



**REPUBLIC OF THE PHILIPPINES
QUEZON CITY GOVERNMENT
BIDS AND AWARDS COMMITTEE –
INFRASTRUCTURE AND CONSULTANCY SERVICES**



PHILIPPINE BIDDING DOCUMENTS

Procurement of INFRASTRUCTURE PROJECTS

Government of the Republic of the Philippines

**PROPOSED REHABILITATION OF TECH VOC BUILDING
AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN
BARTOLOME**

**Project number:
25-00008**

**Sixth Edition
July 2020**

Preface

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

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

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

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

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

- a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.
- d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

- e. **Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.**
- f. **For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.**

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Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

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

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

- a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;
- b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;
- c. The deadline for the submission and receipt of bids; and
- d. Any important bid evaluation criteria.

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



Republika ng Pilipinas
Lungsod Quezon

BIDS AND AWARDS COMMITTEE ON INFRASTRUCTURE & CONSULTANCY

Second Floor, Civic Center Building F, Quezon City Hall Complex, Elliptical Road, Quezon City
8988-4242 local 8712 / 8710 / 8709
bacinfra.procurement@quezoncity.gov.ph



BAGONG PILIPINAS

March 04, 2025

Invitation to Bid

| <u>Building – Small B</u> | | | | | | | |
|---|----------|---|---|-----------------|-----|---------------------------|--|
| 1 | 25-00005 | Proposed Rehabilitation of Quezon City Public Library at Barangay Commonwealth | Commonwealth | ₱7,603,713.18 | 120 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |
| 2 | 25-00006 | Proposed Construction of Waiting Shed at Various Barangays in District 3 | Various Barangays | ₱9,171,107.19 | 180 | Department of Engineering | General Fund - Department of Engineering |
| 3 | 25-00007 | Proposed Construction of Various Facilities in Quezon City University - Batasan Campus at Barangay Batasan Hills | Batasan Hills | ₱14,114,764.69 | 240 | Department of Engineering | Trust Fund - Quezon City University |
| <u>Building – Medium A</u> | | | | | | | |
| 4 | 25-00008 | Proposed Rehabilitation of Tech Voc Building at Quezon City University (QCU) in Barangay San Bartolome | San Bartolome | ₱56,903,811.88 | 300 | Department of Engineering | Trust Fund - Quezon City University |
| <u>Building – Medium B</u> | | | | | | | |
| 5 | 25-00009 | Proposed Construction of Four (4) Storey with Deck Galas Public Market Building 2 (Completion Phase) at Barangay San Isidro Galas | San Isidro Galas | ₱176,699,374.45 | 420 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |
| <u>Electrical Work – Small B</u> | | | | | | | |
| 6 | 25-00010 | Proposed Installation of Streetlights in Barangay Sauyo, Pasong Tamo, Culiati, and Sangandaan | Sauyo, Pasong Tamo, Culiati, Sangandaan | ₱9,706,803.42 | 60 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |
| 7 | 25-00011 | Proposed Installation of Streetlights in Barangay Fairview, Barangay Sta. Monica, Barangay Kaligayahan and Barangay San Agustin | Fairview, Sta. Monica, Kaligayahan, San Agustin | ₱22,709,155.81 | 180 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |

Electrical Work – Medium A

| | | | | | | | |
|---|----------|---|--|----------------|-----|---------------------------|--|
| 8 | 25-00012 | Proposed Installation of Streetlights in Barangay Damar, Veterans Village, San Antonio, Bahay Toro, Sta. Teresita and Ramon Magsaysay | Damar, Veterans Village, San Antonio, Bahay Toro, Sta. Teresita, Ramon Magsaysay | ₱37,413,480.05 | 240 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |
|---|----------|---|--|----------------|-----|---------------------------|--|

Flood Control – Small B

| | | | | | | | |
|----|----------|--|--------------|----------------|-----|---------------------------|--|
| 9 | 25-00013 | Proposed Rehabilitation of Road and Drainage at 204 Kasunduan Extension in Barangay Commonwealth | Commonwealth | ₱3,117,024.83 | 150 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |
| 10 | 25-00014 | Proposed Rehabilitation of Road and Drainage at Alley 1 and 2, Lower Everlasting Street in Barangay Commonwealth | Commonwealth | ₱5,592,654.73 | 180 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |
| 11 | 25-00015 | Proposed Rehabilitation of Drainage System at San Juan and San Pedro Street (Pilaring Street to Susana Street) in Barangay Gulod | Gulod | ₱22,517,341.80 | 150 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |
| 12 | 25-00016 | Proposed Drainage System at Road 23 from Dead End (Sta. 0+000) to Shorthorn Street (Sta. 0+383) in Barangay Bahay Toro | Bahay Toro | ₱28,995,298.45 | 150 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |

Flood Control – Medium A

| | | | | | | | |
|----|----------|---|---------------|----------------|-----|---------------------------|--|
| 13 | 25-00017 | Proposed Rehabilitation of Road and Drainage at Battalion Street, Patibay 1 Hoa, and Filinvest 2 Road in Barangay Batasan Hills | Batasan Hills | ₱39,039,636.24 | 210 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |
| 14 | 25-00018 | Proposed Drainage System at Malac Street in Barangay Masambong | Masambong | ₱69,145,136.96 | 270 | Department of Engineering | General Fund - Office of the City Mayor (20% Community Development Fund) |

Park – Small B

| | | | | | | | |
|----|----------|---|---------|---------------|-----|---|--|
| 15 | 25-00019 | Proposed Landscaping Development of M.I.C.E Center Building | Central | ₱7,624,257.54 | 135 | Parks Development and Administration Department | General Fund - Office of the City Mayor (20% Community Development Fund) |
|----|----------|---|---------|---------------|-----|---|--|

1. The **QUEZON CITY LOCAL GOVERNMENT**, through *funding source of various years* intends to apply the sum stated above being the Approved Budget for the Contract (ABC) to payments under the contract *for the above stated Projects*. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The **QUEZON CITY LOCAL GOVERNMENT** now invites bids for the above Procurement Project. Completion of the Works is required *as stated above*. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary “*pass fail*” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Interested bidders may obtain further information from **QUEZON CITY LOCAL GOVERNMENT – BAC Secretariat** and inspect the Bidding Documents at the address given below *weekdays from 8:00 am. – 5:00 p.m.*
5. A complete set of Bidding Documents may be acquired by interested bidders on **05 March 2025 (Wednesday)** from given address and website/s below *and upon payment of a non-refundable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB*. The Procuring Entity shall allow the bidder to present its proof of payment for the fees *presented in person*.

STANDARD RATES:

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

The following are the requirements for purchase of Bidding Documents;

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

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

6. The **QC- BAC- INFRASTRUCTURE & CONSULTANCY** will hold a Pre-Bidding Conference on **March 13, 2025 at 09:00 AM at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP)** which shall be open to prospective bidders.

Virtual Conference (ZOOM APP)

Meeting ID: 854 9489 0133

Password: 273320

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before **March 27, 2025 – 9:00 AM**. Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB Clause 16**.

9. Bid opening shall be on **March 27, 2025 – 10:00 AM** at **2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or via Zoom. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

Virtual Conference (ZOOM APP)

Meeting ID: 810 3646 5257

Password: 201522

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

ATTY. DOMINIC B. GARCIA

OIC, Procurement Department

2nd Floor, Procurement Department,

Finance Building, Quezon City Hall Compound

Elliptical Road, Barangay Central Diliman, Quezon City.

Tel. No. (02)8988-4242 loc. 8506/8710

Email Add: bacinfra.procurement@quezoncity.gov.ph

Website: www.quezoncity.gov.ph

12. You may visit the following websites:

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

By:



MS. MARIAN C. ORAYANI

Chairperson, BAC-Infrastructure and Consultancy

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

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

1. Scope of Bid

The Procuring Entity, **Quezon City Government** invites Bids for the **PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME**, with Project Identification Number **25-00008**.

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

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

2. Funding Information

2.1. The GOP through the source of funding as indicated below for **2025** in the amount of **Fifty-Six Million Nine Hundred Three Thousand Eight Hundred Eleven Pesos and 88/100 Centavos Only (P 56,903,811.88)**.

2.2. The source of funding is:

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

3. Bidding Requirements

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

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

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

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

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or

through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

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

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

- 5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that:

a. Subcontracting is not allowed.

- 7.1. *[If Procuring Entity has determined that subcontracting is allowed during the bidding, state:]* The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criteria stated in ITB Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.
- 7.2. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the

implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

- 7.3. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address on **March 13, 2025 at 09:00 AM at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP) Meeting ID: 854 9489 0133 Password: 273320**

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.
- 10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

- 10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.
- 10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

11. Documents Comprising the Bid: Financial Component

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

12. Alternative Bids

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

13. Bid Prices

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

14. Bid and Payment Currencies

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

15. Bid Security

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security **in no case shall exceed One Hundred Twenty (120) calendar days from the date of opening of bids, unless duly extended by the bidder upon the request of the Head of the Procuring Entity (HoPE) of the Quezon City Local Government**. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

- 19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC

shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.

- 19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by ITB Clause 15 shall be submitted for each contract (lot) separately.
- 19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

20. Post Qualification

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

21. Signing of the Contract

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

Section III. Bid Data Sheet

Notes on the Bid Data Sheet (BDS)

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

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

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

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

Bid Data Sheet

| ITB Clause | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|--------------------|---------------------|--------------------|---------------------|--------|-----------------|-----------------|---------|---|--------------------------------------|---------|---------|------------|-----------------|---------|------------------|---|---|---------------------|-----------------|---|--|---------|---------|---|--|---------|---------|---|----------------|---------|---------|---|---|---------|---------|
| 5.2 | For this purpose, similar contracts shall refer to contracts which have the same major categories of work. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.1 | Subcontracting is not allowed. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.3 | <i>No additional contractor license or permit is required</i> <i>In addition, eligible bidders shall qualify or comply with the following:</i> 1. Bidders with valid Philippine Contractors Accreditation Board (PCAB) Type Building - Medium A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.4 | <p>The minimum work experience requirements for key personnel are the following:</p> <table><tr><th>Qty.</th><th>Key Personnel</th><th>General Experience</th><th>Relevant Experience</th></tr><tr><td>1</td><td>Project Manager</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Project-in-Charge (Project Engineer)</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>General Foreman</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Trade Engineers/Leadman for Civil Works</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Trade Engineers/Leadman for Electrical Works</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Trade Engineers/Leadman for Mechanical Works</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Safety Officer</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>DPWH duly accredited Materials Engineer</td><td>3 years</td><td>3 years</td></tr></table> <i>In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing personnel shall perform work exclusively for the project until its completion. Please see attached bid forms.</i> | Qty. | Key Personnel | General Experience | Relevant Experience | 1 | Project Manager | 3 years | 3 years | 1 | Project-in-Charge (Project Engineer) | 3 years | 3 years | 1 | General Foreman | 3 years | 3 years | 1 | Trade Engineers/Leadman for Civil Works | 3 years | 3 years | 1 | Trade Engineers/Leadman for Electrical Works | 3 years | 3 years | 1 | Trade Engineers/Leadman for Mechanical Works | 3 years | 3 years | 1 | Safety Officer | 3 years | 3 years | 1 | DPWH duly accredited Materials Engineer | 3 years | 3 years |
| Qty. | Key Personnel | General Experience | Relevant Experience | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Project Manager | 3 years | 3 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Project-in-Charge (Project Engineer) | 3 years | 3 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | General Foreman | 3 years | 3 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Trade Engineers/Leadman for Civil Works | 3 years | 3 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Trade Engineers/Leadman for Electrical Works | 3 years | 3 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Trade Engineers/Leadman for Mechanical Works | 3 years | 3 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Safety Officer | 3 years | 3 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | DPWH duly accredited Materials Engineer | 3 years | 3 years | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.5 | <p>The minimum major equipment requirements are the following:</p> <table><tr><th>Equipment</th><th>Capacity</th><th>Number of Units</th></tr><tr><td>Dump Truck</td><td>12 yd3</td><td>2</td></tr><tr><td>Welding Machine</td><td></td><td>1</td></tr><tr><td>Air Compressor</td><td></td><td>2</td></tr><tr><td>Jackhammer</td><td></td><td>2</td></tr><tr><td>One Bagger Mixer</td><td></td><td>1</td></tr><tr><td>Truck Mounted Crane</td><td>20-25 mT, 200HP</td><td>1</td></tr></table> <i>In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing equipment shall be used exclusively for the project until its completion. Please see attached bid forms.</i> | Equipment | Capacity | Number of Units | Dump Truck | 12 yd3 | 2 | Welding Machine | | 1 | Air Compressor | | 2 | Jackhammer | | 2 | One Bagger Mixer | | 1 | Truck Mounted Crane | 20-25 mT, 200HP | 1 | | | | | | | | | | | | | | | |
| Equipment | Capacity | Number of Units | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dump Truck | 12 yd3 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Welding Machine | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Air Compressor | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Jackhammer | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| One Bagger Mixer | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Truck Mounted Crane | 20-25 mT, 200HP | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | <i>[Insert Value Engineering clause if allowed.]</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|------|--|
| 15.1 | <p>The bid security shall be in the form of a Bid Securing Declaration with project number, or any of the following forms and amounts:</p> <p>a) The amount of not less than Php 1,138,076.24 or equivalent to two percent (2%) of ABC if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or</p> <p>b) The amount of not less than Php 2,845,190.59 or equivalent to five percent (5%) of ABC if bid security is in Surety Bond.</p> |
| 19.2 | Partial bid is not allowed. The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award. |
| 20 | No additional requirement. |
| 21 | <p>Additional Contract Documents relevant to the Project as required:</p> <ol style="list-style-type: none"> 1. Construction Schedule and S-curve, 2. Manpower Schedule, 3. Construction Methods, 4. Equipment Utilization Schedule, 5. PERT/CPM or other acceptable tools of project scheduling, shall be included in the submission of Technical Proposal. |

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

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

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

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

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

- 3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC**, which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.
- 3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

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

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

5. Performance Security

- 5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.
- 5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

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

7. Warranty

- 7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.
- 7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the SCC.

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the SCC, the Dayworks rates in the

Contractor's Bid shall be used for small additional amounts of work only when the Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.

11. Program of Work

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

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

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

14. Progress Payments

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

15. Operating and Maintenance Manuals

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

15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's

approval, the Procuring Entity's Representative may withhold the amount stated in the SCC from payments due to the Contractor.

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

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

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

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

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

Special Conditions of Contract

| GCC Clause | |
|------------|---|
| 2 | Completion of work shall be within Three Hundred (300) calendar days. |
| 4.1 | The Procuring Entity shall give possession of all parts of the Site to the Contractor upon receipt of the Notice to Proceed. |
| 6 | The site investigation reports are: <i>[list here the required site investigation reports.]</i> |
| 7.2 | <p><i>[Select one, delete the other.]</i></p> <p><i>[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:]</i> Fifteen (15) years.</p> <p><i>[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]</i> Five (5) years.</p> <p><i>[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]</i> Two (2) years.</p> |
| 10 | Dayworks are applicable at the rate shown in the Contractor’s original Bid. |
| 13 | The amount of the advance payment is no more that fifteen percent (15%) of the Contract Price subject to approval by the HOPE and compliance with the conditions under RA 9184 and its IRR. |
| 14 | No further instructions. |
| 15.1 | <p>The date by which operating and maintenance manuals are required is <i>thirty (30) days</i></p> <p>The date by which “as built” drawings are required as part of final payment</p> |
| 15.2 | The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required is ten (10%) percent of the contract price. |

Section VI. Specifications

Notes on Specifications

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

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

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

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

Sample Clause: Equivalency of Standards and Codes

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

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

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



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PROJECT TITLE : PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY
UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME

LOCATION : BARANGAY SAN BARTOLOME, DISTRICT 5, QUEZON CITY

**GENERAL AND SPECIAL CONDITIONS OF CONTRACT AND TECHNICAL
SPECIFICATIONS**

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I. GENERAL CONDITIONS

1. DEFINITIONS

- A. OWNER : Local Government of Quezon City
- B. CONTRACTOR: Any person, entity, company, partnership, or association that enters an agreement with the Owner to provide materials, labor, tools, equipment, machinery, and other necessary facilities for the construction and finalization of the project as outlined in the accompanying plans and drawings.

2. EXAMINATION OF MEMBER

The Contractor must thoroughly inspect the premises prior to submitting any bids to ensure they have the complete understanding of the existing conditions.

3. LOCATION

The PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME is situated and must be referred to the approved Location Plan.

4. EXECUTION, CORRELATION AND INTENT OF DOCUMENTS

- A. The Contract Documents shall be signed by all parties in an adequate number of copies. Should any party fail to sign any item within the set of contract documents, identification by the Implementing Agency shall serve as sufficient validation.
- B. The items, specifications, and all other documents that constitute the contract are interrelated. Anything depicted in the plans but not explicitly detailed in the specifications, or vice versa, and anything not expressly stated in either but inherently implied, shall be provided or executed as if explicitly shown and stated in both, without additional cost. Where dimensions are provided numerically, they take precedence over measurements taken by scale.
- C. Carry out the work in strict accordance with the agreement, refraining from making any alterations or deviations without prior approval from the Implementing Agency.
- D. The Contractor is responsible for verifying and cross-checking all dimensions, particularly those specified in the plans. Any discrepancies found during the execution of the work will be the Contractor's direct responsibility.

5. DETAILED DRAWINGS AND INSTRUCTIONS

The supplementary documents and/or additional details / drawings and instructions necessary for the proper execution of the work shall be provided at the jobsite as required. These supplementary documents shall have equal authority as if they were originally included.

6. PLANS AND PROJECT SITE

Ensure that one (1) complete set of approved plans, specifications, supplementary detail drawings, and instructions is kept in good order and condition at the project site.

7. SHOP DRAWINGS

During construction, the Implementing Agency and/or Contractor shall provide shop drawings if deemed necessary. The Contractor must refrain from installing any item requiring shop drawings until such drawings have been duly approved by the Implementing Agency.

8. REVISIONS

The Owner and the Implementing Agency may alter or revise the plans, including changes during the project's progress, without breaching the terms of the agreement as much as possible within the project schedule. Any additional costs incurred for labor or materials will be added to or deducted from the original contract price as necessary and validated.

9. PROJECT SCHEDULE

The Contractor is required to prepare and submit to the Implementing Agency, prior to commencing project operations, a comprehensive work schedule outlining the entire construction duration. This schedule must include estimated timeframes for completing each project stage and phase (Milestone).

10. WORKMANSHIP

The project shall be completed with top-tier workmanship in strict accordance with the plans and specifications, ensuring full approval and acceptance from the Implementing Agency.

11. MATERIALS

Only materials of the highest quality for their respective types shall be used unless otherwise stated in the plans and technical specifications. They must be stored and protected adequately to prevent damage.

12. INSPECTION OF WORK

The Contractor shall make the work accessible for inspection by the Implementing Agency, the Owner, and other authorized personnel overseeing the project.

13. SUBSTANDARD WORK

Any work or materials deemed unacceptable by the Architect must be promptly removed and replaced with suitable alternatives at no additional cost. Disposed materials must be promptly removed from the premises.

14. LAWS AND REGULATIONS

The Contractor is responsible for adhering to all current labor laws and regulations. They shall indemnify the Owner from any associated liabilities, and at their own cost, promptly settle all taxes, fees, and licenses owed to the government—both national and local—resulting from their work on the project.

15. MANNER OF PAYMENT

Payments to the Contractor will be made based on the progress of work completed within each period, subject to verification, approval, and recommendation by the Implementing Agency.

16. RETENTION MONEY

Progress payments will have a ten percent (10%) retention withheld. The retained funds will be released upon satisfactory completion of the work and issuance of the Certificate of Final Completion and Acceptance.

17. TEMPORARY FACILITIES

The Contractor is responsible for arranging temporary water, power, and telephone services from local utility companies throughout the construction period. All associated costs is included in the contract and shall be shouldered by the Contractor. The Contractor must provide a temporary restroom in a discreet and sanitary manner, and it must be removed once the work is completed.

18. SITE CLEARING

The site must be clean, cleared and ready for occupancy prior to the issuance of the certificate of completion and acceptance. No construction debris must be left on the site premises.

19. TEMPORARY BARRICADES, SIGNAL LIGHTS, BILLBOARDS, ETC.

The contractor shall provide all necessary measures such as but not limited to temporary enclosures, billboards and safety signages that must be visible on the site premises.

20. PERFORMANCE AND GUARANTEE BOND

To ensure the Contractor's faithful performance under the contract, they must provide a Performance Bond equivalent to thirty percent (30%) of the contract price. The bond can be in the form of cash, manager's check, or surety bond, callable upon request.

21. TESTING AND COMMISSIONING

The Contractor shall ensure that comprehensive testing and commissioning of the equipment/system is included as an integral part of the performance obligations under this Contract. Testing shall be conducted in accordance with industry standards and shall verify that the equipment/system meets all specified performance criteria and operational requirements set forth in the Contract documents.

22. WARRANTY OBLIGATION

The Contractor hereby warrants that the equipment/system provided under this Contract shall be free from defects in materials and workmanship for a period stated in the technical documents such as but not limited to plans and technical specifications from the date of commissioning. This warranty includes, but is not limited to, ensuring that the equipment/system functions in accordance with its specifications and is suitable for its intended purpose as outlined in the Contract.

23. CONDITIONS OF WARRANTY

The warranty provided herein shall be subject to the following conditions: a. Any defect or non-conformance discovered during the warranty period shall be promptly reported to the Contractor in writing. b. The Contractor shall, at its own cost and expense, promptly repair or replace any defective parts or components of the equipment/system covered under this warranty. c. The warranty shall not cover damages or defects resulting from misuse, neglect, improper installation, alterations, accidents, or unauthorized repair or modification of the equipment/system.

24. QUESTIONS AND DISAGREEMENTS

Any questions or disputes between the Contractor and the Owner regarding the interpretation of the plans and specifications shall be referred to the Implementing Agency. The decision of the Implementing Agency on such matters shall be binding and final.

II. SPECIAL CONDITION

Apart from the warranty period covered by General Condition, hereunder, added Special Condition for the specific items.

| EQUIPMENT | WARRANTY PERIOD | COVERAGE | TERMS AND CONDITIONS |
|-------------------------------------|---|--|--|
| SOLAR PV PANEL | <ul style="list-style-type: none">At least 15 Years Product WarrantyAt least 30 Years Performance Warranty | <p>Covered Componets:</p> <ul style="list-style-type: none">Solar PV ModulesBypass DopdesService and Repairs:ReplacementRepair Services | <ul style="list-style-type: none">Alteration, disassemble, reinstallation, and/or improper installation or application.Failures caused by surrounding equipment or facility of the products or defective compontets in the construction on which the module is mounted.Harmful objects that may cause damaged to the Solar PV Panel. |
| INVERTER | At least 10 Years Product Warranty | <p>Covered Components:</p> <ul style="list-style-type: none">Inverter UnitInternal ComponentsCooling SystemService and Repairs:ReplacementRepair Services | <ul style="list-style-type: none">Alteration, disassemble, reinstallation, and/or improper installation or application.Harmful objects that may cause damage to the Inverter.Unwanted damage due to the penetration of pest and/or animals. |
| RAPID SHUTDOWN DEVICE (MODULE TYPE) | 5 Years Production Warranty | <p>Covered Components:</p> <ul style="list-style-type: none">RSD ModuleControl UnitService and Repairs:ReplacementRepair Services | <ul style="list-style-type: none">Alteration, disassemble, reinstallation, and/or improper installation or application.Harmful objects that may cause damaged to Rackings. |
| RACKINGS | 10 Years Product Warranty | <p>Covered Components:</p> <ul style="list-style-type: none">Module RailsMounting BracketsClamps and HardwareService and Repairs:ReplacementRepair Services | <ul style="list-style-type: none">Alteration, disassemble, reinstallation, and/or improper Installation or application.Harmful objects that may cause damaged to Rackings. |
| Airconditioning Unit | <p>One (1) year warranty on parts and labor.</p> <p>Five (5) years for standard compressor part only.</p> | <p>Covered Componets:</p> <ul style="list-style-type: none">CompressorReplacementService and Repairs | <ul style="list-style-type: none">The warranty is void if the unit is altered, disassembled, reinstalled, or improperly installed or applied.The warranty does not cover failures caused by surrounding equipment or facilities, or by defective components in the construction on which the unit is mounted.The warranty does not cover damage caused by harmful objects. |

Note: The Contractor shall provide the complete contact details of the supplier for the above-mentioned equipment under Special Condition.

III. TECHNICAL SPECIFICATIONS

1. GENERAL REQUIREMENTS

- A. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations, and standards. Any works performed contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- D. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location, to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- E. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- F. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- G. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- H. Mobilization and Demobilization
 - 1. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 - 2. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- I. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- J. Temporary Facilities and Utilities
 - 1. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.
 - 2. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.

3. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 4. Temporary enclosure shall be provided around the construction site with adequate guard lights, railings and proper signage.
 5. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 6. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly.
- K. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property.
1. A fully-trained Medical Aide shall be employed permanently on the site who shall be engaged solely to medical duties.
 2. The medical room shall be provided with waterproofing; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 3. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations and suitable notices in the site.
 4. Additional safety precautions shall be provided in the event of a pandemic. Protocols set forth by the government shall be strictly followed.
 5. Construction safety shall consist of construction canopy and safety net.
- L. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- M. A systematic approach for managing vehicular and pedestrian traffic within the project area shall be provided adhering to relevant regulations and standards, prioritizing the safety of workers, motorists, and pedestrians while maintaining the flow of traffic during construction activities. It shall delineate designated traffic routes, temporary signage, and traffic control measures such as flagging operations or temporary traffic signals.
- N. Final cleaning of the work shall be employed prior to the final inspection for the certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

2. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing work.
- B. This Item shall consist of the removal wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the Contract.

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

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

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

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

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

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

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

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

- E. Soil Poisoning. There are two methods usually adopted in soil poisoning which are as follows:
1. Cordoning. This method is usually adopted when there is no visible evidence of termite infestation. Trenches in concentric circles, squares or rectangles are dug 150mm to 220mm wide and at least one meter apart and applied with Liquid Termicide Concentrate working solution at the rate of 8 liters per linear meter.
 2. Drenching. When soil show termite infestation, this method shall be applied. The building area shall be thoroughly drenched with Liquid Termicide Concentrate working solution at the rate of 24 liters per square meter.

3. CIVIL / STRUCTURAL WORKS

A. MOISTURE PROTECTION

1. Waterproofing

Liquid-based waterproofing systems are commonly used to protect surfaces from water infiltration, particularly in construction and building applications. The technical specifications for liquid-based waterproofing can vary depending on the specific product and its intended use. Here are some general technical specifications that you might find in liquid waterproofing products:

a. Type of Polymer or Material:

Liquid waterproofing products are often based on polymers such as acrylics, polyurethanes, epoxies, or bitumen. The type of polymer used will affect the product's performance and properties.

a. Application Method:

Liquid waterproofing can be applied using various methods, including brush, roller, spray, or trowel. The application method may impact the coverage, thickness, and overall performance of the waterproofing layer.

b. Coverage:

The coverage rate is usually specified in square meters or square feet per gallon or liter. It indicates how much area the product can cover at a recommended thickness.

c. Dry Time:

The time it takes for the liquid waterproofing to dry and cure is an important factor, especially in construction projects where quick drying is necessary to move on to the next phase.

d. Thickness:

The recommended thickness of the applied coating is crucial for achieving optimal waterproofing performance. It may be specified in mils, microns, or another unit of measurement.

e. Elongation and Flexibility:

The ability of the waterproofing layer to stretch and flex without cracking is crucial, especially in applications where movement or temperature fluctuations may occur.

2. Vapor Barrier

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

B. ROOFING WORKS

1. Corrugated galvanized iron (G.I.) sheets, including plain aluminum sheets for roofing accessories shall be cold-rolled meeting ASTM A-153 and with spelter coating of zinc of not less than 0.381 kg/sq.m. (1.25 ounce/sq.ft.) conforming to ASTM A-525 or pns 67:1985. Unless otherwise specified or shown on Plans, roofing sheets shall be gauge 26 (0.48mm thick) and provided in long span sizes to minimize end laps. Sheets shall weigh not less than 3.74 kg/sq.m. and shall be marked or stamped showing the gauge, size amount of zinc coating, brand and name of manufacturer. Test specimens shall stand being bent through 180 degrees flat on itself without fracture of the base metal and without flaking of the zinc coating.
2. Ridge/hip rolls, valleys, flashing and counter flashings, gutters and downspouts, whenever required, shall be fabricated from plain G.I. sheets. Ridge/hip rolls, flashings and counter flashings shall be gauge 26. Valleys, gutters and downspouts shall be gauge 24 unless otherwise specified on Plans. Wire basket strainers shall be galvanized, gauge 24,

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

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

4. Polycarbonate roofing and sun breakers shall be covered with 6mm thick Rib-type polycarbonate sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 ½" max. 3" long Tek screws. Provide all-purpose sealant under the fasteners. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the 6mm thick solid polycarbonate sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
5. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.
6. Provide 6mm thick thermal insulation with single-side aluminum foil prior to fastening of roofing sheets to serve as thermal protection.

C. METAL FABRICATION

1. Materials:

- a. Steel and Iron. If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for buildings.
- b. Bolts, Nuts, Studs and Rivets. ASTM A 307 and A 325.
- c. Screws. Fed. Spec FF-S-85, Fed. Spec FF-S-92, and Fed. Spec. FF-S-111.
- d. Metal Purlins. High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal.

2. Fabrication:

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

3. Metal Surfaces:

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

4. Construction:

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

5. Welding:

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1. Weld in a manner to

prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where tack welding is permitted. Do not tack weld exposed to connections). Grind smooth visible weld in finished installation.

4. ARCHITECTURAL WORKS

A. FLOOR FINISHES

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

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

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

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

B. WALL FINISHES AND PARTITIONING

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

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

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

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

3. Double-Wall Fiber Cement Board Drywall on Metal Studs. Wall panel shall be two (2) 6 mm thick fiber cement boards, properly cut and prepared for installation and shall conform to the requirements of the Plans.

Metal Studs. Wall framing shall consist of 0.6 mm thick aluminum metal studs and aluminum metal tracks.

Fasteners and Connection detail. All construction and connections shall be secured with rivets, screws and drive pins, and shall conform to local and standard codes. Connections shall also be secured with gypsum putty and gypsum tape.

C. CEILING FINISHES

Fiber Cement Board on Metal Frame. The ceiling materials to be used shall conform to the samples approved by the City Engineer. All ceiling works shall be done by men experienced and qualified to do this particular specialty trade. The installation of ceiling materials shall be in accordance with the detailed section and with the manufacturer's manual instructions. Ceiling materials shall be cut as required to fit the perpendicular condition and should be properly secured by anchorage and other accessories to complete the installation. No mechanical work shall be exposed on the finish work. All joints around electrical outlets, pipes and other works extending through materials shall be sealed with caulking.

D. CARPENTRY WORKS

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

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

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

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

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

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

1. Nails of adequate size shall be steel wire, diamond-pointed, ribbed shank and blight finish.
2. Screws of adequate size shall be aluminum or brass plated steel with slotted head.
3. Lag screws of adequate size, for anchoring heavy timber framing in concrete or masonry, shall be galvanized steel.
4. Bolts and nuts shall be of steel having a yield point of not less than 245 Mpa. Bolts shall have square heads and provided with standard flat steel washers and hexagonal nuts. Threads shall conform to American coarse thread series. Threaded portion shall be long enough so that the nut can be tightened

against the bolted members without any need for blocking. The bolt's threaded end shall be finished smooth for ease of engaging and turning the nut.

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

E. PAINTING WORKS

1. Paint Materials. All types of paint material and other related products shall be subject to test as to material composition by the Bureau of Research and Standard, DPWH or the National Institute of Science and Technology.
2. Tinting Colors. Tinting colors shall be first grade quality pigment ground in alkyd resin that disperses and mixes easily with paint to produce the color desired. Use the same brand of paint and tinting color to effect good paint body.
3. Skim coat. Skim coat shall be fine powder type material like kalsomine that can be mixed into putty consistency, with oil-based primers and paints to fill minor surface dents and imperfections.

4. Paint Schedule.

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

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

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

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

- c. Interior Dry Wall

- i. 1 coat primer, 2 coats latex paint finish

- d. Ceiling Boards

- i. 1 coat primer, 2 coats latex paint finish

- e. Slab Soffit

- i. 1 coat primer, 2 coats latex paint finish

- f. Metal / Steel Surfaces

- i. 1 coat primer, 2 coats epoxy enamel finish

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

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

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

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

In addition, the Contractor shall undertake the following:

- a. Voids, cracks, nick etc. will be repaired with proper patching material and finished flushed with surrounding surfaces.
 - b. Marred or damaged shop coats on metal shall be spot primed with appropriate metal primer.
 - c. Panting and varnishing works shall not be commenced when it is too hot or cold.
 - d. Allow appropriate ventilation during application and drying period
 - e. All hardware will be fitted and removed or protected prior to painting and varnishing works.
6. Application. Paints when applied by brush shall become non-fluid, thick enough to lay down as adequate film of wet paint. Brush marks shall have flawed out after application of paint.
- Paints made for application by roller must be similar to brushing paint. It must be non-sticky when thinned to spraying viscosity so that it will break up easily into droplets.
- Paint is atomized by high pressure pumping rather than broken up by the large volume of air mixed with it. This procedure changes the required properties of the paint.
7. Application shall be as per paint Manufacturer's specification and recommendation.
 8. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.
 9. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
 10. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer.
 11. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works.
 12. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

5. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Supply, installation and testing of the following:

1. Potable water supply system completes in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.
 2. Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system.
 3. Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
 4. Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work.
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes.
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided.
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.
- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted.
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit, or on site whilst in storage or during erection shall be rejected and replaced without extra cost.
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.

- N. All installed pipelines shall be flushed through with water, radded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also, test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.
- U. Drainage pipe shall be tested by filling the pipe with 3m. of water higher than the test section and wait for 15 min, then check for leakage at every joints.
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storey required for testing.
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.
- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.
- BB. Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC. Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

6. ELECTRICAL WORKS

A. CONDUITS, BOXES AND FITTINGS

1. This item shall consist of the furnishing and installation of the complete conduit work, consisting of electrical conduits; conduit boxes such as junction boxes, pull boxes, utility boxes, octagonal and square boxes; conduit fittings, such as couplings, locknuts and bushings and other electrical materials needed to complete the conduit roughing-in work of this project.
2. All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark.
3. All works throughout shall be executed in the best practice in a workmanlike manner by qualified and experienced electricians under the immediate supervision of a duly licensed Electrical Engineer.
4. The work to be done under this division of specifications consists of the fabrication, furnishing, delivery and installation, complete in all details of the electrical work, at the subject premises and all work materials incidental to the proper completion of the installation, except those portions of the work which are expressly stated to be done by other fields. All works shall be done in accordance with the rules and regulations and with the specifications.
5. All lighting fixtures and lamps are as specified and listed on lighting fixture schedule.
6. All grounding system installation shall be executed in accordance with the approved plans. Grounding system shall include building perimeter ground wires, ground rods, clamps, connectors, ground wells and ground wiretap as shown in the approved design.
7. All auxiliary systems such as telephone and intercom system, time clock system, fire alarm system and public address/nurse's call/paging system installations shall be done in accordance with the approved design.
8. Upon completion of the electrical construction work, the contractor shall provide all test equipment and personnel and to submit written copies of all test results.
9. The contractor shall guarantee the electrical installation are done and in accordance with the approved plans and specifications. The contractor shall guarantee that the electrical systems are free from all grounds and from all defective workmanship and materials and will remain so for a period of one year from date and acceptance of works. Any defect shall be remedied by the Contractor at his own expense.

B. WIRES AND WIRING DEVICES

1. This item shall consist of the furnishing and installation of all wires and wiring devices consisting of electric wires and cables, wall switches, convenience receptacles, heavy duty receptacles and other devices shown on the approved Plans but not mentioned in these specifications.
2. Wires and cables shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark. Unless specified or indicated otherwise, all power and lighting conductors shall be insulated for 600 volts. All wires shall be copper, soft drawn and annealed, smooth and of cylindrical form and shall be centrally located inside the insulation.
3. Conductors or wires shall not be drawn in conduits until after the cement plaster is dry and the conduits are thoroughly cleaned and free from dirt and moisture.

In drawing wires into conduits, sufficient slack shall be allowed to permit easy connections for fixtures, switches, receptacles and other wiring devices without the use of additional splices.

4. All conductors of convenience outlets and lighting branch circuit homeruns shall be wired with a minimum of 3.5 mm in size. Circuit homeruns to panelboards shall not be smaller than 3.5 mm but all homeruns to panelboard more than 30 meters shall not be smaller than 5.5 mm. No conductor shall be less than 2 mm in size.
5. All wires of 14mm and larger in size shall be connected to panels and apparatus by means of approved type lugs or connectors of the solderless type, sufficiently large enough to enclose all strands of the conductors and securely fastened. They shall not loosen under vibration or normal strain.
6. All joints, taps and splices on wires larger than 14 mm shall be made of suitable solderless connectors of the approved type and size. They shall be taped with rubber and PVC tapes providing insulation not less than that of the conductors.
7. No splices or joints shall be permitted in either feeder or branch conductors except within outlet boxes or accessible junction boxes or pull boxes. All joints in branch circuit wiring shall be made mechanically and electrically secured by approved splicing devices and taped with rubber and PVC tapes in a manner which will make their insulation as that of the conductor.
8. All wall switches and receptacles shall be fitted with standard Bakelite face plate covers. Device plates for flush mounting shall be installed with all four edges in continuous contact with finished wall surfaces without the use of coiled wire or similar devices. Plaster filling shall not be permitted. Plates installed in wet locations shall be gasketed.
9. When more than one switch or device is indicated in a single location, gang plate shall be used.

C. POWER LOAD CENTER, SWITCHGEAR AND PANELBOARDS

1. This item shall consist of the furnishing and installation of the power load center unit substation or low voltage switchgear and distribution panelboards at the location shown or the approved Plans complete with transformer, circuit breakers, cabinets and all accessories, completely wired and ready for service.
2. All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark.
3. Power Load Center Unit Substation. The Contractor shall furnish and install an indoor-type Power Load Center Unit Substation at the location shown on the approved Plans if required. It shall be totally metal-enclosed, dead front and shall consist of the following coordinated component parts:
 - a. High Voltage Primary Section. High voltage primary incoming line section consisting of the following parts and related accessories:
 - i. One (1) Air-filled Interrupter Switch, 2-position (open-close) installed in a suitable air-filled metal enclosure and shall have sufficient interrupting capacity to carry the electrical load. It shall be provided with key interlock with the cubicle for the power fuses to prevent access to the fuses unless the switch is open.
 - ii. Three (3)-power fuses mounted in separate compartments within the switch housing and accessible by a hinged door.
 - iii. One (1) set of high voltage potheads or 3-conductor cables or three single conductor cables.

iv. Lightning arresters shall be installed at the high voltage cubicle if required. Items (i) and (ii) above could be substituted with a power circuit breaker with the correct rating and capacity.

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

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

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

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

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

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

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

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

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

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

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

ratings, capacities of the feeder branch circuit breakers shall be as shown on the approved Plans.

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

- d. Low Voltage Switchgear (For projects requiring low-voltage switchgear only). The Contractor shall furnish and install a low-voltage switchgear at the location shown on the plans. It shall be metal-clad, dead front, free standing, safety type construction and shall have copper busbars of sufficient size, braced to resist allowable root mean square (RMS) symmetrical short circuit stresses, and all necessary accessories. The low-voltage switchgear shall consist of the switchgear housing, secondary metering, main breaker and feeder branch circuit.
- e. Grounding System. All non-current carrying metallic parts like conduits, cabinets and equipment frames shall be properly grounded in accordance with the Philippine Electrical Code, latest edition.

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

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

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

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

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

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

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

- D. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- E. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.

- F. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- G. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- H. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests.

I. PANELBOARDS

1. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
2. Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
 - a. Rated for environmental conditions at installed location.
 - i. Indoor Dry and Clean Locations: NEMA, Type 1.
 - ii. Outdoor Locations: NEMA, Type 3R.
 - iii. Kitchen and Wash-Down Areas: NEMA, Type 4X, stainless steel.
 - iv. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 12.
 - v. Outdoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 5R.
 - b. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
 - c. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
 - d. Skirt for Surface-Mounted Panelboards: Same gauge and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
 - e. Gutter Extension and Barrier: Same gauge and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
 - f. Finishes:
 - i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
 - ii. Back Boxes: Galvanized steel Same finish as panels and trim.
 - iii. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.
 - g. Directory Card: Inside panelboard door, mounted in transparent card holder metal frame with transparent protective cover.
3. Incoming Mains Location: Top or Bottom.

4. Phase, Neutral, and Ground Buses:

- a. Material: Hard-drawn copper, 98 percent conductivity.
- b. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
- c. Neutral Bus: 100 percent of phase bus 4. Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

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

- a. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- b. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.

7. MECHANICAL WORKS

A. AIR CONDITIONING AND VENTILATING SYSTEM

a. PIPE SUPPORTS

Standards Compliance

- a. Philippine Society of Mechanical Engineers Code
- b. Philippine National Building Code
- c. Philippine Electrical Code
- d. Philippine Plumbing Code
- e. Fire Code of the Philippines
- f. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
- g. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
- h. National Fire Protection Association
- i. American Society of Testing Materials (ASTM)
- j. Air Moving and Conditioning Association (AMCA)
- k. American National Standard Institute (ANSI)
- l. National Electrical Manufacturing Association (NEMA)
- m. Underwriters Laboratory
- n. American Society of Mechanical Engineers (ASME)

Scope of Work

- a. Supply and Installation of Equipment and Materials. Complete.
- b. Supply and installation of pipes and fittings, valves and appurtenances, ducts, miscellaneous and consumables.
- c. Fabrication and installation of hangers and supports.
- d. Supply and installation of control, wiring from Split-Type Air-conditioner to circuit breakers and others to complete the control system.
- e. Testing, adjusting, balancing and commissioning.
- f. Provide shop drawings and two (2) sets of "As-Built" plans
- g. Furnishing of written one (1) year warranty of ventilation and air-conditioning system

Submittals

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

B. PRODUCTS

AIR COOLED CONDENSING UNITS

- a. Units shall have capacity and configuration as shown on the drawings and as manufactured by a reputable manufacturer. All units shall be furnished factory assembled, tested and piped complete with compressors fan, motors, integrally wired control panel, starters, spring type vibration isolators, steel base and refrigerant control accessories. Unit shall have gauge corrosion protected weatherproof casing.
- b. Compressors for units with capabilities of up to 35160 watts and above shall be of semi-hermetic type and rated to operate at not more than 1750 RPM at full load. Compressors for units with capabilities of 26375 watts and below shall be of the hermetic type and rated to operate at not more than 3500 RPM at full load.
- c. Condenser coils shall be seamless copper with mechanically bonded aluminum plate fins. Coil size, refrigerant circuiting and number of rows deep shall be compatible with the compressor displacement and capacity at the specified operating conditions with minimum refrigerant pressure drop.
- d. Condenser fans shall be statically and dynamically balanced propeller-type fans directly driven by totally enclosed and inherently protected motors.
- e. Motor starters, control components and power terminal shall be grouped in an accessible control box inside the unit casing. Electrical components shall be pre-wired and control circuits shall be independently protected with fuses or breakers. Compressor protection shall include automatic relays to prevent excessive compressor short cycling.
- f. A complete charge of refrigerant 41 0A and compressor oil shall be furnished.

FAN COIL UNITS

- a. Units shall either be of the floor-mounted or the ceiling-mounted, free blow type and/or ducted type as shown on the drawings.
- b. Units shall have capacities at the operating conditions specified. They shall include an evaporator coil; expansion valve, centrifugal type air circulation blower, permanent type air filter, condensate drip pans and insulated decorative cabinet with discharge plenum, supply and return air grilles.
- c. Fan motors shall be equipped with overload protection. They shall have fan switch and thermostat mounted on the unit.

CEILING-MOUNTED TYPE FANS

- a. Units shall be ceiling-mounted type, direct driven and equipped with reverse flow prevention damper.
- b. It shall have one-touch spring type louver for ease of cleaning and maintenance.

- c. Fan casing shall be seam-welded and finished with corrosion resistant paint.
- d. Fan shall have capacity and motor size as indicated in the plans.

PROPELLER EXHAUST FANS

- a. Units shall be propeller type, suitable for wall mounting, direct-driven and equipped with gravity shutters.
- b. It shall have wall mounting collar and fan guard.
- c. Units shall have statically and dynamically balanced propeller set on a deep venture orifice. Unit shall be designed for continuous operation and shall be permanently lubricated. Inherent motor overload protection shall be provided.
- d. Unit shall be epoxy-coated and finished with corrosion resistant paint.
- e. Fans shall have capacity speed and motor size as indicated on the plans.
- f. Fans shall be provided with a remote selector switch.

C. BASIC MATERIALS AND METHODS

REFRIGERANT PIPING

- a. Refrigerant piping shall be type L hard drawn seamless copper, suitable for a working pressure of 2,413 KPa. Fitting shall be wrought copper or brass designed for use with high temperature solder and suitable for a working pressure of not less than 2,413. Joints from soldered to threaded joints shall be made with standard adapter fittings using high temperature solder.

Pipes or tubings shall be cut accurately to measurements established at the building lines. All piping shall be laid straight and no pipe shall be laid against other metal without insulation. After cutting, the tubing shall be reamed, all burrs removed and the internal surfaces thoroughly cleaned. While soldering pipes and fittings together, a continuous flow of inert nitrogen gas must be applied to sweep the internal surface of the tubing to avoid the formation of oxide inside.

- b. Condensate drain piping shall be of galvanized iron sh. 40 pipes and sized to liberally dispose of the condensate to the nearest floor drain. A P-trap without cleanout plugs shall be provided at the outlet for every drain.

- c. Pipe supports and hangers shall be provided and fabricated in a workmanship manner out of steel angles, rods and flat bars. Metal to metal contact between pipes and hangers must be avoided by providing a 3mm thick rubber in between.

- d. Supports on horizontal lines shall be spaced at not more than 1.80 meters on center. All piping must be properly anchored so that no stress is placed on equipment connection by expansion.

- e. Pipe sleeves shall be of standard pipes with sufficient diameter to provide a minimum clearance of 6mm around the pipe and in case of insulated pipe, approximately 6mm around the insulation. Pipes should not be permitted to pass through the bearing walls, beams or columns.

- f. Refrigerant pipes sizes shown on the drawings are for guide purposes only. Contractor is advised to confirm with the equipment supplier the required pipe sleeves for the units prior to installation at the jobsite.

D. AIR CONDITIONING CONTROL SYSTEM

- i. Operation of the air conditioning system shall be fully automatic. They shall be capable of maintaining at full or partial loads inside conditions of 25 C.D.B. (plus or minus 1.11°C0 and 50% relative humidity (plus or minus 5% RH). Room thermostat shall control the operation of the compression through relays.

ii. The controls shall be wired in such a way that whenever a condensing unit is in operation, the fan coil unit or air handling unit is also in operation.

iii. The compressor crankcase heater must be of such capacity as to provide sufficient heat to the oil in the crankcase during the inoperative periods so that the serious oil foaming and slugging shall be prevented. The heater must be automatically energized whenever compressor operation stops and de-energized when the compressor starts.

E. REFRIGERANT VALVES AND ACCESSORIES

i. Refrigerant valves shall be installed in the suction and discharge lines adjacent to the compressor and on the liquid line discharge side of the condenser. The valves should be wrought copper or brass for use with R-410A and suitable for a working pressure of 2,413 KPa.

ii. Thermostatic expansion valves of the proper capacity shall be installed in the refrigerant supply line to the evaporator. They shall be of the diaphragm type, externally equalized and must be of such optimum size as to maintain a full active evaporator under all conditions and yet reduce the possibility of flooding the refrigerant to the compressors during part load conditions.

iii. Solenoid valves shall be installed on units with capacities of 26,375 watts and above and shall be designed for the operating pressure of the system. Valve capacities shall be based on a pressure drop across them not exceeding 20 KPa.

iv. Dehydrators in combination with strainers shall be installed in the refrigerant line on the inlet side of the thermostatic expansion and solenoid valves. They shall have brass or copper bodies designed for a working pressure of 2,413 KPa.

v. Sight glasses shall be a combination of liquid and moisture indicators and shall be installed in the refrigerant to indicate whether or not the systems are properly charged and whether or not refrigerant in the system is dry.

F. REFRIGERANT PIPE INSULATION

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

G. ELECTRICAL MATERIALS

ELECTRIC MOTORS

i. All motors shall operate at speed and electrical characteristics specified. They shall be guaranteed to operate at rated out-put with plus or minus ten (10) percent voltage variation at their terminals.

ii. Motors 750 watts and above shall be 3-phase squirrel cage induction type, constant speed. Motors 560 watts and below shall be single-phase capacitor start induction run, or split type or shaded pole type as approved for the service.

iii. Motor driving indoor equipment shall be of the open drip-proof construction. Motors driving outdoor equipment shall be of the totally enclosed fan cooled construction.

iv. Motors driving equipment through pulleys and belts shall be provided with belt guards. The belt guards shall be made of heavy wire mesh

or expanded metal set in a suitable frame covering the motor pulleys, belt and driving sheaves with access plates for tachometer reading.

MOTOR CONTROLLERS

- i. All motors starters shall be of magnetic type complete with overload and relays manufactured in accordance with NEMA standards. Enclosures shall be a suitable for the application
- ii. Starters for motor 3. 73 kw and below shall be across the line type. Starters for motor above 3. 73 Kw shall be of the reduced voltage type
- iii. Circuit breakers shall operate on the thermal magnetic principle. Aside from serving as disconnecting means, they shall afford protection for motor against phasing circuits faults. They shall be provided with enclosures suitable for the application
- iv. All motors shall be provided with an over and under voltage protection device.

WIRING

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

ELECTRICAL INTERLOCKS

- i. For motors requiring electrical interlocks, remote control or sequence starting control features, starters shall be equipped with necessary auxiliary contacts or terminals to provide the control feature required. A separate set of terminals is required for each control circuit. Such starter shall be provided with "man-off-auto" selection switches. Other starters shall have a start-stop push buttons mounted in covers.
- ii. Except where otherwise specified, enclosure shall be sheet metal with hinged cover, NEMA type I for the general-purpose indoor application. Starters shall be arranged for floor or wall mounting as shown or as indicated.
- iii. Pilot light shall be provided for all starters where the equipment is not visible from the starter and for all remote-control stations.
- iv. Where possible, relays and switches that are not part of the automatic control system shall be mounted on the same panel as the corresponding motor starter. All supports for the stating equipment shall be furnished and installed by the A/C contractor.
- v. This contractor shall furnish detailed wiring diagram to those installing the electrical wire and furnish all information necessary to assure the proper connection, operation and control of motorized equipment including interlocks, automatic and safety control auxiliary circuit

PAINTING AND FINISHING

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

H. EXECUTION

EQUIPMENT

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

PIPING SYSTEM

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

I. GUARANTEE AND SERVICE

The air conditioning and ventilating system equipment and accessories furnished and installed under this part of the specifications shall be guaranteed for a period of one (1) year from the date of acceptance thereof, and materials and equipment furnished shall be free from any defects in the materials, workmanship and design.

At any time within one year after the acceptance and upon proper notice, the contractor shall rectify any and all deficiencies including replacements of parts or the entire units without additional cost of the owner, if such deficiencies have been caused directly or indirectly by inferior materials, faulty workmanship and/or defective design or parts.

Expendable items such as oil, refrigerant, belts, filters, etc. are included in this one-year guarantee. During the guarantee period, the contractor shall perform free monthly inspection and service and make adjustments if necessary for the proper and efficient operation of the system.

Prepared by:

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Section VII. Drawings

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



TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME

LOCATION
MADRID, SPAIN
DISTRICT 1, QUEZON CITY

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VALID DATE: OCTOBER 30, 2005

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ISSUED DATE: 11/16/2011

QUALITY INC. 2000

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FIELD DATA: LITERATURE

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DATE RECEIVED BY:

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VALID DATE:

FEBRUARY 24, 2008

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ISSUED DATE: 1/1/2000

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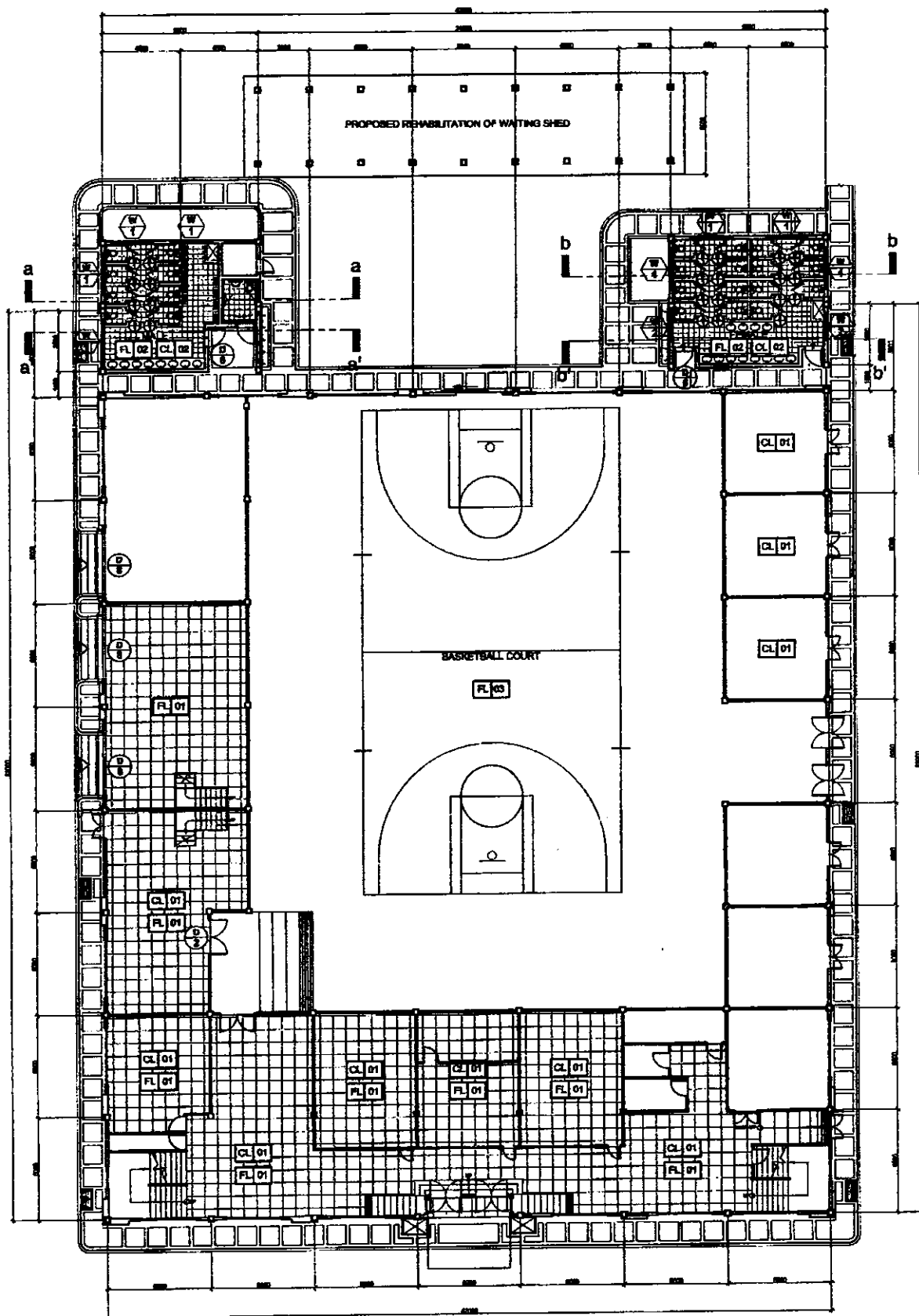
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LEGENDS:

| | |
|-------|--|
| CL 01 | ACOUSTIC BOARD ON T-RUNNERS |
| CL 02 | MOISTURE RESISTANT GYPSUM BOARD ON LIGHT METAL FRAME |
| CL 03 | FIBER CEMENT BOARD ON METAL FRAMING |

| | |
|-------|---|
| FL 01 | 600X300mm CERAMIC TILES |
| FL 02 | 300X300mm CERAMIC TILES |
| FL 03 | 25mm FLOOR TOPPING WITH RUBBERIZED PAINT FINISH |



NOTE:

- NOTE:
1. PROPOSED REPLACEMENT OF 600x600 CERAMIC TILES ON HATCHED AREAS.
 2. PROPOSED REPLACEMENT OF 300x300 NON-SKID CERAMIC FLOOR AND WALL TILES ON TOILETS.
 3. PROPOSED REPLACEMENT OF URINAL PARTITIONS ON MALE TOILET.
 4. PROPOSED REPLACEMENT OF CEILING ON HATCHED AREAS.
 5. PROPOSED REPAINTING OF INTERIOR WALLS.
 6. PROPOSED REPLACEMENT OF DOORS AND WINDOWS.
 7. PROPOSED 25mm FLOOR CHIPPING AND 25mm FLOOR TOPPING (COURT'S FLOORING)

| | |
|---|--------------------------|
| 1 | GROUND FLOOR PLAN |
|---|--------------------------|

SCALE 1250 MTS.

DED2024_0138



TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME

1

ENGR. JOEY WEBSTER & FRANCISCO
ENGINEERS I - CIVIL ENGINEER

ENGR. FREDERICK D. DE GUZMAN
CHIEF, PLANNING AND DESIGN DIVISION

ATTY. MARK DALE DOMONICK P. PERALTA
CITY SHERIFF

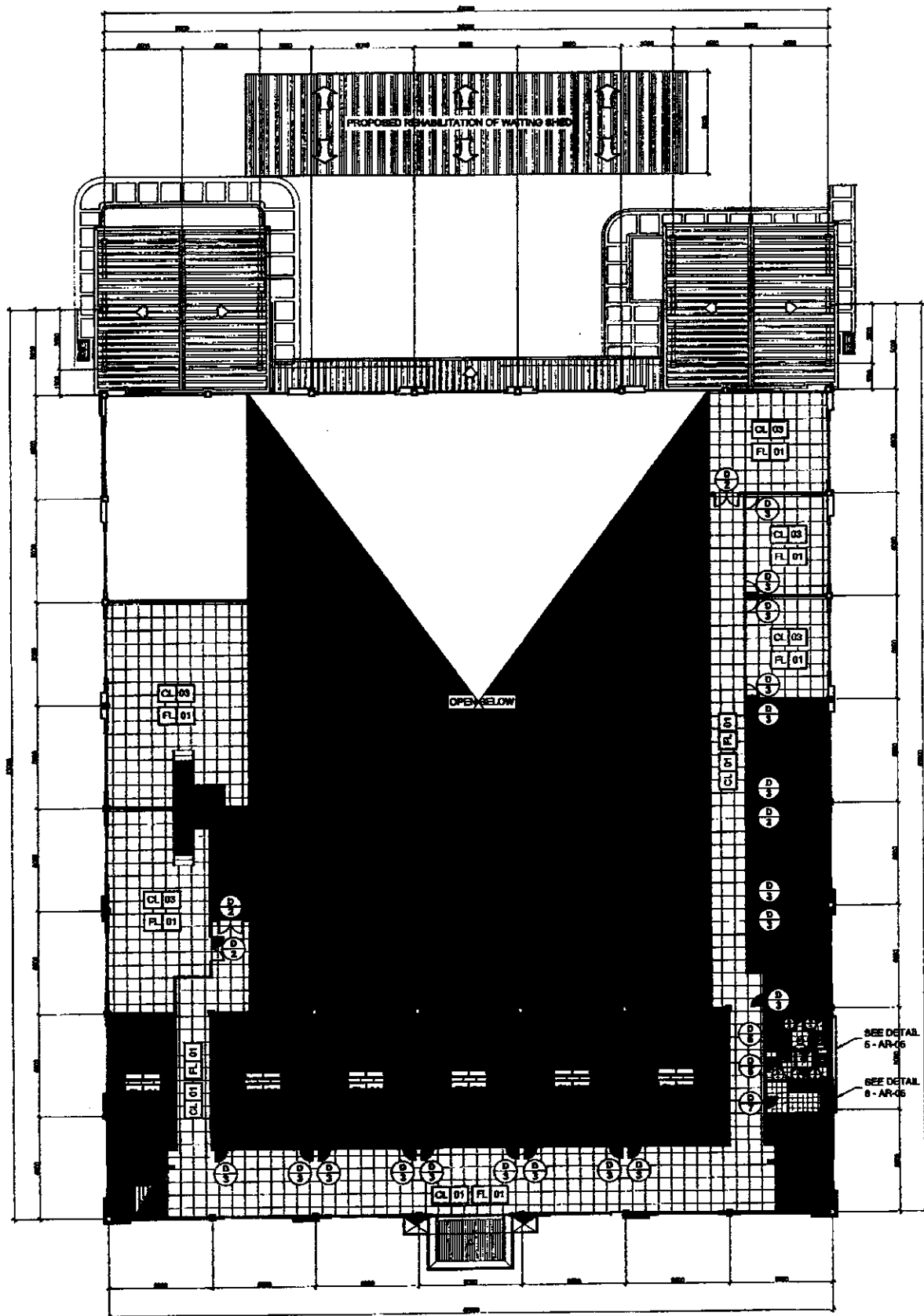
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LEGENDS:

| | |
|-------|--|
| CL 01 | ACOUSTIC BOARD ON T-RUNNERS |
| CL 02 | MOISTURE RESISTANT GYPSUM BOARD ON LIGHT METAL FRAME |
| CL 03 | FIBER CEMENT BOARD ON METAL FRAMING |

| | |
|-------|---|
| FL 01 | 600X600mm CERAMIC TILES |
| FL 02 | 300X300mm CERAMIC TILES |
| FL 03 | 25mm FLOOR TOPPING WITH RUBBERIZED PAINT FINISH |



NOTE:

1. PROPOSED REPLACEMENT OF 600X600 CERAMIC TILES ON HATCHED AREAS.
2. PROPOSED REPLACEMENT OF 300X300 NON-SKID CERAMIC TILES ON TOILETS.
3. PROPOSED REPLACEMENT OF CEILING ON HATCHED AREAS.
4. PROPOSED REPAINTING OF INTERIOR WALLS.
5. PROPOSED REPLACEMENT OF DOORS.
6. PROPOSED REPLACEMENT OF UNDER COUNTER CABINET.

SCALE 1:250 MTS.

DED2024_0136



Department of Engineering
University of the Philippines - Diliman
P.O. Box 388, Diliman, Quezon City 1101

PROPOSED REHABILITATION OF
TECH VOC BUILDING AT QUEZON
CITY UNIVERSITY (CCU) IN
BARANGAY SAN BARTOLOME

LOCATION: BARANGAY SAN BARTOLOME
SHEET NO. 1, OF 21

ROOF PLAN

DESIGNED BY:

REVIEWED BY:

APPROVED BY:

DATE:

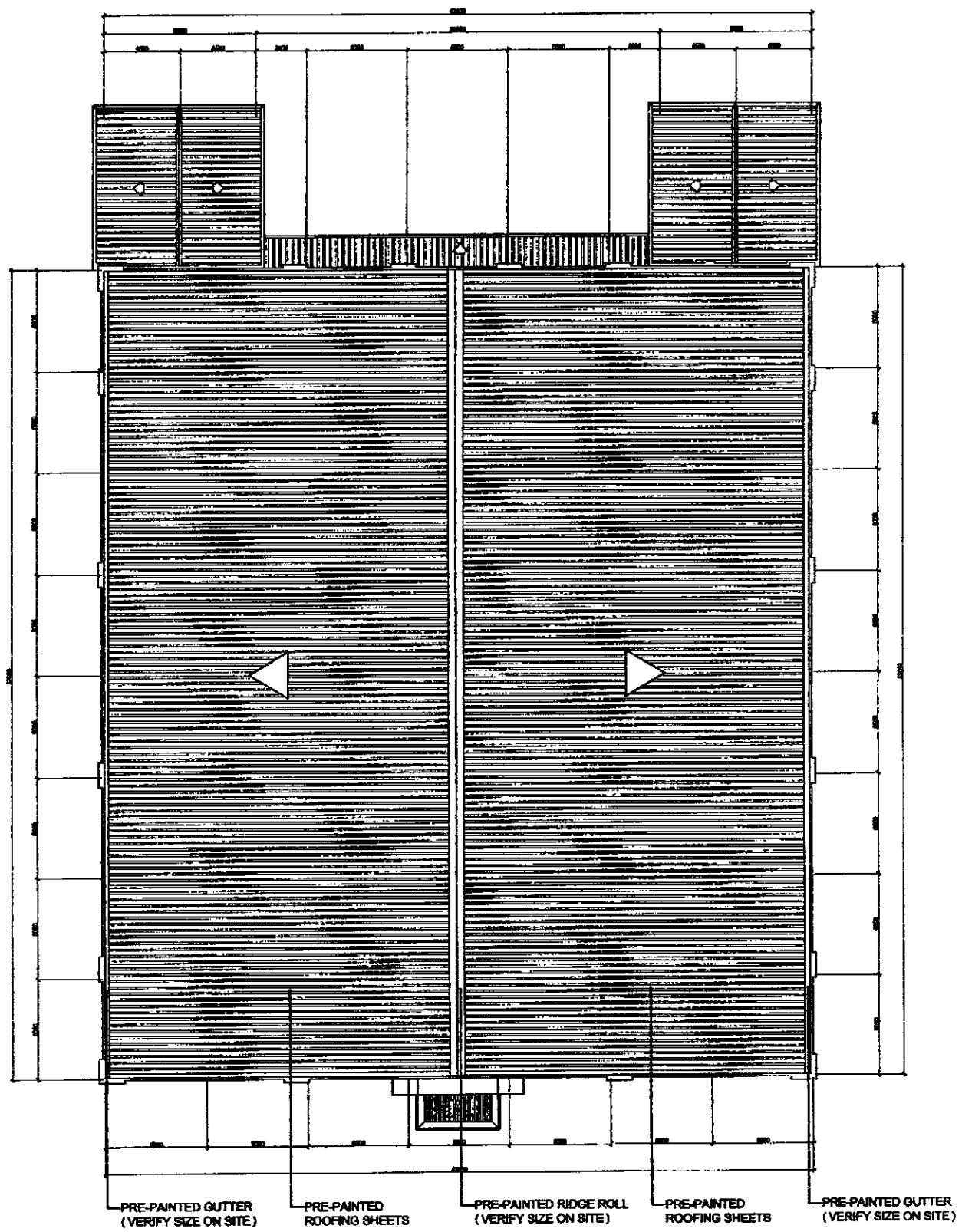
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ENGR. JOSE L. LACERDA & FRANCISCO
ENGINTEERS - CIVIL ENGINEERS
P.O. Box 123456
SHED DATE: JANUARY 15, 2025

ENGR. FREDERICK L. DE GUZMAN
CIVIL, PLANNING AND DESIGN DIVISION
P.O. Box 123456
SHED DATE: JANUARY 15, 2025

ATTY. MARK D. GUARDON P. PERALTA
OF GUZMAN
P.O. Box 123456
SHED DATE: JANUARY 15, 2025

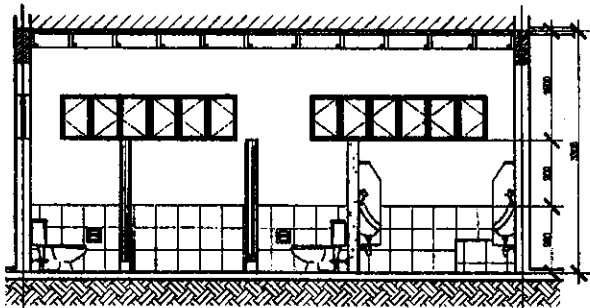


- NOTE:
1. PROPOSED REPLACEMENT OF ROOFING SHEETS.
 2. PROPOSED REPAINTING OF ROOF TRUSS.

1 ROOF PLAN

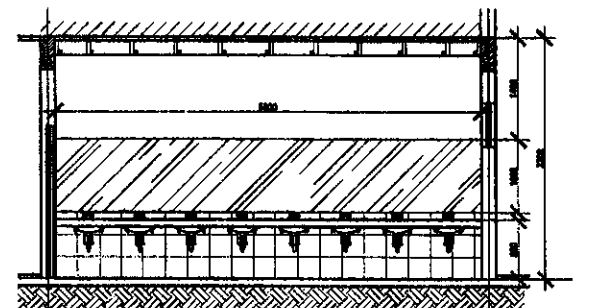
SCALE 1:250 MTS.

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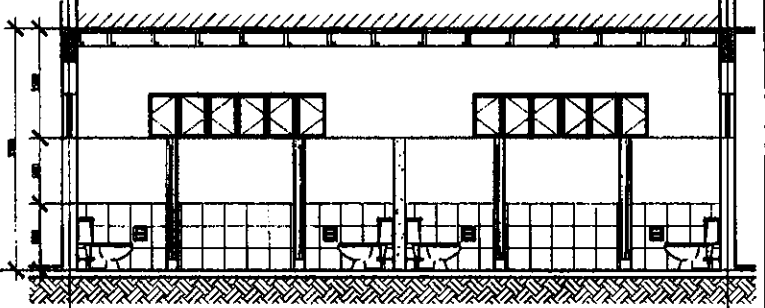
- NOTE:
1. PROPOSED REPLACEMENT OF FLOOR AND WALL TILES.
 2. PROPOSED REPAINTING OF INTERIOR WALLS.
 3. PROPOSED REPLACEMENT OF DOORS AND WINDOWS.
 4. PROPOSED REPLACEMENT OF CEILING.
 5. PROPOSED REPLACEMENT OF URINAL PARTITION (400X1200mm)
 6. PROPOSED REPLACEMENT OF PLUMBING FIXTURES.
 7. PROPOSED REPLACEMENT OF EXISTING MIRROR.

1 GROUND FLOOR MALE TOILET SECTION THRU a-a SCALE 1:75 MTS.



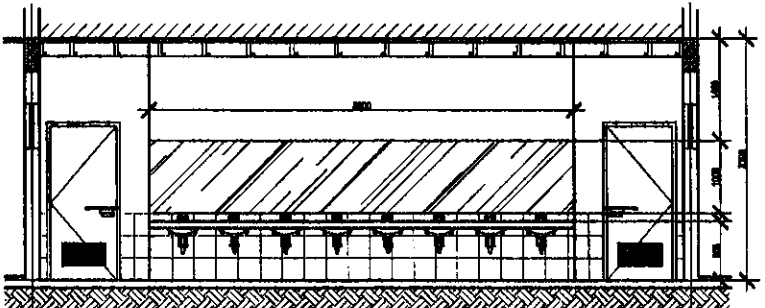
- NOTE:
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 2. PROPOSED REPAINTING OF INTERIOR WALLS.
 3. PROPOSED REPLACEMENT OF DOORS AND WINDOWS.
 4. PROPOSED REPLACEMENT OF CEILING.
 5. PROPOSED REPLACEMENT OF URINAL PARTITION (400X1200mm)
 6. PROPOSED REPLACEMENT OF PLUMBING FIXTURES.
 7. PROPOSED REPLACEMENT OF EXISTING MIRROR.

2 GROUND FLOOR MALE TOILET SECTION THRU a'-a' SCALE 1:75 MTS.



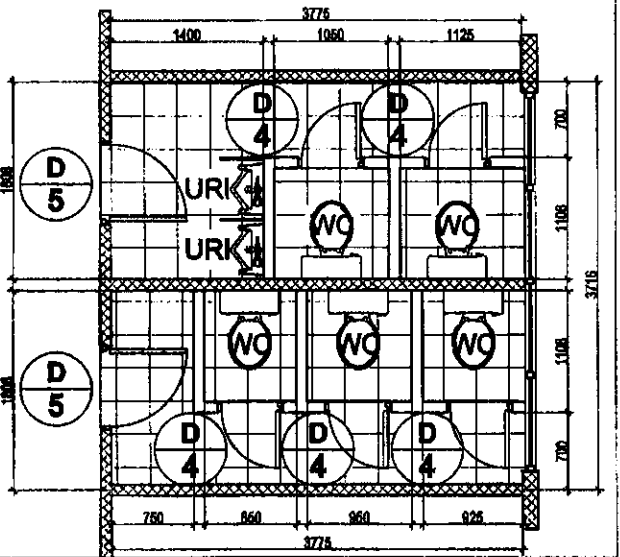
- NOTE:
1. PROPOSED REPLACEMENT OF FLOOR AND WALL TILES.
 2. PROPOSED REPAINTING OF INTERIOR WALLS.
 3. PROPOSED REPLACEMENT OF DOORS AND WINDOWS.
 4. PROPOSED REPLACEMENT OF CEILING.
 5. PROPOSED REPLACEMENT OF PLUMBING FIXTURES.
 6. PROPOSED REPLACEMENT OF EXISTING MIRROR.

3 GROUND FLOOR FEMALE TOILET SECTION THRU b-b SCALE 1:75 MTS.

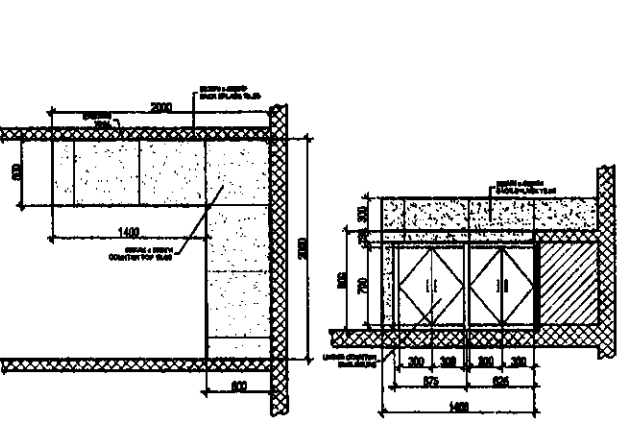


- NOTE:
1. PROPOSED REPLACEMENT OF FLOOR AND WALL TILES.
 2. PROPOSED REPAINTING OF INTERIOR WALLS.
 3. PROPOSED REPLACEMENT OF DOORS AND WINDOWS.
 4. PROPOSED REPLACEMENT OF CEILING.
 5. PROPOSED REPLACEMENT OF PLUMBING FIXTURES.
 6. PROPOSED REPLACEMENT OF EXISTING MIRROR.

4 GROUND FLOOR FEMALE TOILET SECTION THRU b'-b' SCALE 1:75 MTS.



5 SECOND FLOOR TOILET BLOW-UP PLAN SCALE 1:50 MTS.



PLAN ELEVATION / SECTION

6 UNDER COUNTER CABINET DETAIL SCALE 1:75 MTS.



Republic of the Philippines
Department of Engineering
Quezon City

PROPOSED REHABILITATION OF
TECH VOC BUILDING AT QUEZON
CITY UNIVERSITY (QCU) IN
BARANGAY SAN BARTOLOME

LOCATION: BARANGAY SAN BARTOLOME
DISTRICT 5, QUEZON CITY

PROJECT TITLE: DETAILED ENGINEERING DESIGN PLAN
SHEET CONTENT:
MALE TOILET SECTION THRU
a-a
FEMALE TOILET SECTION
THRU
b-b
UNDER COUNTER CABINET
DETAIL
SCHEDULE OF WORKS AND
WINDOWS

DESIGNED BY:

ENGR. JOHN LESTER B. FRANCISCO
ENGINEER 1 - CIVIL ENGINEER

PRJ. NO. 070500
VALID DATE: OCTOBER 31, 2023

PRJ. NO. 740000
ISSUED DATE: JANUARY 01, 2024

SUBMITTED BY:

ENGR. FREDERICK D. DE GUZMAN
CHIEF, PLANNING AND DESIGN DIVISION

PRJ. NO. 740000
VALID DATE: MARCH 01, 2022

PRJ. NO. 710000
ISSUED DATE: JANUARY 01, 2024

APPROVED BY:

ATTY. MARK DALE DAVIDSON P. PERRAL
CITY ENGINEER

PRJ. NO. 810000
VALID DATE: FEBRUARY 01, 2024

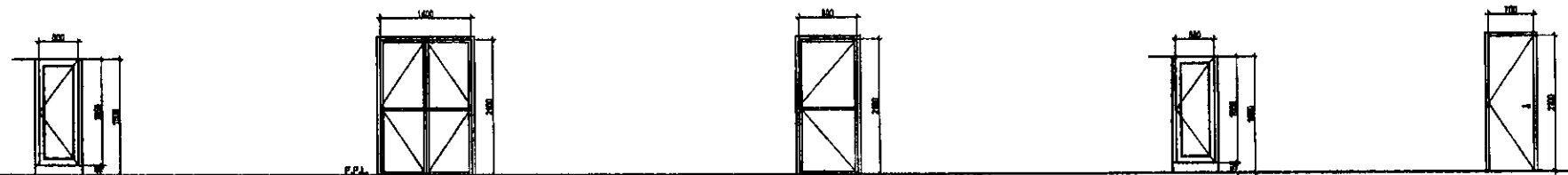
PRJ. NO. 710000
ISSUED DATE: JANUARY 01, 2024

SET NO:

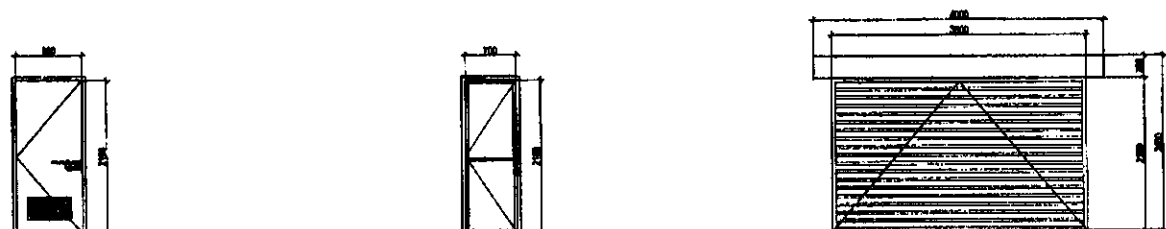
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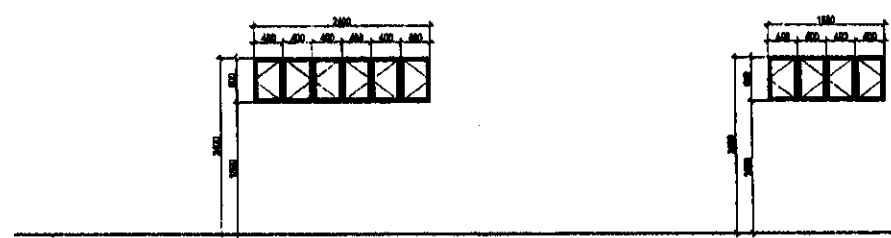
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- D 1** WOOD FLUSH DOOR
TWENTY THREE (23) SETS
LOC: GROUND FLOOR MALE
AND FEMALE TOILETS
- D 2** ALUMINUM FRAMED GLASS DOOR
FOUR (4) SETS
LOC: ENTRY TO BASKETBALL COURT,
2ND FLOOR ROOMS ENTRY
- D 3** ALUMINUM FRAMED GLASS DOOR
NINETEEN (19) SETS
LOC: 2ND FLOOR ROOMS ENTRY
- D 4** HOLLOW CORE PVC DOOR
FIVE (5) SETS
LOC: 2ND FLOOR MALE AND
FEMALE TOILETS
- D 5** WOOD FLUSH DOOR
TWO (2) SETS
LOC: 2ND FLOOR TOILETS ENTRY

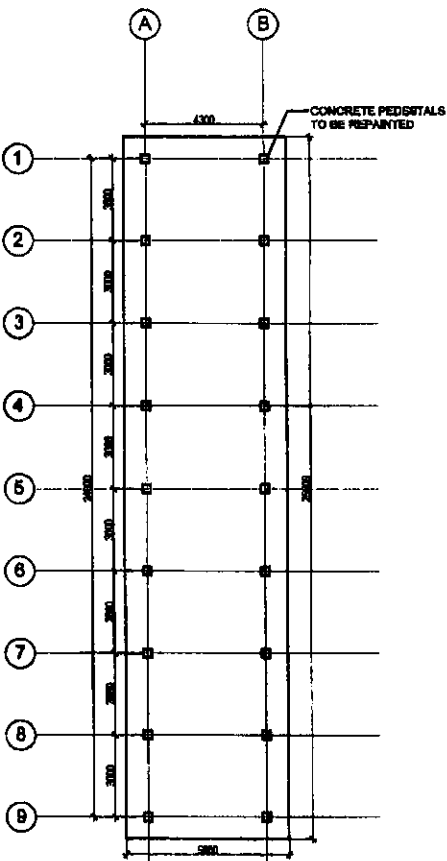


- D 6** HOLLOW STEEL DOOR
TWO (2) SETS
LOC: GROUND FLOOR TOILETS ENTRY
- D 7** ALUMINUM FRAMED GLASS DOOR
ONE (1) SET
LOC: 2ND FLOOR ROOM ENTRY
- D 8** STEEL ROLL-UP DOOR
THREE (3) SETS
LOC: GROUND FLOOR STORAGE ENTRY



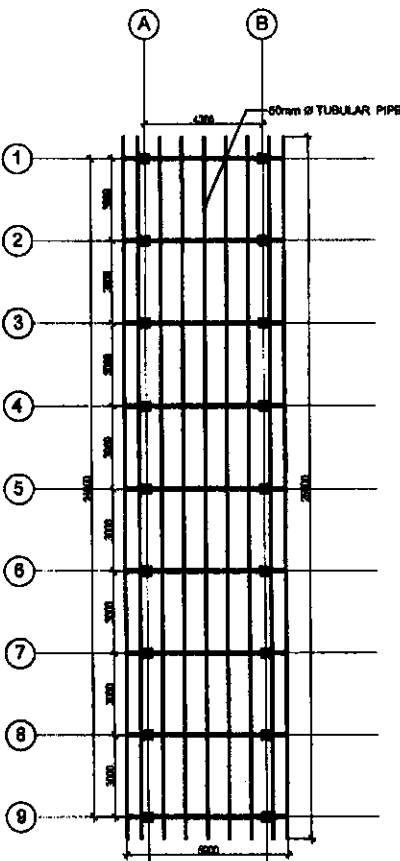
- W 1** ALUMINUM FRAMED CASEMENT WINDOW
EIGHT (8) SETS
LOC: GROUND FLOOR MALE AND FEMALE
TOILETS
- W 2** ALUMINUM FRAMED CASEMENT WINDOW
TWO (2) SETS
LOC: GROUND FLOOR FEMALE TOILETS
TOILETS

| | | | | | | | |
|--|---|--|--|--|--|--|------------|
|  Engr. John Vester B. Francisco Engineer 1 - Civil Engineer | PROJECT TITLE: DETAILED ENGINEERING DESIGN PLAN | PROJECT CONTENT: SCHEDULE OF DOORS AND WINDOWS | DESIGNED BY: | SUBMITTED BY: | APPROVED BY: | SHEET NO.: | SHEET NO.: |
| | PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME | | ENGR. JOHN VESTER B. FRANCISCO | ENGR. FREDERICKA D. DE GUZMAN | ATTY. MARK DALE DAVID P. PERRAL | AR-06 | 06 |
| | LOCATION: BARANGAY SAN BARTOLOME DISTRICT 6, QUEZON CITY | | ENGR. JOHN VESTER B. FRANCISCO | ENGR. FREDERICKA D. DE GUZMAN | ATTY. MARK DALE DAVID P. PERRAL | 06 07 | 21 |
| | PPL NO. 117889 VALID DATE: OCTOBER 16, 2023 | | PPL NO. 117889 VALID DATE: JANUARY 16, 2024 | PPL NO. 117889 VALID DATE: MARCH 16, 2027 | PPL NO. 117889 VALID DATE: JANUARY 16, 2024 | PPL NO. 117889 VALID DATE: JANUARY 16, 2024 | |

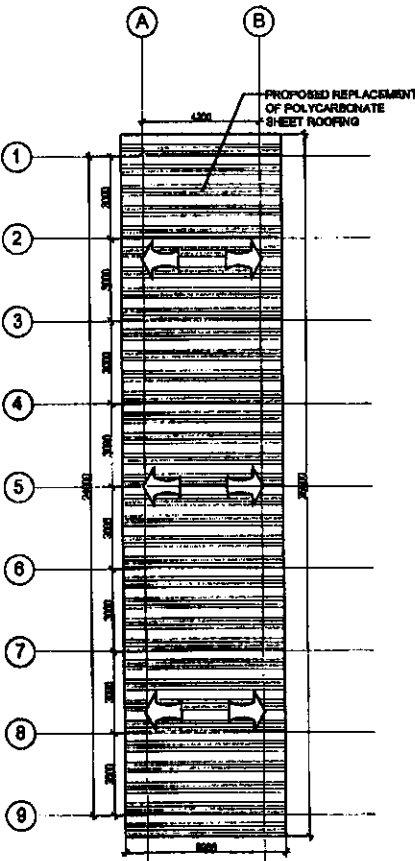


1 WAITING SHED PLAN

SCALE 1:200 MTB.

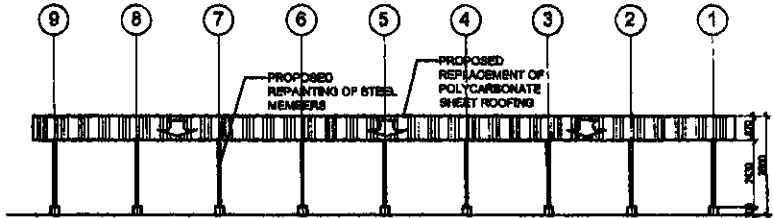


2 WAITING SHED ROOF FRAMING PLAN

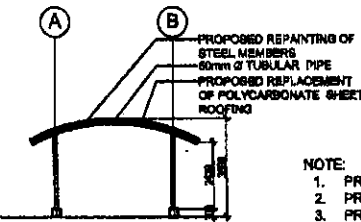


3 WAITING SHED ROOF PLAN

SCALE 1:200 MTB.



4 WAITING SHED SIDE ELEVATION



5 WAITING SHED FRONT ELEVATION

SCALE 1:75 MTB.



Department of Engineering
Quezon City University
Quezon City, Philippines

PROPOSED REHABILITATION OF
TECH VOC BUILDING AT QUEZON
CITY UNIVERSITY (QCU) IN
BARANGAY SAN BARTOLOME

LOCATION: BARANGAY SAN BARTOLOME
CITY: QUEZON CITY

SHEET CONTENT:
WAITING SHED PLAN
WAITING SHED ROOF FRAMING PLAN
WAITING SHED ROOF PLAN
WAITING SHED SIDE ELEVATION
WAITING SHED FRONT ELEVATION

DESIGNED BY:

ENGR. JONALBERT S. FRANCISCO
ENGINEER - CIVIL ENGINEER

PRJ. NO. 15000
ISSUED DATE: OCTOBER 11, 2023

PRJ. NO. 15000
ISSUED DATE: JANUARY 16, 2024

SUBMITTED BY:

ENGR. FREDERICKA D. DE GUZMAN
CHIEF, PLANNING AND DESIGN DIVISION

PRJ. NO. 15000
ISSUED DATE: APRIL 16, 2022

PRJ. NO. 15000
ISSUED DATE: JANUARY 16, 2024

APPROVED BY:

ATTY. MARK DALE DIAMOND P. PERRAL
ATTY. ENGINEER

PRJ. NO. 15000
ISSUED DATE: FEBRUARY 14, 2024

PRJ. NO. 15000
ISSUED DATE: JANUARY 16, 2024

SHEET NO.:

SHEET NO.:

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GENERAL NOTES FOR THREE-PHASE SYSTEM

1. ALL WORKS SHALL BE EXECUTED IN ACCORDANCE TO THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, PHILIPPINE ELECTRICAL CODE, THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND OTHER RELATED LAWS AND ORDINANCES OF THIS CITY.
2. ALL WORKS SHALL BE SUPERVISED BY A REGISTERED PROFESSIONAL RELATED TO THE ACTIVITIES BEING UNDERTAKEN.
3. ALL WORKS SHALL BE COORDINATED WITH THE RESPECTIVE TRADES SO TO AVOID CONFLICTS DURING EXECUTION OF ACTIVITIES.
4. ALL NECESSARY PERMITS SHALL BE OBTAINED AND TURNED OVER TO THE CITY.
5. ALL DRAWINGS AND SPECIFICATIONS SHALL BE CORRECTLY REVIEWED BY THE CONTRACTOR AND SHALL IMMEDIATELY BE INFORMED IF DISCREPANCY (ISS) FOUND HEREIN.
6. ALL DIMENSIONAL, ELEVATIONS AND REFERENCES, SHALL BE VERIFIED WITH THE ACTUAL CONDITION PRIOR TO EXECUTION.
7. SHOP DRAWINGS SHALL BE PROVIDED AS NECESSARY PRIOR TO THE EXECUTION.
8. ALL WORKS SHALL BE TESTED AND COMMISSIONED AS INDICATED IN THE SPECIFICATIONS WITH THE PRESENCE OF ALL PARTIES INVOLVED. RESULTS SHALL BE DOCUMENTED PROPERLY.
9. ALL PIPES AND LAYOUT ARE ONLY DIAGNOSTIC. ACTUAL LAYOUT OF PIPES AND FITTINGS, UNLESS OTHERWISE REQUIRED, SHALL BE PROPERLY CONCEALED.
10. NO PIPES SHALL BE ALLOWED TO BE EMBEDDED IN STRUCTURAL MEMBERS, UNLESS OTHERWISE APPROVED.
11. ALL PIPES, FITTINGS, EQUIPMENT AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS.
12. SUPPORTS AND HANGERS SHALL BE PROVIDED ACCORDINGLY.
13. ALL EQUIPMENTS AND FITTINGS SHALL BE ENVIRONMENTAL FRIENDLY.
14. INSTALLATION OF SERVICE ENTRANCE.
 - 14.1. THE TYPE OF SERVICE ENTRANCE SHALL BE THREE-PHASE, THREE-WIRE PLUS GROUND, 90 HERTZ, 200V AC NOMINAL.
 - 14.2. THE SERVICE ENTRANCE EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PHILIPPINE ELECTRICAL CODE.
 - 14.3. THE MAIN OVERCURRENT PROTECTION DEVICE SHALL BE OF THERMAL MAGNETO KIND IN NEMA 1B WEATHERPROOF ENCLOSURE.
15. INSTALLATION OF LIGHTING AND POWER SYSTEM.
 - 15.1. ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 60/90/120V, 1PH/3W/3W COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 1.5 SQ. MM.
 - 15.2. ALL WIRING AND CABLES SHALL BE COLOR CODED AS FOLLOWS:
PHASE A - RED
PHASE B - YELLOW
PHASE C - BLUE
NEUTRAL - WHITE
GROUND - GREEN
 - 15.3. ALL EMBEDDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE TWO SUPPORTED BY CONDUIT CLAMPS EVERY 700 MILLIMETERS AND/OR CONDUIT HANGER SUPPORTS EVERY 1500 MILLIMETERS.
 - 15.4. CONDUITS IN NO CASE SHALL NOT BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. UNIFORM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
 - 15.5. ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 200 V.
 - 15.6. PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LONG RANDED "GFCI" ON THE PLAN.
 - 15.7. ALL METALLIC CONDUITS, SWITCHES, LIGHTING FIXTURES, PANELBOARDS, EQUIPMENTS AND NON-CURRENT CARRYING METAL PARTS SHALL BE PROPERLY GROUNDED AND BONDED.

15.7. THE GROUND RESISTANCE SHALL NOT BE MORE THAN 1 OHM.

15.8. ALL MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

- A. LIGHTING SWITCH
- 1400 MM ABOVE FLOOR FINISH
- B. CONVENIENCE OUTLET
- 1500 MM ABOVE WORKING COUNTER
- C. PANEL BOARD AND CABINETS
- 1400 MM ABOVE FLOOR FINISH
- D. EMERGENCY LIGHT
- 1500 MM ABOVE FLOOR FINISH
- E. EMERGENCY LIGHT
- 2000 MM ABOVE FLOOR FINISH

15.9. PULL BOXES SHALL BE WHENEVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON PLANS.

16.2. FOR EACH BRANCH CIRCUIT IN PANELBOARD, PROVIDE ONE 25MM DIAMETER EMPT CONDUIT TERMINATED TO 100MM OCTAGONAL BOX ABOVE CEILING. MINIMUM SIZE OF PULLBOX SHALL BE 150MM X 150MM X 100MM.

16.3. ALL CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE WITH INTERRUPTING CAPACITY AS INDICATED IN THE PLANS. PANELBOARDS SHALL BE GALVANIZED SHEET POUNDER COATED GAZE 16 MINIMUM.

16.4. FEEDER AND BRANCH CIRCUIT CONDUCTORS IN CABLE TRAYS SHALL BE GROUPED, BONDED AND TAGGED TO INDICATE CLEARLY THE ELECTRICAL CHARACTERISTICS SUCH AS CIRCUIT NUMBER AND PANEL DESIGNATION.

16.5. REFER TO MECHANICAL PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATING AND LOCATION OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND ON GROUND UNDER THEIR RESPECTIVE SECTIONS.

16.6. ALL MATERIALS TO BE USED AND THE EQUIPMENT TO BE INSTALLED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED. IT MUST BE APPROVED TYPE FOR THE PARTICULAR LOCATION AND PURPOSE INTENDED.

16.7. INSTALLATION OF AUXILIARY SYSTEM (VOICE/DATA SYSTEM, CLOSED CIRCUIT TELEVISION SYSTEM) AND FIRE DETECTION ALARM SYSTEM

16.1. ALL EMBEDDED CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE BRONZE SUPPORTED BY CONDUIT CLAMPS EVERY 700 MILLIMETERS AND/OR CONDUIT HANGER SUPPORTS EVERY 1500 MILLIMETERS.

16.2. MINIMUM SIZE AND TYPE OF CONDUIT SHALL BE AS FOLLOWS:
A. VOICE DATA SYSTEM - 25MM Ø PVC
B. CCTV SYSTEM - 25MM Ø PVC
C. FIBER OPTIC SYSTEM - 15MM Ø BRONZE

16.3. ALL MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:
A. TELEPHONE OUTLET - 800 MM ABOVE FLOOR FINISH
B. DATA OUTLET - 800 MM ABOVE FLOOR FINISH
C. DATA OUTLET - 1400 MM ABOVE WORKING COUNTER
D. CABLES - 1400 MM ABOVE FLOOR FINISH

16.4. BOXES, WIRE, GUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
A. BOXES - 1.5 MM
B. WIRE - 1.5 MM
C. GUTTERS - 1.5 MM
D. ENCLOSURE - 1.5 MM

16.5. THE COMMUNICATION GROUND RESISTANCE SHALL NOT EXCEED 2 OHMS.

16.6. ALL MATERIALS TO BE USED AND THE EQUIPMENT TO BE INSTALLED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED. IT MUST BE APPROVED TYPE FOR THE PARTICULAR LOCATION AND PURPOSE INTENDED.

1 GENERAL NOTES

SCALE NTS.

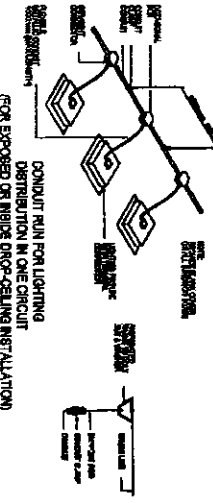
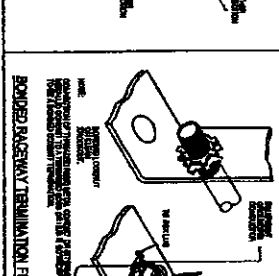
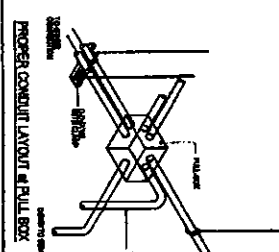
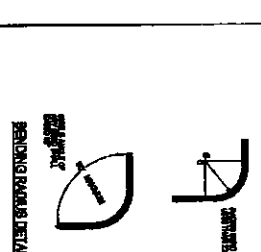
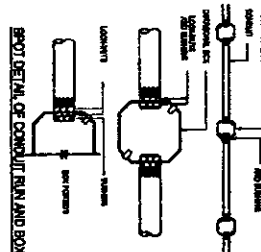
3 MISCELLANEOUS DETAILS

SCALE NTS.

2 LEGENDS AND SYMBOLS

SCALE NTS.

| | |
|--|--|
| | 300mm x 1200mm TROFFER LIGHT, RECESSED MOUNTED |
| | 600mm x 1200mm TROFFER LIGHT, RECESSED MOUNTED |
| | ENCLOSED CIRCUIT BREAKER |
| | CIRCUIT RUN |
| | PANEL BOARD |



Department of Engineering
City University of Cebu

PROPOSED REHABILITATION OF
TECH VOC BUILDING AT QUEZON
CITY UNIVERSITY (CUC) IN
BARANGAY SAN BARTOLOME

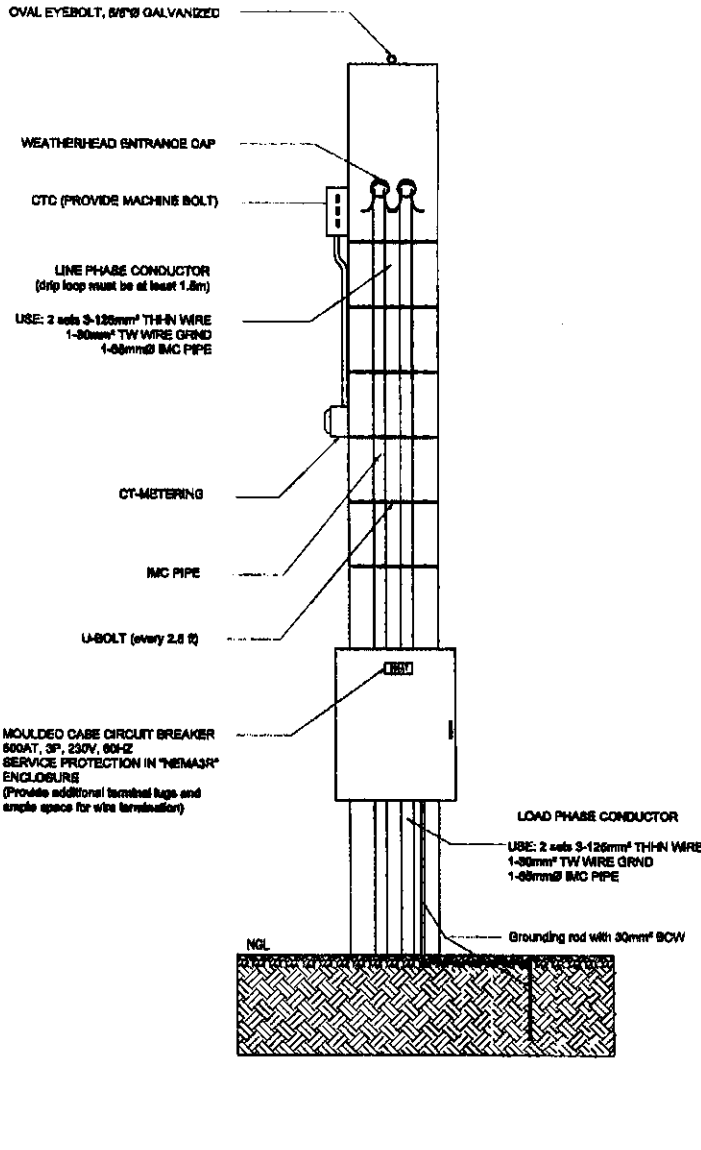
DESIGNED BY:
ENGINEER 1 - ELECTRICAL ENGINEER

ENGINEER 1 - ELECTRICAL ENGINEER
ENR. FREDERICK DE GUZMAN
CHIEF PLANNING AND DESIGN DIVISION

ATTY. MARK DALEMOND P. PERALTA
CITY ENGINEER

EL-01
01 07
08
21

1



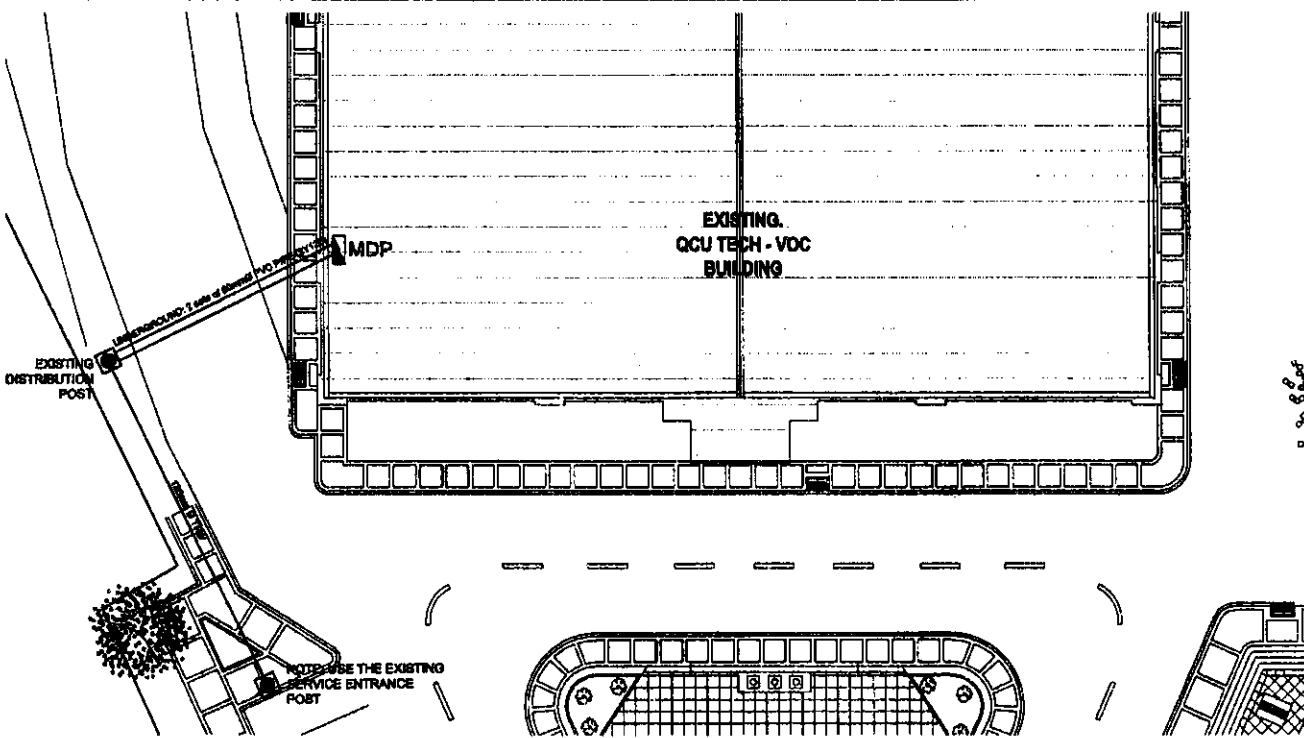
1 SERVICE ENTRANCE DETAILS

SCALE NTS.

2

RISER DIAGRAM

SCALE NTS.



3

ELECTRICAL LAYOUT

SCALE NTS.



Republic of the Philippines
Department of Engineering
Barangay San Bartolome
Quezon City
Cebu 401 001 PH

| PROJECT TITLE: DETAILED ENGINEERING DESIGN PLAN | SHEET CONTENT |
|---|---|
| PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME | SERVICE ENTRANCE DETAILS RISER DIAGRAM ELECTRICAL LAYOUT |
| LOCATION: BARANGAY SAN BARTOLOME DISTRICT 4, QUEZON CITY | |

| DESIGNED BY: | APPROVED BY: | DATE: | SHEET NO. |
|--|---|---|----------------|
| ENGR. KELVIN M. MARZONIA ENGINEER 1 - ELECTRICAL ENGINEER | ENGR. FREDERICK O. DE GUZMAN CHIEF, PLANNING AND DESIGN DIVISION | ATTY. MARK DALE EDMOND P. PERRAL CITY ENGINEER | EL-02 02/07 |
| PRJ. NO: 79888 VALID DATE: JUNE 06, 2024 | PRJ. NO: 79888 VALID DATE: JUNE 06, 2024 | PRJ. NO: 79888 VALID DATE: JUNE 06, 2024 | 09 21 |

PANEL: MAIN DISTRIBUTION PANEL
MAIN: 500AT, 500AF, 3P, 230V, MCCB

| CKT NO. | VOLTS | OUTLET | | OTHER LOAD SERVICE | AMPERE LOAD | | | 3Ø | VOLT AMPERE | CIRCUIT BREAKER | SIZE OF WIRE |
|---------|-------|--------|----|--------------------|-------------|-------|-------|--------|----------------|--------------------|--|
| | | LO | CO | | AB | CA | BC | | | | |
| 1 | 400 | | | PP 1 | 10.00 | 10.00 | 10.00 | 298.70 | 125890.00 | 400AT, 3P, MCCB | 3 - 250mm ² THHN + 1 - 50mm ² TW (G) in 90mmØ IMC |
| 2 | 230 | | | PP 2 | 17.39 | 17.39 | 17.39 | 0.00 | 12000.00 | 40AT, 3P, MCCB | 3 - 8.0mm ² THHN + 1 - 5.5mm ² TW (G) in 25mmØ IMC |
| 3 | 230 | | | PP 3 | 13.04 | 13.04 | 13.04 | 0.00 | 9000.00 | 40AT, 3P, MCCB | 3 - 8.0mm ² THHN + 1 - 5.5mm ² TW (G) in 25mmØ IMC |
| 4 | 230 | | | SPARE | | | | | | 40AT, 3P, MCCB | |
| TOTAL | | | | | 40.43 | 40.43 | 40.43 | 298.70 | 146890.00 | | |

$I = ((40.43 \times 1.732) + (87.36 \times 0.25) + 298.70)$ **390.57 Amperes**
Feeder Line:
Use: 2 sets of 3 - 125mm² THHN + 1 - 30mm² TW (G) in 65mmØ IMC





PANEL: PP 1 - DISTRIBUTION PANEL
MAIN: 400AT, 400AF, 3P, 400V, MCCB

| CKT NO. | VOLTS | OUTLET | | OTHER LOAD SERVICE | AMPERE LOAD | | | 3Ø | VOLT AMPERE | CIRCUIT BREAKER | SIZE OF WIRE |
|---------|-------|--------|----|--------------------|-------------|-------|-------|--------|----------------|--------------------|--|
| | | LO | CO | | AB | CA | BC | | | | |
| 1 | 230 | | | MSACCU - 1 | | | | 87.36 | 34800 | 275AT, 3P, MCCB | 3 - 125mm ² THHN + 1 - 30mm ² TW (G) in 65mmØ IMC |
| 2 | 230 | | | MSACCU - 1 | | | | 87.36 | 34800 | 275AT, 3P, MCCB | 3 - 125mm ² THHN + 1 - 30mm ² TW (G) in 65mmØ IMC |
| 3 | 230 | | | MSACCU - 2 | | | | 32.63 | 13000 | 100AT, 3P, MCCB | 3 - 30mm ² THHN + 1 - 8.0mm ² TW (G) in 32mmØ IMC |
| 4 | 230 | | | MSACCU - 3 | | | | 18.30 | 7290 | 60AT, 3P, MCCB | 3 - 14mm ² THHN + 1 - 8.0mm ² TW (G) in 25mmØ IMC |
| 5 | 230 | | | MSACCU - 4 | | | | 40.42 | 16100 | 125AT, 3P, MCCB | 3 - 38mm ² THHN + 1 - 14mm ² TW (G) in 32mmØ IMC |
| 6 | 230 | | | MSACCU - 5 | | | | 32.63 | 13000 | 100AT, 3P, MCCB | 3 - 30mm ² THHN + 1 - 8.0mm ² TW (G) in 32mmØ IMC |
| 7 | 230 | | | ACCU - 1 | 10.00 | | | | 2300 | 40AT, 2P, MCCB | 2 - 8.0mm ² THHN + 1 - 5.5mm ² TW (G) in 25mmØ IMC |
| 8 | 230 | | | ACCU - 1 | | 10.00 | | | 2300 | 40AT, 2P, MCCB | 2 - 8.0mm ² THHN + 1 - 5.5mm ² TW (G) in 25mmØ IMC |
| 9 | 230 | | | ACCU - 1 | | | 10.00 | | 2300 | 40AT, 2P, MCCB | 2 - 8.0mm ² THHN + 1 - 5.5mm ² TW (G) in 25mmØ IMC |
| 10 | 230 | | | SPARE | | | | | | 40AT, 2P, MCCB | |
| TOTAL | | | | | 10.00 | 10.00 | 10.00 | 298.70 | 125890.00 | | |

$I = ((10 \times 1.732) + (87.363 \times 0.25) + 298.70)$ **337.86 Amperes**
Feeder Line:
Use: 3 - 250mm² THHN + 1 - 50mm² TW (G) in 90mmØ IMC

1 SCHEDULE OF LOADS

SCALE NTS.

| | | | | | | | | |
|--|---|---|--|---|---|---|---------------------|--|
|  Department of Engineering Quezon City University Barangay San Bartolome | PROJECT TITLE: DETAILED ENGINEERING DESIGN PLAN | SHEET CONTENT: SCHEDULE OF LOADS | DESIGNED BY:  ENGR. KELVIN M. MARZONÍA ENGINEER 1 - ELECTRICAL ENGINEER | SUBMITTED BY:  ENGR. FREDWIN S. DE GUZMAN CHIEF, PLANNING AND DESIGN DIVISION | APPROVED BY:  ATTY. MARK D. PERAL CITY ENGINEER | SHEET NO.: EL-03 03/07 | SHEET NO.: 10 21 | |
| | LOCATION: BARANGAY SAN BARTOLOME DISTRICT 1, QUEZON CITY | PRC NO.: 60988 VALID DATE: JUNE 01, 2025 | PTR NO.: 719088 ISSUED DATE: JANUARY 01, 2025 | PRC NO.: 79466 VALID DATE: MARCH 26, 2027 | PTR NO.: 70882 ISSUED DATE: JANUARY 01, 2025 | PRC NO.: 71088 ISSUED DATE: JANUARY 01, 2025 | | |
| | | | | | | | | |
| | | | | | | | | |

PANEL: PP 2 - DISTRIBUTION PANEL
MAIN: 40AT, 100AF, 3P, 230V, MCCB

| CKT NO. | VOLTS | OUTLET | | OTHER LOAD SERVICE | AMPERE LOAD | | | 3Ø | VOLT AMPERE | CIRCUIT BREAKER | SIZE OF WIRE |
|---------|-------|--------|----|--------------------|-------------|-------|-------|------|----------------|--------------------|--|
| | | LO | CO | | AB | CA | BC | | | | |
| 1 | 230 | | | MSFCU - 1 | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 2 | 230 | | | MSFCU - 1 | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 3 | 230 | | | MSFCU - 1 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 4 | 230 | | | MSFCU - 1 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 5 | 230 | | | MSFCU - 1 | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 6 | 230 | | | MSFCU - 1 | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 7 | 230 | | | MSFCU - 1 | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 8 | 230 | | | MSFCU - 1 | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 9 | 230 | | | MSFCU - 1 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 10 | 230 | | | MSFCU - 1 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 11 | 230 | | | MSFCU - 1 | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 12 | 230 | | | MSFCU - 1 | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 13 | 230 | | | MSFCU - 1 | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 14 | 230 | | | MSFCU - 1 | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 15 | 230 | | | MSFCU - 1 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 16 | 230 | | | MSFCU - 1 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 17 | 230 | | | MSFCU - 2a | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 18 | 230 | | | MSFCU - 2a | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 19 | 230 | | | MSFCU - 3a | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 20 | 230 | | | MSFCU - 3a | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 21 | 230 | | | FCU - 1 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 22 | 230 | | | FCU - 1 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 23 | 230 | | | FCU - 1 | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| 24 | 230 | | | SPARE | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mmØ PVC |
| TOTAL | | | | | 17.39 | 17.39 | 17.39 | 0.00 | 12000.00 | | |

$I = 17.39 \times 1.732$





30.12 Amperes

Feeder Line:

Use: 3 - 8.0mm² THHN + 1 - 5.5mm² TW (G) in 25mmØ IMC

1 SCHEDULE OF LOADS

SCALE NTS.

| | | | | | | | | |
|---|--|--|---|--|--|--|------------------------|--|
|  Engr. Kelvin M. Marzonia Professional Engineer Electrical Engineering No. 010882 Exp. Date: January 31, 2025 | PROJECT TITLE: DETAILED ENGINEERING DESIGN PLAN PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME | SHEET CONTENT: SCHEDULE OF LOADS | DESIGNED BY:  ENGR. KELVIN M. MARZONIA ENGINEER 1 - ELECTRICAL ENGINEER | APPROVED BY:  ENGR. FREDRICK D. DE GUZMAN CHIEF, PLANNING AND DESIGN DIVISION | APPROVED BY:  ATTY. MARK D. DIAMOND P. FERRAL CITY ENGINEER | SHEET NO.: EL-04 04/07 | SHEET NO.: 11 21 | |
| | LOCATION: BARANGAY SAN BARTOLOME DISTRICT 8, QUEZON CITY | | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | | |
| | | | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | | |
| | | | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | PRG. NO. 10882 VALID DATE: JAN 01, 2025 | | |

PANEL: PP 3 - DISTRIBUTION PANEL

MAIN: 40AT, 100AF, 3P, 230V, MCCB

| CKT NO. | VOLTS | OUTLET | | OTHER LOAD SERVICE | AMPERE LOAD | | | 3 ϕ | VOLT AMPERE | CIRCUIT BREAKER | SIZE OF WIRE |
|---------|-------|--------|----|--------------------|-------------|-------|-------|----------|----------------|--------------------|--|
| | | LO | CO | | AB | CA | BC | | | | |
| 1 | 230 | | | MSFCU - 2b | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 2 | 230 | | | MSFCU - 2b | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 3 | 230 | | | MSFCU - 2b | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 4 | 230 | | | MSFCU - 3b | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 5 | 230 | | | MSFCU - 3b | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 6 | 230 | | | MSFCU - 4a | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 7 | 230 | | | MSFCU - 4b | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 8 | 230 | | | MSFCU - 4b | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 9 | 230 | | | MSFCU - 4b | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 10 | 230 | | | MSFCU - 4b | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 11 | 230 | | | MSFCU - 4b | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 12 | 230 | | | MSFCU - 5 | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 13 | 230 | | | MSFCU - 5 | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 14 | 230 | | | MSFCU - 5 | 2.17 | | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 15 | 230 | | | MSFCU - 5 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 16 | 230 | | | MSFCU - 5 | | | 2.17 | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 17 | 230 | | | MSFCU - 5 | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| 18 | 230 | | | SPARE | | 2.17 | | | 500 | 20AT, 2P, Bolt-On | 2 - 3.5mm ² THHN + 1 - 2.0mm ² TW (G) in 20mm ϕ PVC |
| TOTAL | | | | | 13.04 | 13.04 | 13.04 | 0.00 | 9000.00 | | |

$$I = 13.04 \times 1.732$$





22.59 Amperes

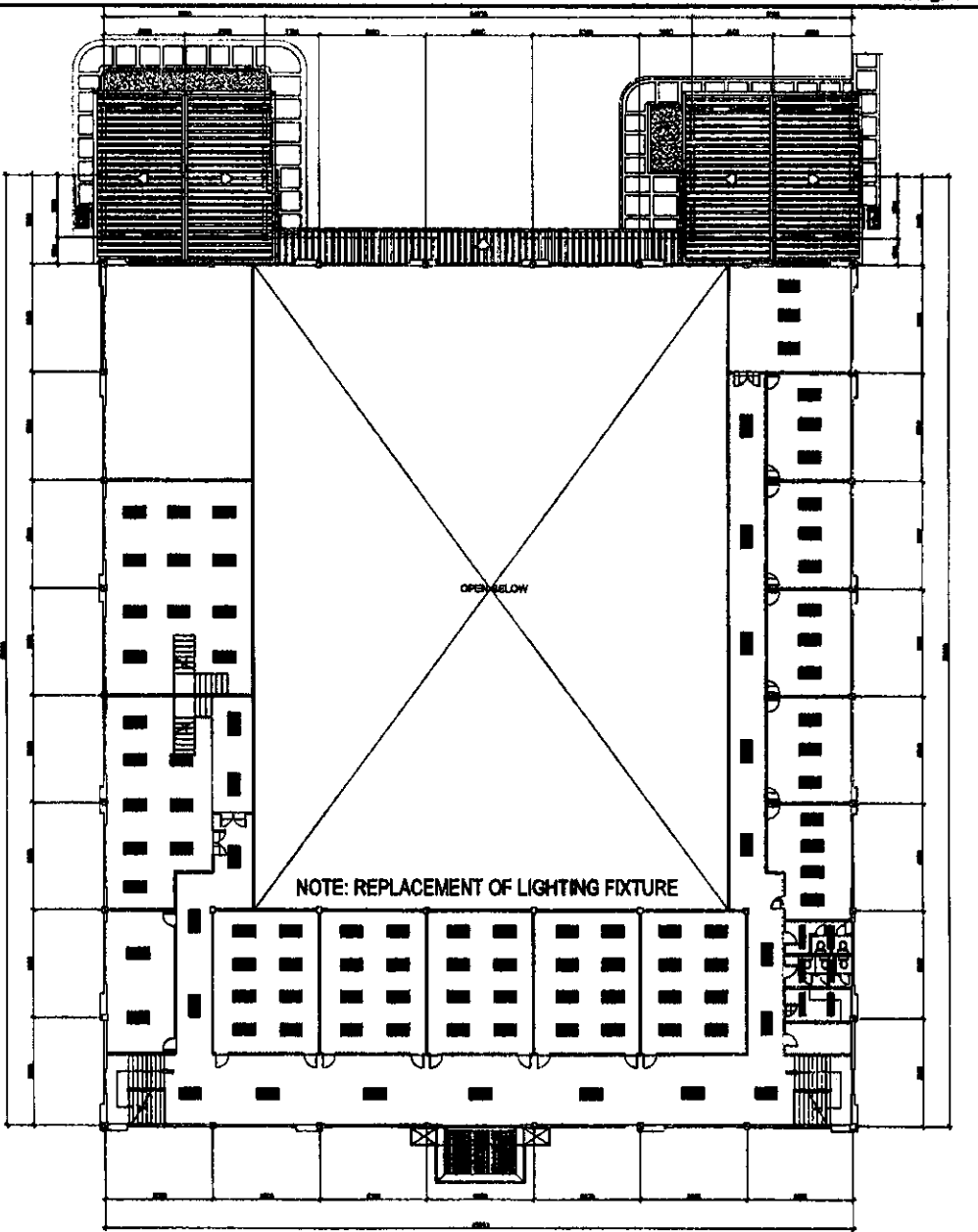
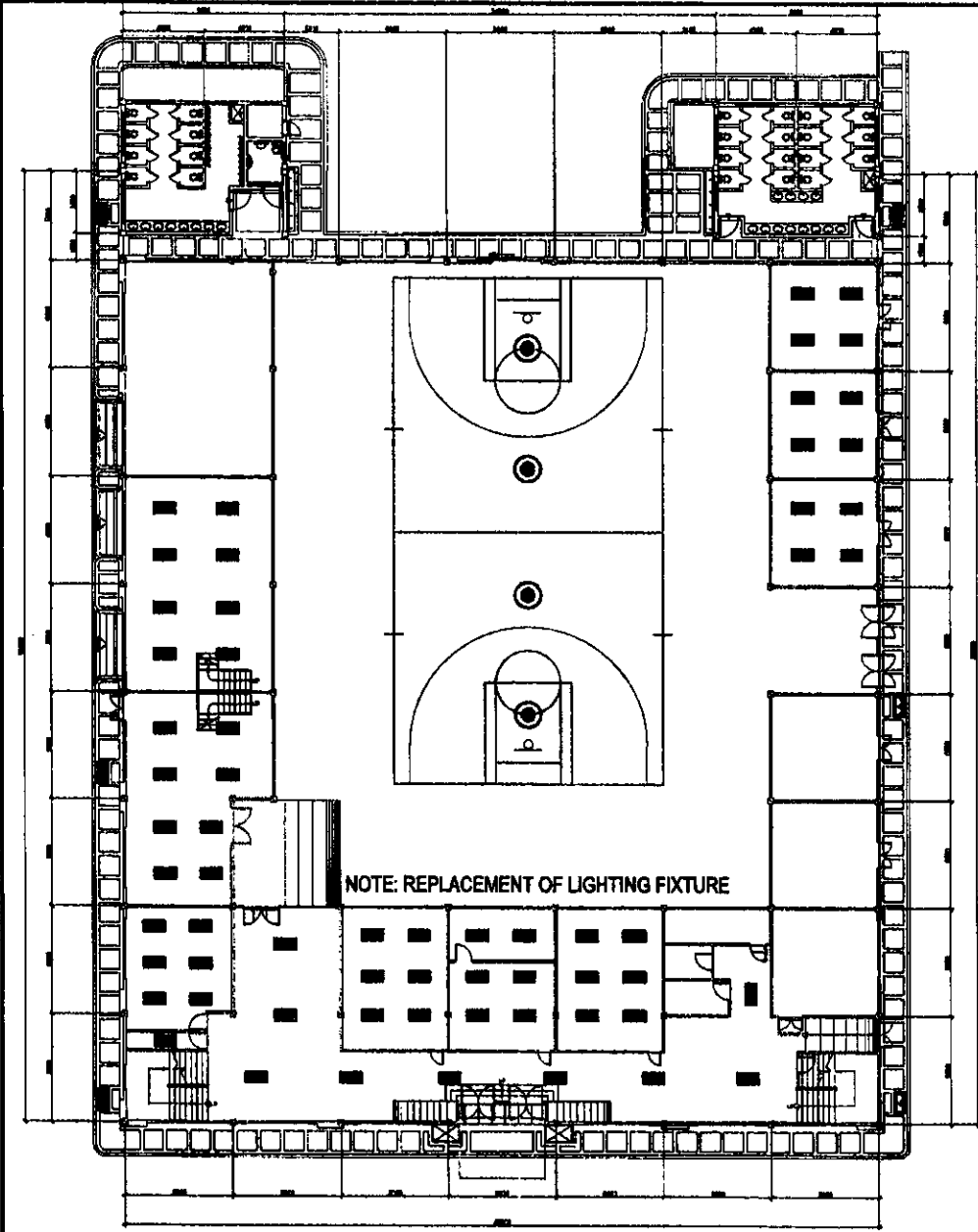
Feeder Line:


Use: 3 - 8.0mm² THHN + 1 - 5.5mm² TW (G) in 25mm ϕ IMC

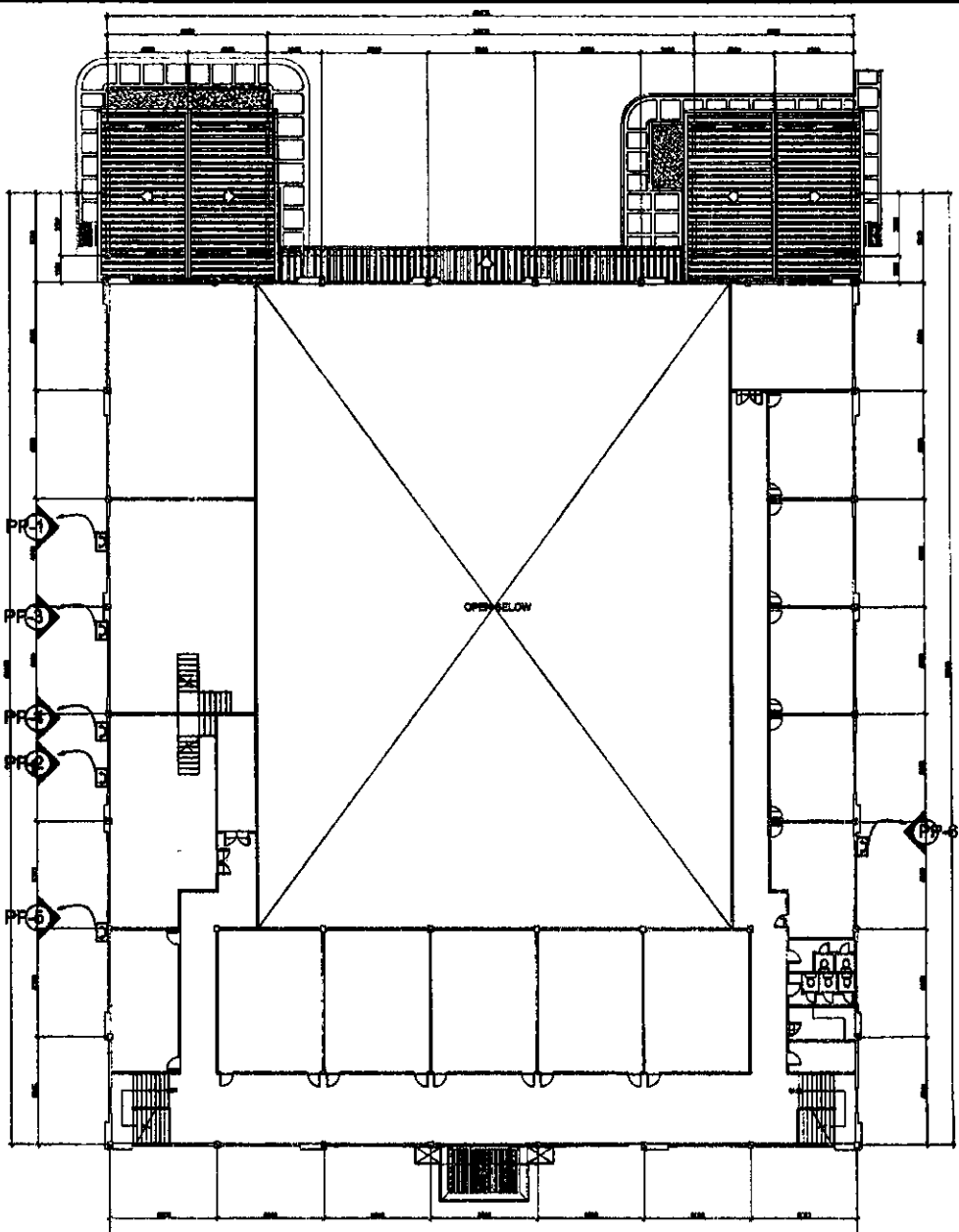
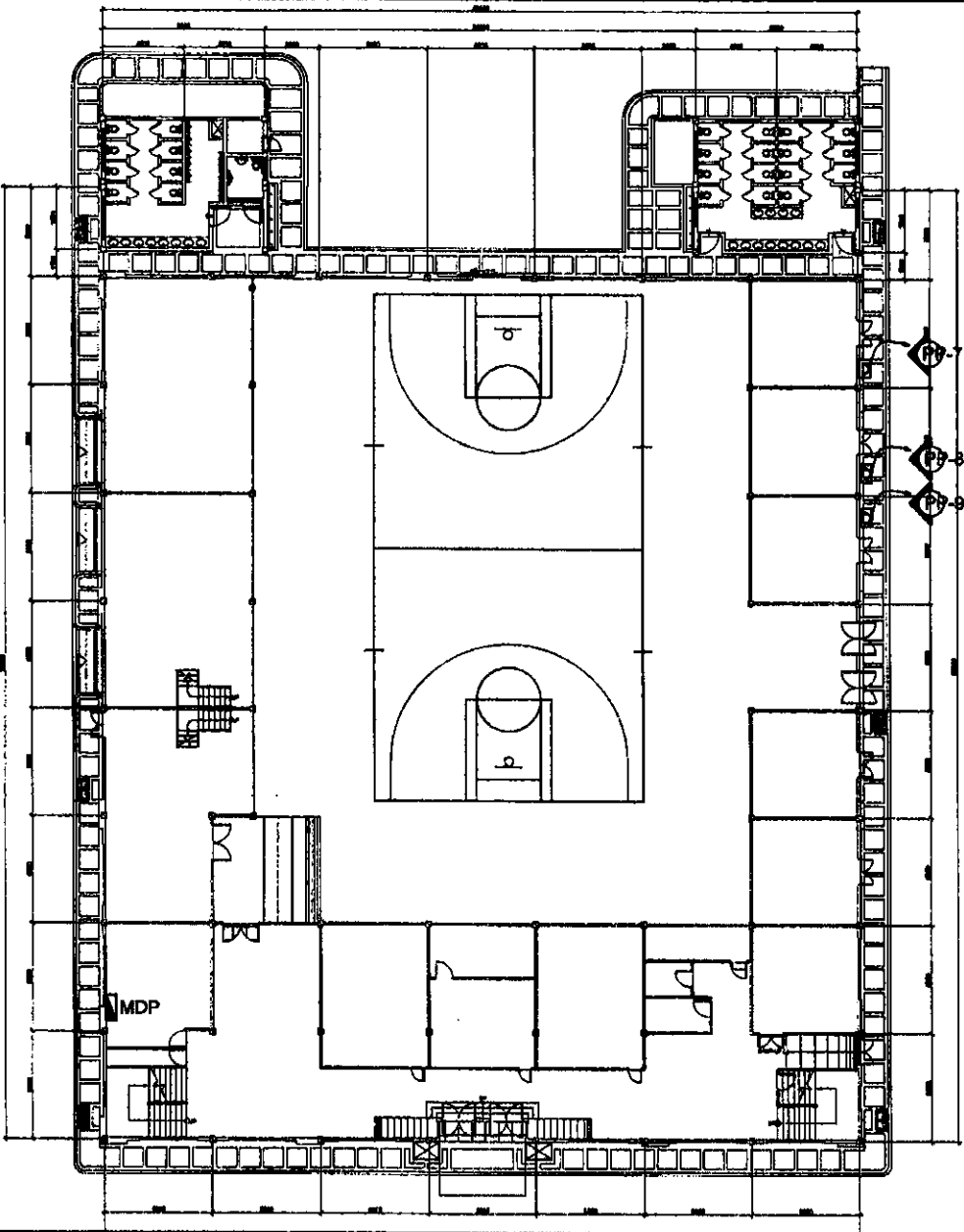
1 SCHEDULE OF LOADS

SCALE NTS.


| | | | | | | | | |
|--|---|---|--|--|---|--|-----------------------|--|
|  <p>Republic of the Philippines Department of Engineering Quezon City University Barangay San Bartolome</p> | PROJECT TITLE: DETAILED ELECTRICAL DESIGN PLAN PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME | SHEET CONTENT: SCHEDULE OF LOADS | DESIGNED BY:  ENGR. KELVIN M. MARZONIA ENGINEER 1 - ELECTRICAL ENGINEER | DRAWN BY:  ENGR. FREDAS S. DE GUZMAN CHIEF, PLANNING AND DESIGN DIVISION | APPROVED BY:  ATTY. MARK D. PERALTA CITY ENGINEER | SET NO. EL-06 05/07 | SHEET NO. 12 21 | |
| | LOCATION: BARANGAY SAN BARTOLOME DISTRICT 4, MARICUYA CITY | PREL. NO. 05628 VALID DATE: APR 02, 2023 | PREL. NO. 72888 ISSUED DATE: JANUARY 04, 2024 | PREL. NO. 74460 VALID DATE: MARCH 24, 2024 | PREL. NO. 72882 ISSUED DATE: JANUARY 04, 2024 | PREL. NO. 74460 ISSUED DATE: JANUARY 04, 2024 | | |
| | | | | | | | | |
| | | | | | | | | |



| 1 GROUND FLOOR LIGHTING LAYOUT | | SCALE 1:300 MTS. | | 2 SECOND FLOOR LIGHTING LAYOUT | | SCALE 1:300 MTS. | | |
|--|---|---|---|--|--|---|--------------------------------|-----------|
|  <p>Republic of the Philippines Department of Engineering Quezon City University Barangay San Bartolome</p> | PROJECT TITLE: DETAILED ENGINEERING DESIGN PLAN PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME | SHEET CONTENT: GROUND FLOOR LIGHTING LAYOUT SECOND FLOOR LIGHTING LAYOUT | DESIGNED BY: ENGR. KELVIN B. MARZONA ENGINEER - I - ELECTRICAL ENGINEER | SUBMITTED BY: ENGR. FREDERICK L. DE GUZMAN CHIEF, PLANNING AND DESIGN DIVISION | APPROVED BY: ATTY. MARK DAKE DIAMOND P. PERRAL CITY ENGINEER | SHEET NO.: EL-06 | SHEET NO.: 13 | |
| | LOCATION: BARANGAY SAN BARTOLOME DISTRICT 8, QUEZON CITY | | PTEL NO. 710999 VALID DATE: JUNE 01, 2025 | PTEL NO. 710999 ISSUED DATE: JANUARY 16, 2025 | PTEL NO. 710999 VALID DATE: MARCH 01, 2027 | PTEL NO. 710999 ISSUED DATE: JANUARY 16, 2025 | 06/07 | 21 |
| | | | | | | | | |
| | | | | | | | | |



1 GROUND FLOOR POWER LAYOUT SCALE 1:300 MTS. **2 SECOND FLOOR POWER LAYOUT** SCALE 1:300 MTS.

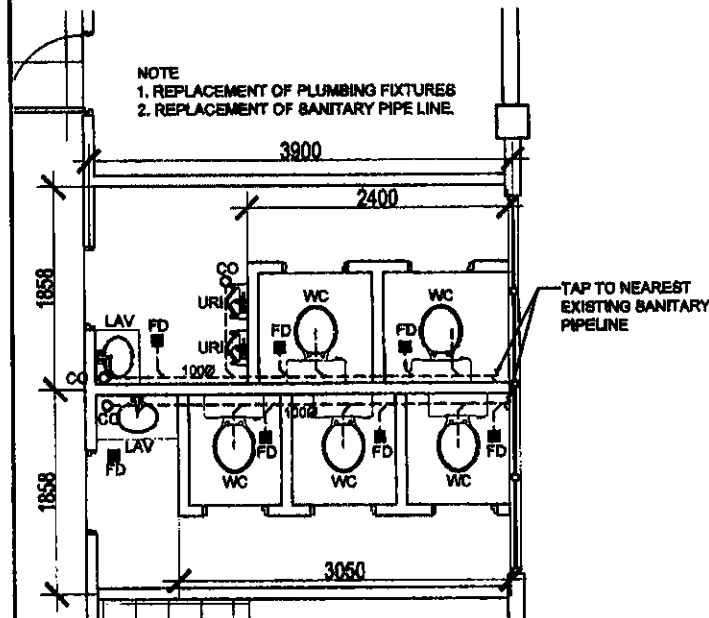
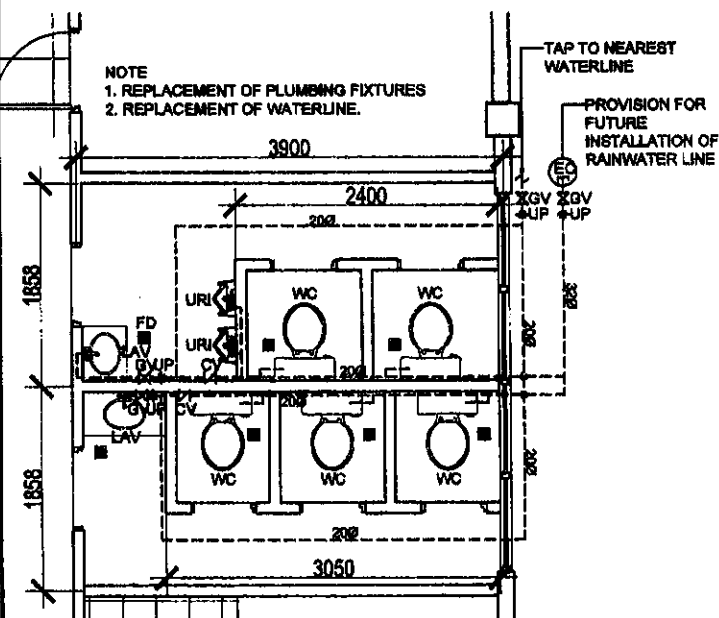
| | | | | | | |
|--|---|---|---|--|----------|-----------|
|  Republic of the Philippines Department of Engineering Quezon City University Barangay San Bartolome, Quezon City | PROJECT TITLE: DETAILED ENGINEERING DESIGN PLAN | DESIGNED BY: | SUBMITTED BY: | APPROVED BY: | REV. NO. | REV. DATE |
| | PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME | ENGR. NELVIN M. MARZONA ENGINEER 1 - ELECTRICAL ENGINEER | ENGR. FREDERICK B. DE GUZMAN CHIEF, PLANNING AND DESIGN DIVISION | ATTY. MARK DALE D. PERRAL CITY ENGINEER | EL-07 | 14 |
| | LOCATION: BARANGAY SAN BARTOLOME DISTRICT 1, QUEZON CITY | PRJ. NO.: 718-000 ISSUED DATE: JANUARY 06, 2023 | PRJ. NO.: 718-000 ISSUED DATE: JANUARY 06, 2023 | PRJ. NO.: 718-000 ISSUED DATE: JANUARY 06, 2023 | 07/07 | 21 |
| | PRJ. NO.: 718-000 ISSUED DATE: JANUARY 06, 2023 | PRJ. NO.: 718-000 ISSUED DATE: JANUARY 06, 2023 | PRJ. NO.: 718-000 ISSUED DATE: JANUARY 06, 2023 | PRJ. NO.: 718-000 ISSUED DATE: JANUARY 06, 2023 | | |

1. ALL WORKS SHALL BE EXECUTED IN ACCORDANCE TO THE UNIFORM PLUMBING CODE OF THE PHILIPPINES, THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND OTHER RELATED LAWS AND ORDINANCES OF THIS CITY.
2. ALL WORKS SHALL BE SUPERVISED BY A REGISTERED PROFESSIONAL RELATED TO THE ACTIVITIES BEING UNDERTAKEN.
3. ALL WORKS SHALL BE COORDINATED WITH THE RESPECTIVE TRADES SO TO AVOID CONFLICTS DURING EXECUTION OF ACTIVITIES.
4. ALL NECESSARY PERMITS SHALL BE SECURED AND TURNED-OVER TO THE CITY.
5. ALL DRAWINGS AND SPECIFICATIONS SHALL BE CORRECTLY REVIEWED BY THE CONTRACTOR AND SHALL IMMEDIATELY BE INFORMED IF DISCREPANCY (IES) FOUND HEREIN.
6. ALL DIMENSIONS, ELEVATIONS AND REFERENCES SHALL BE VERIFIED WITH THE ACTUAL CONDITION PRIOR TO EXECUTION.
7. SHOP DRAWINGS SHALL BE PROVIDED AS NECESSARY PRIOR TO THE EXECUTION.
8. ALL WORKS SHALL BE TESTED AND COMMISSIONED AS INDICATED IN THE SPECIFICATION WITH THE PRESENCE OF ALL PARTIES INVOLVE. RESULT SHALL BE DOCUMENTED PROPERLY.
9. ALL PIPES AND LAY-OUT ARE ONLY DIAGNOSTIC. ACTUAL LAYOUT OF PIPES AND FITTINGS, UNLESS OTHERWISE REQUIRED, SHALL BE PROPERLY CONCEALED.
10. NO PIPES SHALL BE ALLOWED TO BE EMBEDDED IN STRUCTURAL MEMBERS, UNLESS OTHERWISE APPROVED.
11. ALL PIPES, FITTINGS, EQUIPMENT AND FIXTURE SHALL PASS THE MINIMUM STANDARDS AS PER MATERIAL SPECIFICATION WITH THE SEAL OF APPROVAL BY THE DEPARTMENT OF TRADES AND INDUSTRY.
12. ALL PIPES, FITTINGS, EQUIPMENT AND FIXTURES SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S SPECIFICATION AND INSTRUCTION.
13. SUPPORT AND HANGERS SHALL BE PROVIDED ACCORDINGLY.
14. ALL EQUIPMENT & FIXTURES SHALL BE ENVIRONMENTAL FRIENDLY (SUCH AS WATER EFFICIENT FIXTURES).
15. WATERLINE
 - 15.1. WATERLINE SHALL BE PPR TYPE.
 - 15.2. GATE VALVE SHALL BE PPR TYPE OR APPROVED EQUIVALENT.
 - 15.3. WATER METER SHALL BE ANY BRAND AND ACCEPTED BY THE WATER UTILITY COMPANIES.
 - 15.4. ALL WATER PIPES EXPOSED TO WEATHER CONDITIONS SHALL BE MADE OF G.I.
16. STORM DRAIN
 - 16.1. ALL STORM DRAINAGE SLOPE SHALL BE WITHIN 0.5% TO 4%.
 - 16.2. STORM DRAINAGE LINE 200MM AND BELOW SHALL BE PVC, 250MM & ABOVE SHALL BE REINFORCED CONCRETE PIPE.
17. SEWER LINE
 - 17.1. ALL SLOPES FOR SANITARY SHALL CONFORM A 2% SLOPE.
 - 17.2. SOIL, WASTE, & VENT PIPE SHALL BE (POLYVINYL CHLORIDE) PVC OR THE APPROVED EQUAL.
 - 17.3. CLEAN OUTS MUST BE PROVIDED FOR SANITARY VERTICAL PIPES AND EACH HORIZONTAL PIPE SHALL BE PROVIDED WITH A CLEAN OUT AT ITS UPPER TERMINAL. EVERY CHANGE IN DIRECTION AND EVERY 90° OF A STRAIGHT PIPE, CLEANOUTS CAN BE OMITTED IF THE EFFECTIVE LENGTH IS LESS THAN 1.8M.
 - 17.4. ALL DRAINAGE FIXTURE SHALL BE SUPPLIED WITH APPROPRIATE VENTILATION.
18. FIXTURES
 - 18.1. WATER CLOSETS SHALL BE FREE STANDING TOILET COMBINATION, ROUND FRONT BOTTOM OUTLET SIPHON VORTICE OR WASH-DOWN BOWL WITH EXTENDED REAR SELF AND CLOSE COUPLED TANK WITH COVER COMPLETE WITH FITTING AND MOUNTING ACCESSORIES AND WATER EFFICIENT.
 - 18.2. LAVATORY SHALL BE VITREOUS CHINA, WALL HUNG WITH REAR OVERFLOW, POCKET HANGER WITH INTEGRAL CHINA BRACKET, COMPLETE WITH STAINLESS STEEL LEVER TYPE HEAVY DUTY FAUCET, SUPPLY PIPES, P-TRAP AND MOUNTING ACCESSORIES.
 - 18.3. URINAL SHALL BE VITREOUS CHINA, WALL HUNG WASH-OUT URINAL WITH EXTENDED SHIELDS AND INTEGRAL FLUSH SPRINGER, CONCEALED WALL HANGER POCKETS, 10MM TOP BRID COMPLETE FITTING AND MOUNTING ACCESSORIES, INCLUDING URINAL PARTITION.
 - 18.4. GRAB BARS SHALL BE PROVIDED ON ALL PWD TOILET AND SHALL BE MADE OF TUBULAR STAINLESS STEEL PIPE PROVIDED WITH SAFETY GRIP AND MOUNTING FLANGE.
 - 18.5. FLOOR DRAINS SHALL BE MADE OF STAINLESS BRASSIVE TYPE, MEASURING 100MM X 100MM AND PROVIDED WITH DETACHABLE STAINLESS STRAINER, EXPANDED METAL LATH TYPE.
 - 18.6. TOILET PAPER HOLDER SHALL BE VITREOUS CHINA WALL MOUNTED, COLOR SHALL RECONCILE WITH THE ADJACENT FIXTURE AND FACING TILES.
 - 18.7. SOAP HOLDER SHALL BE VITREOUS CHINA WALL MOUNTED, COLOR SHALL RECONCILE WITH THE ADJACENT FIXTURE AND FACING TILES.
 - 18.8. FAUCET SHALL BE MADE OF STAINLESS STEEL LEVER TYPE HEAVY DUTY FOR INTERIOR USE.
 - 18.9. HOSE BIBB SHALL BE MADE OF STAINLESS STEEL LEVER TYPE HEAVY DUTY.
 - 18.10. KITCHEN SINK FAUCET SHALL BE MADE OF STAINLESS STEEL LEVER TYPE HEAVY DUTY GOOSE NECK TYPE WITH COMPLETE ACCESSORIES.

| I. WATER DISTRIBUTION SYSTEM : | | III. FIXTURES AND OTHER LEGEND | |
|-----------------------------------|----------|--------------------------------|-----------------------|
| — | CWL | FD | FLOOR DRAIN |
| — | CWR/CWDF | RD | ROOF DRAIN |
| — | GV | SHO | SHOWER |
| — | CV | WC | WATER CLOSET |
| — | UP | LAV | LAVATORY |
| — | WM | URI | URINAL |
| II. SEWER/WASTE AND VENT SYSTEM : | | KS | KITCHEN SINK |
| — | SP / WP | GT | GREASE TRAP |
| — | VS / VP | FCO | FLOOR/GROUND CLEANOUT |
| — | DP | DS | DOWNSPOUT |
| — | DS | CB | CATCH BASIN |
| — | SS | | |
| — | FOO/ GCO | | |

2 LEGENDS AND SYMBOLS

SCALE NTS.



1 GENERAL NOTES

SCALE NTS.

3 SECOND FLOOR TOILET WATER LINE LAYOUT

SCALE
1:50 MTS.

4 SECOND FLOOR TOILET SEWER LINE LAYOUT

SCALE
1:50 MTS.

Republic of the Philippines
Department of Engineering
Quezon City University
Barangay San Bartolome
District 2, Quezon City

PROJECT TITLE: DETAILED ENGINEERING DESIGN PLAN
PROPOSED REHABILITATION OF
TECH VOC BUILDING AT QUEZON
CITY UNIVERSITY (QCU) IN
BARANGAY SAN BARTOLOME

LOCATION: BARANGAY SAN BARTOLOME
DISTRICT 2, QUEZON CITY

SHEET CONTENT:
GENERAL NOTES
LEGENDS AND
SYMBOLS
SECOND FLOOR
TOILET WATERLINE
LAYOUT
SECOND FLOOR
TOILET SEWER LINE
LAYOUT

DESIGNED BY:

ENGR. DEXTER A. ZAMUDIO
ENGINEER I - MECHANICAL ENGINEER

PRJ. NO.: P18881
VALID DATE: JAN 16, 2024

PIR. NO.: T1888
ISSUED DATE: JANUARY 16, 2024

QUANTIFIED BY:

ENGR. FREDERICK D. DE GUZMAN
CHIEF, PLANNING AND DESIGN DIVISION

PRJ. NO.: T1888
VALID DATE: MARCH 16, 2024

PIR. NO.: T1888
ISSUED DATE: JANUARY 16, 2024

APPROVED BY:

ATTY. MARK DAVID B. MOND P. PERRAL
CITY ENGINEER

PRJ. NO.: P1888
VALID DATE: FEBRUARY 16, 2024

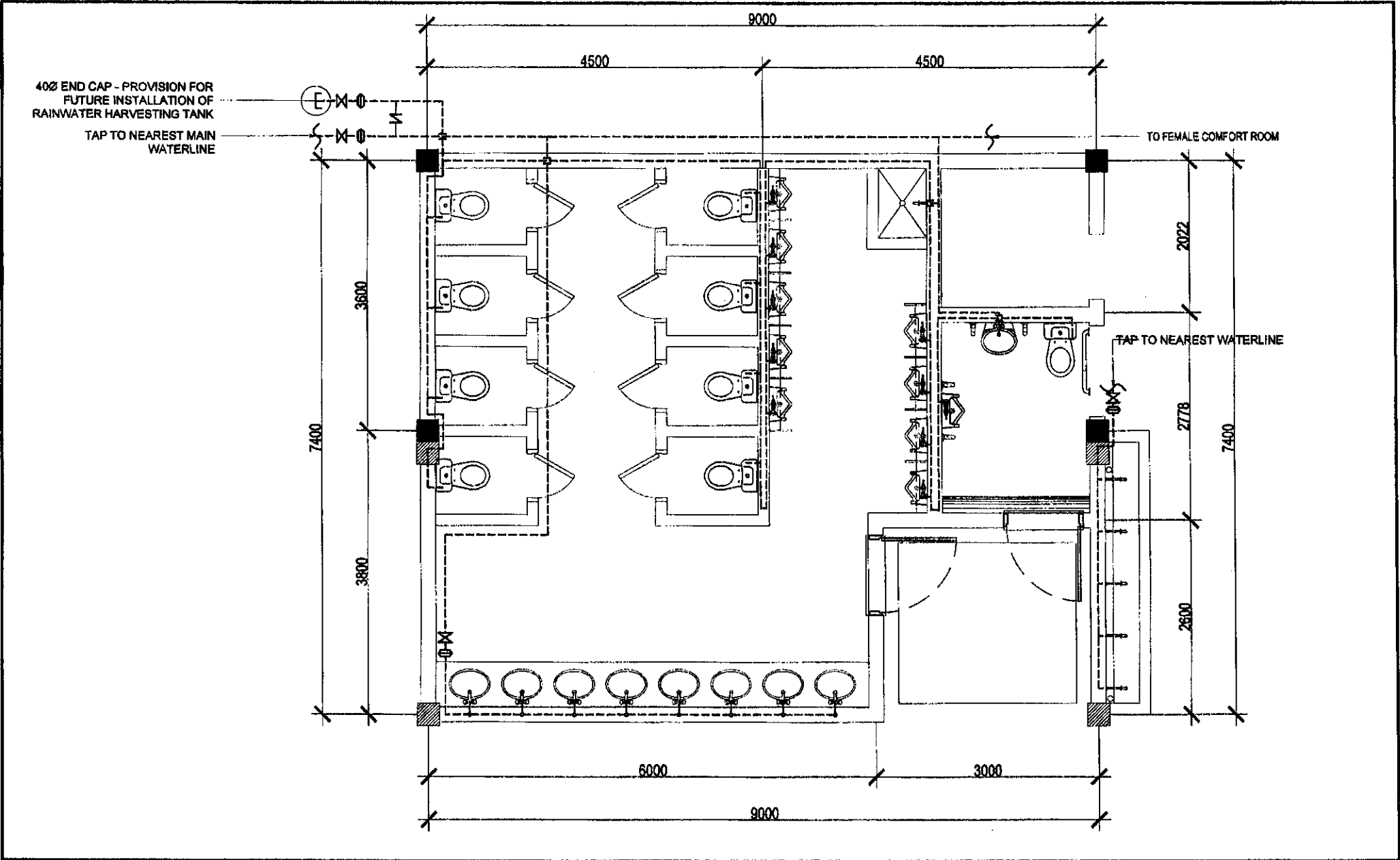
PIR. NO.: T1888
ISSUED DATE: JANUARY 16, 2024


SHEET NO.

PL-01
01/05

SHEET NO.

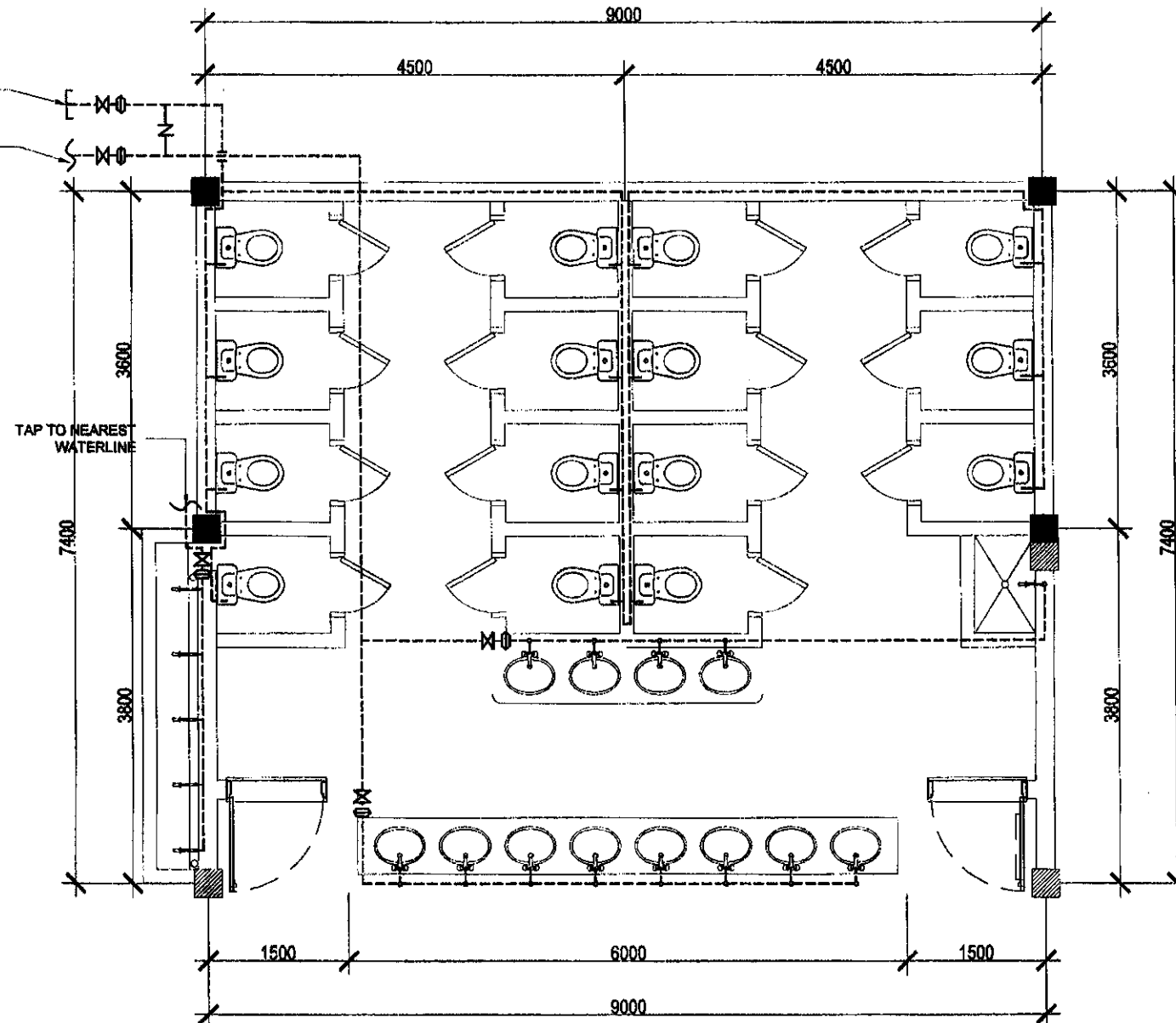
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| 1 | | GROUND FLOOR MALE TOILET WATERLINE LAYOUT | | | | SCALE 1:50 MTS. | |
|---|--|---|---|---|---|--|----------------|
|  <div>Engineering Division Department of Engineering Quezon City University Office: Room 100, 3rd Floor, Bldg. 100 Quezon City, Philippines 1103 Email: deo@qcu.edu.ph</div> | PROJECT TITLE | Detailed Engineering Design Plan | SHEET CONTENTS | DESIGNED BY: | APPROVED BY: | DATE | SHEET NO. |
| | PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME | | GROUND FLOOR MALE TOILET WATERLINE LAYOUT | ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER | ENGR. FREDERICK B. DE GUZMAN CHIEF, PLANNING AND DESIGN DIVISION | ATTY. MARK DALE DIAMOND P. PERRAL CITY ENGINEER | PL-02 02/06 |
| | LOCATION | BARANGAY SAN BARTOLOME DISTRICT 8, QUEZON CITY | | PRJ. NO.: 210887 ISSUED DATE: JANUARY 02, 2025 | PRJ. NO.: 210887 ISSUED DATE: JANUARY 02, 2025 | PRJ. NO.: 210887 ISSUED DATE: JANUARY 02, 2025 | 16 21 |
| | | | | PRJ. NO.: 210887 ISSUED DATE: JANUARY 02, 2025 | PRJ. NO.: 210887 ISSUED DATE: JANUARY 02, 2025 | PRJ. NO.: 210887 ISSUED DATE: JANUARY 02, 2025 | |

400 END CAP - PROVISION
FOR FUTURE INSTALLATION
OF RAINWATER
HARVESTING TANK
TAP TO NEAREST
MAIN WATERLINE

TAP TO NEAREST
WATERLINE



1 GROUND FLOOR FEMALE TOILET WATERLINE LAYOUT

SCALE 1:50 MTS.

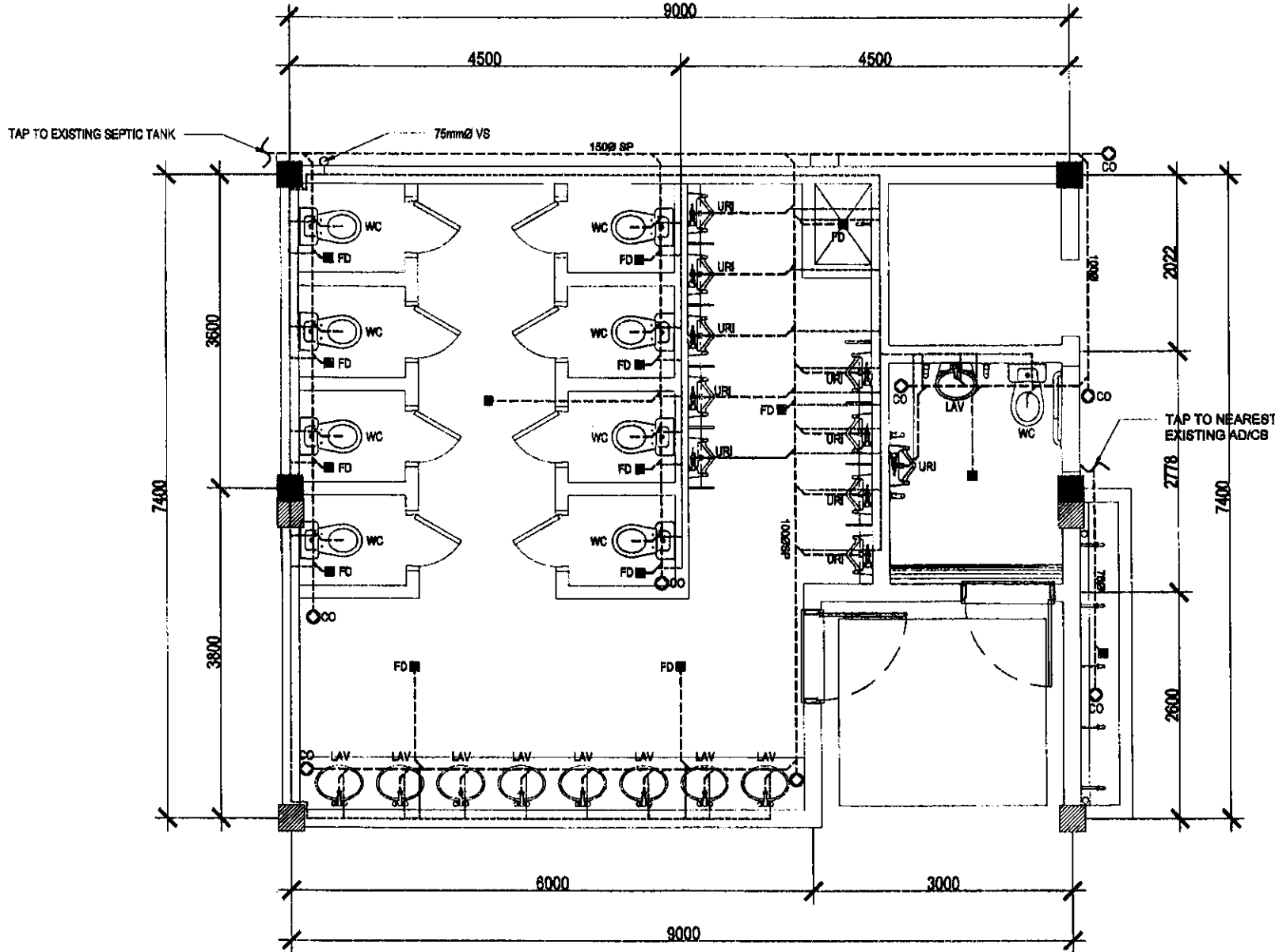


Transferee ng Paggalang
Lungsod ng Quezon
DEPARTMENT OF ENGINEERING
Quezon City University
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| PROJECT TITLE | DESIGNED BY | DESIGNED BY | DESIGNED BY | DESIGNED BY | DESIGNED BY | DESIGNED BY | DESIGNED BY |
|---|---|---|---|---|---|---|---|
| PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME | ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER | ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER | ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER | ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER | ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER | ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER | ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER |
| LOCATION: BARANGAY SAN BARTOLOME CITY OF QUEZON CITY | PROJECT NO. 17401 ISSUED DATE: JANUARY 16, 2024 | PROJECT NO. 17401 ISSUED DATE: JANUARY 16, 2024 | PROJECT NO. 17401 ISSUED DATE: JANUARY 16, 2024 | PROJECT NO. 17401 ISSUED DATE: JANUARY 16, 2024 | PROJECT NO. 17401 ISSUED DATE: JANUARY 16, 2024 | PROJECT NO. 17401 ISSUED DATE: JANUARY 16, 2024 | PROJECT NO. 17401 ISSUED DATE: JANUARY 16, 2024 |
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21



1 GROUND FLOOR MALE TOILET SEWER LINE LAYOUT

SCALE 1:50 MTS.



Republic of the Philippines
Department of Engineering
Quezon City

PROJECT TITLE: PROPOSED REHABILITATION OF
TECH VOC BUILDING AT QUEZON
CITY UNIVERSITY (QCU) IN
BARANGAY SAN BARTOLOME

LOCATION: BARANGAY SAN BARTOLOME
DISTRICT 9, QUEZON CITY

MEET CONTENT:
GROUND FLOOR MALE
TOILET SEWER LINE
LAYOUT

DESIGNED BY:

ENGR. DEXTER D. ZAMUDIO
ENGINEER 1 - MECHANICAL ENGINEER

PROJ. NO.: 011801
VALID DATE: JUNE 16, 2023

PROJ. NO.: 718030
ISSUED DATE: JANUARY 16, 2025

SUBMITTED BY:

ENGR. PREDIMAR O. DE GUZMAN
CHIEF, PLANNING AND DESIGN DIVISION

PROJ. NO.: 7180
VALID DATE: MARCH 28, 2023

PROJ. NO.: 7180
ISSUED DATE: JANUARY 16, 2025

APPROVED BY:

ATTY. MARK D. DIAMONDO P. PERRAL
CITY ENGINEER

PROJ. NO.: 7180
VALID DATE: FEBRUARY 24, 2023

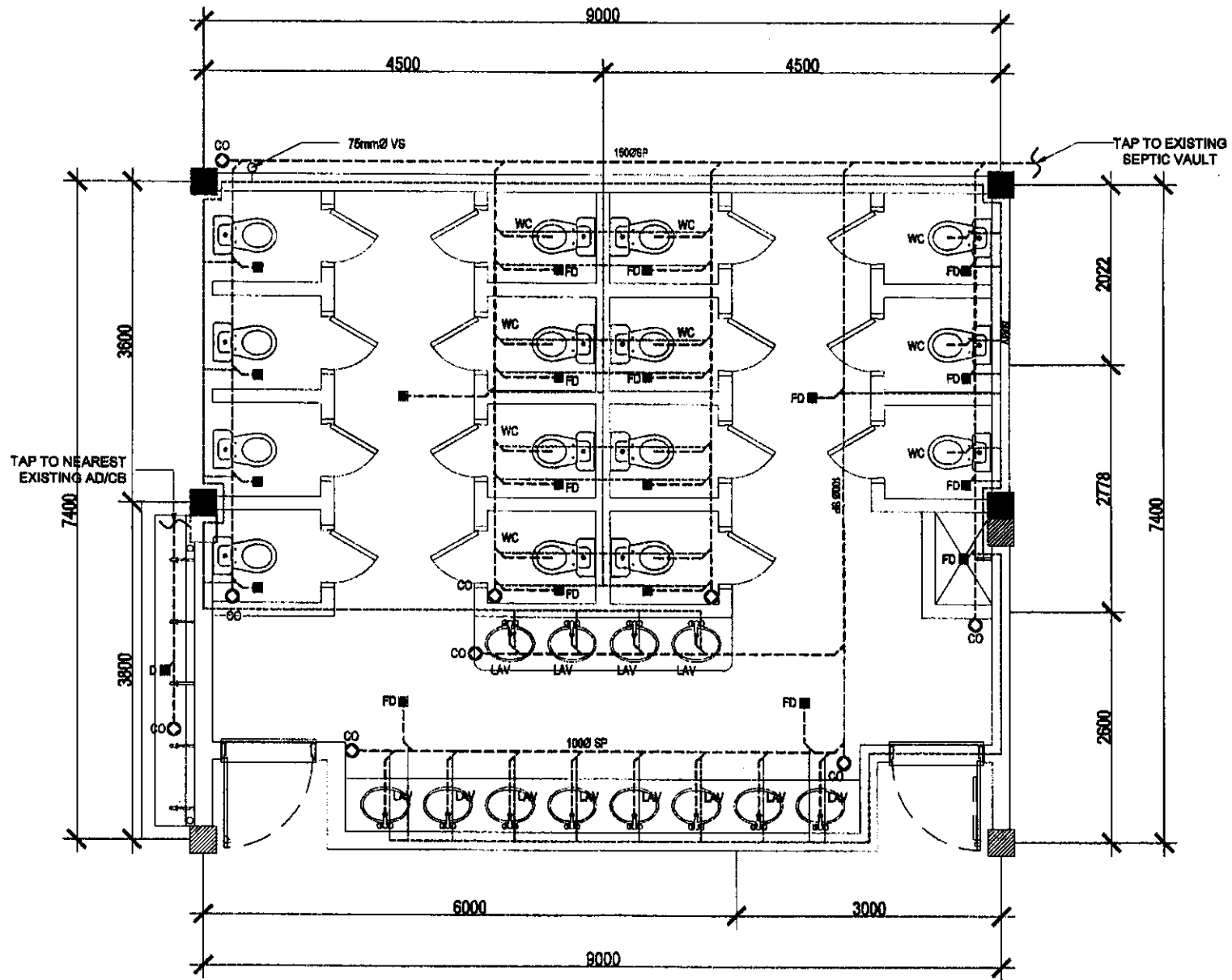
PROJ. NO.: 7180
ISSUED DATE: JANUARY 16, 2025

DETAIL:

PL-04
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SHEET NO.:

18
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1 GROUND FLOOR FEMALE TOILET SEWER LINE LAYOUT

SCALE 1:50 MTS.



Quezon City
Department of Engineering
Quezon City University
Barangay San Bartolome
Quezon City

| | | | | | | |
|---|---|--|---|---|---------------------------|---------------------|
| PROJECT TITLE: DETAILED DIMENSIONED SEWER PLAN | SHEET CONTENT: GROUND FLOOR FEMALE TOILET SEWER LINE LAYOUT | DESIGNED BY: ENGR. DEXTER D. ZAMUDIO ENGINEER 1 - MECHANICAL ENGINEER | SUBMITTED BY: ENGR. FREDERICK M. DE GUZMAN CHIEF, PLANNING AND DESIGN DIVISION | APPROVED BY: ATTY. MARK DALE C. PERRAL CITY ENGINEER | SHEET NO.: PL-05 05/06 | SHEET NO.: 19 21 |
| LOCATION: BARANGAY SAN BARTOLOME, DISTRICT 6, QUEZON CITY | | PROJ. NO.: 11-201 ISSUED DATE: JAN 18, 2023 | PROJ. NO.: 11-201 ISSUED DATE: JAN 18, 2023 | PROJ. NO.: 11-201 ISSUED DATE: JAN 18, 2023 | | |

MECHANICAL WORKS

1. ALL WORKS SHALL BE EXECUTED IN ACCORDANCE TO THE PHILIPPINE SOCIETY OF MECHANICAL ENGINEERS CODE, THE NATIONAL BUILDING CODE OF THE PHILIPPINES AND OTHER RELATED LAWS AND ORDINANCES OF THIS CITY.
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3. ALL WORKS SHALL BE COORDINATED WITH THE RESPECTIVE TRADES IN ORDER TO AVOID CONFLICTS DURING EXECUTION OF ACTIVITIES
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7. SHOP DRAWINGS SHALL BE PROVIDED AS NECESSARY PRIOR TO THE EXECUTION.
8. ALL WORKS SHALL BE TESTED AND COMMISSIONED AS INDICATED IN THE SPECIFICATION WITH THE PRESENCE OF ALL PARTIES INVOLVE. RESULT SHALL BE DOCUMENTED PROPERLY.
9. AIR CONDITIONED SPACES SHALL BE MAINTAINED AT 24° C DRY BULB AND 50% RELATIVE HUMIDITY.
10. ALL FLOOR SLAB-MOUNTED VIBRATING EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATORS TO PREVENT VIBRATION AND NOISE TRANSMISSION.
11. EXHAUST FANS SHALL BE PROVIDED WITH SUITABLE FLEXIBLE CONNECTIONS TO DISCHARGE DUCT.
12. ALL POWER WIRING SHALL BE ELECTRICAL, AND TERMINATION TO EQUIPMENT SHALL BE MECHANICAL.
13. PROVIDE CONTROL WIRING FOR AIR CONDITIONING EQUIPMENT.
14. PROVIDE THERMOSTAT FOR ALL INDOOR UNITS OR FAN COIL UNITS.
15. VERIFY LOCATION OF CONTROLLERS AND SWITCHES ON ELECTRICAL PLANS.
16. ALL CONDENSATE WATER DRAIN PIPES SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN, AREA DRAIN OR CATCH BASIN.
17. PROVIDE GUIDES, HANGERS AND SUPPLEMENTAL STEEL SUPPORTS FOR ALL PIPING, DUCTING AND EQUIPMENT.
18. PROVIDE PIPE SLEEVES FOR ALL PIPES PASSING THRU BUILDING STRUCTURE.
19. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

1 GENERAL NOTES

SCALE NTS.

| | | | |
|--|-----------------------------|--|----------------------------|
| | EQUIPMENT DESIGNATION | | AIR COOLED CONDENSING UNIT |
| | REFRIGERANT PIPE | | ELBOW UP |
| | WALL MOUNTED INDOOR UNIT | | ELBOW DOWN |
| | WINDOW TYPE AIR CONDITIONER | | FAN COIL UNIT |

2 LEGENDS AND SYMBOLS

SCALE NTS.

3 AIR-CONDITIONING AND VENTILATING SYSTEM SCHEDULE

SCALE NTS.

MULTI-SPLIT AIR-COOLED CONDENSING UNIT (COMBINED OUTDOOR UNIT)

| DESIGNATION | LOCATION | QUANTITY | COOLING CAPACITY (RTON) | POWER CONSUMPTION (KW) | AIR FLOW RATE (CMH) | COMPRESSOR MOTOR OUTPUT (KW) | ELECTRICAL SUPPLY | | | REFRIGERANT PIPE | | REMARKS |
|-------------|----------|----------|-------------------------|------------------------|---------------------|--|-------------------|-------|-------|------------------|------------|--|
| | | | | | | | VOLTS | PHASE | HERTZ | LIQUID (INCH) | GAS (INCH) | |
| | TECH VOC | 2 UNITS | 117.630 | 34.9 KW | 236-439+1029 | (2x1)-(2x2)-(2x3)-(2x4)-(2x5)-(2x6) | 220V | 3P | 60.0 | 1.51 | 41.8 | CONDENSER UNIT SHALL BE INSTALLED IN A VENTILATED SPACE WITH PROPER CLEARANCE, EQUIPPED WITH HIGH-PRESSURE, OVER-CURRENT, & OVER-TEMPERATURE PROTECTION. |
| | TECH VOC | 1 UNIT | 104.200 | 15.8 KW | 225 | (1x1)-(1x2)-(1x3)-(1x4)-(1x5)-(1x6)-(1x7)-(1x8)-(1x9)-(1x10) | 220V | 3P | 60.0 | 1.27 | 25.4 | INDOOR UNIT SHALL BE INSTALLED IN A VENTILATED SPACE WITH PROPER CLEARANCE, EQUIPPED WITH HIGH-PRESSURE, OVER-CURRENT, & OVER-TEMPERATURE PROTECTION. |
| | TECH VOC | 1 UNIT | 95.200 | 7.20 KW | 195 | (1x1)-(1x2)-(1x3)-(1x4)-(1x5)-(1x6)-(1x7)-(1x8)-(1x9)-(1x10) | 220V | 3P | 60.0 | 0.5 | 12.7 | INDOOR UNIT SHALL BE INSTALLED IN A VENTILATED SPACE WITH PROPER CLEARANCE, EQUIPPED WITH HIGH-PRESSURE, OVER-CURRENT, & OVER-TEMPERATURE PROTECTION. |
| | TECH VOC | 1 UNIT | 125.000 | 16.1 KW | 167-228 | (1x1)-(1x2)-(1x3)-(1x4)-(1x5)-(1x6)-(1x7)-(1x8)-(1x9)-(1x10) | 220V | 3P | 60.0 | 1.51 | 38.1 | CONDENSER UNIT SHALL BE INSTALLED IN A VENTILATED SPACE WITH PROPER CLEARANCE, EQUIPPED WITH HIGH-PRESSURE, OVER-CURRENT, & OVER-TEMPERATURE PROTECTION. |
| | TECH VOC | 1 UNIT | 154.000 | 19.9 KW | 240 | (1x1)-(1x2)-(1x3)-(1x4)-(1x5)-(1x6)-(1x7)-(1x8)-(1x9)-(1x10) | 220V | 3P | 60.0 | 1.27 | 38.1 | CONDENSER UNIT SHALL BE INSTALLED IN A VENTILATED SPACE WITH PROPER CLEARANCE, EQUIPPED WITH HIGH-PRESSURE, OVER-CURRENT, & OVER-TEMPERATURE PROTECTION. |

MULTI-SPLIT FAN COIL UNIT (INDOOR UNITS)

| DESIGNATION | LOCATION | QUANTITY | COOLING CAPACITY (RTON) | POWER INPUT (KW) | AIRFLOW RATE (CFM) | ELECTRICAL SUPPLY | | | REFRIGERANT PIPE | | REMARKS |
|-------------|----------|----------|-------------------------|------------------|--------------------|-------------------|-------|-------|------------------|------------|--|
| | | | | | | VOLTS | PHASE | HERTZ | LIQUID (INCH) | GAS (INCH) | |
| | TECH VOC | 10 | 45.100 | 100 W | 10000 | 220.0 | 1P | 60.0 | 0.62 | 14.0 | CEILING HANGERS TYPE 1-HANG WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |
| | TECH VOC | 1 | 20.200 | 47 W | 6000 | 220.0 | 1P | 60.0 | 0.52 | 10.0 | CEILING HANGERS TYPE 4-HANG WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |
| | TECH VOC | 3 | 24.000 | 110 W | 10000 | 220.0 | 1P | 60.0 | 0.62 | 14.0 | FLOOR STANDS TYPE 1-HANG WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |
| | TECH VOC | 2 | 24.000 | 60 W | 10000 | 220.0 | 1P | 60.0 | 0.62 | 14.0 | CEILING HANGERS TYPE 4-HANG WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |
| | TECH VOC | 2 | 24.000 | 110 W | 10000 | 220.0 | 1P | 60.0 | 0.62 | 14.0 | FLOOR STANDS TYPE 1-HANG WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |
| | TECH VOC | 1 | 24.000 | 60 W | 10000 | 220.0 | 1P | 60.0 | 0.62 | 14.0 | CEILING HANGERS TYPE 4-HANG WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |
| | TECH VOC | 6 | 24.000 | 127 W | 10000 | 220.0 | 1P | 60.0 | 0.62 | 14.0 | CEILING HANGERS TYPE 4-HANG WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |
| | TECH VOC | 6 | 24.000 | 60 W | 10000 | 220.0 | 1P | 60.0 | 0.62 | 14.0 | WALL MOUNTED TYPE 1P WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |

SPLIT TYPE AIR CONDITIONING UNIT

| DESIGNATION | LOCATION | QUANTITY | COOLING CAPACITY (RTON) | POWER CONSUMPTION (KW) | CURRENT INPUT (A) | ELECTRICAL SUPPLY | | | REFRIGERANT PIPE | | REMARKS |
|-------------|----------|----------|-------------------------|------------------------|-------------------|-------------------|-------|-------|------------------|------------|---|
| | | | | | | VOLTS | PHASE | HERTZ | LIQUID (INCH) | GAS (INCH) | |
| | TECH VOC | 1 | 22.400 | 2.0 KW | 8.8 A | 220.0 | 1P | 60.0 | 0.50 | 12.7 | WALL MOUNTED SPLIT TYPE 1-HANG WITH REMOTE CONTROL, DRAIN DEVICE, & HIGH PURITY FILTER. |

EXHAUST FAN

| DESIGNATION | LOCATION | QUANTITY | TYPE | AIR FLOW RATE (CMH) | POWER CONSUMPTION (W) | ELECTRICAL SUPPLY | | | REMARKS | |
|-------------|------------------------------|----------|-----------------------------|---------------------|-----------------------|-------------------|-------|-------|--|--|
| | | | | | | VOLTS | PHASE | HERTZ | | |
| | WALL AND CEILING OF TECH VOC | 4 | CEILING MOUNTED (PLUG TYPE) | 400-600 | 10-15 | 220.0 | 1P | 60.0 | DOUBLES FAN PROTECTION, CORONA LECTOR, PRESSURE TYPE WITH CENTRIFUGAL FAN, QUICK CONNECT TERMINAL. | |



Responsible & Registered
DEPARTMENT OF ENGINEERING
Quezon City University
Barangay San Bartolome
District 5, Quezon City

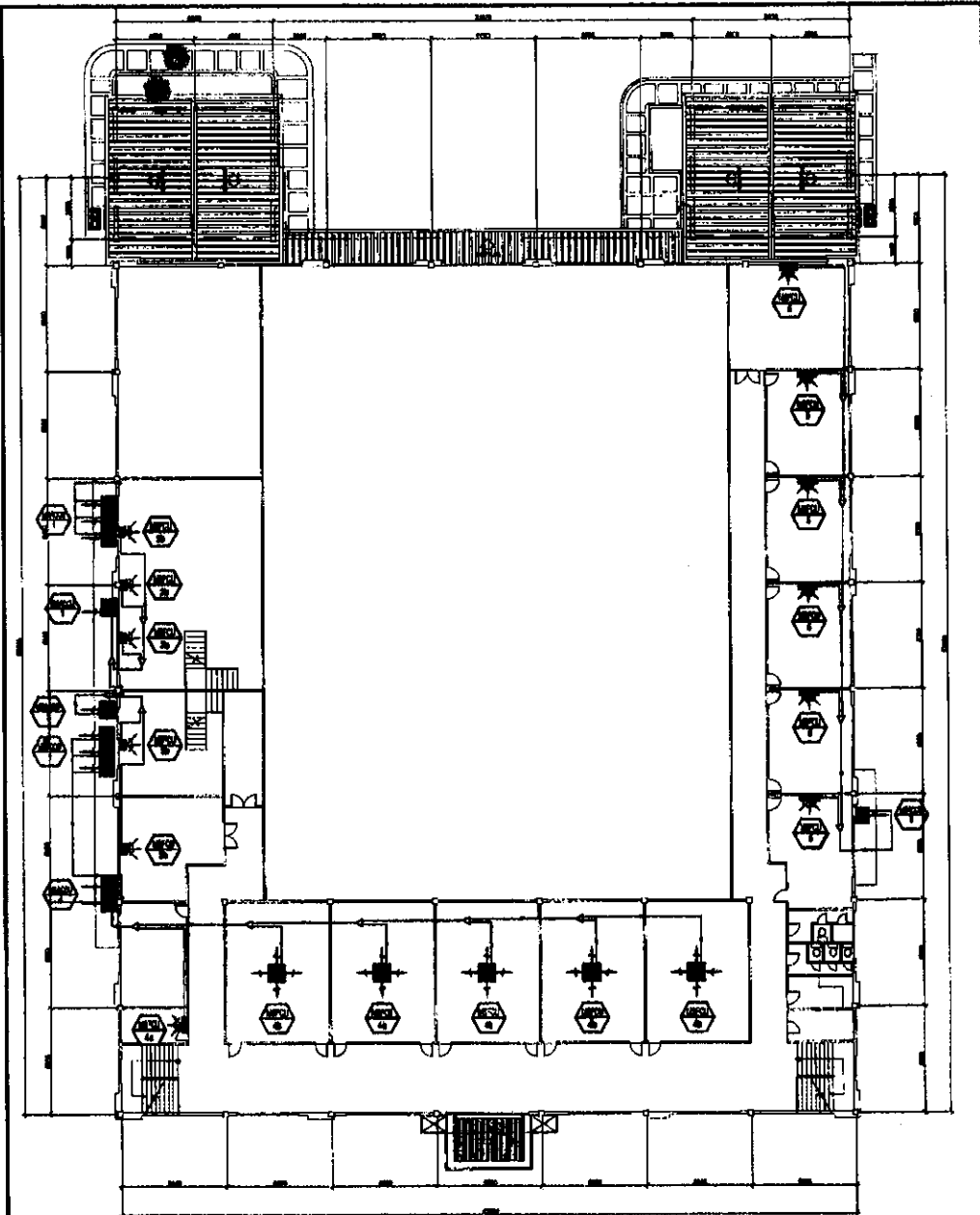
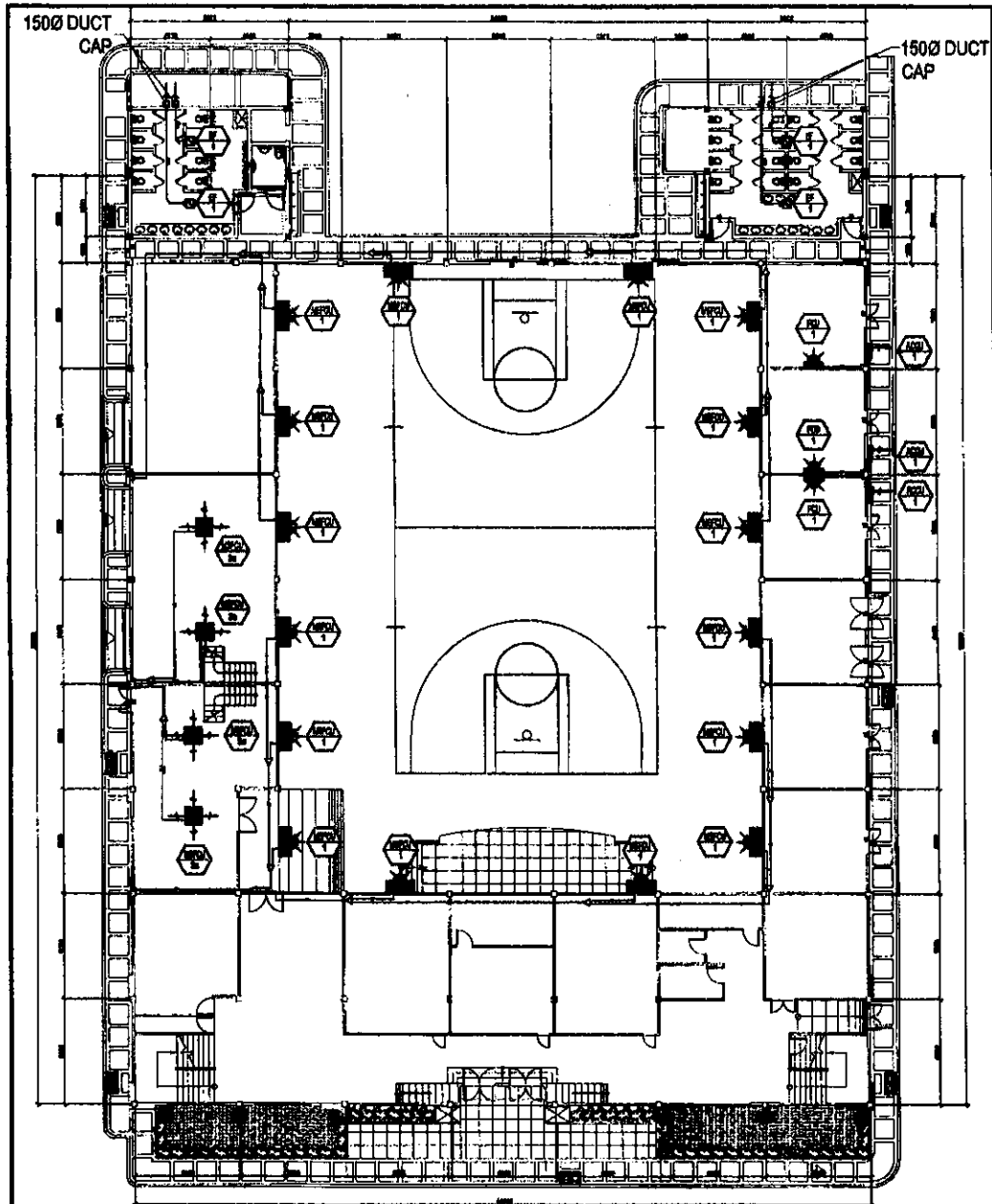
PROJECT TITLE: PROPOSED RENOVATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME
SHEET CONTENT: GENERAL NOTES, LEGENDS AND SYMBOLS, AIR-CONDITIONING AND VENTILATING SYSTEM SCHEDULE
ENGINEER: ENGR. DEXTER D. ZAMUDIO
ENGINEER, 1 - MECHANICAL ENGINEER
LOCATION: BARANGAY SAN BARTOLOME, DISTRICT 5, QUEZON CITY
DATE: JANUARY 16, 2024

ENGINEER: ENGR. DEXTER D. ZAMUDIO
ENGINEER, 1 - MECHANICAL ENGINEER
DATE: JANUARY 16, 2024

ENGINEER: ENGR. FREDERICK M. DE GUZMAN
CHIEF, PLANNING AND DESIGN DIVISION
DATE: MARCH 16, 2024

APPROVED BY: ATTY. MARK DALE DIAMOND P. PERALTA
CITY ENGINEER
DATE: FEBRUARY 16, 2024

SHEET NO.: ME-01
SHEET NO.: 01 OF 02
SHEET NO.: 20
SHEET NO.: 21



1 GROUND FLOOR AIR-CONDITIONING AND VENTILATING SYSTEM LAYOUT SCALE 1:300 MTS.

2 SECOND FLOOR AIR-CONDITIONING AND VENTILATING SYSTEM LAYOUT SCALE 1:300 MTS.



Republic of the Philippines
Department of Engineering
City of Quezon
Engineering Division
Barangay San Bartolome

PROJECT TITLE: DETAILED MECHANICAL DESIGN PLAN
PROPOSED REHABILITATION OF
TECH VOC BUILDING AT QUEZON
CITY UNIVERSITY (QCU) IN
BARANGAY SAN BARTOLOME

LOCATION: BARANGAY SAN BARTOLOME
DISTRICT 9, QUEZON CITY

SHEET CONTENT:
GROUND FLOOR
AIR-CONDITIONING AND
VENTILATING SYSTEM
LAYOUT
SECOND FLOOR
AIR-CONDITIONING AND
VENTILATING SYSTEM
LAYOUT

DESIGNED BY:

ENGR. BEXTER V. ZAMUDIO
ENGINEER 1 - MECHANICAL ENGINEER

PRC NO. 011881
VALID DATE: APRIL 18, 2023

PRC NO. 7988
ISSUED DATE: JANUARY 15, 2024

SUBMITTED BY:

ENGR. FREDERICK O. DE GUZMAN
CHIEF, PLANNING AND DESIGN DIVISION

PRC NO. 7988
VALID DATE: MARCH 28, 2023

PRC NO. 7988
ISSUED DATE: JANUARY 15, 2024

APPROVED BY:

ATTY. MARK DALE EDWARD P. PERRAL
CITY ENGINEER

PRC NO. 84882
VALID DATE: FEBRUARY 16, 2023

PRC NO. 70963
ISSUED DATE: JANUARY 15, 2024

SHEET NO.

ME-02
02/02

SHEET NO.

21
21

Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

- a. to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and
- b. when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

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

Daywork Schedule

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

- a. A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.
- b. Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

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

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

Signature Box

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

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

PROJECT TITLE : PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME
LOCATION : BARANGAY SAN BARTOLOME
PROJECT NO. : 25-00008
DURATION : Three Hundred (300) Calendar Days

BREAKDOWN OF COST

| ITEM NO. | DESCRIPTION | ESTIMATED DIRECT COST | TOTAL MARK-UP | | VAT | TOTAL INDIRECT COST | TOTAL COST |
|----------|---|-----------------------|---------------|-------|-----|---------------------|------------|
| | | | % | VALUE | | | |
| PART I | OTHER GENERAL REQUIREMENTS | | | | | | |
| PART II | CIVIL, MECHANICAL, ELECTRICAL AND SANITARY/PLUMBING WORKS | | | | | | |
| PART A | SITE WORKS | | | | | | |
| PART B | MOISTURE PROTECTION AND WATERPROOFING WORKS | | | | | | |
| PART C | FINISHING AND OTHER CIVIL WORKS | | | | | | |
| PART D | SANITARY/ PLUMBING WORKS | | | | | | |
| PART E | ELECTRICAL WORKS | | | | | | |
| PART F | MECHANICAL WORKS | | | | | | |
| | TOTAL OF PART III | | | | | | |
| TOTAL | | | | | | | |

TOTAL COST ₱ _____

LUMP SUM BID IN WORDS : _____

Contractor : _____

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME
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| ITEM CODE | DESCRIPTION | QUANTITY | UNIT | ESTIMATED DIRECT COST | MARK-UP IN % | | TOTAL MARK-UP | | VAT | TOTAL INDIRECT COST | TOTAL COST | UNIT COST |
|-----------|--|----------|-------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| B.5 | Project Billboard / Sign Board | 1 | ea | | | | | | | | | |
| B.7(1) | Occupational Safety and Health | 10 | mo | | | | | | | | | |
| B.9 (1) | Mobilization | 1 | unit | | | | | | | | | |
| B.9 (2) | Demobilization | 1 | unit | | | | | | | | | |
| B.20 | Temporary Enclosure | 198 | l.m. | | | | | | | | | |
| B.24 | Scaffolding (Rental) | 1,045 | sq.m. | | | | | | | | | |
| | TOTAL OF PART I | | | | | | | | | | | |
| 801(3) | Clearing and Cleaning for Painting Preparation | 5,174 | sq.m. | | | | | | | | | |
| 801(6) | Removal of Ceiling Board Including Framing | 1,620 | sq.m. | | | | | | | | | |
| 801(7) | Removal of Existing Roofing Sheet | 2,471 | sq.m. | | | | | | | | | |
| 801(8) | Removal of Existing Doors and Windows | 126 | sq.m. | | | | | | | | | |
| 801(9) | Removal of Existing Plumbing Fixtures | 64 | set | | | | | | | | | |
| 801(10) | Removal of Existing Floor and Wall Tiles | 1,823 | sq.m. | | | | | | | | | |

BILL OF QUANTITIES
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|------------|--|----------|-------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| 801(11) | Chipping Works, Court Flooring | 26 | cu.m. | | | | | | | | | |
| 801(12) | Removal of Undercounter Cabinet | 4 | l.m. | | | | | | | | | |
| | TOTAL OF PART II A | | | | | | | | | | | |
| 1016(1)b | Waterproofing Liquid | 177 | sq.m. | | | | | | | | | |
| | TOTAL OF PART II B | | | | | | | | | | | |
| 1003(1) a1 | Ceiling (6mm, Metal Frame, Fiber Cement Board) | 396 | sq.m. | | | | | | | | | |
| 1003(1)e2 | Moisture Resistant Gypsum Board on light metal frame | 155 | sq.m. | | | | | | | | | |
| 1003(1)e3 | Acoustic Board on T-Runners | 1,151 | sq.m. | | | | | | | | | |
| 1003(3) | Undercounter Cabinet in 3/4" Thick Marine Plywood | 4 | l.m. | | | | | | | | | |
| 1003(11)a1 | Fiber Cement Fascia Board | 275 | l.m. | | | | | | | | | |
| 1003(22) | Comfort Room Partition (Urinal) | 12 | set | | | | | | | | | |
| 1004(2)a | Lockset | 56 | set | | | | | | | | | |
| 1004(2)g | Hinges | 180 | set | | | | | | | | | |
| 1006(1) | Hollow Steel Door | 4 | sq.m. | | | | | | | | | |

BILL OF QUANTITIES
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|-----------|---|----------|-------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| 1007(1)b | Aluminum Framed Glass Door (Swing Type) | 52 | sq.m. | | | | | | | | | |
| 1008(1)b | Aluminum Glass Windows (Casement Type) | 15 | sq.m. | | | | | | | | | |
| 1010(1) | Frames (Jambos, Sill, Head, transoms and Mullions) | 56 | set | | | | | | | | | |
| 1010(2)a | Wooden Flush Door | 30 | sq.m. | | | | | | | | | |
| 1011 (1)a | Roll-Up Door, Aluminum | 28 | sq.m. | | | | | | | | | |
| 1013(2)a1 | Fabricated Metal Roofing Accessory, Gauge 24, Ridge/Hip Rolls | 71 | l.m. | | | | | | | | | |
| 1013(2)a2 | Fabricated Metal Roofing Accessory, Gauge 24, Flashings | 275 | l.m. | | | | | | | | | |
| 1013(2)b1 | Fabricated Metal Roofing Accessory, Gauge 24, Gutters | 142 | l.m. | | | | | | | | | |
| 1014(1)b2 | Prepainted Metal Sheets, above 0.427mm, Rib Type, Long Span | 2,424 | sq.m. | | | | | | | | | |
| 1018(1) | Glazed Tiles and Trims | 236 | sq.m. | | | | | | | | | |
| 1018(2) | Unglazed Tiles | 1,682 | sq.m. | | | | | | | | | |
| 1021(1) | Cement Floor Finish | 1,059 | sq.m. | | | | | | | | | |
| 1021(3)a | Floor Topping, Plain | 2,737 | sq.m. | | | | | | | | | |
| 1032(1)a | Painting Works, Masonry/Concrete | 4,905 | sq.m. | | | | | | | | | |
| 1032(1)b | Painting Works, Wood | 551 | sq.m. | | | | | | | | | |

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BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

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|--------------------------|---|----------|-------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| 1032(1)c | Painting Works, Steel | 621 | sq.m. | | | | | | | | | |
| 1032(1)g | Painting Works, Rubberized Paint | 1,059 | sq.m. | | | | | | | | | |
| 1038(1) | Reflective Insulation | 2,158 | sq.m. | | | | | | | | | |
| 1038(2) | Polycarbonate Sheet | 171 | sq.m. | | | | | | | | | |
| 1043(1) | PVC Doors and Frames | 6 | sq.m. | | | | | | | | | |
| | TOTAL OF PART II C | | | | | | | | | | | |
| Sewer Line Works | | | | | | | | | | | | |
| 1001 (1) a5 | 50mm Ø PVC Pipe and Fittings with Hanger/Support | 188 | l.m. | | | | | | | | | |
| 1001 (1) a6 | 75mm Ø PVC Pipe and Fittings with Hanger/Support | 28 | l.m. | | | | | | | | | |
| 1001 (1) a7 | 100mm Ø PVC Pipe and Fittings with Hanger/Support | 102 | l.m. | | | | | | | | | |
| Storm Drain Works | | | | | | | | | | | | |
| 1001 (1) b | 75mm Ø PVC Pipe Downspout | 149 | l.m. | | | | | | | | | |
| 1002 (17) | Roof Drain, 100mmØ | 18 | l.m. | | | | | | | | | |
| Water Line Works | | | | | | | | | | | | |
| 1002 (2) a3 | 20mm Ø PPR Pipe and Fittings with Hanger/Support | 143 | l.m. | | | | | | | | | |

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

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|-------------------------------------|---|----------|-------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| 1002 (2) c3 | 32mm Ø PPR Pipe and Fittings with Hanger/Support | 26 | l.m. | | | | | | | | | |
| 1002 (2) d3 | 40mm Ø PPR Pipe and Fittings with Hanger/Support | 4 | l.m. | | | | | | | | | |
| <i>Plumbing / Sanitary Fixtures</i> | | | | | | | | | | | | |
| 1002 (5) a | Water Closet, Elongated, Tank Type, with Complete Accessories, Pipes and Fittings | 29 | set | | | | | | | | | |
| 1002 (9) a | Urinal, Flush Valve Lever Type, with Complete Accessories, Pipes and Fittings | 12 | set | | | | | | | | | |
| 1002 (10) | Hose Bibb Lever Type, Stainless, with Complete Accessories, Pipes and Fittings | 10 | set | | | | | | | | | |
| 1002 (13) | Slop Sink with Faucet and Complete Accessories, Pipes and Fittings | 2 | set | | | | | | | | | |
| 1002 (15) a | Lavatory Counter Top with Faucet and Complete Accessories, Pipes and Fittings | 23 | set | | | | | | | | | |
| 1002 (16) a3 | Floor Drain, 100mmØ, Stainless with Complete Accessories and Fittings | 42 | set | | | | | | | | | |
| 1002 (19)a | 6mm thk Mirror with 6mm thk Marine Plywood Backing | 15 | sq.m. | | | | | | | | | |
| 1002 (19)b | PWD Grab Bar, 50mm Ø Stainless | 4 | l.m. | | | | | | | | | |
| 1002 (20)a | 100mmØ Cleanout | 19 | set | | | | | | | | | |
| <i>Valves and Appurtenances</i> | | | | | | | | | | | | |
| 1002 (3)a | 20mmØ Gate Valve | 8 | set | | | | | | | | | |
| 1002 (3)b | 32mmØ Gate Valve | 5 | set | | | | | | | | | |

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|------------|--------------------|----------|-------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| 1002 (4)a | 20mmØ Check Valve | 2 | set | | | | | | | | | |
| 1002 (4)b | 32mmØ Check Valve | 2 | set | | | | | | | | | |
| 1002 (5)a | 32mmØ End Cap | 3 | piece | | | | | | | | | |
| | TOTAL OF PART II D | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 1100 (2) c | 25mmØ IMC Pipe | 99 | piece | | | | | | | | | |
| 1100 (6) a | 20mmØ PVC Pipe | 518 | piece | | | | | | | | | |
| 1100 (6) g | 80mmØ PVC Pipe | 20 | piece | | | | | | | | | |
| 1100 | 80mmØ PVC Elbow | 4 | piece | | | | | | | | | |
| 1100 (2) d | 32mmØ IMC Pipe | 47 | piece | | | | | | | | | |
| 1100 (2) g | 65mmØ IMC Pipe | 117 | piece | | | | | | | | | |
| 1100 (2) l | 90mmØ IMC Pipe | 4 | piece | | | | | | | | | |
| 1100 | 25mmØ IMC Elbow | 10 | piece | | | | | | | | | |
| 1100 | 32mmØ IMC Elbow | 6 | piece | | | | | | | | | |
| 1100 | 65mmØ IMC Elbow | 2 | piece | | | | | | | | | |

2

BILL OF QUANTITIES
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|-----------|------------------|----------|-------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| 1100 | 90mmØ IMC Elbow | 2 | piece | | | | | | | | | |
| 1101 | 3.5mm² THHN Wire | 3,108 | l.m. | | | | | | | | | |
| 1101 | 8.0mm² THHN Wire | 600 | l.m. | | | | | | | | | |
| 1101 | 14mm² THHN Wire | 150 | l.m. | | | | | | | | | |
| 1101 | 30mm² THHN Wire | 270 | l.m. | | | | | | | | | |
| 1101 | 38mm² THHN Wire | 60 | l.m. | | | | | | | | | |
| 1101 | 125mm² THHN Wire | 720 | l.m. | | | | | | | | | |
| 1101 | 250mm² THHN Wire | 30 | l.m. | | | | | | | | | |
| 1101 | 2.0mm² TW Wire | 1,554 | l.m. | | | | | | | | | |
| 1101 | 5.5mm² TW Wire | 295 | l.m. | | | | | | | | | |
| 1101 | 8.0mm² TW Wire | 140 | l.m. | | | | | | | | | |
| 1101 | 14mm² TW Wire | 20 | l.m. | | | | | | | | | |
| 1101 | 30mm² TW Wire | 240 | l.m. | | | | | | | | | |
| 1101 | 50mm² TW Wire | 10 | l.m. | | | | | | | | | |

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|-----------|--|----------|------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| 1101 | 150mm² THW Wire | 120 | Lm. | | | | | | | | | |
| 1102 | MCB, 500AT, 3P | 1 | set | | | | | | | | | |
| 1102 | MDP, 500AT, 3P | 1 | set | | | | | | | | | |
| 1102 | PP 1, 400AT, 3P | 1 | set | | | | | | | | | |
| 1102 | PP 2, 40AT, 3P | 1 | set | | | | | | | | | |
| 1102 | PP 3, 40AT, 3P | 1 | set | | | | | | | | | |
| 1102 | ECB, 275AT, 3P | 2 | set | | | | | | | | | |
| 1102 | ECB, 125AT, 3P | 1 | set | | | | | | | | | |
| 1102 | ECB, 100AT, 3P | 2 | set | | | | | | | | | |
| 1102 | ECB, 60AT, 3P | 1 | set | | | | | | | | | |
| 1102 | ECB, 40AT, 2P | 3 | set | | | | | | | | | |
| 1102 | ECB, 20AT, 2P | 37 | set | | | | | | | | | |
| 1103(1) | 300mm x 1200mm with 1 x 18w LED, Troffer Recessed Type | 6 | set | | | | | | | | | |
| 1103(1) | 600mm x 1200mm with 1 x 18w LED, Troffer Recessed Type | 161 | set | | | | | | | | | |

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|---|---|----------|------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| 1103(1) | 300 Watts LED Economy High Bay Lighting Fixture | 4 | set | | | | | | | | | |
| 1111(3) | Concrete Encasement 600mm(w) x 175mm(t) | 30 | l.m. | | | | | | | | | |
| | TOTAL OF PART II E | | | | | | | | | | | |
| Air-Conditioning System - Roughing-Ins | | | | | | | | | | | | |
| 1200 (15) | 6.35mm Ø Refrigerant Pipe with Insulation and Hanger | 49 | l.m. | | | | | | | | | |
| 1200 (15) a | 9.50mm Ø Refrigerant Pipe with Insulation and Hanger | 266 | l.m. | | | | | | | | | |
| 1200 (15) b | 12.70mm Ø Refrigerant Pipe with Insulation and Hanger | 97 | l.m. | | | | | | | | | |
| 1200 (15) c | 15.90mm Ø Refrigerant Pipe with Insulation and Hanger | 245 | l.m. | | | | | | | | | |
| 1200 (15) d | 19mm Ø Refrigerant Pipe with Insulation and Hanger | 126 | l.m. | | | | | | | | | |
| 1200 (15) e | 22mm Ø Refrigerant Pipe with Insulation and Hanger | 49 | l.m. | | | | | | | | | |
| 1200 (15) f | 25.4mm Ø Refrigerant Pipe with Insulation and Hanger | 14 | l.m. | | | | | | | | | |
| 1200 (15) g | 28.60mm Ø Refrigerant Pipe with Insulation and Hanger | 47 | l.m. | | | | | | | | | |
| 1200 (15) h | 31.80mm Ø Refrigerant Pipe with Insulation and Hanger | 70 | l.m. | | | | | | | | | |
| 1200 (15) i | 41.3mm Ø Refrigerant Pipe with Insulation and Hanger | 71 | l.m. | | | | | | | | | |

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME
LOCATION : BARANGAY SAN BARTOLOME
PROJECT NO. : 25-00008
DURATION : Three Hundred (300) Calendar Days

| ITEM CODE | DESCRIPTION | QUANTITY | UNIT | ESTIMATED DIRECT COST | MARK-UP IN % | | TOTAL MARK-UP | | VAT | TOTAL INDIRECT COST | TOTAL COST | UNIT COST |
|---|---|----------|------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| Air-Conditioning System - Split Type Equipment | | | | | | | | | | | | |
| 1200 (13) a | FCU 1 - Wall mounted Type with Cooling Capacity of 27,000 KJ/Hr | 3 | set | | | | | | | | | |
| Air-Conditioning System - VRV / VRF FCU Equipment | | | | | | | | | | | | |
| 1200 (13) b1 | MSFCU 1 - Ceiling Suspended Type with Cooling Capacity of 48,100 BTU/HR | 16 | set | | | | | | | | | |
| 1200 (13) b2 | MSFCU 2a - Ceiling Cassette Type with Cooling Capacity of 38,200 BTU/HR | 2 | set | | | | | | | | | |
| 1200 (13) b3 | MSFCU 2b - Floor Standing Type with Cooling Capacity of 24,200 BTU/HR | 3 | set | | | | | | | | | |
| 1200 (13) b4 | MSFCU 3a - Ceiling Cassette Type with Cooling Capacity of 24,200 BTU/HR | 2 | set | | | | | | | | | |
| 1200 (13) b5 | MSFCU 3b - Floor Standing Type with Cooling Capacity of 24,200 BTU/HR | 2 | set | | | | | | | | | |
| 1200 (13) b6 | MSFCU 4a - Wall Mounted Type with Cooling Capacity of 9,600 BTU/HR | 1 | set | | | | | | | | | |
| 1200 (13) b7 | MSFCU 4b - Ceiling Cassette Type with Cooling Capacity of 38,200 BTU/HR | 5 | set | | | | | | | | | |
| 1200 (13) b8 | MSFCU 5 - Wall Mounted Type with Cooling Capacity of 24,200 BTU/HR | 6 | set | | | | | | | | | |

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF TECH VOC BUILDING AT QUEZON CITY UNIVERSITY (QCU) IN BARANGAY SAN BARTOLOME
LOCATION : BARANGAY SAN BARTOLOME
PROJECT NO. : 25-00008
DURATION : Three Hundred (300) Calendar Days

| ITEM CODE | DESCRIPTION | QUANTITY | UNIT | ESTIMATED DIRECT COST | MARK-UP IN % | | TOTAL MARK-UP | | VAT | TOTAL INDIRECT COST | TOTAL COST | UNIT COST |
|--|--|----------|------|-----------------------|--------------|--------|---------------|-------|-----|---------------------|------------|-----------|
| | | | | | OCM | PROFIT | % | VALUE | | | | |
| Air-Conditioning System - VRF / VRF ACCU Equipment | | | | | | | | | | | | |
| 1200 (13) b9 | MSACCU 1 - ACCU with Cooling Capacity of 427,000 BTU/H | 2 | set | | | | | | | | | |
| 1200 (13) b10 | MSACCU 2 - ACCU with Cooling Capacity of 154,000 BTU/H | 1 | set | | | | | | | | | |
| 1200 (13) b11 | MSACCU 3 - ACCU with Cooling Capacity of 95,500 BTU/H | 1 | set | | | | | | | | | |
| 1200 (13) b12 | MSACCU 4 - ACCU with Cooling Capacity of 213,000 BTU/H | 1 | set | | | | | | | | | |
| 1200 (13) b13 | MSACCU 5 - ACCU with Cooling Capacity of 154,000 BTU/H | 1 | set | | | | | | | | | |
| Exhaust Fans | | | | | | | | | | | | |
| 1200 (5a) | EF 1 - Ceiling Mounted Duct Ventilator Exhaust Fan | 4 | set | | | | | | | | | |
| | TOTAL OF PART II F | | | | | | | | | | | |
| | TOTAL OF PART II | | | | | | | | | | | |
| | GRAND TOTAL | | | | | | | | | | | |

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

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

- a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or
- b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

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

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

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

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 (*please see attached prescribed forms required by the QC – BAC for Infrastructure and Consultancy*); **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 with an attached Notice of Award, Notice to Proceed, Contract and Certificate of Acceptance (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*); **and**
- ☐ (d) Philippine Contractors Accreditation Board (PCAB) License;
or
Special PCAB License in case of Joint Ventures;
and registration for the type and cost of the contract to be bid; **and**
- ☐ (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 (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*);
 - ☐ c. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*); **and**
- ☐ (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.

Additional Technical Requirements:

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

Financial Documents

- ☐ (h) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**
- ☐ (i) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC) *(please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy)*.

Class "B" Documents

- ☐ (j) 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

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

Other documentary requirements under RA No. 9184

- ☐ (l) Original of duly signed Bid Prices in the Bill of Quantities; **and**
- ☐ (m) 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**
- ☐ (n) Cash Flow by Quarter.

Bid Form for the Procurement of Infrastructure Projects
[shall be submitted with the Bid]

BID FORM

Date : _____

Project Identification No. : _____

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

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

- a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract]*;
- b. We offer to execute the Works for this Contract in accordance with the PBDs;
- c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;
- d. The discounts offered and the methodology for their application are: *[insert information]*;
- e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein and reflected in the detailed estimates,
- f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;
- g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines¹ for this purpose;
- h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and
- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.
- 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: _____

¹ currently based on GPPB Resolution No. 09-2020

Bid Securing Declaration Form

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

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

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

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
 - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
 - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
 - c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

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

*[Insert NAME OF BIDDER OR ITS AUTHORIZED
REPRESENTATIVE]*

[Insert signatory's legal capacity]
Affiant

[Jurat]

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

Omnibus Sworn Statement (Revised)
[shall be submitted with the Bid]

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

AFFIDAVIT

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

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

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

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

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

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

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

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

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

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

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

[If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, 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.**
11. We pledge that the project will be completed in accordance and congruency with the approved plans and programs.

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

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

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

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

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

CONTRACT AGREEMENT

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

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

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - a. Philippine Bidding Documents (PBDs);
 - i. Drawings/Plans;
 - ii. Specifications;
 - iii. Bill of Quantities;
 - iv. General and Special Conditions of Contract;
 - v. Supplemental or Bid Bulletins, if any;
 - b. Winning bidder's bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
 - c. Performance Security;
 - d. Notice of Award of Contract and the Bidder's conforme thereto; and
 - e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**
3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.
4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

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

[Insert Name and Signature]

[Insert Name and Signature]

[Insert Signatory's Legal Capacity]

[Insert Signatory's Legal Capacity]

for:

for:

[Insert Procuring Entity]

[Insert Name of Supplier]

Acknowledgment

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

LIST OF ALL ON-GOING GOVERNMENT AND PRIVATE CONTRACTS

NAME OF CONTRACTOR: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

Page _____ of _____

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

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

Page _____ of _____

SINGLE LARGEST COMPLETED CONTRACT SIMILAR TO THE CONTRACT TO BE BID

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

LIST OF MAJOR EQUIPMENT TO BE USED FOR THE PROJECT

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

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

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

Page_____of _____

COMPUTATION OF NET FINANCIAL CONTRACTING CAPACITY (NFCC)

NAME OF BIDDER: _____

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

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

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

REPUBLIC OF THE PHILIPPINES)
_____) S. S.

AFFIDAVIT OF UNDERTAKING

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

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

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

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

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

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

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

AFFIANT FURTHER SAYETH NAUGHT.

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME this ____ day of _____
_____ in _____
affiant exhibiting to me his/her _____ issued at
_____ on _____.

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

Notary Public

