Republic of the Philippine
TARLAC STATE UNIVERSITY
Romulo Blvd., San Vicente, Tarlac City
Tel. No.: (045) 982 4630
Website: www.tsu.edu.ph

Bidding Documents

(This Bidding Documents is in conformance with the Sixth Edition of the Philippine Bidding Documents for the Procurement of Infrastructure Projects)

For the Project

Construction of Female Dormitory (Phase II)

With an Approved Budget for the Contract (ABC) *of*
Thirty-Nine Million Nine Hundred Ninety-Eight Thousand Two Hundred Ten and 78/100 Pesos (₱ 39,998,210.78)

Invitation to Bid No. Infra 02-001-2026

PhilGEPS Reference No.: 12814441

July 2020
6th Edition

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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

Republic of the Philippine
TARLAC STATE UNIVERSITY
Romulo Blvd., San Vicente, Tarlac City
Tel. No.: (045) 982 4630
Website: www.tsu.edu.ph

INVITATION TO BID

For the Project

Construction of Female Dormitory (Phase II)

Invitation to Bid No. Infra 02-001-2026

1. The Tarlac State University, through **General Appropriation Act (GAA) 2026** intends to apply the sum of **Thirty-Nine Million Nine Hundred Ninety-Eight Thousand Two Hundred Ten and 78/100 Pesos (₱ 39,998,210.78)** to payments under the contract for the project: **Construction of Female Dormitory (Phase II).**

   Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The Tarlac State University now invites bids for the aforementioned Project. Completion of the Works is required within **Two Hundred Seventy (270) calendar days**. 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 regarding the bidding and inspect the Bidding Documents from 8:00 A.M. to 5:00 P.M., Tuesday to Friday starting on **March 4, 2026,** at this address:

   BAC Secretariat
   Motorpool and Administration Building
   Tarlac State University
   Romulo Blvd., San Vicente, Tarlac City
   Tel. No. (045) 606-8110, Extension: 142 / 0998 846 0206
   Email: **tsubacsec2025@gmail.com**

5. A complete set of Bidding Documents may be acquired by interested Bidders from **March 4, 2026, to March 24, 2026,** from the aforementioned address upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of ₱ 2**5,000.00**.

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

6. The Tarlac State University will hold a Pre-Bid Conference on **March 12, 2026 (10:00 A.M.)** at the BAC Conference Room, 3rd Floor, Motorpool and Administration Building, Tarlac State University, Romulo Blvd., San Vicente, Tarlac City which shall be open to prospective bidders.

7. Three (3) copies of the bid proposals (one original, and additional copy 1 and 2) must be submitted to the BAC which must be duly received by the BAC Secretariat through manual submission at the office address indicated in the bidding documents, on **March 24, 2026** at **9:30 A.M.** Failure of bidders to comply with the said request of additional copies shall not be a ground for disqualification.

   Late submission shall not be accepted.

   Motorpool and Administration Building
   Tarlac State University
   Romulo Blvd., San Vicente, Tarlac City
   Tel. No. (045) 606-8110, Extension: 142 / 0998 846 0206
   Email: **tsubacsec2025@gmail.com**

8. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in ITB Clause 14.

9. Bid opening shall be on **March 24, 2026**, at **10:00 A.M.,** at the BAC Conference Room, 3rd Floor, Motorpool and Administration Building, Tarlac State University, Romulo Blvd., San Vicente, Tarlac City. Bids will be opened in the presence of the bidders' representatives who choose to attend.

10. The Summary of the procurement activities is as follows:

Activities	Date and Time	Venue
Date Posted to PhilGEPS	March 4,2026	N/A
Pre-Bid Conference	March 12, 2026 (10:00 AM)	**BAC Conference Room**, 3rd Floor, Motorpool and Administration Building, Tarlac State University, Romulo Blvd., San Vicente, Tarlac City
Deadline of Submission of Bids	March 24, 2026 (09:30 AM)	Procurement Unit, **BAC Secretariat Office**, 2nd Floor, Motorpool and Administration Building, Tarlac State University, Romulo Blvd., San Vicente, Tarlac City
Opening of Bids	March 24, 2026 (10:00 AM)	**BAC Conference Room**, 3rd Floor, Motorpool and Administration Building, Tarlac State University, Romulo Blvd., San Vicente, Tarlac City

11. The Tarlac State University reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 Revised IRR of RA 9184, without thereby incurring any liability to the affected bidder or bidders.

12. For further information, please refer to:

    Ms. Mariel C. Santos
    BAC Secretariat
    Motorpool and Administration Building
    Tarlac State University
    Romulo Blvd., San Vicente, Tarlac City
    Tel. No. (045) 606-8110, Extension: 142 / 0998 846 0206
    Email: **tsubacsec2025@gmail.com**

ATTY. GHEROLD C. BENITEZ
BAC Chairperson – Infrastructure

Section II. Instructions to Bidders

1. Scope of Bid

1. The Procuring Entity, **Tarlac State University** invites Bids for the project: **Construction of Female Dormitory (Phase II).** with Project Identification Number: Invitation to Bid No. **Infra 02-001-2026.**

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 **2026** in the amount of **₱ 39,998,210.78**

2.2. The source of funding is the **General Appropriation Act (GAA)**.

3. Bidding Requirements

3.1. 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.

3.2. 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.

3.3. 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. 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 Procuring Entity has prescribed that subcontracting is not allowed.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at the address indicated in paragraph 6 of the **IB.**

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

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

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

10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

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

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

11. Documents Comprising the Bid: Financial Component

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

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

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

12. Alternative Bids

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

13. Bid Prices

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

14. Bid and Payment Currencies

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

14.2. Payment of the contract price shall be made in Philippine Pesos.

15. Bid Security

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

15.2. The Bid and bid security shall be valid until **July 22, 2026**. 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

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

16.2. 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.

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

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

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

20. Post Qualification

Within a **non-extendible period of five (5) calendar days** from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its

latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the **BDS**.

21. Signing of the Contract

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

Section III. Bid Data Sheet

<table>
<tr><td>ITB Clause</td><td colspan="3"></td></tr>
<tr><td>5.2</td><td colspan="3">For this purpose, contracts similar to the Project refer to contracts for the Construction of at least 3 storey building.</td></tr>
<tr><td>7.1</td><td colspan="3">No further instructions.</td></tr>
<tr><td>10.3</td><td colspan="3">No additional requirements.</td></tr>
<tr><td>10.4</td><td colspan="3">The minimum work experience requirements for key personnel are the following:</td></tr>
<tr><td></td><td>Key Personnel</td><td colspan="2">Qualification and Experience</td></tr>
<tr><td></td><td>Civil Engineer / Architect (Project In-charge)</td><td colspan="2">• With at least 2 years of experience in construction project supervision as a licensed professional.</td></tr>
<tr><td></td><td>Registered Electrical Engineer / Master Electrician</td><td colspan="2">• With at least 1 year of experience in construction project supervision as a licensed professional.</td></tr>
<tr><td></td><td>Registered Master Plumber</td><td colspan="2">• With at least 1 year of experience in construction project supervision as a licensed professional.</td></tr>
<tr><td></td><td>Safety Officer</td><td colspan="2">• DOLE accredited construction occupation safety officer
• With at least 1 year of experience as a Safety Officer in construction projects</td></tr>
<tr><td></td><td>Foreman</td><td colspan="2">• With at least 3years of experience as foreman in building construction project.</td></tr>
<tr><td>10.5</td><td colspan="3">The minimum major equipment requirements are the following:</td></tr>
<tr><td></td><td>Equipment</td><td>Min. Capacity</td><td>Min. Quantity</td></tr>
<tr><td></td><td>• Dump Truck</td><td>10-16 cu.m</td><td>1</td></tr>
<tr><td></td><td>• Drop Side Truck</td><td>2 tons</td><td>1</td></tr>
<tr><td></td><td>• Bar Cutter</td><td>10-32mm Ø rebar</td><td>1</td></tr>
<tr><td></td><td>• Bar Bender</td><td>10-32mm Ø rebar</td><td>1</td></tr>
<tr><td></td><td>• Concrete Vibrator</td><td>2800 rpm</td><td>1</td></tr>
<tr><td></td><td>• Plate Compactor</td><td>3 HP</td><td>1</td></tr>
<tr><td></td><td>• Concrete Mixer</td><td>1-2 Bagger</td><td>2</td></tr>
<tr><td></td><td>• Welding Machine</td><td>300A&600A</td><td>2</td></tr>
<tr><td></td><td colspan="3">The bidder must state and show proof that the equipment to be pledged for the project are owned or leased.</td></tr>
<tr><td>12</td><td colspan="3">No further instructions.</td></tr>
<tr><td>15.1</td><td colspan="3">The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:
1. The amount of not less than ₱ 799,964.22 (2 % of ABC), if bid security is in cash, cashier’s/manager’s check, bank draft/guarantee or irrevocable letter of credit.
2. The amount of not less than ₱ 1,999,910.54 (5 % of ABC) if bid security is in Surety Bond.</td></tr>
<tr><td>19.2</td><td colspan="3">Partial bid is not allowed. The 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.</td></tr>
</table>

21	The winning bidder shall submit the following documents, which shall form part of the Contract documents: 1. Construction Schedule and S-Curve, 2. Manpower Schedule, 3. Construction Methods 4. Equipment Utilization Schedule 5. Construction Safety and Health Program approved by the Department of Labor and Employment, and PERT/CPM.

Section IV. General Conditions of Contract

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

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

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

4. The Contractor's Obligations

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

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

5. Performance Security

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

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

6. Site Investigation Reports

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

7. Warranty

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

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

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

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

11. Program of Work

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

11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC.** If the

Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

12. Instructions, Inspections and Audits

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

13. Advance Payment

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

14. Progress Payments

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

15. Operating and Maintenance Manuals

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

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

Section V – Special Conditions of Contract

GCC Clause	
2	Not applicable.
4.1	Upon acknowledgement of receipt of the Notice to Proceed.
6	The site investigation reports are: as indicated in the Technical Specifications.
7.2	As prescribed in Section 62.2.3.2 of the 2016 revised IRR of R.A. 9184.
10	No dayworks are applicable to the contract.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within **five (5)** days of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is ten percent (10 %) of the amount of progress billing for the period.
13	The amount of the advance payment shall not exceed fifteen percent (15 %) of the contract price.
14	Materials and equipment delivered on the site but not completely put in place shall be included for payment.
15.1	The date by which operation and maintenance manuals are required is within ten (10) days after the final inspection. The date by which "as built" drawings are required is ten (10) days after the final inspection.
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 percent (10 %) of the final billing.

Section VI – Specifications

SECTION 1 – GENERAL CONDITIONS AND REQUIREMENTS

1.1 SCOPE OF WORK

1.1.1 The project shall comprise the **CONSTRUCTION OF FEMALE DORMITORY (PHASE II)**, as continuation of Phase I. It shall include the supervision and furnishing of labor, supplies, materials, equipment, and other incidental services that are essential to properly implement and produce the desired work output.

1.1.2 All works under Phase II shall be properly integrated with the completed Phase I works to ensure the overall continuity, stability, and full functionality of the dormitory structure, while also being executed in a manner that allows for the seamless continuation of the project into Phase III.

1.2 CONTRACT DRAWINGS

1.2.1 Details and extent of work are shown in the Drawings accompanying these specifications.

1.2.2 Sketches and other details not shown in the Drawings shall be furnished by the Architect/Engineer during the phase of construction.

1.3 PARTS OF THE SPECIFICATIONS

1.3.1 These Specifications include the following parts whose applicable provisions are binding on this contract:

SECTION	DESCRIPTION
1	GENERAL CONDITION AND REQUIREMENTS
2	EARTHWORKS
3	STRUCTURAL WORKS
4	ARCHITECTURAL WORKS
5	ELECTRICAL WORKS
6	PLUMBING WORKS
7	MECHANICAL WORKS

1.4 WORKMANSHIP

1.4.1 All operations required under all parts of the specifications shall be undertaken in a neat, workmanlike manner. Only skilled personnel with sufficient experience in similar operations shall be allowed to undertake the same.

1.5 INSPECTION OF SITE

1.5.1 The Bid may be deemed to have been based on data regarding physical conditions at the sites. The Contractor acknowledges and warrants that they inspected and examined the site and its surroundings and has satisfied by submitting their Tender as to the nature of work and materials necessary for the completion of the works, and the means of access to the sites, the accommodation they may require and that has obtained all necessary information as to risks, contingencies and other circumstances which may have influenced or affected their Tender. No increase in cost or extension of time will be considered for failure to inspect and examine the site condition.

1.6 ESTABLISHED FINISH FLOOR LINE

1.16.1 The Contractor shall inspect and examine the individual site conditions. No increase in cost or extension of time will be considered for failure to examine site conditions. Control points and elevations will be furnished by the TSU and the Contractor shall be responsible for all other surveys and measurements required to accurately complete the work. Unless otherwise indicated by the TSU.

1.7 CONFLICT BETWEEN PLANS AND SPECIFICATIONS

1.7.1 The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence

1.7.1.1 the Contract and its attachments (Approved Budget for the Contract, Terms of Reference, etc.)
1.7.1.2 the Specific Conditions of the Contract
1.7.1.3 the General Conditions of the Contract
1.7.1.4 the Technical Specifications
1.7.1.5 the Drawings
1.7.1.6 the Project Schedule and any other pertinent documents

1.7.2 Any omissions in the specifications regarding necessary work or works for the project's completion shall be executed by the Contractor as if such work were explicitly detailed in the drawings, without incurring additional costs. All such work shall be performed in accordance with standard practices, adhering to the requisite quality standards for both materials and workmanship.

1.7.3 Should there be any ambiguity or conflict between indication on drawings and provisions in specifications, the same shall be referred to the Engineer/Architect of TSU for resolution.

1.8 APPROVAL

1.8.1 The Contractor shall submit for the Engineer/Architect’s approval, the complete list of manufacturer’s names of all equipment and materials they propose to use for the project prior to actual installation on site.

1.9 REJECTIONS

1.9.1 All materials and workmanship must strictly comply with the specifications outlined in this contract. Any materials or workmanship failing to meet these standards may be rejected at any stage during project execution. The Contractor will receive formal documentation of any rejection issued by the authorized technical representative of TSU. Any completed work found to be non-compliant with the quality and specifications required by the project plans shall be promptly dismantled, removed, and reconstructed or otherwise corrected to meet all contractual and technical requirements.

1.10 VARIATIONS

1.10.1 The Engineer/Architect reserves the authority to implement minor adjustments in the work details or materials as deemed necessary. Such modifications may involve revisions to the shapes or dimensions of project elements. Any changes that result in additional costs to the Contractor will be subject to a corresponding adjustment of the contract price, as stipulated in the terms of the agreement.

1.11 AS-BUILT DRAWING AND PICTURES

1.11.1 The Contractor with the approval of the Engineer/Architect shall mark down all the revisions, omissions and/or additions to the various works on two sets of drawing plans as the construction progress. One set of the plans as marked shall be submitted to the Engineer/Architect after the completion of work.

1.11.2 The Contractor shall submit to the TSU As-Built Drawings incorporating all changes made and noted in the marked Drawings retained by him/her. The As-Built Drawings shall be prepared on reproducible form and submitted together with at least three (3) copies of A3 (11.7 in. X 16.6 in.)

1.11.3 The Contractor shall submit to TSU pictures of the site before, during, and after construction in reproducible and printed forms.

1.12 MOBILIZATION AND DEMOBILIZATION

1.12.1 Upon receipt and acceptance of the Notice to Proceed, the Contractor shall immediately mobilize the workforce, equipment, and materials, and take possession and secure the project site.

1.12.2 Upon final completion of the work, the Contractor shall commence the demobilization of the workforce, equipment, and materials and turn over the project site to TSU.

1.13 BILLBOARD

1.13.1 Upon possession of the project site, the Contractor shall immediately erect the Billboard, showing the relevant details of the project, at the location and position designated by the TSU and of the dimensions and materials approved by the TSU.

1.14 TEMPORARY FACILITIES

1.14.1 Upon possession of the project site, the Contractor shall immediately erect temporary facilities such as field office, storage for equipment and materials, portable toilet, electric and water supply connections, etc., at the location designated by, and using only materials and the manner of construction approved by TSU.

1.15 CONSTRUCTION OCCUPATIONAL SAFETY AND HEALTH

1.15.1 The Contractor shall be responsible in ensuring the safety and health of the personnel assigned at the project site and other parties who may be affected in the implementation of the project.

1.15.2 The Contractor shall submit to TSU a copy of the Construction Occupation Safety and Health Program for the project that is duly approved by the Department of Labor and Employment before commencing with the work.

1.15.3 The Contractor shall designate a competent and qualified Safety Officer for the whole duration of the project.

1.15.4 All personnel assigned to the project are expected to report for work in their proper uniforms, basic safety gears (helmets, boots or shoes), and identification cards (IDs). The uniforms, basic safety gears, and IDs shall be provided by the Contractor at his/her own expense.

1.15.5 The Contractor shall establish and implement safety procedures for all relevant jobs, tasks, operations, and proper waste disposal for all assigned personnel.

1.15.6 The Contractor shall erect temporary barricades, install early warning and precautionary signs, and provide other safety devices that may be required to keep the job site safe and secured. Use roof sheet or plywood for temporary barricade with standard height and stable framing within the construction site as indicated in the plan: do not use "Blue Sack".

1.15.7 The Contractor shall maintain, at the project site, ample supplies of expendable materials for the safety and health of its personnel and other affected parties such as safety tape, first-aid kits, safety gloves, dust masks, etc., the cost of which shall be included in the contract price.

1.15.8 The Contractor shall keep a record of all incidents (near-miss or accident) and report the same to the TSU Architect/Engineer.

1.16 PERMITS AND CLEARANCES

1.16.1 The Implementing Office shall be responsible for securing all necessary requirements in the application of permits and clearances related to the project.

1.16.2 The Contractor shall be responsible for the application of all permits and clearances related to the project, which shall include but not be limited to building permits, occupancy permits, excavation permits, locational clearances, environmental compliance certificates, etc.

1.16.3 All the professional fees, processing fees, assessment fees, and other payments necessary to secure the permits and clearances required for the project shall be included in the submitted and approved bid by the Contractor.

1.16.4 The professionals who signed and sealed the building/renovation permit and construction drawings shall also sign and seal the occupancy permits and as-built drawings.

1.16.5 Should alterations be required during the construction phase, all modifications must be accurately incorporated into the As-Built Drawings/Plans. The Contractor shall submit these revised As-Built Drawings along with a certification, as mandated by the Office of the Building Official, for the issuance of the occupancy permit. If the alterations impact the structural integrity of the project, the Structural Engineer must provide a detailed design analysis and structural computations certifying the stability and soundness of the modified structure.

1.16.6 No additional professional fees shall be granted to the Contractor for any modifications made to the plan that are instructed by the designated design professional.

1.17 CLEARING, HAULING AND DISPOSAL WORKS

1.17.1. Clearing, hauling and disposal works shall include the removal and repair of all affected areas needed to complete the project.

1.17.2. The Contractor shall exercise all care to protect and maintain adjacent properties, trees, materials and such other facilities such as conduits, drains, sewers, pipes and other wires that are to remain in the property and shall restore without cost to TSU all property that may be damaged for whatever reason in the execution of the work.

1.17.3. All unusable materials and debris resulting from the performance of work shall be removed from the premises and disposed of in the location and manner that shall be approved by

TSU. All materials that can be reused shall be hauled and arranged properly by the Contractor before turning them over to TSU.

SECTION 2 - EARTHWORKS

2.1. SCOPE OF WORK

2.1.1. The work shall include site clearing, grubbing, soil treatment, and hauling of debris, excavation, backfilling, compaction of soil and construction within the limits of the Contract and in accordance with the contract documents. The work shall be completed to the lines, grades, and dimensions and cross-sections shown on the Drawings or as designated by the TSU Architect/Engineer.

2.2. EXCAVATION

2.2.1. The Contractor shall perform all excavation works necessary for the construction of the additional grade beam at the ground floor balcony of the building, in accordance with the lines, grades, and dimensions indicated in the Drawings and as required for the proper execution of the Works. Excavation shall be carried out to a tolerance of ±300 mm, except where specific dimensions or grades are designated as maximum or minimum. Adequate working space shall be provided to ensure safe and efficient construction operations."

2.2.2. The Contractor shall implement all necessary measures to prevent surface and groundwater from entering excavations, causing ponding on prepared subgrades, or resulting in flooding of the Project site and adjacent areas.

SECTION 3 – STRUCTURAL WORKS

3.1. SCOPE OF WORK

3.1.1. This Phase shall consist of the completion of all remaining structural works and shall include, where applicable, the provision and installation of steel reinforcements, formwork, bracing, shuttering, shoring, and scaffolding. It shall further include all concreting operations, including placement, vibration, and curing of concrete, as well as testing of steel reinforcement and concrete, to fully execute the works as specified herein and as shown on the drawings.

3.1.2. All structural steel work shall be in accordance with AISC Specification for the Fabrication and Erection of Structural Steel, material, and parts necessary to complete each item, through such work not shown or specified shall be included, such as miscellaneous bolts and anchor supports, braces and connections etc.

3.2. CONCRETE WORKS

3.2.1 <u>Materials</u>

3.2.1.1 Concrete Aggregates – shall conform to "Specification for Aggregates" (ASTM G33 latest revision). The maximum size of the aggregates shall not be larger than one-fifth (1/5) of the narrowest dimension between sides of the forms of the member for which the concrete is to

be used not larger than three-fourth (3/4) of the minimum clear spacing between individual reinforcing bars and in no case larger than two (2) inches in diameter.

3.2.1.2 Reinforcing steel bars shall conform to ASTM Designation A-615-68 specifications for the structural grade. Grade of reinforcing steel bars shall be as follows:

Diameter	Grade
10 mm Ø and above	G40 (276 MPa)

3.2.1.3 Sand and gravel shall be well graded and free from any deleterious materials. The fine aggregate shall be washed sand (vibro) and size of course aggregates must be ¾" crushed gravel. Do not use river sand.

3.2.1.4 Cement and aggregates shall be stored in a manner as to prevent their deterioration or the intrusion of foreign matter. Materials of deteriorated quality or which has been damaged shall not be used for concrete. Cement whose quality is questionable shall be tested by standard mortar test to determine its suitability for use.

3.2.1.5 Forms shall conform to the shape, lines, and dimension of the member as called for on the plans, and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be properly braced or tied so as to maintain position and shape.

3.2.1.6 Plywood, metal, plastic materials or surfaced lumber forms shall be used where it will best give the most advantage in the specific concrete work involved.

3.2.1.7 Unless otherwise ordered, forms and shoring shall not be disturbed and shall remain in place for a minimum period of time in accordance with the following schedule.

Element	Length of Time
Walls and Columns	2 days
Beams	14 days
Suspended Slabs except when additional loads are imposed	14 days

3.2.2 Execution

3.2.2.1 Before placing reinforcement and prior to pouring concrete, all loose rust, mill scale, oil, grease, dirt, or other foreign materials that may reduce or destroy the bond between concrete and reinforcement shall be thoroughly removed. This requirement applies to both new reinforcement and any existing dowels or rebars to be integrated into the work. Where necessary, approved chemical rust removers shall be applied to ensure complete removal of rust prior to concreting.

3.2.2.2 Reinforcing steel bars shall be cut, bent, lapped or spliced as recommended by CRSI Handbook and ACI Codes. All lap splices of rebars shall conform to Class B Tension Lap Splice, unless noted otherwise. All hooks end shall be standard hooks. All stirrups/ties shall have 135° seismic hooks, unless noted otherwise. Cross ties shall have standard 90° hook on one end and 135° seismic hook on the other end. Consecutive cross ties with 90° and 135 °hook ends shall be alternated.

3.2.2.3 Reinforcing steel bars shall be placed accurately and secured in place by use of concrete or metal supports, spacers or ties to firmly hold them in their proper positions during pouring and setting of concrete.

3.2.2.4 All reinforcing bars shall be cleaned thoroughly of all loose rust, soil or other material prior to concrete pouring. No bars partially embedded in concrete shall be field bent,

except permitted by the Engineer/Architect. Bars shall not be welded unless authorized by the Engineer/Architect.

3.2.2.5 Maintain minimum concrete cover to traverse bars as follows:

Element	Concrete Cover
Below Grade – Columns, Beams, Girders & Pedestals	75 mm
Above Grade – Columns, Beams, Girders & Pedestals	50 mm
Above Grade - Suspended Slabs & Walls	20 mm
Slab on Grade	40 mm

3.2.2.6 Testing of reinforcing steel bars shall conform to ASTM designation of specified materials. Samples of materials for testing shall be provided by the Contractor without extra additional cost to TSU. Likewise, the Contractor shall pay for the cost of testing the samples.

3.2.2.7 All horizontal reinforcements shall be tied to the vertical reinforcement at every intersection with #16 GI tie wire.

3.2.2.8 Pouring of concrete for floor framing must be poured monolithically.

3.2.3 Concrete Proportion and Consistency

3.2.3.1 Classes Of Concrete

3.2.3.1.1 Otherwise indicated in the plans, the minimum 28th days compressive cylinder strength of concrete with corresponding maximum aggregate size and slump shall be as follows:

Element	28th Day Strength	Max. Aggregate Size	Slump
Columns	4,000 psi	¾ in.	4 in.
Beams and Girders	4,000 psi	¾ in.	4 in.
Suspended Slabs	4,000 psi	¾ in.	4 in.
Slab on Grade	4,000 psi	¾ in.	4 in.
Non-Structural Elements	2,500 psi	¾ in.	4 in.

3.2.4 Measurement

3.2.4.1 The unit of measure shall be the cubic foot. One bag of cement (40 kg) shall be considered as 0.028 cubic meter. Water shall be so measured as to insure the desired quantity of successive batches. Measurement of materials for ready mixed concrete shall conform to standard specifications for ready mixed concrete, ASTM Designation C-94, where applicable.

3.2.5 Mixing of Concrete

3.2.5.1 All concrete shall be machine mixed except in emergencies such as mixer breakdown during pouring operations where it shall be done by hand and shall stop at the first allowed construction joint. The time of mixing after all cement and aggregates are in the mixer drum shall not less than one minute for a mixer of having a capacity of one cubic yard or less; for a mixer of larger capacities, the minimum time shall be increased 15 seconds for each additional cubic yard or fraction thereof or additional capacity. All mixing water shall be introduced in the drum shall rotate at the peripheral speed of about 60.96 meter per minute throughout the mixing period. The entire contents of the mixer drum shall be

discharged before recharging. The time elapsing between the introduction of the mixing water to the cement and aggregates and placing of the concrete in final position in forms shall not exceed 45 minutes. The re-tempering of concrete, i.e., mixing with additional cement, aggregate or water shall not be permitted.

3.2.5.2 Use Ready Mix Concrete 4000 psi for Roof Deck Floor Suspended Slab, & Roof Deck Beam and at least Job Mix 4000 psi for others.

3.2.6 Conveying and Placing of Concrete

3.2.6.1 Water shall be removed from the excavation before concrete is deposited. Any continuous flow of water in the excavation shall be directed through side-drains to a slump or be removed by other approved methods to avoid washing the freshly deposited concrete. Debris shall be removed from the space to be occupied by the concrete and forms shall be thoroughly wetted.

3.2.6.2 Concrete shall be conveyed from the mixer to forms as rapidly as practicable, by a method which shall prevent segregation or loss of ingredients. There shall be no free vertical drop or loss of ingredients. There shall be no free vertical drop greater than 1.5 meters. Approval of TSU Engineer/Architect shall be obtained before starting any concrete pouring. Concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and embedded items by depositing the concrete as close as possible to its final position in the forms and consolidating it with the aid of mechanical vibrating and consolidating it with the aid of mechanical vibrating equipment, supplemented by hand spading and tamping. In no case shall vibrators be used to transport concrete inside the forms. Vibrating equipment shall be in the internal type and not be overdone to cause segregation of particles and disturbance of setting concrete but just enough to produce an even heterogeneous distribution of ingredients.

3.2.6.3 Dumping concrete into cars or buggies with a free fall or more than three (3) feet will not be permitted. Hardened or partially hardened splashes or accumulations of concrete on forms or reinforcement shall be removed before the work proceeds. In case the rate of pouring is such as to allow splashes or accumulations to harden, concrete shall be placed with a flexible spout attached to a suitable hopper. Spouts and hoppers are provided to maintain the surface of the concrete as nearly level as possible at all times.

3.2.6.4 Construction Joints – Concreting shall, whenever possible, be carried out continuously until the section is complete. When concrete operations must be stopped, construction joints shall be provided either horizontally or vertically as directed by the TSU Engineer/Architect and shall be equipped with shear keys or dowels to ensure proper bonding. A suitable bonding agent shall be applied to all construction joint surfaces prior to placing new concrete. All construction joints shall conform to the approved plans or as otherwise approved by the TSU Engineer.

3.2.7 Curing

3.2.7.1 All concrete shall be moist cured for a period of not less than seven (7) days by an approved method of combination applicable to local conditions. The surface of the concrete shall be kept continuously wet by covering with water, by continuously spraying, or by covering with burlap or other approved materials thoroughly saturated with water and keeping the covering web by spraying or intermittent housing. Water for curing shall be free from any elements which might cause objectionable staining or discoloration of concrete.

3.2.8 Repair of Concrete

3.2.8.1 Imperfections

3.2.8.1.1 Repairs shall be completed within 24 hours after removal of forms.

3.2.8.1.2 Voids which appear upon the removal of forms shall be drenched with water and immediately filled with materials of the same composition as that used on the surface and smooth with a wood spatula or float.

3.2.8.2 Where present, large bulges and abrupt irregularities that protrude, shall be removed by brushing, hammering and grinding.

3.2.8.3 All materials, procedures, and operations used in the repair of concrete shall be approved by the TSU Engineer/Architect.

3.2.8.4 The cost of all material, labor, and equipment used in the repair shall be borne by the Contractor.

3.2.9 Cement Finish for Concrete Surfaces

3.2.9.1 All concrete surfaces shall be given a finish done and applied in accordance with the following provisions.

3.2.9.1.1 Immediately after the removal of forms, all projecting wires and bolts, or other devices used for trying forms, shall be cut off at least one-half (1/2) centimeter beneath the finished surface. All holes, voids, depressions and other defects shall be thoroughly wetted and then pointed up the soil with cement mortar putty of the same proportion as the mortar used in the body of the work. All exposed surfaces shall be treated in such a manner as to effectivity elaborate, all lines, projections and marks impressed by the lumber for wood forms, to the general plan of the concrete surface.

3.2.9.1.2 Rubbed Finished: Unless otherwise specified, a rubbed finished shall be applied to all exposed concrete surfaces. Concrete surfaces shall be wetted immediately after the forms are removed and then rubbed even and smooth with carborundum brick or other abrasive to a uniform appearance without the application of any cement or another coating before the surface has hardened

3.2.10 Concrete Floors and Slabs

3.2.10.1 All concrete shall be of such consistency as to required tamping to bring the water to the surface. Tamping shall be done with the least ten (10) centimeters square-faced tampers.

3.2.11 Inspection

3.2.11.1 Concrete shall be proportioned, mixed, and placed in the presence of TSU Engineer/Architect, ample notice shall be given before mixing is commenced.

3.2.12 Test of Concrete

3.2.12.1 Reasonable number of tests on the concrete may be required by the TSU Engineer/Architect during the progress of the work. Not less than four (4) cylindrical specimens shall be made or each test of which at least two (2) shall be reserved for the 28 days test. Samples shall be secured and molded in accordance with “Method of

Sampling Concrete" (ASTM Designation C-172) and Method of Making and Curing Concrete Compression and Designation C-21). The Contractor shall provide the samples to be taken at the place of deposit and as specified by the TSU Engineer/Architect, without cost to TSU. The Contractor shall take care of transporting the samples to the approved testing laboratory without cost to TSU.

Specimen	Day of Testing
At least 1	7th Day
At least 1	14th Day
At least 2	28th Day

3.2.12.2 To conform to the requirements of this Specifications the average strength of test samples representing each class of concrete shall be equal to or greater than the specified strength and not more than the one strength test in 10 shall have an average value less than 90 percent of the specified strength.

3.2.13 Failure of Test Samples

3.2.13.1 In the case of failure of Test Cylinders to meet the specified strength, the Contractor may at his expense, obtain concrete core samples from the poured, concrete and the compressive strength of the same to be taken by a competent testing authority to determine the conclusive strength and integrity for the concrete poured. Coring shall be done in a manner which shall make possible satisfactory replacement of cored samples. To determine the adequacy of the affected parts, the TSU Engineer shall have the option to order load test on parts of the structure where concrete strength test are below 80% of the strength specified.

3.2.13.2 These tests shall be in accordance with ACI recommendations and the cost and shall be borne by the Contractor. Poured concrete with strength less than that required by the specification shall be demolished and provided with an acceptable replacement at the Contractor's expense.

3.2.13.3 Should the tests fail to give the required strength, the Engineer TSU shall have the right to order a change in the proportions or in the procedure or curing of the concrete for the rest of the structure.

3.3 STEEL AND TINSMITHRY WORKS

3.3.1 Materials :

3.3.1.1 All materials shall conform to that listed below unless noted otherwise on the drawings.

3.3.1.2 All structural steel shapes and plates shall be at least commercial type.

3.3.1.3 Use an approved Web Type Steel Deck 1.50mm thick.

3.3.1.4 All steel tubing shall be G.I. Tubular and at least commercial length type.

3.3.1.5 Welding electrodes shall be E7018.

3.3.1.6 Roof sheets shall be approved 0.50 mm thick off-white Pre-painted Long Span Rib-type. Approved type and quality.

3.3.1.7 Use an approved 10 mm thick MS plate for Roof Truss seat.

3.3.1.8 Gutter and flashing shall be approved 0.50 mm thick off-white Pre-painted Plain Sheet. Approved type and quality.

3.3.1.9 Use approved PE Foam Double Sided Insulation with 10 mm thick with 12.5 mm welded wire #21. Approved type and quality.

3.3.1.10 All metallic fasteners and fixing accessories shall be corrosion proof and non-metallic fasteners shall be of neoprene.

3.3.2 Workmanship

3.3.2.1 Length of roof sheets shall be in accordance with the actual dimension of the roof framing. These shall be verified prior to purchasing or ordering.

3.3.2.2 Flashings and gutters shall be lap at least 20 cm over the roofing sheets.

3.3.2.3 The intersection of all roofs with vertical walls shall be flashed not less than 20 cm high and all connections shall be made watertight.

3.3.2.4 PE Foam Insulation must be placed between the roof sheets and purlins with welded wire mesh #21 support underneath.

3.3.3 Fabrication and Erection

3.3.3.1 Field fabrication shall be kept to a minimum and shop fabrication shall be employed as to the greatest extent possible with members shop fabricated as long as practicable with a minimum requirement for field connections. Welding, shearing, gas cutting, chipping, and all other works involved in the fabrication of structural steel shall be done with accuracy and of the highest quality of the workmanship within the allowable tolerance prescribed in the AISC Specifications.

3.3.3.2 The steel members shall be shop fabricated and shall be done only by a qualified welder.

3.3.3.3 If for any reason, the TSU Engineer/Architect believes that a defect exists in any weld, it shall be the Contractor's responsibility to repair the questioned weld to the satisfaction of the Engineer/Architect.

3.3.3.4 The steel roof truss shall be erected plumb and true to line and grade. Bracings and supports shall be introduced whenever necessary to take care of all the loads to which the structure may be subjected. Such bracings shall be left in the places as long as may be relieved for safety.

3.3.3.5 Steel works to be encased in concrete shall not be painted. All other steel works shall be given one coat of shop paint of Epoxy Primer, applied thoroughly and evenly to dry surfaces, which have been cleaned, by brush, spray roller coating, flow coating or dipping at the selection of the fabricator. Steel work prior to painting and after inspection and approval shall be clean of loose mill scale, loose rust, weld slag or flux deposit, dirt and other foreign materials. Oil and grease shall be removed by a solvent. Parts of the steel work which shall be field welded or connected shall not be painted.

3.3.3.6 All steel works after complete erection shall be field painted with the type specified in the section of the painting of this specification. Painting shall not be done on any steel surface that is not thoroughly clean and dry.

3.3.3.7 The steel structures shall be erected plum and true line and grade. Bracing and supports shall be introduced whenever necessary to take care of all the loads to which the structure

may be subjected. Such bracings shall be left in the places as long as may be received for safety.

3.3.3.8 Connections shall be as shown in the drawings and shall develop the full capacity of the member.

3.3.3.9 Surfaces or joints prepared for welded or anchor bolt connection shall with the cleanliness requirements of all joints surfaces and contact surfaces within friction types joints as specified in Section 3, “Bolted Parts of the AISC Specifications”.

3.3.3.10 Holes shall be punched or drilled at right angles to the surface of the metals and shall be enlarged by burning. Holes shall be clean-out without rugged edges. Outside burst resulting from drilling or roaming operations shall be removed with a tool which reaches 1/16” (1.588mm) level around the bolt holes.

3.3.3.11 Length of rib type sheets shall be in accordance with the actual dimensions of the roof framing. These shall be verified prior to purchasing or ordering.

3.3.3.12 Gutter and flashing shall be lapped at least 20 cm over the roofing sheets. The ridge rolls shall be riveted.

3.3.3.13 The intersection of all roofs with vertical walls shall be flashed not less than 20 cm high and all connections shall be made watertight.

3.3.4 Inspection

3.3.4.1 Materials, equipment, and tools intended to be used for the work shall be inspected and approved by the TSU Architect/Engineer.

3.3.4.2 Each completed stage of the work shall be inspected and approved by the TSU Architect/Engineer before the next stage of the work can commence.

3.3.4.3 Before any Structural Steel Frame Fabrication is done by the Contractor, all materials intended to be used by the Contractor for the project shall be inspected for proper checking and approval of material thickness, quality, and sizes.

3.3.4.4 Final inspection by the Engineer/Architect of the TSU must be done before any delivery of the fabricated structural steel frames, member and accessories are made upon the advice of the Contractor.

3.3.4.5 Failure on the part of the Contractor to notify the TSU Engineer/Architect to the inspection of the materials intended to be used for the project before the start of any fabrication and final inspection of the fabricated structural steel frames, members and accessories before any delivery is made will be at the risk of the Contractor for any subsequent rejection.

3.3.5 Marking

3.3.5.1 Shop fabricated member shall be marked prior to delivery to facilitate the erection of the members. Markings shall be listed and given description and copies of which shall be furnished to the field and the TSU. Markings shall be neatly painted on the members with a distinctive color of quick dry enamel paint.

3.3.6 Shop Painting

3.3.6.1 Steel works to be encased in concrete shall not be painted. All other steel works shall be given one coat of shop paint of Epoxy Primer, applied thoroughly and evenly to dry surfaces, which have been cleaned, by brush, spray roller coating, flow coating or dipping at the selection of the fabricator. Steel work prior to painting and after inspection and approval shall be clean of loose mill scale, loose rust, weld slag or flux deposit, dirt and other foreign materials. Oil and grease shall be removed by a solvent. Parts of the steel work which shall be field welded or connected shall not be painted.

3.3.7 Field Painting

3.3.7.1 All steel works after complete erection shall be field painted with the type specified in the section of the painting of this specification. Painting shall not be done on any steel surface that is not thoroughly clean and dry.

SECTION 4 – ARCHITECTURAL WORKS

4.1 MASONRY AND PLASTERING

4.1.1 Scope of Work

4.1.1.1 The work shall consist of furnishing all required materials, labor, equipment, and performing all operations necessary to complete the masonry and plastering works as indicated in the approved working drawings.

4.1.2 Materials

4.1.2.1 All masonry units shall be approved quality, sound, free from cracks and other imperfections.

4.1.2.2 Non-load Bearing Concrete Hollow blocks shall be used with a minimum compressive strength of 500 psi. Method of sampling for quality test shall be one (1) quality test for every 10,000 units or fraction thereof, with three (3) specimens for compression test.

4.1.2.3 Reinforcing steel bars shall conform to ASTM Designation A-615-68 specifications for the structural grade.

4.1.2.4 Concrete Aggregates – Shall conform to “Specifications for Aggregates” (ASTM G33 latest revision). Sand and gravel shall be well graded and free from any deleterious materials. Sand and gravel shall be washed and crushed, respectively.

4.1.2.5 Cement and aggregates shall be stored in a manner as to prevent their deterioration or the intrusion of foreign matter Materials of deteriorated quality or which has been damaged shall not be used for concrete. Cement whose quality is questionable shall be tested by standard mortar test to determine its suitability for use.

4.1.2.6 Mortar of cells of CHB’s shall consist of one (1) part to cement to three (3) parts sand by volume with sufficient water. It shall be workable cement-sand mixture attaining a 28^{th} day compressive strength of 1500 psi.

4.1.2.7 Vertical and horizontal reinforcements shall be provided in masonry. CHB walls shall be reinforced as follows:

Thickness	Horizontal Reinforcement	Vertical Reinforcement
100m	10mmØ @ 600mm O.C.	10mmØ @ 600mm O.C.
150mm	10mmØ @ 400mm O.C.	10mmØ @ 400mm O.C.

4.1.2.8 Mortar for plastering shall be proportioned one (1) part cement to two (2) parts sand with sufficient water. Use 50 mm thick cement plastering for exterior walls and 25 mm thick cement plastering for interior walls.

4.1.3 Workmanship

4.1.3.1 CHB's shall be laid plumbed and leveled accurately. Laid units of blocks shall be wetted before laying another unit or layer. Damaged units shall not be used. Units shall be cut accurately to fit all plumbing ducts, opening for electrical works; all holes shall be neatly patched.

4.1.3.2 Units shall be placed while the mortar is soft and plastic and shall be used within two and a half (2.5) hours of initial mixing. Mortar that has stiffened should not be used. Any unit disturbed to the extent that the initial bond is broken after initial positioning shall be removed and re-laid in fresh mortar. All cells of CHB units shall be fully grouted.

4.1.3.3 Where CHB walls adjoin columns, beams and walls, dowels with the same size as the vertical or horizontal reinforcement shall be provided.

4.1.3.4 No construction support shall be attached to the CHB wall except where specifically permitted by the Engineer.

4.2 FLOOR, WALL, AND FINISHING WORKS

4.2.1 General

4.2.1.1 Prepare the floors and walls to install directly to their corresponding surfaces. Deliver materials to the job in the manufacturer's unopened containers with the manufacturer's brand and name clearly marked thereon.

4.2.1.2 All cement surfaces to receive floor finish shall be structurally sound, plumb, level, and true, free from dust, dirt, grease, calcimine water, or other foreign matter. Repair any cracks before installation, use a joint repair sealant injected into the cracks.

4.2.2 Materials and Preparation

4.2.2.1 Use concrete primer Bitumen, 4.0 mm thick Bitumode Asphalt Membrane (Torch applied) Reinforced with 50 mm x 4.0 mm welded wiremesh water proofing of roof deck.

4.2.2.2 Use 3 coats of cementitious water proofing for all slab ledges, salab balconies, and canopies.

4.3 CEILING WORKS

4.3.1 Scope of Work

4.3.1.1 This section shall include all materials, labor, materials, tools, equipment, and services necessary to complete the ceiling work in strict accordance with the drawings.

4.3.2 Submittal

4.3.2.1 Submit product information from manufacturers for each type of product specified to include brochures, catalogs, samples and certificates of test reports, quality compliance, and accreditation from the foreign manufacturer for the authenticity of local distributed materials.

4.3.3 Delivery, Storage, and Handling

4.3.3.1 Deliver materials in manufacturer's original unopened packages marked with identifying information. Protect materials as recommended by the manufacturer.

4.3.3.2 Store materials, keep dry, and protect against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels on a level surface to prevent sagging.

4.3.4 Material

4.3.4.1 9 mm thick Gypsum Board Ceiling. Approved brand and quality.

4.3.4.2 Fiber Cement Board shall be 4.5 mm thick. Approved brand, type, and quality.

4.3.4.3 0.25 m x 2.95 m x 8 mm PVC ceiling panel (wood type) including corner clips. Approved brand and quality.

4.3.4.4 Metal Furring shall be 0.50mm thick x 19mm x 50mm.

4.3.4.5 Carrying Channel 0.80 mm thick x 12 mm x 38 mm.

4.3.4.6 Complete with concrete nails, screws, double -clip and complete accessories.

4.3.5 Installation

4.3.5.1 Ceiling framing systems: Framing for furred ceilings shall be installed at the locations indicated and shall conform to the standards.

4.3.5.2 Attached ceilings: Framing is not required for ceilings attached to structural members, except for framing openings as specified. Furring as hereinafter specified shall be attached directly to structural members.

4.3.5.3 Furring: Steel channels or steel studs shall be provided where steel furring is indicated for screw attachment of boards.

4.3.5.4 Ceiling runners: Shall be accurately aligned and securely attached to floors and to structural ceilings or roof deck except where partition ceiling runners are applied directly to finish material of continuous ceilings. Attachment shall be by expansion shields, machine bolts, or other approved method, at not more than 0.60m centers and to furred ceilings by board screws at each furring member. Furring will be provided at ceiling runners oriented parallel to the direction of furring members. Runners shall extend beyond open-end partitions for 0.40m. Upon installation of end studs, runner extensions shall be

bent and nested with the stud and attached thereto with two board screws. Runner shall be in the longest possible lengths with butt joints between lengths.

4.3.5.5 Ceiling openings: Support members shall be provided at ceiling openings such as required for access panels, recessed light fixtures, and for air supply or exhaust. Support members of not less than 38mm main runner channels and suspension wires or straps shall be located to provide at least the minimum support specified herein for furring and board attachment. Intermediate structural members, although not a part of the structural system, shall be provided for attachment or suspension of support members.

4.3.5.6 Application: Board shall be applied with the separate boards in moderate contact but not forced into place at internal and external corners the cut edges of the boards shall be concealed by the overlapping covered edges of the abutting boards. The boards shall be so staggered that the corners of any boards will not meet a common point except in vertical corners.

4.3.5.7 Ceilings: Board shall be applied to the ceilings with the long dimension of the board, at right angles to the furring members. Board may be applied with the long dimension parallel to furring members that are spaced 0.60m on centers when attachment members are provided at end joints

4.3.6 Cleaning And Protection

4.3.6.1 Promptly remove any residual joint compound from adjacent surfaces not indicated to receive texture.

4.3.6.2 Provide final protection and maintain conditions, in a manner acceptable to Installer, that ensure gypsum board assemblies are without damage or deterioration at the time of construction complete.

4.4 DOORS & WINDOWS

4.4.1 Scope of Work

4.4.1.1 The Contractor shall furnish all materials, labor, equipment, tools, and services necessary to complete all work herein specified and shown on drawings.

4.4.1.2 Provide all hardware/s not herein specifically mentioned but are necessary to complete the work. The architect shall approve all such hardware/s.

4.4.1.3 Where so shown on drawings, doors, and windows shall be of the following type unless otherwise specifically noted in the Schedule of Specifications with complete necessary hardware.

4.4.1.3.1 D1 - 12mm thk Tempered Glass with Frosted Decals Single Panel Swing Glass Door with closer and FD100 Top & Bottom Frame, S304 Stainless H-Type door handle and complete accessories

4.4.1.3.2 D4 - Single Swing Steel Door with Jamb, 1.5mm thk Steel Sheet, 2" x 2" x 1.5mm thk G.I. Tubular Framing with sound proof seal strip, Vent Louvers, 1.2 mm thick S304 Stainless Steel Kick Plate, 2" S304 Stainless Steel Vertical Pull Bar, Heavy duty Lever Type Door Knob, Heavy Duty Hinges and complete accessories (including surface preparation, primer and at least 2 top coats)

4.4.1.3.3 D5 - Single Swing Steel Door and Jamb, 1.5mm thk Steel Sheet, 2" x 2" x 1.5mm thk Tubular Framing, with Groove Design and insulation, Heavy Duty Lever Type Door Knob, Single Cylinder Stainless Steel Dead Bolt, Heavy Duty Hinges and complete accessories (including surface preparation, primer and at least 2 top coats)

4.4.1.3.4 D6- Double Swing Steel Door Louver with Jamb, 1.5mm thk Steel Sheet, 2" x 3" x 1.5mm thk G.I. Tubular Framing, 0.5mm thk. G.I. Sheet Louver, Heavy Duty Lever Type Door Knob, Heavy Duty Hinges, Heavy Duty Padlock and complete accessories (including surface preparation, primer and at least 2 top coats)

4.4.1.3.5 D7- Single Swing Steel Door Louver with Jamb, 1.5mm thk Steel Sheet, 2" x 3" x 1.5mm thk G.I. Tubular Framing, 0.5mm thk. G.I. Sheet Louver, Heavy Duty Lever Type Door Knob, Heavy Duty Hinges and complete accessories (including surface preparation, primer and at least 2 top coats)

4.4.1.3.6 D10 - Single Swing Steel Door and Jamb with 6.0 mm thick One Way Reflective (exterior) Clear Tempered Glass Transom Window, 1.5mm thk Steel Sheet, 2" x 2" x 1.5mm thk G.I. Tubular Framing, Sound proof seal strip, Heavy Duty Lever Type Door Knob with Dead Bolt Lock, Heavy Duty Hinges and complete accessories (including painting nand application of putty prior to application of primer and at least 2 top coats)

4.4.1.3.7 White Powder Coated Aluminum Frame Awning and Fixed Windows shall be 6.0 mm thick tempered, clear/bronze, one-way reflective glass (exterior). See schedule of windows in the plan.

4.4.1.3.8 Stainless Steel Lever Type and Dome Type Doorknob shall be heavy duty: Approved brand and quality.

4.4.1.4 All hardware and other attachments necessary to ensure proper operation of ventilators shall be as per manufacturer's specifications. These must affect tight close of vents when locked. Locking handles, catches keepers, etc.

4.4.1.5 Unless to be installed shall be of types and thickness as noted in the Schedule of Specifications and as indicated on drawings.

4.4.1.6 Glasses to be installed shall be of types and thickness as noted in the Schedule of Specifications and as indicated on drawings.

4.4.1.7 All glasses shall be accurately cut to fit and with equal bearing on entire width of pane. Thin layer of putty shall be applied to rebate and set glass; pressing until an even bed is secured. Remove excess putty from each side flush with edge of rebate.

4.4.1.8 All door with width not more than 0.9 m shall have three hinges, and four hinges for more than 0.9 m width: Approved brand and quality.

4.4.2 Dimension to be Verified

4.4.2.1 All dimensions of the opening as shown on drawings must be verified by the Contractor at the job site before the fabrication of the door and windows.

4.4.3 Glass and Glazing

4.4.3.1 Materials

4.6.4.1.1 Glasses to be assigned to the different portions of the work shall be of types and thickness as noted in the Schedule of Specifications and as indicated on drawings.

4.4.3.2 Execution

4.4.3.2.1 All glasses shall be accurately cut to fit and with equal bearing on the entire width of pane. Thin layer of putty shall be applied to rebate and set glass; pressing until an even bed is secured. Remove excess putty from each side flush with the edge of the rebate.

4.4.3.2.2 Glass breakage caused in executing the work or faulty installation shall be replaced by Contractor without extra cost.

4.4.4 Hardware

4.4.4.1 Scope of Work

4.4.4.1.1 The Contractor shall furnish and install all necessary hardware for doors and windows to leave the work complete, although not specifically mentioned herein.

4.4.4.2 Materials

4.6.5.2.1 All hardware shall conform in quality and finish to the rest of the hardware specified. Sample shall be approved by the Engineer/Architect prior to installation.

4.4.4.3 Heavy Duty Hinges

4.4.4.3.1 Heavy-Duty Stainless-Steel Flush Mounted Hinges and all door with width not more than 0.9 m shall have three hinges, and four hinges for more than 0.9 m width: Approved brand and quality.

SECTION 5 – ELECTRICAL WORKS

5.1 SCOPE OF WORK

5.1.1 The Contractor shall provide all materials and equipment and perform all the work necessary for the complete execution of the electrical work specified herein; except as otherwise excluded, and which without excluding the generality of the foregoing, shall include but not be limited to the following principal items of work. All work shall be in accordance with the governing codes and regulations and with the specifications, except when the same shall conflict with such codes, etc. in which case the latter shall then govern.

5.1.1.1 Provide a complete electrical wiring system for the building.

5.1.1.2 Provide a complete fire detection and alarm system wiring for the building.

5.1.1.3 Complete testing of all electrical systems.

5.1.1.4 Optional items of work.

5.1.1.5 All tapping shall be executed inside the ceiling unless indicated in the plan and on the mounting type of equipment.

5.1.1.6 If anything has been omitted in any items of work on materials usually furnished, which are necessary for the completion of the Electrical Works as outlined herein before, then such must be and are hereby included in this section of the work.

5.2 GENERAL

5.2.1 Codes, Regulations, and Ordinances

5.2.1.1 The electrical item under this contract is to be installed according to the requirements of the latest Philippines Electrical Code, the rules and regulations of the Authority concerned and the requirements of the Power Company. Nothing contained in these specifications or shown on the drawings shall be construed as to conflict with the National and Local Ordinances or Laws governing the installation of electrical work, and all laws and ordinances are hereby made part of these specifications. The Contractor is required to meet the requirements thereof.

5.2.2 Plans and Drawings

5.2.2.1 The Contract Drawings, which constitute an integral part of this contract, shall serve as workings drawings. They indicate the general layout of the complete electrical system and show arrangements of feeders, circuits, outlets, switches, control panel boards, service equipment, fixtures, and other works.

5.2.2.2 The Contractor shall check architectural, structural, and plumbing plans to avoid possible installation conflicts. Should drastically changes from original plans be necessary to resolve such conflicts, the Contractor shall notify the Engineer/Architect and shall secure from him written approval and agreement concerning necessary changes and adjustments before altered installation work is started.

5.2.3 Minor Modifications

5.2.3.1 The plans as drawn are based upon architectural plans and details show conditions as accurately as is possible to indicate them in scale. The plans are diagrammatical and do not necessarily show all fittings, etc., necessary to fit the conditions. The locations of lighting fixtures and switches shown on the plans are approximate. The Contractor shall be responsible for the proper location to make them fit with architectural details.

5.2.4 Guarantees

5.2.4.1 The Contractor shall guarantee that the electrical system is free from all grounds and all defective workmanship and materials and will remain so for a period of one (1) year from the date of acceptance of the work. Any defects, appearing within the aforesaid period, shall be remedied by the Contractor at his own expense.

5.2.4.2 The Contractor shall indemnify and save harmless the TSU and his duly authorized representative from and against all liability for damages arising from injuries or disabilities to persons or damage to property occasioned by any act or omission of the Contractor, including all expenses, legal or other, which may be incurred by the TSU in the defense of any claim, action, or suit.

5.3 INSTALLATION REQUIREMENTS

5.3.1 All materials shall be new and shall conform to the standards specified in the Philippine Electrical Codes and others such as AIA, IEEA and NEMA, for every case where such standard has been established for the particular type of materials in question.

5.3.2 All materials on all systems shall comply with the following specifications unless specifically accepted, and all materials that were not specified shall be of the best of their respective kind.

5.3.3 Cutting and Fitting

5.3.3.1 Contractor shall do all cutting and fitting required for the installation of the electrical items and coordinate with the work of other trades, in accordance with the drawings and in a manner satisfactory to the Engineer/Architect.

5.3.4 Inserts, Anchor, Etc.

5.3.4.1 Furnish to the proper trades all inserts, anchors or other required items, which are to be built in by them for securing all hangers or other supports of conduit and for anchorages for electrical equipment.

5.3.5 Ground Tests

5.3.5.1 The entire installation shall be free from improper grounds and from short circuits.

5.3.5.2 Ground testing shall be performed and shall meet the standard resistance required by the NFPA, IEEE and PEC.

5.3.6 Performance Test

5.3.6.1 It shall be the responsibility of the Contractor to test all systems of the entire electrical installation for proper operational conditions. These conditions shall apply to the power and lighting installations as well as the fire alarm system and motors.

5.4 MATERIALS

5.4.1 Wires and Cables

5.4.1.1 The installation shall be free from improper grounds and short circuits. All wires shall be copper, soft-drawn, and annealed, shall be of 98% conductivity, shall be smooth and fine and of a cylindrical form, and shall be within 1% of the actual size called for.

5.4.1.2 Wires shall be color coded as follows:

Line 1 --- Red Line 2 --- Yellow Line 3 --- Blue Ground --- Green

5.4.1.3 All wires shall be copper, soft-drawn, and annealed, shall be of 98% conductivity, shall be smooth and fine and of a cylindrical form and shall be within 1% of the actual sized called for.

5.4.1.4 All wires and cables for lighting and power system shall be moisture and heat resistant rubber or thermoplastic insulate. It must be in conformity with the Philippine Electrical Code when used in damp or unit location. Wires shall be stranded for sizes #12 AWG.

5.4.1.5 For lighting and power systems, no wire shall be smaller than #12 AWG shall be used.

5.4.1.6 All wires and cables shall comply with the requirements as to the particular usage and approved brand.

5.4.2 Pipes

5.4.2.1 Wiring shall be done in PVC Pipe for embedded and in RSC or EMT for run exposed; it shall be Schedule 40.

5.4.2.2 No tubing shall be used in any system smaller than ½" electric trade size, nor shall have more than four 90-degree bends in any one run and where necessary pull, boxes shall be provided as directed.

5.4.2.3 No wire shall be pulled into any conduit until the conduit system is complete in all details and in the case of concealed work until all rough plastering or masonry has been completed in every detail.

5.4.2.4 The ends of all conduits shall be tightly plugged to exclude plaster, dust, and moisture while the building is in the process of construction. All conduit ends shall be reamed to remove all burrs.

5.4.2.5 1" PVC Conduit for the riser pipe of Point-to-point antenna from the data cabinet shall be installed at electrical pipe chase.

5.4.2.6 3" RSC Conduit mounted on wall with G.I. Wire shall be provided going to roof deck for future construction and electrical load.

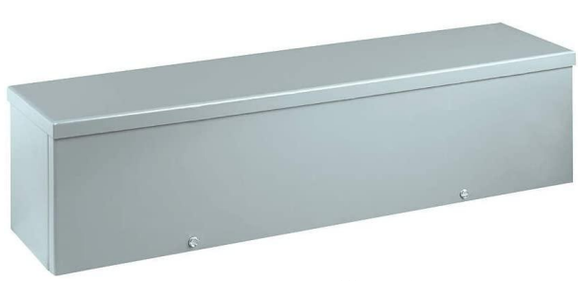
5.4.2.7 Provide hanger and support for conduits that will run from every unit going to the distribution panel board for second floor and third floor.

5.4.2.8 False column shall be provided for the designed riser pipe and pull box of roof deck for future expansion.

5.4.3 Junction and Pull Boxes

5.4.3.1 Weatherproof junction and pull boxes shall be provided as indicated or as required for facilitating and pulling of wire and cables. Pull boxes in finished places shall be located and installed with the permission and to the satisfaction of the contracting officer.

5.4.3.2 G.I. Pull box shall be provided on the roof deck to enclose the riser pipe for the future distribution panel board.



NEMA-1 Auxiliary Gutter
*Box size will vary depending on its purpose

5.4.4 Wall Switches

5.4.4.1 Wall switches shall be rated at 15 amperes, 250 volts, one way or as required. Switches shall be with LED, quiet and automatic action type, silver contact, feather touch operation, colored matte black. Switches to be used shall be approved brand by the Engineer/Architect.

5.4.4.2 Weatherproof cover shall be provided for the lighting switches of common comfort rooms located at the second floor and third floor.

5.4.5 Power Receptacles

5.4.5.1 Receptacles outlet shall be for flush mounting duplex rated at 10 ampere, 250 volts “T” slot socket-outlet, white. Receptacles to be used shall be approved brand by the Engineer/Architect.

5.4.6 Plates

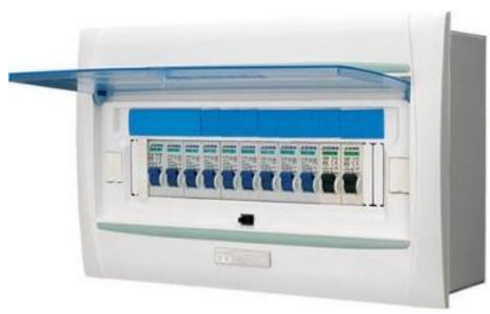
5.4.6.1 All switch and receptacle plates shall be of Bakelite white finish, and of approved brand.

5.4.7 Panel And Data Cabinets

5.4.7.1 All panels shall be with dead front construction, furnished with trims for flush or surface mounting as required. Cabinets shall be of code gauge steel with gutters at least 4 inches wide and wider if necessary. The trim for all panels shall be finished in gray enamel over a rust inhibitor. Manufacturer’s show drawings shall be submitted to the Engineer/Architect for approval.

5.4.7.2 Distribution panelboards for second floor and third floor must be in accordance to the proposed design on page 139 (E-10). It will be a modified panelboard unlike the usual construction of panelboards.

5.4.7.3 Distribution panelboards for Office, Staff Room, Typical Units A and Typical Units B must be a plastic enclosure.



5.4.8 Individual Breakers and Switches

5.4.8.1 Provide individual circuit breakers, safety switches and disconnect switches as where indicated. Voltage ratings shall be suitable in each case of service application.

5.4.8.2 Enclosure shall be General Purpose, NEMA type, and shall almost all the requirements and specifications of the Philippine Electrical Code.

5.4.8.3 Circuit breakers shall be capable of being closed and operated by hand without employing and other source of power.

5.4.8.4 Safety and disconnected switches shall be fusible or non-fusible as required end of size as indicated on plans.

5.4.8.5 Circuit breaker to be used shall be of approved brand.

5.4.9 Disconnecting Means

5.4.9.1 Disconnecting means shall be provided as indicated on the drawings at each motor location.

5.4.9.2 Circuit breakers shall be used for current protection purposes and shall be enclosed in suitable metal housing or plastic housing of type required by location.

5.4.9.3 Unfused safety switches shall be used where disconnecting means only are required and the current supply to the same is protected by a circuit breaker at the panel board, shall be totally enclosed.

5.4.10 Lighting System and Other Fixtures

5.4.10.1 The lighting system and other fixtures shall be complete in every aspect, all indicated on the plan or specified.

5.4.10.2 All work for the lighting system inside the ceiling shall be done utilizing knob and tube work and lighting circuits shall be balanced at the panels.

5.4.10.3 Mounting heights of devices shall be as follows

Local Switches:	1.4m from FFL.
Convenience Outlet:	0.30m above floor or above counters, or as directed by the TSU Architect/Engineer.
Bedroom C.O.:	0.70m from FFL for Lower deck of bed and 1.70m from FFL for Upper deck of bed.
GFCI Outlet:	1.00m from FFL.
A.C. Outlets:	At convenient height near the equipment.

5.4.10.4 Install all fixtures' wirings as specified or at locations shown in plans or as directed by the Engineer/Architect.

5.4.11 Air Terminal Lightning Protection

5.4.11.1 Early streamer emission air terminal with a radius of protection of 60 meters shall be installed as lightning protection for the TSU Dormitory.

5.4.11.2 Air terminal shall be installed at the roof deck and mounted on the top end of the steel pipe post.

5.4.11.3 Lightning discharge counter shall be installed together with the air terminal on the same post.

5.4.11.4 Ground tests shall be performed to ensure the safe shunting of lightning strike to earth. Low ground resistance shall be attained on the test pit.

5.4.12 Service Entrance

5.4.12.1 The Contractor shall furnish and install a 3-PHASE, 3 WIRE, 230 VOLTS for the said building with 2 - 3 inches conduit laid in parallel and installed inside the concrete encasement and concrete pedestal.

5.4.12.2 The Contractor shall install triangle grounding system for the whole building.

5.4.13 Fire Detection and Alarm System

5.4.13.1 New fire alarm and detection system wirings shall be installed in reference with location showed in the plan.

5.4.13.2 Wires for fire alarm and detection system shall be 1.25mm^2 TF Wire of approved brand.

SECTION 6 – PLUMBING WORKS

6.1 SCOPE OF WORK

6.1.1 The Contractor shall furnish all materials, labor, tools, equipment, and services required for the partial installation of the plumbing system. This includes, but is not limited to:

6.1.1.1 Installation of sanitary pipes, including soil, waste, and vent piping, up to stub-outs for connection to fixtures and septic tank (to be installed in later phases).

6.1.1.2 Installation of water supply piping up to stub-outs for fixtures, and pump and tanks system (to be installed in later phases).

6.1.1.3 Testing of rough-in piping for leakage prior to concealment.

6.1.1.4 Installation of storm drainage piping system up to overflow for catch basin (to be installed in later phases). Including necessary pipe cover indicated in the plumbing plans.

6.1.1.5 Installation of cleanouts, fittings, and pipe accessories necessary for a complete rough-in system.

6.1.1.6 All additional work required to ensure the future complete operation of the new plumbing system (sanitary, water supply, and pump systems) for the project.

6.1.2 All plumbing work and pipe sizes must adhere to the National Plumbing Code of the Philippines and local requirements and ordinances.

6.1.3 The Contractor must review all architectural, structural, and electrical plans, along with this specification. The Contractor is responsible for investigating all potential interferences and existing site conditions affecting the installation and operation of the new plumbing system.

6.1.4 The drawings detail the pipes, valves, and appliances for the project. Any items not specifically mentioned but necessary for the complete system, in accordance with best plumbing practices and to the satisfaction of the Engineer/Architect, must also be furnished and installed.

6.2 SOIL, WASTE, DRAIN AND VENT PIPES

6.2.1 Installation

6.2.1.1 All sewer lines shall be pitched 6 mm per 300 mm (1/4" per foot) for soil pipes and no case flatter than 3 mm per 300 mm (1/8" per foot) for waste pipes.

6.2.1.2 Changes in pipe sizes for soil, waste, and drain lines must be made using reducing fittings or reducers. Changes in direction should use forty-five-degree (45º) wyes or long sweep bends, with sanitary tees permitted for vertical stacks. Short quarter bends or elbows may be used where the direction changes from horizontal to vertical, and on the discharge from the water closet.

6.2.2 Traps

6.2.2.1 Each plumbing fixture must have a separate, vented water-sealed trap installed as close to the fixture outlet as possible, but in no case at a distance greater than 600 millimeters. Traps shall be of the same diameter as the waste pipes from the fixtures which they shall serve; all traps shall have a water seal of at least 32 millimeters with a brass thumbscrew clean out at the bottom of the seal.

6.2.3 Vent

6.2.3.1 Vents shall be taken from the crown of the fixtures, except for water closet traps, in which case, the branch line shall be vented below the trap and above all small waste line inlets, so connected as to prevent obstructions. Each vent pipe shall run separately above the fixtures into the adjacent soil pipes, not more than 1.50 meters. If more than this distance, the vent shall run independently through the roof.

6.2.3.2 A vent line shall, wherever practicable, be a direct extension of a soil or waste line.

6.2.3.3 Main vent risers at 4.5 meters or longer shall be connected at the foot with the main water or soil pipes below the lowest vent outlet with a forty-five-degree connection.

6.2.4 Pipes and fittings

6.2.4.1 Soil Waste Pipe – shall be Polyvinyl Chloride (PVC) pipes, Series 1000.

6.2.4.2 Vent Pipes – shall be Polyvinyl Chloride (PVC) pipes, Series 1000.

6.2.4.3 Storm Drainage Pipes – shall be Polyvinyl Chloride (PVC) pipes, Series 1000.

6.2.5 Joints and Connections

6.2.5.1 All joints shall be air and watertight.

6.2.5.2 PVC Pipes and Fittings – socket type with PVC solvent cement, elastomeric rubber O-ring gasket, or as per the Manufacturer's recommendations.

6.2.5.3 Dissimilar Pipes – Use adaptor fittings.

6.3 WATER DISTRIBUTION AND PUMP SYSTEM

6.3.1 Pipes and Fittings

6.3.1.1 Waterline pipes and fittings shall be Polypropylene Random Copolymer (PPR) PN20 pipes.

6.3.2 Installation

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

6.3.2.2 The water supply piping at each fixture shall be provided with a shutoff valve and union, whether indicated on the drawings or not, which will permit isolation and disconnection of each item without disturbing the remainder of the system.

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

6.3.2.4 Changes in sizes shall be made with reducing fittings.

6.4 MISCELLANEOUS

6.4.1 Cleanout shall be PVC or Brass type, gas and watertight, and shall be provided with quick and easy plug removal to allow ample space for cleansing tools.

6.4.2 Cleanout shall be of the same size as the pipe.

6.4.3 Use PVC cover for cleanout located inside the ceiling on the upper floors.

Cleanout with PVC Cover

6.5 DEFECTIVE WORK

6.5.1 If the inspection or test shows any defect, such defective work or material shall be replaced, and the test shall be repeated until satisfactory to the Project-In-Charge.

6.5.2 All repairs to piping shall be made with new materials at the expense of the Contractor.

6.5.3 No caulking of screwed joints or holes will be accepted.

6.6 PERFORMANCE TEST

6.6.1 It is the responsibility of the Contractor to test all systems of the entire plumbing installation for proper operational condition. The test shall be conducted in the presence of the TSU.

SECTION 7 – MECHANICAL WORKS

7.1 AUTOMATIC FIRE SPRINKLER SYSTEM

7.1.1 Scope of Work

7.1.1.1 This specification covers the equipment, materials, components, and labor including necessary services to complete the installation of the Automatic Fire Sprinkler System.

7.1.1.2 All materials and work for the Automatic Fire Sprinkler System shall be in accordance with applicable portions of the latest version of the following standards unless otherwise indicated.

7.1.1.2.1. NFPA – National Fire Protection Association

7.1.1.2.2. ASTM – American Society for Testing Material

7.1.1.2.3. AWS – American Welding Society

7.1.1.2.4. UL – Underwriters Laboratories Inc.

7.1.1.2.5. FM – Factory Mutual

7.1.1.2.6. National Building Code of the Philippines

7.1.1.2.7. Philippine Mechanical Code

7.1.1.2.8. RA 9514 – The Fire Code of the Philippines

7.1.2 Quality Assurance

7.1.2.1 The complete automatic fire sprinkler system installation shall be made by an approved installer, specializing in fire protection work, having not less than three (3) year experience in installing fire protection systems.

7.1.2.2 All equipment shall be UL-listed, and FM approved or equivalent.

7.1.3 Delivery, Storage, and Handling

7.1.3.1 Equipment and materials shall be handled, stored, and protected to prevent damage before and during installation in accordance with the manufacturer's recommendations. Damaged or defective items shall be replaced.

7.1.3.2 Delivered materials in original package, containers, skid loads, or bundles bearing brand names and identification of source of manufacturer or supply.

7.1.3.3 Delivered materials and equipment shall be protected from weather, direct sunlight, surface damage, corrosion, and construction traffic activity.

7.1.3.4 Installer shall make necessary provisions to protect systems from damage, deterioration, and environmental conditions during installation and until the automatic fire sprinkler systems is fully operational.

7.1.4 Materials

7.1.4.1 Valves and Accessories

7.1.4.1.1 All valves and accessories shall be approved by UL/FM.

7.1.4.1.2 Check valve - check valve shall be clear open, swing type check valve with flange or threaded inspection plate.

7.1.4.1.3 Gate Valve & Control Valve - gate valves and control valves shall be outside screw and yoke (O.S.&Y.) Type, supervised which open by counterclockwise rotation. Butterfly-type control valves are not permitted.

7.1.4.2 Pipes and Fittings

7.1.4.2.1 Pipes shall be Schedule 40 Black Iron Pipe Seamless Plain Ends

7.1.4.2.2 Fittings shall be welded, threaded, or grooved-end type.

7.1.4.2.3 Underground pipes and fittings shall be protected against corrosion.

7.1.4.2.4 Rubber gasketed grooved-end pipe and fittings with shall be permitted in pipe sizes 40 mm (1.5 inch) and larger. Fittings shall be UL listed, or FM approved for use in dry & wet standpipe systems. Fittings, mechanical couplings, and rubber gaskets shall be supplied by the same manufacturer.

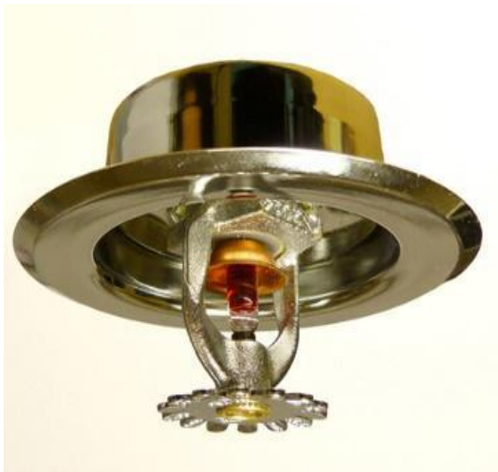
7.1.4.3 Fire Fighting Equipment

7.1.4.3.1 Sprinklers

7.1.4.3.1.1 Sprinkler heads (pendent, upright and sidewall) shall be UL/FM approved.

7.1.4.3.1.2 Sprinkler heads (pendent, upright and sidewall) shall be Quick Response, K=5.6(80.@Metric), 155°F (68 °C), 1/2" NPT, Chrome Plated Type Sprinkler.

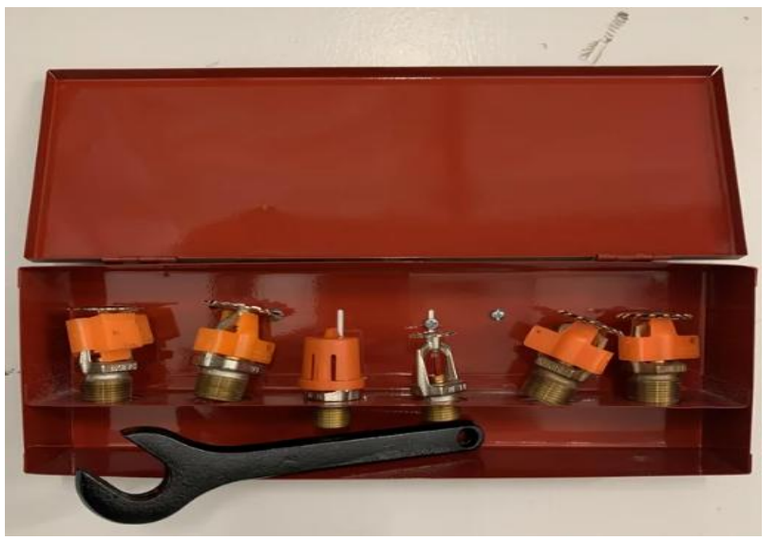
7.1.4.3.1.3 Pendent sprinkler heads shall be installed with escutcheon triple chrome plated.



7.1.4.3.2 Fire Sprinkler Heads Cabinet

7.1.4.3.2.1 Fire sprinkler spare head boxes provide storage for spare fire sprinkler heads and head wrench. For use with 1/2" fire sprinkler heads. Slotted for easy mounting. Powder coated Red.

a. 6 pcs for 300 sprinkler heads.
b. 12 pcs for 300 to 1000 sprinkler heads.
c. 24 for 1000 sprinkler heads and above.



7.1.4.4 Fire Hose Cabinet

7.1.4.4.1 Fire Hose Cabinet shall be UL/FM approved.

7.1.4.4.2 Fire Hose Cabinet connected to the Automatic Fire Sprinkler System the cabinet shall be 700mmx815 x 203mm (24” x 27” x 8”), 18 gauge cold rolled steel and 610 x610mm. The

7.1.4.4.3 hose shall be a lightweight polyester jacket and 30 meters (100ft) long with nozzle.

7.1.4.5 Fire Department Connection

7.1.4.5.1 Fire Department Connection shall be UL/FM approved.

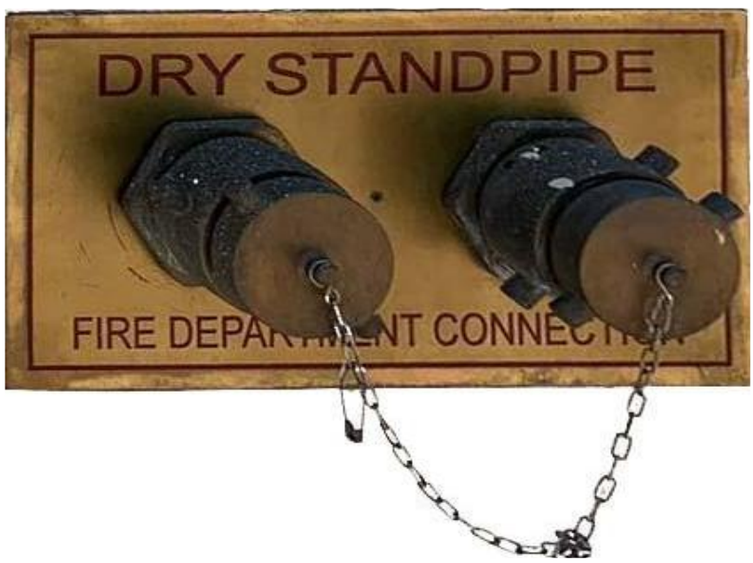
7.1.4.5.2 Fire department connections (FDC) shall be 65 x 65 x100mm (2 ½" x 2 ½" x 4") quick-connect fitting, with protective coupling cap and suite to couplings of the local fire brigade department.

7.1.4.5.3 Fire department connection shall be installed not less than 500mm and not more than 1200mm above finished floor level.

7.1.4.5.4 Fire department connection shall be Dual Snoot Flush Mounted, Brass Type.

7.1.4.5.5 Provide identification sign for each fire department connection.

7.1.4.5.6 Identification sign shall indicate "AUTO. SPRNK or STANDPIPE".



7.1.4.6 Miscellaneous

7.1.4.6.1 Hangers And Supports

7.1.4.6.1.1 All hangers and supports shall be made of steel or other durable and noncombustible materials. Wood, wire, or perforated strap iron shall not be used as permanent hangers or supports. Hangers that penetrate finished ceilings shall be provided with a chrome or nickel-plated escutcheon plate.

7.1.4.6.1.2 Anchorage in concrete – expansion shield should preferably be used in a horizontal position in the sides of concrete beams.

7.1.4.6.1.3 Expansion shield in vertical position. When pipes 100 mm and larger are supported entirely by expansion shield in the vertical position, the supports shall be spaced not more than 3.0 meters apart.

7.1.4.6.1.4 Pipe hangers should be installed at every 1.5 meters and should be anchored to slab system or metal and so as not to interfere with the free expansion and contraction of piping, and all nuts and bolts shall be drawn up tight.

7.1.4.6.1.5 Ceilings should be restored back to the original location and physical properties.

7.1.4.6.1.6 Hangers shall be capable of withstanding the test loadings given in the NFPA rules. When installed and subjected to the test loadings, the hanger shall not rupture, pull out, distort or otherwise be damaged and hangers shall not show permanent distortion resulting in a change in level.

7.1.4.6.2 Pipe Sleeves

7.1.4.6.2.1 Furnish, install and responsible for the location of proper sleeves for all pipes passing through floor, walls, partitions, or other building construction. Where sleeves occur in concrete construction, they shall be set before concrete is poured. Set sleeves and anchors in a suitable manner so that they will not become displaced. Sleeves for piping passing through walls and floors in concealed spaces shall be cut flush with walls or floor.

7.1.4.6.2.2 Sleeves passing through foundation walls or exterior walls, or where seepage may occur, shall be thoroughly waterproofed.

7.1.4.6.2.3 Sleeves passing through walls and floors between rooms shall be filled from both ends of sleeve with fireproof insulation material of a fire rating equal to that of the wall or floor.

7.1.4.6.3 Underground Piping

7.1.4.6.3.1 Vinyl corrosion protection tape, concrete thrust blocking and concrete anchor blocking shall be provided for every 1.5m of underground piping.

7.1.4.6.4 Identification

7.1.4.6.4.1 Painting finish (type, quality, and color) to all fire protection pipework shall comply with the requirements of local code. Piping shall be painted with one (1) coat of epoxy primer and two (2) coats of epoxy enamel.

7.1.4.6.4.2 All equipment shall have a nameplate that identifies the manufacturer's name, address, type or style, model or serial number, and catalog number.

7.1.5 Execution

7.1.5.1 Install a complete Automatic Fire Sprinkler System with all piping, valves, hangers, signs, valves, tests, etc., as indicated in the drawings and as specified herein.

7.1.5.2 Furnish and install all drain piping, flushing, connections, drain plugs, drain valves, etc., at drain points and all low points.

7.1.5.3 Seal all valves, not provided with tamper switches, in open position by approved means.

7.1.5.4 Care shall be exercised in the installation of the piping so that the system will drain by gravity, back through branches.

7.1.6 Testing

7.1.6.1 All tests shall be done in the presence of the representative of the Tarlac State University or any inspecting authority.

7.1.6.2 All instruments, tools, materials and labor required to perform these tests shall be provided.

7.1.7 Warranty

7.1.7.1 All materials, equipment and installation shall be guaranteed for a period of one (1) year from the date of acceptance against failure of components resulting from normal use or factory defects. Any defective parts or equipment in the system during the term of guarantee shall be repaired or replaced by the contractor at his own expense.

7.2 STANDPIPE

7.2.1 Scope of Work

7.2.1.1 This specification covers the equipment, materials, components, and labor including necessary services to complete the installation of the Automatic Fire Sprinkler System

7.2.2 Material

7.2.2.1 Pipes and Fittings

7.2.2.1.1 Pipes shall be Schedule 40 Black Iron Pipe Seamless Plain Ends

7.2.2.1.2 Fittings shall be welded, threaded, or grooved-end type.

7.2.2.1.3 Underground pipes and fittings shall be protected against corrosion.

7.2.2.2 Fire Hose Cabinet

7.2.2.2.1 Fire Hose Cabinet shall be UL/FM approved.

7.2.2.2.2 Fire Hose Cabinet connected to the Standpipe, the cabinet shall be 700mmx815 x 203mm, 18 gauge cold rolled steel and 610 x610mm. The hose shall be a lightweight polyester jacket and 30 meters (100ft) long with nozzle.

7.2.3 Testing

7.2.3.1 Test Pressure: The system shall be subjected to a pressure of 200 psi (13.8 bar) or above the system's maximum operating pressure, whichever is greater.

7.2.3.2 Duration: Maintain the pressure for 2 hours without any pressure drop.

7.3 CONDENSATE DRAINPIPE

7.3.1 Scope of Work

7.3.1.1 This specification covers the materials, and labor including necessary services to complete the installation of the condensate drainpipe.

7.3.2 Material

7.3.2.1 Pipes and Fittings

7.3.2.1.1 Pipes shall be 25mm Ø PVC Blue Pipe.

7.3.2.1.2 Pipe must comply with Philippine National Standards (PNS) or equivalent for PVC pipes.

7.4 MECHANICAL VENTILATION

7.4.1 Scope of Work

7.4.1.1 This specification covers the materials, and labor including necessary services to complete the installation of the mechanical ventilation.

7.4.2 Material

7.4.2.1 Pipes and Aluminum Flexible Ducts

7.4.2.1.1 Pipes shall be 100mm Ø PVC S1000

7.4.2.1.2 Pipe must comply with Philippine National Standards (PNS) or equivalent for PVC pipes.

7.4.2.1.3 The aluminum flexible duct shall be 100 mm (4 inches) in internal diameter and constructed from corrugated aluminum foil reinforced with a thick steel wire core, ensuring both flexibility and structural integrity

7.4.2.1.4 The duct shall be water-resistant and suitable for both indoor and outdoor installations, capable of withstanding high-temperature environments, providing reliable performance in exhaust systems.

Section VII. Drawings

Please refer to the PDF file named "Drawings" in the folder **"Construction of Female Dormitory (Phase II)"** at the TSU website: **https://www.tsu.edu.ph/opportunities/bid-opportunities/2026-bid-opportunities/**

Section VIII. Bill of Quantities

1. General

1.1. The Bill of Quantities (BOQ) shall be read and construed in conjunction with the Conditions of Contract, Specifications, and Drawings and the Bidder shall provide the prices for the full scope of the work covered by the Contract. No claim for variations shall be considered on account of the Bidder's failure to comply with this provision.

1.2. Although the BOQ was prepared with due diligence, all quantities given therein shall be deemed to be estimated quantities and are not guaranteed to be actual and correct. The Bidder shall be deemed to have checked and verified the quantities in the preparation of his/her Bid. Any claim whatsoever for any positive variation in the actual quantities furnished versus the BOQ shall not be accepted, unless stipulated elsewhere in the Contract. Upon award of the Contract, the priced BOQ shall be used solely forevaluating work accomplishment payments due to the Contactor.

1.3. The Bidder shall check that each copy of the BOQ is complete in the number of pages and in the reproduction of each page.

1.4. The descriptions in the Bill of Quantities may not be complete and the Bidder must refer to the Specifications and Drawings.

1.5. The Bidder shall not change any description or specification, and remove or omit any of the item, or part of any of the item of the BOQ without the proper notification of the authorized person of TSU.

1.6. Prices shall be given in Philippine Peso taken to two decimal places. A comma shall be used to separate triple digits and a point or dot to separate the decimal portion (e.g., 1,355,076.45)

1.7. Identical work items occurring in separate sections shall not be priced at different rates, unless it is the deliberate intention.

2. Units

Symbol	Unit	Description
lot	lot	Although not a standard unit of measure, in this BOQ it shall be construed as a collection of all the materials (accessory, fitting, fixture, consumable, etc.) required for a particular scope of work
m^2	square meter	Area; it shall be construed as the coverage area or surface area
m^3	cubic meter	Volume
pc	piece	Used for discrete or countable materials
set	set	Although not a standard unit of measure, in this BOQ it shall be construed as the complete set of the major material component and its auxiliaries or accessories to be operational or functional

3. Rates

Rates and Prices shall be all inclusive, comprehensive, and include the following:

3.1. All obligations imposed by the Contract,

3.2. Complying in every respect with the requirements and the considerations of the Specifications and Drawings,

3.3. Labor for all scope of works and all associated costs,

3.4. Materials and goods and all associated costs,

3.5. Use of equipment and tools,

3.6. Any additional labor usually associated with measured items.

3.7. All necessary protection of the Works and removal of all temporary coverings and supports,

3.8. All utilities such as electricity, water, etc.,

3.9. Repair works on all damaged portions affected by the Works,

3.10. Cleaning of site, cleaning, and hauling of debris,

3.11. All safety and health aspects of the Works,

3.12. All required materials tests and its associated costs,

3.13. All applicable taxes, duties, charges, and relevant permits,

3.14. Overhead & profit.

4. Bidder's Priced Bill of Quantities

2. The Bidder shall present the detailed breakdown of the **Bid Price** using the form **Bill of Quantities** in PDF format which should be downloaded from the File Folder **"Construction of Female Dormitory (Phase II)**", from the TSU website: **https://www.tsu.edu.ph/opportunities/bid-opportunities/2026-bid-opportunities/**

4.1. The Bidder shall provide the following information or data in the spaces provided

4.1.1. [*Bidder's Letterhead*],

4.1.2. [*Date*],

4.1.3. [*Signature*],

4.1.4. [*Name of* Authorized Signatory], and

4.1.5. [*Title/Position of Authorized Signatory*].

4.2. The contents of the following columns shall not be altered or removed: Column Heading (column number)

4.2.1. **Item No. (1)**,

4.2.2. **Work Description (2)**

4.2.3. **Quantity. (5)**, and

4.2.4. **Unit (6)**.

4.3. For the rows with entries in the columns **5** and **6**, the Bidder shall provide the following prices, in Philippine peso, in the appropriate columns: Column Heading (column number)

4.3.1. **Direct Cost (7)** – the aggregate cost of materials, labor, and equipment utilization,

4.3.2. **Indirect Cost (8)** – the sum of overhead cost, contingency, miscellaneous, and profit,

4.3.3. **Total Direct & Indirect Cost (9)** – the sum of the values in columns **(7)** and **(8)**,

4.3.4. **Value Added Tax (10)** – the tax to be charged for the work item,

4.3.5. **Total Cost (11)** – the sum of the values in columns **(9)**, and **(10)**, and

4.4. The Sub-Total for every work cluster shall be the sum of all priced items included in that section.

4.5. The Total Bid Price shall be the sum of all the total cost for the priced work items and shall be stated in words and figures in the spaces provided at the bottom row of the table.

4.6. The Bid shall be deemed "**non-responsive**" if a price is required for a work item, but no price is indicated. Placing a zero (0) or a dash (-) in the cells that requires prices shall be interpreted to mean that the work item is being offered at no cost or for free by the Bidder.

4.7. The printed Priced BOQ shall be duly signed and all pages must bear the signature or initial of the authorized signatory of the Bidder.

5. Detailed Estimate

3. The specific costs (Material, Labor & Equipment, etc.) for the work items in the Priced BOQ shall be obtained from the detailed estimates using the form for **Detailed Unit Price Analysis**, in PDF format which should be downloaded from the File Folder **"Construction of Female Dormitory (Phase II)"** with the file name "**DUPA**", from the TSU website: **https://www.tsu.edu.ph/opportunities/bid-opportunities/2026-bid-opportunities/**

5.1. The unit Man-Days used in the DUPA shall mean the number of days for one man to complete the task or for the number of men required to complete the task in one day (e.g., 8 Man-Days = 1 Man x 8 Days = 2 Men x 4 Days = 4 Men x 2 Days = 8 Men x 1 Day).

6. Bidder's Responsibility

6.1. It shall be the responsibility of the Bidder to verify that the unit and quantity indicated in the DUPA for a particular work item are the same as those in the Bill of Quantities for the same work item.

Section IX. Checklist of Technical and Financial Documents

This Checklist of Technical and Financial Documents is provided to guide the Bidder in preparing his/her bid. The checklist may be used by the Bidder to verify if the Bid includes all the prescribed documents.

The Bidder, in submitting the required documents, must use the prescribed forms found in Section X. Bidding Forms. However, should a bidder choose to use a different formatting style for a required document, the bidder must ensure that the substance in the form given in Section X for that particular document is substantially captured in the equivalent document.

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

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

Technical Documents

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

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

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

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

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

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

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

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

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

Financial Documents

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

Class "B" Documents

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

II. FINANCIAL COMPONENT ENVELOPE

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

Other documentary requirements under RA No. 9184

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

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

☐ (m) Cash Flow by Quarter.

Section X. Bidding Forms

TABLE OF CONTENTS

[*Bidder's Letterhead*]

[*Date*]

To: Tarlac State University
Re: Invitation to Bid No.

List Of All Ongoing Government And Private Contracts, Including Contracts Awarded But Not Yet Started

Row 1: Name of Contract Row 2: Location of Project Row 3: Contract Price	Row 1: Procuring Entity/Owner Row 2: Contact Person/Address Row 3: Telephone No.	Nature of Work	Contractor's Role		Row 1: Date of Award Row 2: Date Started Row 3: Date of Completion	% of Accomplishment		Value of Outstanding Works
			Description	% of Participation		Planned	Actual	

Attached herewith are the following documents: Notice of Award, Notice to Proceed (if applicable), and Certificate of Accomplishments (or Statement of Work Accomplished), as evidence in support of the foregoing information.

I/We certify that the foregoing information and all the supporting documents are true and correct.

[*Signature*]
[*Name of Bidder or Authorized Representative*]
[*Position or Title*]

[*Bidder's Letterhead*]

[*Date*]

To: Tarlac State University
Re: Invitation to Bid No.

Statement Of Single Largest Completed Contract Similar To The Contract To Be Bid

Row 1: Name of Contract Row 2: Location	Contract Price	Row 1: Procuring Entity/Owner Row 2: Address Row 3: Contact Person/Tel. No.	Nature of Work	Contract Duration	Date of Award	Date Started	Date Completed

Attached herewith are the following documents: Contract Agreement, Notice of Award, Notice to Proceed, Certificate of Final Inspection, Certificate of Acceptance, and CPES (or equivalent performance evaluation rating), as evidence in support of the foregoing information.

I/We certify that the foregoing information and all the supporting documents are true and correct.

[*Signature*]
[*Name of Bidder]*

BID SECURING DECLARATION

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

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

To: Tarlac State University,
Romulo Blvd., San Vicente Tarlac City

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]

[*Bidder's Letterhead*]

[*Date*]

To: Tarlac State University
Re: Invitation to Bid No.

We certify that, if the Contract covered by the aforementioned Invitation to Bid is awarded to [*BIDDER*], we shall employ the following persons to occupy the key positions of the workforce which shall be deployed to implement the project.

LIST OF KEY PERSONNEL		
Name	Position	Duties and Responsibilities
	Civil Engineer / Architect (Project In-charge)	
	Registered Electrical Engineer / Master Electrician	
	Registered Master Plumber	
	Safety Officer	
	Foreman	

Attached herewith are the Curriculum Vitae of the above-named persons for your evaluation.

[*Signature*]
[*Name of Bidder/Authorized Representative*]

[*Bidder's Letterhead*]

[*Date*]

To: Tarlac State University
Re: Invitation to Bid No.

CURRICULUM VITAE OF KEY PERSONNEL

POSITION			NAME		
DATE OF BIRTH	HEIGHT	WEIGHT	SEX	CIVIL STATUS	NATIONALITY
PROFESSION			PRC ID NO.	DATE OF REGISTRATION	VALID UNTIL
HOME ADDRESS			CURRENT STATUS OF EMPLOYMENT		
			COMPANY/ ADDRESS	POSITION	

RELEVANT WORK EXPERIENCE

COMPANY/ADDRESS	POSITION	BRIEF JOB DESCRIPTION	INCLUSIVE DATES

RELEVANT TRAININGS

TITLE OF TRAINING	INCLUSIVE DATES	PLACE	TRAINING PROVIDER

EDUCATIONAL QUALIFICATIONS

DEGREE EARNED (Please enumerate all; if not a college graduate, indicate highest level of education earned)	YEAR GRADUATED	NAME OF INSTITUTION

I certify that the information furnished above are true and correct and that I have voluntarily furnished the foregoing information on my own free will.

I further certify that, if the Contract covered by the aforementioned Invitation to Bid is awarded to [*BIDDER*], I shall willingly assume the position of [*POSITION*] for the [*BIDDER*].

[*Signature*]
[*Name of Prospective Key Personnel*]

We certify that, if the Contract covered by the aforementioned Invitation to Bid is awarded to [*BIDDER*], we shall engage the services of [*Name of Prospective Key Personnel*] as the [*POSITION*] for the entire duration of the project covered by the Contract, in accordance with the law.

[*Signature*]
[*Name of Bidder/Authorized Representative*]
[*Position or Title*]

[*Bidder's Letterhead*]

[*Date*]

To: Tarlac State University
Re: Invitation to Bid No.
We certify that, if the Contract covered by the aforementioned Invitation to Bid is awarded to [*BIDDER*], we shall provide and use the equipment listed below in the implementation of the project.

List of Major Equipment									
		Qty.	Model/Year Manufactured	Capacity/Size	Plate No. (if applicable)	Motor No./Body No. (if applicable)	Present Location	Condition	Mode of Acquisition (Owned or Leased)
1.									
2.									
4.									
6.									
7.									
8.									
9.									
10.									

Attached herewith are the *Certificate(s) of Registration, Official Receipt(s), and Lease Agreement(s)* for the aforementioned equipment.

[*Signature*]
[*Name of Bidder or Authorized Representative*]
[*Position or Title*]

OMNIBUS SWORN STATEMENT

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

AFFIDAVIT

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

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

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

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

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

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

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

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

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

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

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

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

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

   [If a corporation or joint venture:] None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC

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

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

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

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

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

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

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

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

[Jurat]
[Format shall be based on the latest Rules on Notarial Practice] 64

[*Bidder's Letterhead*]

[*Date*]

To: Tarlac State University
Re: Invitation to Bid No.

NET FINANCIAL CONTRACTING CAPACITY

Based on our Income Tax Return and Audited Financial Statement for the Fiscal Year [*YEAR*], duly submitted to the Bureau of Internal Revenue, and which form part of our Bid, the summary of our firm's financial condition is as given below:

		Year [*YEAR*]
1.	Total Assets	
2.	Current Assets	
3.	Total Liabilities	
4.	Current Liabilities	
5.	Net Worth (1-3)	
6.	Net Working Capital (2-4)	

Based on the aforementioned data and the Value of Outstanding Works from the Statement of All Ongoing Government and Private Contracts, which also form part of our Bid, our Net Financial Contracting Capacity (NFCC) is:

> **NFCC** = *[(current asset minus current liabilities*) (**15**)] minus [*value of all outstanding or uncompleted portions of the projects under ongoing contracts including awarded contracts yet to be started coinciding with the contract to be bid*].
>
> **NFCC** =

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I/We certify that the foregoing information and all of the supporting documents are true and correct.

[*Signature*]
[*Name of Bidder or Authorized Representative*]
[*Position or Title*]

[*Bidder's Letterhead*]

[*Date*]

FINANCIAL BID FORM

Date : _____

Project Identification No. : _____

To: [name and address of Procuring Entity]

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

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

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

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

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

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

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

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

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

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

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

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