**

ITEM 1003 (3) – WOOD CARPENTRY WORKS

DESCRIPTION

This item shall consist of wood carpentry works, tools and equipment including labor required in undertaking the proper installation of cabinetry as shown on the Plans and in accordance with this Specification.

The specified material to be used as of the project:

- ¾” thk. Melamine Faced Marine Plywood (approved color and design)

WORK METHOD:

- Use circular saw in order to cut the Melamine Faced Marine for a straight and clean edge.
- After cutting the Plywood into desired cut, sand the edge properly and apply easytite putty for a clean edge surface.
- Use 2 ½” black screw and or finishing nails to fasten and assemble the cabinet.

SPECIAL ITEM – WOOD PLASTIC COMPOSITE PANEL

DESCRIPTION

This item shall consist of furnishing all wood plastic composite wall panels, tools and equipment including labor required in undertaking the proper installation of interior wood plastic composite wall panels as shown on the Plans and in accordance with this Specification.

The specified material to be used as finish for the interior walls of the project:

- 159mm x 23mm indoor WPC Wall Cladding (approved color and design).

INSTALLATION

From the professional consideration of installation, WPC wall cladding is suggested to be installed by professional construction personnel. Please clean the wall before installation and make the wall dry, smooth and clean. If there are construction industry regulations or local regulations, please install them according to the regulations.

1. Fixation of keel. Steel keel is also usually used. The space between keels should be less than 400 mm. The steel keel should be fixed on the wall with expansion screw. Antirust paint should be applied to the steel keel. Install the plastic wood keel evenly and fix it on the flat wall with expansion screws. It is recommended that the distance between each keel be less than 400mm.It need keep 3-5mm at the joint of the keel to keel to prevent expansion. When install the WPC keel. In the position of the expansion tube, drill the hole on the keel first. Then put the plastic expansion tube into the hole. Screw the screws into the expansion tube and fix the keel to the wall. The nail head should be all screwed into the keel, not exposed outside the keel, otherwise it may lead to uneven board surface.

2. Fixation of **Wood-Plastic Wallboards**:

   When installing the WPC wall panel, the stainless-steel starting fastener should be used first to fix the first piece board.

   - First use a smaller diameter drill, lead a hole on the Part where the SS Screws into the wall board, then screw the first row of the wall board into the keel.
   - Push the cut WPC wall board to the appropriate position, then screw the wall board, and so on, install in turn. It is recommended that the length of each WPC wallboard should not exceed 2.9 meters.
   - After installation to the Wall, each row of the last piece of WPC wall panel use stainless steel tapping screws directly fixed on the keel.
   - Install “L” shape Side cover. It can be fixed with stainless steel screws.

   For plastic wood materials, the water absorption is about 0.2% and the expansion rate is about 0.5%, so when installing this wall cladding, please leave the corresponding gap between each board (3-5 mm).

   Electric drill is a tool that must be used in the installation process; because the plastic wood material has a certain brittleness, when fixing the keel with the WPC material, the lead hole is first drilled, then Fix screws, but don’t directly nailed. Otherwise, the material may crack and break. Nail gun can be used to fix the wall cladding too. Labor gloves are best used during construction. It is recommended to use stainless steel screws to fix the screws during installation.

Note: **(All materials to be used must be inspected and approved by the architect in charge of records prior to installation)**

ITEM NO. 1004(1),(2) – HARDWARE

DESCRIPTION

This item shall consist of various type of materials and metal fittings that are necessary for completion, fabrication, and installation. Each material used shall be in compliance with the approved drawings such as, types of metal or steel.

MATERIALS

a. Stainless Bar Handle (2 1/2" x 0.80m)
b. Stainless Bar Handle (1 3/4" x 0.55m)
c. Stainless Bar Handle (1 3/4" x 0.45m)
d. Aluminum Lever type Door knob
e. Stainless Pull Handle
f. Cabinet Handle
g. Satin Nickel Knobs
h. Ball Satin Nickel Keyed Entry Door Knob
i. Door Hinges
j. Stainless Steel Cubicle Door Hinge
k. Concealed Cabinet Hinges
l. 25mm Ficem Screw
m. 3/16" x 3/4" Aluminum Blind Revits
n. Cylinder Wall Mounted Door Stopper
o. Chain Lock (Door Lock)

SPECIAL ITEM- SOLID SURFACE COUNTERTOP

DESCRIPTION

This item shall consist of furnishing all solid surface countertop, tools and equipment including labor required in undertaking the proper installation of interior solid surface countertop as shown on the Plans and in accordance with this Specification.

The specified material to be used as finish for the interior stage countertop of the project:

- 60cm. x 240 cm. solid surface countertop. (Approved color and design)

INSTALLATION

- Install all components plumb, level, and rigid; scribed to adjacent surfaces; In accordance with approved shop drawings and product data.
- Provide components in largest pieces available for proper installation.
- Form field joints using the manufacturer’s approved adhesive, with joints inconspicuous in finished work.
- Adhere undermount sinks/bowls to the countertop using the manufacturer’s recommended adhesive.
- Anchor solid surface tops securely to base cabinets or supports according to manufacturer’s recommendations.
- Provide solid surface material sinks and bowls with overflows in locations shown on shop drawings.
- Cut and finish component edges with clean, sharp returns.
- Carefully remove scratches and clean entire surface.
- Install countertops with no more than 1/8” sag or other variation from a straight line.

Note: **(All materials to be used must be inspected and approved by the architect in charge of records prior to installation)**

ITEM NO. 1007(1)a, b – ALUMINUM FRAMED TEMPERED GLASS DOOR

GENERAL

This specification covers the furnishing of materials and labor including equipment necessary to complete the installation aluminum framed tempered glass doors. There are two types of aluminum framed tempered glass door; single-leaf and double-leaf doors, each with a specified lengths and widths as shown in the approved drawings.

INSTALLATION

Tempered Glass

a. Glass pane shall be cleared with a thickness of 10 millimeters.
b. All exposed edges shall be polished and rounded.
c. All holes and notches to be drilled prior to the tempering process.

Aluminum Channels and Hardware

a. Extruded aluminum components are #6463-T5 alloy 3/8-inch-deep profile suitable for 3/8 inch or 1/2-inch tempered glass.
b. Buffed and bright dip anodized or powder coat painted.
c. Screws or fasteners shall be stainless steel to prevent rust and corrosions.

Hinges

a. Hinges on heavy duty glass are constructed of #320 stainless steel or solid brass.
b. Hinges shall be self-centering within 15 degrees of closed portion.
c. Hinges shall be weight tolerance.

ITEM NO. 1007 (1) a, b – ALUMINUM FRAMED GLASS DOORS

DESCRIPTION

This item shall consist of furnishing all materials, hardware, plant tools, labor and services necessary for complete fabrication and installation of wooden doors of the type and size as shown on the plans and in accordance with the following specifications.

MATERIALS REQUIREMENTS

Tempered Glass

a. Glass pane shall be cleared with a thickness of 12 millimeters.
b. All exposed edges shall be polished and rounded.
c. All holes and notches to be drilled prior to the tempering process.

Aluminum Channels and Hardware

a. Extruded aluminum components are #6463-T5 alloy 3/8-inch-deep profile suitable for 3/8 inch or 1/2-inch tempered glass.
b. Buffed and bright dip anodized or powder coat painted.
c. Screws or fasteners shall be stainless steel to prevent rust and corrosions.

Hinges

a. Hinges on heavy duty glass are constructed of #320 stainless steel or solid brass.
b. Hinges shall be self-centering within 15 degrees of closed portion.
c. Hinges shall be weight tolerance.

Frames

a. Shall be on Powder coated finish
b. Adhesive- Silicone Sealant clear
c. Adhesive shall be water resistant resins and shall be non-staining.

CONSTRUCTION REQUIREMENTS

Fabrication

Aluminum Swing & Sliding Type Glass Doors, including frames and accessories, shall be fabricated in accordance with the designs and sizes shown on the plans. The fabricated products shall be finished square, smoothly sanded and free from damage warpage.

INSTALLATION

a. Aluminum Frames shall be set plumb and square in concrete or masonry shall be fix with aluminum 100 mm lag screws for anchorage.
   Frames set in masonry work may be installed after laying of hollow concrete blocks, brick adobes. Space between frames and masonry shall be fully filled with cement mortar proportioned 1:3.

b. Hinged Doors
   Heavy Duty Shall be properly installed on floor.

c. Sliding Doors Tracks
   Sliding Door Floor tracks, standard locally manufactured as per Plans shall be installed level and mounting bracket secured in place with lag screws supplied with the set.

d. Lock installation
   Locks of doors shall be fitted at the same height, centered 1000mm above the finished floor level. Locks shall be installed in conformity with the templates and instruction supplies with locksets. Holes for mounting locks shall be properly formed to provide to snug fit and rigid attachment of the locks to the doors. Strike plates shall be fitted on the door frame in true alignment with the lock latch.

ITEM NO. 1008(1) a, d – ALUMINUM FRAMED GLASS WINDOWS

DESCRIPTION

This item shall consist of furnishing all materials, hardware, plant tools, labor and services necessary for complete fabrication and installation of wooden doors of the type and size as shown on the plans and in accordance with the following specifications.

MATERIALS REQUIREMENTS

Glass Panes
- shall be 12 millimeter in thickness

Fames
- shall be on powder coated finish

CONSTRUCTION REQUIREMENTS

Fabrication

Aluminum Swing & Sliding Type Glass Doors, including frames and accessories, shall be fabricated in accordance with the designs and sizes shown on the plans. The fabricated products shall be finished square, smoothly sanded and free from damage warpage.

INSTALLATION

a. Aluminum Frames shall be set plumb and square in concrete or masonry shall be fix with aluminum 100 mm lag screws for anchorage.

b. Frames set in masonry work may be installed after laying of hollow concrete blocks, brick adobes. Space between frames and masonry shall be fully filled with cement mortar proportioned 1:3.

ITEM NO. 1012 (7) – GLASS AND GLAZING

DESCRIPTION

This specification covers the furnishing of materials and labor including equipment necessary to complete the installation of Glass and Mirrors as shown on the drawings.

MATERIALS AND INSTALLATION

a. 5mm thick polished round edge glass mirror.
   - Mirror shall be installed on conference room wall accent.

Note: **(All materials to be used must be inspected and approved by the architect in charge of records prior to installation)**

SPECIAL ITEM: TUBULAR STEEL PARTITION

DESCRIPTION

Item consists of furnishing tubular steel materials, tools and equipment, plant including labor required in undertaking the proper installation complete as shown on the Plans and in accordance with this Specification.

MATERIAL REQUIREMENTS:

- 50mm x 100 mmx 1 mm thick Tubular Steel

CONSTRUCTION REQUIREMENTS:

1. Cut tubular steel into desired length specified in drawings.
2. Align the tubular steel vertical using plumb bob and twist it in an angle of 45 degrees. (**SEE DRAWING DETAILS LOUVER PARTITION)**
3. When the desired position achieved the architect or engineer must inspect it if it complies with the drawing, before fastening it with stainless steel lag screw on the floor and ceiling.
4. Apply primer oxide first before applying epoxy paint as top coat specified in drawings.

CLEANING:

Clean tubular steel surfaces thoroughly as possible upon completion of painting. Remove all debris and clean thoroughly the area where the work and fastening happened.

ITEM NO. 1016 – WATERPROOFING

MATERIAL REQUIREMENTS:

- SAHARA Waterproofing
- WATER- TITE Waterproofing

APPLICATION OF SAHARA Waterproofing:

- BALCONY Floor

APPLICATION PROCEDURE for SAHARA Waterproofing:

1 Bag of Sahara Cement to be mixed with 1 bag 40kg Cement mix well, then add sand or gravel and water as routine mixing, mix them well again. For Surface Waterproofing, ordinary concrete is naturally porous and allows unwanted moisture and water to seep through no matter how well made and placed concrete is the aggregates and cement mixture do not nest together perfectly to eliminate voids or empty spaces between particles water permeating through these voids will slowly dissolve the binding compound in the concrete of mortar structure. Sahara cement waterproofing compounds fill these empty voids and cracks making the concrete watertight and with its repellant quality prevents moisture from seeping through.

STORAGE:

- Keep container tightly sealed. Store in a cool and dry place away from rain and direct sunlight.

HEALTH & SAFETY PRECUATIONS:

- Use proper attire, equipment and tools before mixing and applying waterproofing.

APPLICATION OF WATER- TITE Waterproofing:

- BALCONY FLOOR & EXTERIOR WALL

APPLICATION PROCEDURE for WATER- TITE Waterproofing:

Surface Preparation: The substrate must be clean and sound, free of dust and loose particles. Laitance, oil, grease, mould release agents or curing compound must be removed from concrete surface by using wire brush or other means. Ensure sufficient gradient to allow water to run off. It is recommended that a cement and sand fillet be formed on all corners to receive the waterproofing membrane. Dampen the substrates before applying PIONEER PRO Water-Tite 102.

Method Mixing. Pour liquid part and add powder part into a container. Mix it for 5 minutes until homogeneous and lump free and re-stir manually before use.

Application. For horizontal and vertical surface, a roller or a brush maybe used to apply the slurry. Care must be taken to ensure that air is not entrapped in the TDS Pioneer - 022019 Version 2 of 2 membrane. Apply the rest coat and work generously to fill all the pores and honeycombs. Allow the membrane to dry approximately 2 to 3 hours prior to application of a second coat. The second coat must be applied crosswise. After applying the second coat of PIONEER PRO Water-Tite 102, allow a minimum curing time interval of 15-72 hours before laying the screed and commencing pond test.

Cleaning. Clean all tools or equipment used while coating is still in its uncured state. Use water to clean tools and spills. Use lacquer thinner to clean cured liquid part of Water-Tite 102 on tools and equipments.

STORAGE:

- Keep container tightly sealed. Store in a cool and dry place away from rain and direct sunlight.

HEALTH & SAFETY PRECUATIONS:

PIONEER PRO Water-Tite 102 should be treated with care. Gloves and goggles should be worn. Any contact to the skin or eyes should be washed off with clean water. Powder products should be handled to minimize dust formation. PIONEER PRO Water-Tite 102 is nonflammable.

ITEM NO. 1018 – CERAMIC TILES

DESCRIPTION

This item shall consist of furnishing all ceramic tiles and cementitious material, tools and equipment including labor required in undertaking the proper installation of walls and floor tiles as shown on the Plans and in accordance with this Specification.

MATERIAL REQUIREMENTS

Ceramic tiles and trims shall be made of clay, or a mixture of clay and other materials which is called the body of the tile. Tile bodies are classified by ASTM C242 as to their degree of water absorption. Ceramic tiles and trims are manufactured either by dust-pressed process in which the clays are ground to dust mixed with a minimum of water shaped in steel dies and then fired or by plastic process in which the clays are made plastic by mixing with water, shapes by extrusion or in molds and then fired.

Glazed Tiles and Trims
Glazed tiles and Unglazed tiles and trims shall have an impervious face of ceramic materials fused onto the body of the tiles and trims.
Glazed tiles and Unglazed tiles shall be both 60 cm X 60 cm ceramic tiles with approve color and design.

Trim
Trims are manufactured to match wall tile color, texture and to coordinate with it in dimension. These are shaped in various ceramic trim, units such as caps, bases, coves, bullnoses, corner, angles, etc. that are necessary for edging or making a transition between intersecting planes.

Cement
Cement shall be Portland conforming to the specification requirements defined in item 700, Hydraulic Cement.

Sand
Sand shall be well graded fine aggregate clean river sand, free from soluble salts and organic impurities.

Lime
Lime shall be hydrated lime with free un-hydrated oxide and magnesium oxide content not to exceed 8 percent by weight.

CONSTRUCTION REQUIREMENTS

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

Surface Preparation

- Mortar mix from scratch coat and setting bed shall consist of one part Portland cement ¼ part lime and 3 parts sand by volume. Surface to receive tile must be level, true to elevation, dry, free from dirt, oil and other ointments. Allow at least seven days curing of scratch coat and setting bed. Installation work shall not be allowed to proceed until unsatisfactory conditions are corrected.

- Bond coat shall be Portland cement paste.

- Thoroughly dampen surfaces of masonry or concrete walls before scratch coat is applied.

- On masonry or concrete surface first apply a thin coat with pressure, then to bring it out sufficient to compensate for the major irregularities of the surface to a thickness not less than 10mm. at any point.

- Evenly rate scratch coat to provide good mechanical key before the mortar mix has fully hardened.

INSTALLATION PROCEDURE

Ceramic tiles shall be soaked in clean water prior to installation for a minimum of one hour.

CLEANING

Clean ceramic tile surfaces thoroughly as possible upon completion of grouting. Remove all grout haze, observing tile manufacturers recommendations as to use of acid or chemical cleaners.

Protection from Construction Dirt

- Apply a protective coat of neutral cleanser solution diluted with water in the proportion of 1:4 or 1-liter cleanser concentrate to 1-gallon water.

- In addition, cover tile flooring with heavy-duty no staining construction paper, taped in place, just before final acceptance of the work removes paper and rinse protective coat of neutral cleaner from tile surface. Do not let protective paper get torn or removed.

METHOD OF MEASUREMENT

All works performed under this item shall be measured in square meters for areas actually laid with ceramic tiles and accepted to the satisfaction of the Architect/Engineer.

- *Setting Wall Tiles:* seal wall tile thoroughly in clean water before setting. Set wall tile by trowelling neat portland cement skim coat on float coat or apply skim coat to back of each tile unit. Immediately float tile in place. Make joints straight, level and perpendicular. Maintain vertical joints plumb.

- *Grouting:* Grout joints in wall tile with neat white cement immediately after suitable area of tile has been set. Tool joints slightly concave, cut off excess mortar and wipe from face tile. Roughen interstices of depressions. In mortar joints after grout has been cleaned from surface. Fill to line of cushion tile bases or covers with mortar. Make joints between wall tile, plumbing and other built in fixtures with light colored caulking. Immediately after grout has had its initial set, give tile wall surfaces protective coat of non-corrosive soap.

- All tiles for floor and walls shall be free from laminations, serrated edges, chipped-off corners and other defects, which would adversely affect their appearance and strength. All joints between tiles and mouldings shall be filled with tile grout and then carefully wiped.

- Floor tiles in the ground and second floor must be .60mx.60m and .30mx.60m. For the toilet, .30mx.60m floor tiles shall be used and .60mx.60m tiles for the walls.

Note: **(All materials to be used by this item of work must first be inspected and approved by the architect in-charge of records before installation.)**

ITEM NO. 1027(3) – DECORATIVE STONE

This installation guide assumes that construction personnel have knowledge of the materials described and their proper methods of installation. Prior to commencing activity related to the scope of this guide, review all adjacent products and other subcontractor's work that precedes the installation of

manufactured stone veneer to ensure that proper workmanship is reflected and that there are no recognizable errors or deficiencies.

Decorative stone must be hard, sound, clean and approved. Decorative stone for fair faced works to be "selected", being picked for evenness, texture, sharpness of arises and uniformity of color. Any 'cracked' bricks should be rejected. Nominal size to be 415 x 150 x 75 mm.

Facing bricks to have the following properties:

1. Compressive strength, the average compressive strength of 5 brick must exceed 20.7 MPa;
2. Saturation coefficient cannot exceed 0 .78;
3. Chippage, 85% to 100% of the brick can have chips that are measured from an edge that range between 0 to 7.94 mm and measured from a corner that range between 0 to 12.7 mm. No more than 15% of the brick can have chips that are measured from an edge that range between 7.94 to 11.1 mm and measured from a corner that range between 12.7 to 19.1 mm. The cumulative length of the chips around the perimeter edges of face cannot exceed 10% of the perimeter length;
4. The faces shall be free of cracks or imperfections when viewed from 6 meters.

Materials for stone wall cladding must be approved by the Architect in-charge of records before installation (See Approved Working Drawings).

ITEM NO. 1032 (1) a,b,c – PAINTING, VARNISHING & OTHER RELATED WORKS

DESCRIPTION

This item shall consist of furnishing all paint materials, varnish and other related products, labor, tools, equipment and paint required in undertaking the proper application of painting, varnishing and related works indicated on the plans and in accordance with this specification.

MATERIAL REQUIREMENTS

Paint Materials
All types of paint material, varnish and other related product shall be subject to random test as to material composition by the bureau of Research and Standard, DPWH or the National Institute of Science and Technology. **(use the following approved and tested brand name: BOYSEN OR APPROVE EQUAL)**

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

Concrete Neutralizer
Concrete neutralizer shall be first grade quality concentrate diluted with clean water and applied as surface conditioner of new interior and exterior walls thus improving paint adhesion and durability.

Silicon Water Repellant
Silicon water repellant shall be transparent water shield especially formulated to repel rain and moisture on exterior masonry surfaces.
Patching Compound
Patching compound shall be fine powder type material like calciumine that can be mixed into putty consistency, with oil base primers and paints to fill minor surface dents and imperfections

Varnish

Varnish shall be homogenous solution of resin, drying oil, drier and solvent. It shall be extremely durable clear coating, highly resistant to wear and tear without cracking, peeling, whitening, spotting, etc. with minimum loss of gloss for a maximum period of time.

Lacquer

Lacquer shall be any type of organic coating that dries rapidly and solely by evaporation of the solvent. Typical solvent are acetates, alcohols and ketones. Although lacquers were generally based on intrecellulose, manufacturers currently use, vinyl resins, plasticizers and reacted drying oils to improve adhesion and elasticity.

Shellac

Shellac shall be a solution of refined lac resin in denatured alcohol. It dries by evaporation of the alcohol. The resin is generally furnished in orange and bleached grades.

Construction Requirements

The contractor prior to the commencement of the painting, varnishing and related work shall examine the surfaces to be applied in order not to jeopardize the quality and appearances of the painting varnishing and related works.

Surface Preparation

- All surface shall be in proper condition to receive the finish. Woodworks shall be hand-sanded smooth and dusted clean. All knot-holes pitch pockets or sappy portions shall be sealed with natural wood filler. Nail holes, cracks or defects shall be carefully puttied after the first coat, matching the color of paint.
- Interior woodworks shall be sandpapered between coats. Cracks, holes of imperfections in plaster shall be filled with patching compound and smoothed off to match adjoining surface.
- Concrete and masonry surfaces shall be coated with concrete neutralizer and allowed to dry before any painting primer coat is applied. When surface is dried apply first coating. Hairline cracks and unevenness shall be patched and sealed with approved putty or patching compound. After all defects are corrected apply the finish coats as specified on the plans (color scheme approved).
- Metal shall be clean, dry and free from mill scale and rust. Remove all grease and oil from surfaces. Wash, unprimed galvanized metal etching solution and allow it dry. Where required to prime coat surface with Red Lead Primer same shall be approved by the Architect/Engineer.

In addition, the Contractor shall undertake the following:

- Voids, cracks, nick etc. will be repaired with proper patching material and finished flushed with surrounding surfaces.
- Marred or damaged shop coats on metal shall be spot primed with appropriate metal primer.
- Painting and varnishing works shall not be commenced when it is too hot or cold.
- Allow appropriate ventilation during application and drying period.
- All hardware will be fitted and removed or protected prior to painting and varnishing works.

MATERIALS:

- All paint materials shall meet the requirements of paint materials under classification class ‘’A’’ as prepared by the institute of Science, Manila.
- Use ‘’BOYSEN’’ Paints for all interior and exterior finished
- Use SKIMCOAT for wall preparation prior to painting
- All paints shall be recommended by the manufacturer for the use intended and shall be delivered to the jobsite in original containers with seals unbroken and labels intact.
- Painting materials such as Linseed oil, turpentine, thinners, shellac, lacquer, etc. shall be pure and of the highest quality obtainable and shall bear the manufacturer’s label on each container or package.
- Except for ready mix materials in original containers, all mixing shall be done in the job site. No materials are to be reduced, changed or mixed except as specified by manufacturer of said materials.

STORAGE AND PROTECTION

The resident Architect/Engineer shall designate a place for the storage of paint materials whenever it may be necessary to change this designated storage place, the contractor shall promptly move to the new location. The storage space shall be adequately protected from damage and paint. Paint shall be covered at all times and safeguards taken to prevent fire.

APPLICATION

- Paints when applied by brush shall become non-fluid, thick enough to lay down as adequate film of wet paint. Brush marks shall flaw out after application of paint.
- Paints made for application by roller must be similar to brushing paint. It must be nonstick when thinned to spraying viscosity so that it will break up easily into droplets.
- Paint is atomized by high pressure pumping rather than broken up by the large volume of air mixed with it. This procedure changes the required properties of the paint.

MIXING AND THINNING

At the time of application paint shall show no sign of deterioration. Paint shall be thoroughly stirred, strained and kept at a uniform consistency during application. Paints of different manufacture shall not be mixed together. When thinning is necessary, this may be done immediately prior to application in accordance with the manufacturer's directions, but not in excess of 1 pint of suitable thinner per gallon of the paint.

STORAGE

All material to be used under this item shall be stored in a single place to be designated by the Architect/Engineer and such place shall be kept net and clean at all time. Necessary precaution to avoid fire must be observed by removing oily rags, waste, etc. at the end of daily work.

CLEANING

All cloths and cotton waste which constitute fire hazards shall be placed in metal containers or destroyed at the end of daily works. Upon completion of the work, all staging, scaffolding and paint containers shall be removed. Paint drips, oil or stains on adjacent surfaces shall be removed and the entire job left clean an d acceptable to the Architect/Engineer.

Workmanship in General

- All paints shall be evenly applied. Coats shall be of proper consistency and well brushed out so as to show a minimum of brush marks.
- All coats shall be thoroughly dry before the succeeding coat is applied.
- Where surfaces are not fully covered or cannot be satisfactorily finished in the number of coats specified such preparatory coats and subsequent coat as may be required shall be applied to attain the desired evenness of surface without extra cost to the University.
- Where surface is not in proper condition to receive the coat the Architect/Engineer shall be notified immediately. Work on the questioned portion(s) shall not start until clearance be proceed to ordered by the Architect/Engineer.
- Hardware, lighting fixture and other similar items shall be removed or protected during the painting varnishing and related work operations and re-installed after completion of the work.

Note: All materials to be used in this item of works must first be inspected and approved by the architect prior to installation. Mock-up painting must first be done before final painting.

ITEM NO. 1046(2)a1 – MASONRY WORKS

DESCRIPTION

This item shall consist of furnishing of all necessary materials, tools, equipment and labor necessary to compete the execution of the masonry works using Concrete Hollow Blocks as shown on the plans and herein specified.

MATERIAL REQUIREMENTS

- Cement shall be standard Portland cement, ASTM C- 150 -58 type I
- Aggregates shall conform to the applicable requirements of Item 405, Structural concrete.
- Water shall conform to the applicable requirements of Item 714, Water.
- Reinforcing Steel shall conform to the applicable requirements of Item 710, Reinforcing Steel and Wire Rope.
- Mortar shall consist of sand, cement and water conforming to the requirements of Item 405, Structural Concrete, mixed in the proportion of one (1) part cement to three parts sand by volume and sufficient water obtain the required consistency.
- Concrete Hollow Blocks shall have a minimum face and 3 holes and shall have a thickness of 1" (.025). Normal size shall be 6"x8"x16" and 4"x8"x16", minimum compressive strength equal or exceed those mentioned in the specification.

INSTALLATION

- All masonry work shall be laid true to line, level, plumb and neat in accordance with the plans.
- Units shall be cut accurately to fit all plumbing ducts, opening for electrical works, and all holes shall be neatly patched.
- No construction support shall be attached to the wall except where specifically permitted.
- Masonry unit shall be sound, dry, clean and free from cracks when placed in the structure.
- Proper masonry units shall be used to provide for all window, doors, bond beams, lintels, plaster etc., with minimum of unit cutting.
- Where masonry units cutting are necessary, all cuts shall be neat and true to line.
- Units shall be placed while the mortar is soft and plastic. Any unit disturbed to the extent that the initial bond is broken after initial positioning shall be removed and re-laid in fresh mortar.
- Mortar should not be spread too far ahead of units, as it will stiffen and loose plasticity, especially in hot weather. Mortar that has stiffened should not be used. ASTM c 270 requires that mortar be used within 2 ½ hours of initial mixing.

FINISH AND APPEARANCE

- All units shall be sound and free of cracks or other defects that interfere with the proper placement of the unit or significantly impair the strength or permanence of the construction. Minor cracks, incidental to the usual method of manufacture or minor chipping resulting from customary methods of handling in shipment and delivery, are not grounds for rejection.
- Where units are to be used in exposed wall construction, the face or faces that are to be exposed shall not show chips or cracks, not otherwise permitted, or other imperfections when viewed from a distance or not less than 6.1 m under diffused lighting.
- Five percent of a shipment containing chips, not larger than 25.4 mm in any dimension. Or cracks not wider than 0.5 mm and not longer than 25% of the nominal height of the unit, is permitted.
- The color and texture units shall be specified by the purchaser. The finished surfaces that will be exposed in place shall conform to an approved sample, consisting of not less than four (4) units, representing the range of texture or color permitted.
- A shipment shall not contain more than 5% of units, including broken unit that do not meet the requirements of the above provisions.

CEMENT MORTAR

Cement mortar shall be used as base for cement plaster finish masonry and concrete walls and for grouting of masonry walls. The mixture of cement mortar to be used shall conform to the following schedule:

- Class "A" mortar shall consist of one (1) part cement four parts (4) sand and sufficient water to form a workable mixture.

- Class "B" mortar shall consist of one (1) part cement to five parts (5) sand and sufficient water to form a workable mixture.

MASONRY WALLS

CONCRETE HOLLOW BLOCKS

- Concrete hollow blocks to be used for walls and partitions as shown and indicated in the drawings shall have an average strength of not less than 1900 lbs. per square meter. Concrete hollow blocks shall be wetted with water before installation.
- Blocks shall be laid straight and uniform with regular running bond and with the vertical faces truly vertical and set true to line. All CHB shall be laid with cement mortar joints (1:3 or 1:4) mix, and all joints and cells shall be solidly filled from the face of the blocks to the depth of the face completely and compactly.
- Blocks shall be reinforced with 10mm.vertical bars at 0.60m on centers and one horizontal bar for every third course of "4" CHB walls.
- Whenever necessary, all horizontal and vertical bars shall be anchored 20D into the concrete footings, columns and beams.
- All horizontal reinforcements shall be tied to the vertical reinforcements at every intersection with No. 16 G.I wire.

CONCRETE AND MASONRY FINISHES

CEMENT PLASTER

Whenever shown or indicated in the drawings, all masonry and concrete surface shall be finished with cement plaster, applied as follows:

- The surface shall be wetted and thoroughly wood floated with a scratch coat of cement plaster, 3/8" thick. Cement plaster shall consist of 1:2 cement mortar.

<u>ITEM NO. 1051(7) – GLASS RAILING & ACCESSORIES</u>

GENERAL

Work includes Furnishing and installation of glass railing as shown in the approved drawings. Work shall include but not be limited to steel railings (fixed, project-in, project-out, side hung-out or side hung-in), closures, trim, anchors and factory applied finishes (if required).

Installation

a. The system shall utilize a locking mechanism of high-strength aluminum and PVC isolators combined with a specially designed aluminum shoe molding isolator assembly that is adjustable to accommodate a range of glass thicknesses.
b. The system shall utilize a locking mechanism of high-strength aluminum and PVC isolators combined with a specially designed aluminum shoe molding isolator assembly that is adjustable to accommodate a range of glass thicknesses.
c. The system shall utilize a locking mechanism of high-strength aluminum and PVC wedge system that is adjustable to accommodate a range of glass thicknesses.
d. Cladding and End Caps: Stainless steel .035 gauge/thickness, #8 polished.

e. Cladding and End Caps: Stainless steel .035 gauge/thickness, #4 brushed.
f. Cladding and End Caps: Aluminum .050 gauge/thickness, clear satin.
g. Cladding and End Caps: Aluminum .050 gauge/thickness oil rubbed bronze.
h. Rubber Base Shoe Gasket: V50-0009 1-1/8-inch-wide by 3/4 inches (19 mm) tall Seals the gap at top of base shoe.
i. Glass and metal handrail system components shall be designed for use with 1/2 inch (12.7 mm) through 3/4 inch (19 mm) tempered or laminated glass panels. Verify to the Approved Drawings.

Note: All materials to be used by this item of work must first be inspected and approved by the architect in-charge of records before installation.

ITEM NO. 1100- ELECTRICAL WORKS

CONDUITS, BOXES & FITTINGS

DESCRIPTION

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

MATERIAL REQUIREMENTS

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

CONDUITS
Standard PVC, EMT and RMC conduit pipe system is required for this project.

Conduit runs shall be concealed in drop ceiling and or embedded in concrete structure where concealment is not possible.
No conduit of less than 15mm normal diameter shall be installed for this project (two or more conduits shall not be installed in lieu of a large size).

Conduit run shall be continuous from outlet and no running thread shall be in any conduit run. Conduit shall be cut square and properly reamed.

All joints shall be screwed enter knockouts of conduit boxes, pull boxes, panels and cabinet squarely. Lock-nuts shall be screwed tight to insure continuity of raceway grounding.

Bonds and offset shall be avoided where possible, but where necessary it shall be made with approved conduit bending apparatus.

Conduit which have been deformed or crushed in any manner should not be installed.

The Contractor shall plug with lead or closed with approved pipe caps the ends of all conduits which are to be left empty within the cabinets and conduit boxes so as to prevent the entrance of white ants and dirt within the conduit system.

This lead or cap shall be placed that can be easily removed when so desired and at the same serve the purpose intended.

Pill wire shall be inserted in the empty ducts before they are closed with lead or caps and shall be left therein for the future use.

When not shown on the plans, conduit sizes shall correspond to the conduit sizes on tables of the Philippine Electrical Code latest edition.

Conduit Boxes
All conduit boxes shall be code gauge steel and galvanized. Outlet boxes shall be galvanized pressed steel of standard make. In general, outlet boxes shall be at least 100 mm square or octagonal, 53 mm deep and 16 mm minimum gauge.

Conduit Fittings
All conduit fittings such as locknuts and bushing shall be galvanized of standard make.

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

Specifications on:
- Lighting fixtures and lamp
- All lighting fixtures and lamp are as specified and listed on lighting fixture schedule.
- For fluorescent lamp, it shall be 40-watt rapid start cool-white. All fluorescent ballast shall be 230 volts, high power factor, of good quality materials and approved by the Bureau of Product Standard (BPS).
- Material Requirements
- All materials to be used shall conform to the BPS specification.

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

Auxiliary System
- All auxiliary system such as telephone and intercom system, time clock system, fire alarm system and public address/nurse's call/paging system installation shall be done in accordance with the approved design.
- All materials to be used shall conform to the Bureau of Philippine Standard (BPS) specifications.
- Important requirement regarding supervision of the work and submission of certificate of completion.
- All wiring installation herein shall be done under the direct supervision of a licensed Electrical Engineer at the expense of the Contractor. The contractor shall submit the certificate of completion duly approved by the University/PMO's representative.
- Test and guarantee
- Upon completion of the electrical construction work, the contractor shall provide all test equipment and personnel and to submit written copies of all test results.
- The contractor shall guarantee the electrical installation are done and in accordance with the approved plans but not mentioned in this specifications. The contractor shall guarantee that the electrical systems are free form all grounds and from all defective workmanship and materials and will remain so for a period of one year.

SCOPE OF WORK

The work under this Electrical, consist of furnishing all materials, equipment, tools, labor and all other services necessary to complete and make ready for operation the Electrical Power and Lighting System described below and or indicated in the Electrical Plans in accordance with the latest edition of the Philippine Electrical Code and this Specifications and General Conditions of the Contract.

CONSTRUCTION REQUIREMENTS

- Furnishing and installation of service entrance, conduits and conductors, and all items required by local utility power company's policy, rules and regulations.
- Furnishing and installation of panel boards at location indicated on the plan and electrical riser layout, including all accessories required.
- Furnishing and installation of feeder and branch circuit conductors with the necessary conduits, approved type of fittings and devices as indicated in the electrical plans.
- Furnishing and installation of all types of utilization devices, outlets and wall switches with properly installed cover plate.
- Furnishing of all lighting fixtures, conduits, including service entrance duct, terminal cabinet and utility boxes.

CODES, REGULATIONS AND STANDARDS

The installation and equipment shall conform to good ENGINEERING practices and in particular comply with the requirements laid down in the following documents or its equivalent which are mandatory and modified only by specific agreement.

Philippine Electrical Code, Latest Edition ----------PEC
Underwriter's Laboratory, Inc. ----------UL
National Electrical Manufacturer's Association ---------- NEMA
Local Utility Power Company (LEYECO II) ----------LUPC

In addition to the requirements of these Codes and the Utility Power Company's requirements. Bureau of Fire Protection (BFP), Tacloban City engineering office (CEO). Local government regulation and suppliers Specification if any, shall be followed.

DRAWING AND SPECIFICATION

The Drawings and Specifications are meant to be complementary to each other, and what is called for by one shall be binding as if called for both. Any apparent conflict between the drawings and specifications, and any controversial or unclear points in either shall be preferred to the supervising Architect/Engineer for final interpretation and decisions. On one copy of the plans, have a record showing all deviations that happened during the construction.

Upon completion of work as described herein, the Contractor at his own expense shall furnish the University/PMO 6 copies of the "As Built" plan for future references and maintenance purposes.

CORRELATION OF WORK

The Electrical Contractor shall confer with the General Contractor and Engineer to determine how and where his work fits with that of other crafts, after familiarizing himself with the plans and specifications.

This shall be done at the beginning of construction. Should there be any existing doubts at any point, ruling shall be secured from the supervising Architect/Engineer, who shall be given time to inspect the work covering this point and to prepare a detail in the form of drawings and written instructions as required.

PERMITS AND INSPECTION

The Contractor shall obtain at his own expense, all the necessary permits and certificates of Electrical Inspection from the proper government authorities required for both the performance of his work involved and the proper operation of the system upon completion of the work.

The Contractor shall at his expense, reproduce the electrical plans for his work to the necessary scale and complete them with the information and requirements as required by the government authorities concerned in issuing and Certificate of Electrical Inspection.

EXAMINATIONS OF PREMISES

Prospective bidder is required to examine the architectural, structural, and electrical plans of the project, to visit the site and carefully take note of all the conditions thereat to have personal informed under which the electrical work is to be done.
No allowance will subsequently be made in his behalf of any error on his part. He will be deemed to have done this before submitting his proposal and no subsequent claims on the ground of inadequate or inaccurate information will be entertained.

LAYOUT OF WORK

- Electrical system layout indicated on the drawings is generally diagrammatic and the location of location of outlets, devices, apparatus and equipment are only approximate.
- The exact routing of conduits, location of outlets, devices, apparatus and equipment shall be governed by structural and architectural conditions and limitations.
- For the exact location, consult the supervising Architect/Engineer. This does not mean to permit redesigning of the systems. All outlets are to be interconnected as indicated in the drawings.
- The University/PMO reserves the right to make any reasonable change in location of outlet and equipment prior to rough-in, without involving additional expense.
- The Contractor shall be responsible and pay charges for cutting and patching for piping lines where sleeves or slots were not installed or where incorrectly located.

MATERIALS AND WORKMANSHIP

All materials to be installed shall be unused, brand new and shall conform to the standards of the Underwriters Laboratories, Inc. in everywhere such as standard has been established for the particular type of materials to be used.
Only skilled workmen using proper tools and equipment shall be employed during the entire course of installation work.
All workmanship shall be of the best practices of the trade involved. The same job site during the entire course of the job.

SERVICE ENTRANCE

The Electrical Contractor shall furnish and install 220 volts rating, (3) Phase line underground service entrance connection.
The service entrance conductors shall be thermoplastic type **THWN/THHN** standard copper conductors, stranded, whose number and size are indicated on the plans and electrical riser diagram.

SERVICE METERING FACILITIES

It shall be the duty of the Contractor to request the local power company to install a proper type and size of service metering instruments and all other necessary accessories, materials, equipment, devices and fittings.

PANELBOARDS

- The contractor shall furnish and install the necessary panel board multi-breaker type including the breakers as indicated in the drawings.
- Circuit breakers shall be tropical of the magnetic thermal type with ratings and number of poles as indicated in the drawings.

- All panel boards to be used shall be flush mounted when located in areas that are visible to the general public and may be surface mounted when located in machine room or areas where they are not visible to the public.
- All panel boards shall be set plumb and symmetrical with the surrounding objects. Panel boards shall be installed in a perfectly fit cabinet of appropriate size provided with a stop indoor trim and good quality cylinder lock.

WIRING METHODS

- Wiring for all systems shall be type **THHN** conductors using plastic conduit pipes. Other types of conductor shall be as indicated in the drawings.
- Conduit shall be embedded in columns, walls and toppings of floors slabs to allow flush connections and lighting system which may be exposed between joints in case a drop ceiling is installed.
- Proper fittings shall be provided at ends of conduits. Wiring installations through wooden double partitions shall be in standard PVC conduits, and all cases, the wiring installation shall be concealed from view.
- All conduit and conduit fittings shall be PVC and shall conform to the U.S. Underwriters Laboratories Inc. Standard and Codes.
- The minimum size of conduit to be used shall be 13mm diameter. Sizes larger than 13mm diameter shall be indicated in the drawings.
- Smallest size of conductor to be used shall be 2.0mm², type THW. THW wire shall be indicated in the drawings.
- ***Circuit homeruns for lighting shall be 3.5mm² and 5.5mm² for the power or otherwise indicated on the plans.***
- All splice, tape and junctions for all systems using conductors up to 14mm² shall be accomplished by using electrical friction or rubber types.
- Proper type of connections shall be employed to accommodate all splices and solder less type terminals to be used for connection to Bus bar.
- Taps and splices shall be properly protected with both plastic and friction electrical tapes to proper insulation and protection for 600 volts.
- Wiring from ceiling outlets to lighting fixtures recessed in dropped ceilings shall be done using type THW conductors in RS or PVC conduits.
- Proper size of boxes shall be used for switch and outlet receptacles.
- Necessary fittings such as bushing, locknuts and anti-short fiber bushing shall be used at proper places so required.
- When not shown on the Plans, conduit sizes shall correspond to the conduit sizes as prescribed in the Philippines Electrical Code table for “Size of Conduit Pipes”.

OUTLETS AND SWITCHES

- All boxes for outlets and switches shall be PVC approved products of reputable manufacturers.
- All ceiling outlet boxes intended for lighting outlets shall be of the 10cm octagonal box. Larger boxes when required shall be 5.3cm deep.
- Convenience and wall switch outlet boxes shall be of the 10cm. by 5.3cm. rectangular deep flush type or 100 square cm junction box with gang raised cover as required to accommodate the wires therein.
- All junction boxes, pull boxes and blank boxes shall be fitted with standard flat metal or plastic box cover.
- All boxes including junction and pull boxes shall be of sufficient size to provide free space for all conductors enclosed in the box, in addition to the fittings such as switch mechanism and receptacles that may be placed therein.

WALL SWITCHES AND RECEPTACLES

- Suitable single pole, two-gang and three-way switches of the flush tumbler type and receptacles with proper Bakelite cover plates shall be furnished and installed as indicated in the drawings.
- Wall switches intended to control lights on the 230 volts system shall be rated 15 amp.250 volts.
- Convenience outlets shall be flushed duplex type rated 20 amperes 230 volts 60Hz., AC.
- Acceptable Brands: ***National or Panasonic.***

GROUNDING INSTALLATION

- The contractor shall furnish and install ***all ground cables***, connection ***ground rods*** and all other materials required to provide a permanent effective grounding system.
- Grounding, in general, shall conform to the provisions of the Philippine Electrical Code and as recommended by the equipment manufacturer.
- All enclosure for electrical equipment regardless of voltage shall be grounded, including metal frames of switchboard, motors, generators and steel poles. Each shall be grounded in separate grounding system.
- ***Grounding cables shall be bare TW (color green)***, cooper of suitable size and of the approved type. Ground rods shall be copper clad steel with diameter of 16mm and length of 2.0m.
- Ground clamps shall be of high copper alloy bronze with minimum thickness of 4.7mm hardware made from silicon bronze.
- The clamps shall be of a shape and size to fit the points of application and type of connection to be made from cable rod, pipe and curved or flat surfaces. Connections shall be suitable for direct burial without danger or corrosion.

LIGHTING OUTLETS

All ceiling outlets shall be 10cm. x 5cm. octagonal boxes. Connection from fixtures to boxes shall be accomplished by using type TW on a flexible conduit.

LIGHTING FIXTURES

All lighting fixtures shall be furnished and installation by the contractor. They shall be as shown on the drawings or specified on the schedule of lighting fixtures. For other details as to the type and model, ***consult the Architect/Engineer.***

TEST AND GUARANTEE

- The Contractor shall furnish all apparatus to be in making various electrical tests of all wiring system (for shorts and grounds) after the electrical work are completed.
- The Contractor guarantees all work installed under the Contractor to be free from all defects for a period of one-year acceptance of the works.
- The Contractor also agree to repair and make good at his own expense any and all defects which may develop in his work during the time if said defects arise due to poor workmanship.

POWER LOAD CENTER

This item shall consist of furnishing and installation of the light/ power panel board and distribution panel boards at the location shown on the plans complete with circuit breakers, cabinets and all accessories, completely wired and ready for service.

a. Material Requirements
   All items shall be brand new and shall be of the approved type. It shall conform to the requirements of the Philippine Electrical Code and shall bare the Philippine Standard Agency (PSA) mark.

b. Circuit Breaker (Molded Case) – MCCB
The low voltage switchboard shall be standard modular unitized units, metal built, dead front, safety type construction and shall consist of the following.

1. **Main Circuit Breaker** – the main circuit breaker shall be draw-out type, manually or electrically operated as required with ratings and capacity as shown on the plans.

2. **Feeder Circuit Breakers** – there shall be as many feeder breakers as are shown on the single line diagram or schematic riser diagram and schedule of loads and computations on the plans.

   - The circuit shall be draw out or molded case required. The circuit breakers shall each have sufficient interrupting capacity and shall be manually operated complete with trip devices and all necessary accessories to ensure safe and sufficient operation.
   - The number, ratings, capacities of the feeder branch circuit breakers shall be as shown on the approved plan.
   - Circuit breakers shall each be of the indicating type, providing "ON" and "OFF" and "TRIP" position of the operating handles and shall each be provided with nameplate for branch circuit designation.
   - Circuit breaker shall be so designed that an overload or short on one pole automatically causes all poles to open.

3. **Grounding System** – all non-current carrying metallic parts like conduits, cabinets and equipment frames shall be properly grounded in accordance with the Philippine Electrical Code, latest edition. The size of the ground rods and ground wires shall be as shown on the approved plan. ***The ground resistance shall not be more than 5 Ohms.***

4. **Panel Board and Cabinets** – shall conform to the schedule of panel boards as shown on the approved plan with respect to supply characteristics, rating of main lugs or main circuit breaker, number and ratings and capacities of branch circuit breakers.

   - Panel board shall consist of a factory completed dead front assembly amounted in an enclosing flush type cabinet consisting of code gauge galvanized sheet steel box with trim and door.
   - Each door shall be provided with catch lock and two (2) keys.
   - Panel board shall be provided with directories and shall be printed to indicate load served by each circuit.
   - Panel board cabinets and trim shall be suitable for the type of mounting shown on the approved plan. The inside and outside of panel board cabinets and trims shall be factory painted with one rust proofing primer coat and two finish coats of pearl gray enamel paint.
   - The main and branch circuit breakers for panel boards shall have the rating, capacity and number of poles as shown on the approved plan.
   - Breaker shall be thermal magnetic type. Multiple breakers shall be of the common trip type having a single operating handle.
   - For 50- ampere breaker or less, it may consist of a single pole breaker permanently assembled at the factory into a multi-pole unit.

(See Approved Electrical Drawing)

ITEM NO. 1200 (13) a – AIRCONDITIONING (WALL SPLIT TYPE)

GENERAL

All work shall be done under the direct supervision of the architect/engineer and in strict accordance with these specifications and design. The installation shall be done by the expertise or from the service center of specific manufacturer/ Supply Company. Beforehand, all materials/product to be used prior to installation must be inspected and checked by the architect/engineer.

Architect's/Engineer's approval on the brand of materials, and product description is important for proper material/product efficiency and durability.

Model shall be submitted for approval prior to delivery at jobsite by the Architect/Engineer.

SPECIAL ITEM- ROOFING

SCOPE OF WORK

This Item consist of furnishing all pre-painted metal sheet materials, tools and equipment, plant including labor required in undertaking the proper installation complete as shown on the Plans and in accordance with this Specifications.

MATERIAL REQUIREMENTS:

All Pre-Painted metal sheet and roofing accessories shall be oven baked painted true to profiles indicated on the Plans.

Pre-painted roofing sheets shall be fabricated from cold rolled galvanized iron sheets specially tempered steel for extra strength and durability. It shall conform to the material requirements defined in PNS 67: 1985.

Profile section in identifying the architectural moulded rib to be used are: Regular corrugated, Quad-rib, Tri-wave, Rig-wide, Twin rib, etc. Desired color shall be subject to the approval of the Architect.

1. Gutters, valleys, Flashings, Hip and Ridge roll shall be fabricated from gauge 24 (.6 mm) thick cold rolled plain galvanized iron sheets specially tempered steel. Profile section shall be as indicated on the Plans.
2. Fastening hardware shall be of galvanized iron straps and rivets. G.I. straps are of.50 mm thick x 16 mm gauge 26 and standard G.I. rivets.
3. Base metal thickness shall correspond to the following gauge designation available locally as follows:

Base Metal Thickness	Designated Gauge
. 40 mm thick	Gauge 28
. 50 mm thick	Gauge 26
. 60 mm thick	Gauge 24
. 80 mm thick	Gauge 22

Length of roof sheets available in cut from 5 feet to 12) long. Long span length up to 18 meters. Special length by arrangements.

MATERIAL USED:

- Pre-Painted Spanish Type Long Span roofing sheet with thickness of 0.5 mm.

CONSTRUCTION REQUIREMENTS:

1. Before any installation begin, the Contractor shall ascertain that the top face of the purlins is in proper alignment.
2. Correct the alignment as necessary in order to have the top faces of the purlins on an even plane.
3. Sheets shall be handled carefully to prevent damage to the paint coating. Lift all sheets or sheet packs on to the roof frame with the overlapping down-turned edge facing to- wards the side of the roof where installation will commence, otherwise the sheets will have to be turned end to end during installation.

4. Start roofing installation by placing the first sheet in position with the down turned edge in line with other building elements and fastened to supports as recommended.
5. Place the down-turned edge of the next sheet over the edge of the first sheet, to provide side lap and hold the side lap firmly in place. Continue the same procedure for the subsequent sheets until the whole roofing area is covered and or adopt installation procedure provided in the instruction manual for each type of molded rib profile.
6. For walling application follow the procedure for roofing but allow a minimum end lap of 10 cm. for vertical walling.
7. **End Lap**. In case handling or transport consideration requires to use two or more end lapped sheets to provide full length coverage for the roof run, install each line of sheets from bottom to top or from eave line to apex of roof framing. Provide 15 cm. minimum end lap.
8. **Anchorage**. Pre-painted steel roofing sheets shall be fastened to the purlins with standard length G.I. straps and rivets.
9. For steel frame up to 4.5mm thick, use self-drilling screw No. 12 by 3.5 cm long hexagonal head with neoprene washer.
10. For steel support up to 5 mm thick or more, use threaded cutting screw No. 12 by 4.0 cm long hexagonal head with neoprene washer.
11. For side lap fastener use self-drilling screw No. 10 by 1.6 cm long hexagonal head with neoprene washer.
12. Valley fastened to lumber and walling, use self-drilling wood screw No. 12 by 2.5 cm long hexagonal head with neoprene washer.
13. Valley fastened to steel supports, use self-drilling screws hexagonal head with neoprene washer, drill size is 5mm diameter.
14. In cutting pre-painted steel sheets to place the exposed color side down, cutting shall be carried out on the ground and not over the top of other painted roofing product.
15. **Power cutting or drilling** to be done or carried out on pre-painted products already installed or laid in position, the area around holes or cuts shall be masked to shield the paint from hot fillings.
16. **Storage and Protection**. Pre-painted steel roofing, walling products accessories should be delivered to the job site in strapped bundles.
17. Sheets or bundles shall be neatly stacked in the ground and if left in the open it shall be protected by covering the stack materials with loose tarpaulin.

MEASUREMENT AND PAYMENT

1. The work done under this item shall be measured by actual area covered or installed with pre-painted steel roofing and or walling square meters and accepted to satisfaction of the Architect or Engineer.
2. The area or pre-painted steel roofing and or walling in square meters shall be paid for at the Unit Bid Price or contract unit price which payment shall constitute full payment including labor, materials, tools and incidentals necessary to complete the work.

Prepared by:

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(SGD) AR. BERNIE G. TUDIO, UAP
Planning Officer III

Section VII. Drawings

Section VIII. Bill of Quantities

IB-2024-07-16 REPAIR AND REHABILITATION OF THE EVSU MAIN EVFIC FOR FOOD MANUFACTURING AND LTO COMPLIANCE

BILL OF QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
(1)	(2)	(3)	(4)
B.3	Permits and Clearances	1.00	l.s.
800 (1)	Clearing and Grubbing	45.00	sq. m.
101	Removal of Structures and Obstruction	1.00	l.s.
803 (1) a	Structure Excavation	18.00	cu.m.
900 (1) C1	Structural Concrete (RMC)	45.00	cu.m.
902 (1)	Reinforcing Steel	691.00	kgs
903 (2)	Formworks & Falseworks	1.00	l.s.
1046 (1) a2	Masonry Works	386.08	sq.m.
SPECIAL ITEM	Fabrication of Steel Fence	1	l.s.
1100, 1101,1103	Electrical Works	1	l.s.
B.5	Project Billboard	1.00	each
B.7	Occupational Safety and Health	4.00	mo.
1013 (4)	Roof Ventilator	4.00	set
1051 (1)	PWD Handrail	6.00	set
1013 (2) b1	Fabricated Metal Roofing Accesso	96.00	ln. m.
1013 (2) b2	Fabricated Metal Roof Accessory (Downspouts)	20.00	ln.m.
1013 (1)	Corrugated Metal Roofing	75.00	sq. m.
1041 (2)	Gypsum Board	230.00	sq.m.
1035	Non Structural Metal Framing	258.00	sq.m.
.032 (1) a & c	Painting, Varnishing, and other Related Works	1638.00	sq.m.
1006 (6)	Steel Door and Frames	1.00	l. s.
SPECIAL ITEM	Outdoor Wall Cladding	33.00	set
1200 (5) b	Exhaust Fan	5.00	set
1002	Plumbing Works	1.00	l. s.
II.	Estimated Government Expenses (0.5% of Appropriation)		

Prepared by:

PHYSICAL PLANT AND INFRASTRUCTURE DEVELOPMENT PLAN

Section IX. Checklist of Technical and Financial Documents

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages) in accordance with Section 8.5.2 of the IRR;

Technical Documents

☐ (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**

☐ (c) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; **and**

☐ (d) Special PCAB License in case of Joint Ventures **and** registration for the type and cost of the contract to be bid; **and**

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

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

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

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;

☐ c. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**

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

Financial Documents

☐ (h) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

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

II. FINANCIAL COMPONENT ENVELOPE

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

Other documentary requirements under RA No. 9184

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

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

☐ (m) Cash Flow by Quarter.

Section X. Bidding Forms

ANNEX A

STATEMENT OF BIDDER'S ONGOING GOVERNMENT & PRIVATE CONTRACTS INCLUDING CONTRACTS AWARDED BUT NOT YET STARTED

[shall be submitted with the Bid]

Business Name:
Business Address:

Name of Contract	Date of the Contract	a) Owner's Name b) Address c) Telephone No.	Nature of Work	Contractor's Role (Whether sole contractor, subcontractor, or partner in a JV) and percentage of participation		Contract Duration	Total Contract Value at Award	Date of completion/ Estimated completion time	a. Total contract value at completion b. % of planned and actual accomplishments c. Value of outstanding works
				Description	%				
Government									
Private									

Note: This statement shall be supported with:

1. Notice of Award and Contract (Government and Private Contracts)
2. Sales Invoices (Private Contracts)

Submitted by : _____
(Printed Name and Signature)
Designation : _____
Business Name : _____
Date : _____

ANNEX B

STATEMENT OF BIDDER'S SINGLE LARGEST COMPLETED CONTRACT

[shall be submitted with the Bid]

Business Name:
Business Address:

Name of Contract	Date of the Contract	a) Owner's Name b) Address c) Telephone No.	Nature of Work	Contractor's Role (Whether sole contractor, subcontractor, or partner in a JV) and percentage of participation		Contract Duration	Total Contract Value at Award	Date of completion	a. Total contract value at completion b. % of planned and actual accomplishments
				Description	%				

Statement of Single Largest Completed which is similar in nature for the past two (2) years

Note: This statement shall be supported with:

1. Notice of Award and Contract (Government and Private Contracts)
2. Sales Invoices (Private Contracts)
3. Project Owner's Certificate of Final Acceptance issued by the Owner other than the Contractor or Constructors Performance Evaluation System (CPES) Final Rating which must be at least satisfactory**.** In case of contracts with the private sector, an equivalent document shall be submitted.

Submitted by : _____
(Printed Name and Signature)
Designation : _____
Business Name : _____
Date : _____

ANNEX C

Bid Securing Declaration Form

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

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

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

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

I/We, the undersigned, declare that:

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

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

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

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

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

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

ANNEX D

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

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

AFFIDAVIT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ANNEX E

FORMAT OF JOINT VENTURE AGREEMENT (JVA)

KNOW ALL MEN BY THESE PRESENTS:

That this JOINT VENTURE AGREEMENT is entered into by and between:

(Name of Company), a corporation duly organized and registered under Philippine law, with principal office address at ***(address)***, and represented herein by ***(Position)***, ***(Name)***

-and-

(Name of Company), a corporation duly organized and registered under Philippine law, with principal office address at ***(address)***, and represented herein by ***(Position)***, ***(Name)***

That the above parties are duly authorized by their respective corporations to enter into and bind their respective corporations to a Joint Venture Agreement, pursuant to a valid Board Resolution issued by their respective Board of Directors/Trustees.

That all parties agree to join together their manpower, equipment, and what is needed to establish a project-specific Joint Venture for the purpose of bidding, and if successful, undertaking of the hereunder stated project of the NATIONAL ECONOMIC AND DEVELOPMENT AUTHORITY (NEDA).

NAME OF PROJECT	ABC

That both parties agree to be jointly and severally liable for the entire assignment.

That both parties agree that *(Name of Company)* shall act as the lead organization and *(Name of Company)* as partner organization; and *(Name of Company)*, as the lead organization, will oversee the administration and content of the eligibility and proposal submissions, coordinate with NEDA on any matter that needs attending to, and implement the project in the event that the joint venture wins the bid.

That both parties agree that ***(Name), (Position),*** of ***(Name of Company)***, shall be the Official Representative of the Joint Venture, and is granted full power and authority to do, to execute, and perform any and all acts necessary, and/or to represent the Joint Venture in the entire bidding and implementation process, as fully and effectively as the Joint Venture may do so as if personally present, without prejudice to the authority of the Joint Venture partners to exercise their power of substitution and revocation.

That this Joint Venture Agreement shall remain in effect only for the above stated Project until terminated by both parties or in the event of an unsuccessful bidding.

In witness thereof, we have hereunto affixed our signatures this _____ day of _____ 2024 at _____.

(Name of Company)	*(Name of Company)*
by:	by:
(Name) (Position)	*(Name) (Position)*

WITNESSES:

(Signature of Witness)	*(Signature of Witness)*
(Name of Witness)	*(Name of Witness)*
Address:	Address

ACKNOWLEDGEMENT

BEFORE ME, a Notary Public for and in the (City/Province/Municipality) of _____ this_____day of_____2021, personally appeared:

NAME	ID PRESENTED/ EXPIRATION	PLACE OF ISSUE

known to me and to me known to be the same persons who executed the foregoing instrument which they acknowledged to me to be their free and voluntary act and deed, consisting of page/s, including this page in which this Acknowledgement is written, duly signed by them and their instrumental witnesses on each and every page hereof.

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

ANNEX F

Bid Form for the Procurement of Infrastructure Projects

[shall be submitted with the Bid]

BID FORM

Date: _____
Project Identification No.: _____

To: [name and address of Procuring Entity]

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

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

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

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

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

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

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

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

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

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

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

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

other Bid that you may receive.

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

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

Name: _____

Legal Capacity: _____

Signature: _____

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

Date: _____

Republic of the Philippines

gppb

Government Procurement Policy Board