

TERMS OF REFERENCE

FOR THE PROCUREMENT AND IMPLEMENTATION OF THE PROJECT **CONSTRUCTION OF SCIENCE RESEARCH FACILITY, PHASE 1 (DESIGN AND BUILD SCHEME)**

OF

PHILIPPINE SCIENCE HIGH SCHOOL – CENTRAL MINDANAO CAMPUS
LOCATED IN NANGKA, BALO-I, LANA DEL NORTE

I. BACKGROUND

The PHILIPPINE SCIENCE HIGH SCHOOL-CENTRAL MINDANAO CAMPUS (PSHS-CMC) through the approved allocation for capital outlays under FY 2018 General Appropriations Act intends to apply the sum of **TWENTY NINE MILLION FOUR HUNDRED FIFTY NINE THOUSAND FIVE HUNDRED TWENTY THREE PESOS (P29,459,523.00)** being the approved budget for the construction of the project: **Construction of the Science Research Facility, Phase 1** with a work duration of 200 calendar days. This will include all taxes and applicable permits, licenses and clearances, for the construction of the above-mentioned subject in which, a maximum of 3% of the Total Project Cost of 70 Million of the Science Research Facility shall be allocated for the design and the remaining balance for the civil works.

The project, subject of this procurement process, is called the **CONSTRUCTION OF THE SCIENCE RESEARCH FACILITY, PHASE 1 (DESIGN AND BUILD SCHEME)** of the Philippine Science High School - Central Mindanao Campus (PSHS-CMC).

The project will involve the design and build scheme leading to the construction Science Research Facility pursuant to the technical specifications indicated in this Terms of Reference.

This is a three-storey reinforced concrete that support the components of a green and SMART building. This building shall house the following:



<u>Ground Floor</u>
Information, Lobby and Visitors' Holding Area
Display Area and/or Museum
Office (good for 5 personnel)
One- Pantry
Comfort Rooms (Male and Female) and for Disabled/Elderly Persons
Utility Room
<u>Second Floor</u>
Robotics Lab
Simulation Lab
Air Lab
Water Lab
Soil Lab
Material Science Lab
Comfort Rooms (Male and Female)
<u>Third Floor</u>
AVR and Function Room
Science Garden and Showroom
Interactive Room
Comfort Rooms (Male and Female)

This building will be located in front of Multi-Purpose Gymnasium with an allowable footprint of 1,800 square meter floor area.

II. CONCEPTUAL DESIGN

The proposed building shall have facilities that are appropriate to the needs and requirements of a research center. The said building is to be designed and constructed in an ecologically sustainable manner.

It should conform to the provisions of the National Building Code of the Philippines (PD 1096), Accessibility Law (BP 344), National Structural Code of the Philippines, Electrical Engineering Law (RA 7920), Mechanical Engineering Law (RA 5336), Plumbing Code (RA 1378, 1993-1994 Revisions), Fire Code (RA 9514), and other laws and regulations covering environmental concerns and local ordinances and regulations.

The following are the features of each room:

GROUND FLOOR -

Area	Feature
Information, Lobby and Visitors' Holding Area	Granite floor finish
Display Area and/or Museum	Granite floor finish
Office (good for 5 personnel)	Complete amenities of an office, With cubicle-type station; telephone and internet ready; air-conditioned.
Pantry	Provided with whole piece granite counter top and 2-duplex GFCI outlets, cabinets for storage, good quality stainless steel lavatory, with stainless faucet. Lighting shall be LED cool white lights. Flooring shall be non-skid Class A 12" x 12" ceramic tiles. Provide drinking fountain.
Comfort Rooms (Male and Female) and for Disabled/Elderly Persons	Three (3) cubicles each wherein, one (1) cubicle will be allotted for and with provisions for PWD; hand dryer; water closet with bidet; urinals; lavatories, mirrors, etc.



SECOND FLOOR -

Area	Feature
Robotics Lab	Granite floor finish
Simulation Lab	Granite floor finish
Air Lab	(To be provided during Pre-bid Con)
Water Lab	(To be provided during Pre-bid Con)
Soil Lab	(To be provided during Pre-bid Con)
Material Science Lab	(To be provided during Pre-bid Con)
Robotics Lab	(To be provided during Pre-bid Con)
Simulation Lab	(To be provided during Pre-bid Con)
Comfort Rooms (Male and Female) and for Disabled/Elderly Persons	(To be provided during Pre-bid Con)

THIRD FLOOR -

Area	Feature
AVR and Function Room	(To be provided during Pre-bid Con)
Science Garden and Showroom	(To be provided during Pre-bid Con)
Interactive Room	(To be provided during Pre-bid Con)
Comfort Rooms (Male and Female)	(To be provided during Pre-bid Con)

The building must be furnished and functional with safety and security features like fire alarm system, sprinkler system, CCTVs and fire exits. Necessary signage like "Fire Exit", directions, names of offices and other necessary information shall be provided on a readable and presentable material and manner.

The name of the building, "SCIENCE RESEARCH FACILITY" shall be installed in a prominent frontal part of the building. The insignia and names of the DOST and the PSHS-CMC shall be written on the left and right side portions of the frontage of the building.

III. SELECTION OF DESIGN AND BUILD CONTRACTOR

The procurement and implementation of the project using the "Design and Build" scheme shall be in accordance with the provisions of RA 9184, specifically, its Annex G.



Bidding process shall be conducted by the Bids and Awards Committee (BAC) to be assisted by the TWG. The campus director of PSHS- CMC shall create the Design and Build Committee (DBC) to be composed of highly technical personnel in the field of architecture and engineering/construction. The DBC and TWG shall prepare the design brief and performance specifications and parameters, review the detailed engineering design, and assist the BAC in the evaluation of technical and financial proposals in accordance with the criteria set.

A. Eligibility Requirements

The eligibility requirements in the Design and Build for infrastructure projects shall comply with the applicable provisions of Section 23-24 of the IRR of RA 9184.

a. Eligibility Documents

Class "A" Documents

- i. PhilGEPs Certificate of Registration and Membership (Platinum)
- ii. Statement of all its on-going and completed government and private contracts within ten (10) years from the submission of bids
 - a. CPES rating or
 - b. Certificate of Completion
- iii. Single Largest Completed Contract (SLCC)
- iv. PCAB licenses and registration for the type and cost of the contract for this project (Medium A – License Category B);
- v. NFCC computation.

Class " B " Documents

a. Joint Venture Agreement, if applicable.

b. Technical Documents

- i. Bid Security (in any form)
- ii. Project Requirements
 - ii1. Design and Construction Method
 - ii2. Value engineering analysis of design and construction method.
Prospective bidders shall prepare a value engineering analysis report of their proposed design and construction method to be applied for the PROJECT. Importance shall be made on the following criteria:
 - L Cost-saving, measured on a per square meter average figure
 - L Time-saving in design and construction duration, measured using the HOPE approved PERTCPM of the project.
 - L Operational efficiency to take advantage of natural lighting and ventilation in some areas and use of efficient toilet.

- ii3. Organizational Chart
- ii4. List of Contractor's Personnel with complete qualification and experience data
- ii5. List of Contractor's Equipment units, which are owned, leased, and/or under purchase agreements, supported by certification of availability of equipment from the equipment lessor/vendor for the duration of the project.
- ii6. Manpower Schedule
- ii7. Equipment Utilization
- Schedule ii8. Bar Chart and S-curve
- ii9. Construction Safety and Health Program
- ii10. PERT-CPM
- iii. Omnibus Sworn Statement

c. Financial Component

- i. Financial Bid Form
- ii. Bill of Quantities
- iii. Detailed Cost Estimates
- iv. Summary Sheet indicating the unit prices of materials, labor rates and equipment rental
- v. Payment schedule

B. Eligibility Criteria

- a) The eligibility of design and build contractors shall be based on the legal, technical and financial requirements above-mentioned. In the technical requirements, the design and build contractor (as solo or in joint venture/consortia) should be able to comply with the experience requirements under the IRR of RA 9184, where one of the parties (in a joint venture/consortia) should have at least one similar project, both in design and construction, with at least 50% of the cost of the Approved Budget for the Contract (ABC).
- b) If the bidder has no experience in design and build projects on its own, it may enter into subcontracting, partnerships or joint venture with design or engineering firms for the design portion of the contract.
- c) The relevant provisions under Section 23.5.2 of the IRR of RA 9184 on eligibility requirements shall be observed.

IV. FOR DESIGN PERSONNEL

The key professionals and the respective qualifications of the DESIGN PERSONNEL in as follows:

A. Design Architect

The Design Architect must be duly-licensed with at least five (5) years of experience in the design of residential, academic or institutional facilities, and shall preferably be knowledgeable in the application of Green Design Technology

in school construction.

B. Structural Engineer

The Structural Engineer must be a duly-licensed Civil Engineer with at least five (5) years of experience in structural design and shall preferably be knowledgeable in the application of Green Design Technology in school construction.

C. Electrical Engineer

The Electrical Engineer must be a registered Professional Electrical Engineer with at least five (5) years of experience in the design of lighting, power distribution and preferably knowledgeable in developments in emergent efficient lighting technologies and energy management.

D. Electronics Engineer

The Electronics Engineer must be a registered Professional Electronics Engineer with at least five (5) years of experience in the related field knowledgeable in communication systems (specifically structured and local area network cabling, PABX), building management systems.

E. Mechanical Engineer

The Mechanical Engineer must be a Professional Mechanical Engineer with at least five (5) years of experience in HVAC and fire protection systems and preferably knowledgeable in emergent, alternative energy-efficient HVAC technologies.

F. Sanitary Engineer

The Sanitary Engineer must be duly-licensed with at least five (5) years of experience in the design of building water supply and distribution, plumbing, and preferably knowledgeable in waste water management/treatment, and emergent, alternative effluent collection and treatment systems, and DENR AO 36 s. 2004 (DAO 92-29 "Hazardous Waste Management").

The key professionals listed are required. **The DESIGN & BUILD CONTRACTOR** may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Architectural and Engineering Design Services, as stipulated in these Terms of Reference for the PROJECT. Prospective bidders shall attach each individual's resume and PRC license of the (professional) staff.

V. CONSTRUCTION PERSONNEL

The key professionals and the respective qualifications of the **CONSTRUCTION PERSONNEL** shall be as follows:

A. Project Manager

The Project Manager shall be a licensed architect or engineer with at least five (5) years relevant experience on similar and comparable projects in different locations. The Project Manager should have a proven record of managerial capability through the directing/managing of major civil engineering works, including projects of a similar magnitude.



B. Project Engineer/ Architect

The Project Engineer/Architect shall be a licensed architect or engineer with at least five (5) years of experience in similar and comparable projects and shall preferably be knowledgeable in the application of rapid construction technologies.

C. Materials Engineer

The Materials Engineer must be duly accredited with at least five (5) years of experience in similar and comparable projects and shall preferably be knowledgeable in the application of rapid construction technologies.

D. Electrical Engineer

The Electrical Engineer must be a registered Electrical Engineer with at least five (5) years of experience in the design of lighting, power distribution and preferably knowledgeable in developments in emergent efficient lighting technologies and energy management.

E. Electronics Engineer

The Electronics Engineer must be a registered Professional Electronics Engineer with at least five (5) years of experience in the related field knowledgeable in communication systems (specifically structured and local area network cabling, PABX), building management systems.

F. Mechanical Engineer

The Mechanical Engineer must be duly-licensed with at least five (5) years of experience in similar and comparable projects in the installation of HVAC and fire protection.

G. Sanitary Engineer

The Sanitary Engineer must be duly-licensed with at least five (5) years of experience in similar and comparable projects in the installation of building water supply and distribution, plumbing.

H. Foreman

The Foreman must have at least five (5) years of experience in similar and comparable projects and shall preferably be knowledgeable in the application of Green Building technologies.

I. Safety Officer

The safety officer must be an accredited safety practitioner by the Department of Labor and Employment (DOLE) and has undergone the prescribed 40- hour Construction Safety and Health Training (COSH).

The above key personnel listed are required. The **DESIGN & BUILD CONTRACTOR** may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Construction Services,



as stipulated in this Scope of Work, for the PROJECT. Prospective bidders shall attach each individual's resume and PRC license of the (professional) staff, proof of qualifications, and related documents as necessary.

J. PRELIMINARY DESIGN AND CONSTRUCTION STUDIES

No bidding and award of design and build contracts shall be made unless the required preliminary design and construction studies have been sufficiently carried out and duly approved by the Head of the Procuring Entity that shall include, among others, the following:

- i. Project description
- ii. Conceptual Design
- iii. Performance Specifications and Parameters
- iv. Preliminary Survey and Mapping
- v. Preliminary Investigations
- vi. Utility Locations
- vii. Approved Budget for the Contract
- viii. Proposed Design and Construction Schedule
- ix. Minimum requirements for a Construction Safety and Health Program for the project being considered
- x. Tender/Bidding Documents, including Instructions to Bidders and Conditions of Contract

The above data are for reference only. The procuring entity does not guarantee that these data are fully correct, up to date, and applicable to the project at hand. The contractor is responsible for the accuracy and applicability of all data, including the above, that it will use in its design and build proposal and services.

The acquisition of right-of-way and the conduct of eminent domain proceedings shall still be the responsibility of the procuring entity, which shall include a preliminary budget for this purpose.

K. DETAILED ENGINEERING REQUIREMENT

1. Upon award of the design and build contract within a period of 30 Calendar Days, the winning bidder shall be responsible for the preparation and submission of all necessary detailed engineering investigations, surveys and designs in accordance with the provisions of Annex "A" of the IRR of R.A. 9184 (with the exception of the Bidding Documents and the ABC).

2. The procuring entity shall ensure that all the necessary schedules with regard to the submission, confirmation and approval of the detailed engineering design and the details of the construction methods and procedures shall be included in the contract documents.

3. The procuring entity shall review, order rectification, and approve or disapprove – for implementation only - the submitted plans within these schedules. All instructions for rectification shall be in writing stating the reasons for such rectification. The design and build contractor shall be solely responsible for the



integrity of the detailed engineering design and the performance of the structure irrespective of the approval/confirmation by the procuring entity.

L. SCOPE OF WORKS AND PROJECT

IMPLEMENTATION

A. Design

The PSHS-CMC through the PSHS System Design and Build Committee for Design and Build Scheme, shall provide the design brief description of the project in accordance to RA 9184 Annex G Sec. 11.

In compliance with the design and build Terms of Reference (TOR), the DESIGN AND BUILD CONTRACTOR shall submit a detailed program of work within thirty (30) calendar days after the issuance of the Notice to proceed for approval by the procuring entity that shall include, among other things:

- a. The order in which it intends to carry out the work including anticipated timing for each stage of design/detailed engineering and construction;
- b. Periods for review of specific outputs and any other submissions and approvals;
- c. Sequence of timing for inspections and tests as specified in the contract documents;
- d. General description of the design and construction methods to be adopted;
- e. Number and names of personnel to be assigned for each stage of the work; f. List of equipment required on site for each major stage of the work;
- g. Description of the quality control system to be utilized for the project;
- h. Utilize the existing geotechnical/soil investigation report as basis for the computation of structural analysis of the building. If no existing geotechnical/soil investigation report, conduct one before proceeding to structural analysis;
- i. From the approved schematic design documents, prepare the complete construction drawings and detailed technical specifications, cost estimates and the bill of quantities, setting forth in detail the work required for the architectural, structural, civil, landscape architecture, electrical, plumbing/sanitary, mechanical and other service-connected equipment, utilities, site planning aspects and related works, electronic and communications and the site development plan of the PROJECT's immediate environs;
- j. Prepare layouts, specifications and estimates of all furniture and equipment required for the fit-out of the buildings, especially items that are owner-furnished materials.
- k. Prepare the scope of work for construction based on the prepared bill of quantities and cost estimates while fitting within the approved budget.



- l. Provide value engineering analysis on all prepared construction documents.
- m. Coordinate with all offices and agencies concerned, within and outside the Campus regarding utility connections, permits and other requirements needed.
- n. Periodically coordinates and presents the status of the design phase to the Head of Procuring Entity and the PSHS Design & Build Committee.

All drawings included in the contract documents should be drawn using **CAD software** and plotted on 20" x 30" sheets and A3 size (7 Copies). All other textual submittals shall be printed and ring-bound on A4-sized sheets.

Where required, design components shall be designed in coordination with the agencies concerned (e.g., coordinate with electric company for power lines and concerned company/agency for water and sewage lines).

Partial and earlier submission of the construction drawings, such as those affecting the preliminary stages of construction (site works, foundation works, etc.) shall be allowed. The DESIGN & BUILD CONTRACTOR may only proceed with the CONSTRUCTION PHASE after the approval of the PSHS- CMC Design and Build (D&B) Committee including drawings, designs, and bill of estimates as recommended by the Technical Working Group (TWG) and upon accomplishing all necessary PRE-CONSTRUCTION tasks.

B. Pre-Construction

- a) Secures all necessary building permits prior to construction. All incidental fees shall be included in the cost estimate of the building.
- b) Prepares the PERT-CPM of the construction phase.
- c) Provides all other necessary documents that shall be required by B&D Committee

C. Construction Phase

- a) Implements all works indicated in the approved construction drawings and documents. All revisions and deviation from the approved plans, especially if it shall impact the overall cost of the project, shall be subject for approval.
- b) Provides soil filling, grading and other soil protection measures of the building and other elements of the site, in response to the results of soil and materials testing.
- c) Constructs the buildings and other necessary structures, complete with utilities and finishes, resulting in operable and usable structures.
- d) Provides protection or relocation of existing trees indigenous to the area, and proper removal and replacement of all introduced trees and vegetation affected by the construction.
- e) Layouts piping, conduits, manholes, boxes and other lines for utilities including tapping to existing utility lines. Facilitate the connection of all utilities (power, water, sewer, structured cabling and telephone) with their corresponding utility companies. All application fees shall be included in the project cost.
- f) Installs fire protection systems and fixtures, fire extinguishers, emergency lights



and lighted fire exit signs.

- g) Prepares shop-drawings for approval.
- h) Coordinates with the B&D Committee regarding scheduling of delivery and installation of all owner-furnished materials and equipment during construction.
- i) Conducts all necessary tests (to be required by B&D Committee) and issue reports of results.
- j) Rectifies punch-listing works to be inspected and issued by the B&D Committee and/or the End-user.
- k) Complies with the DOLE-OSH requirements and submit periodic reports concerning occupational safety and health.
- l) Provides all other necessary documents that shall be required by the B&D Committee.

D. Post Construction Phase

- a) Prepares of as-built plans
- b) Turn-overs of all manuals, certificates and warranties of installed items.
- c) Secures building certificate of occupancy and fire safety inspection certificate

E. Variation Orders

- a. Any errors, omissions, inconsistencies, inadequacies or failure submitted by the contractor that do not comply with the requirements shall be rectified, resubmitted and reviewed at the contractor's cost. If the Contractor wishes to modify any design or document which has been previously submitted, reviewed and approved, the contractor shall notify the procuring entity within a reasonable period of time and shall shoulder the cost of such changes.
- b. As a rule, changes in design and construction requirements shall be limited only to those that have not been anticipated in the contract documents prior to contract signing and approval. The following guidelines shall govern approval for change or variation orders:
 - i. Change Orders resulting from design errors, omissions or non-conformance with the performance specifications and parameters and the contract documents by the contractor shall be implemented by the contractor at no additional cost to the procuring entity.
 - ii. Provided that the contractor suffers delay and/or incurs costs due to changes or errors in the procuring entity's performance specifications and parameters, he shall be entitled to either one of the following:
 - a. an extension of time for any such delays under Section 10 of Annex "E";
or
 - b. Payment for such costs as specified in the contract documents, provided, that the cumulative amount of the variation order does not exceed ten percent (10%) of the original contract

F. DEFECTS AND LIABILITY



- a. All design and build projects shall have a minimum Defects Liability Period of one (1) year after contract completion or as provided for in the contract documents. This is without prejudice, however, to the liabilities imposed upon the engineer/architect who drew up the plans and specification for a building sanctioned under Section 1723 of the New Civil Code of the Philippines.
- b. The contractor shall be held liable for design and structural defects and/or failure of the completed project within the warranty periods specified in Section 62.2.3.217 of the IRR.

M. OVERALL PROJECT TIME SCHEDULE

The DESIGN & BUILD CONTRACTOR shall propose the most reasonable time schedule for the completion of the project. It is expected that this period will not exceed 200 calendar days from the date of the issuance of the Notice to Proceed (NTP): Forty-five (45) Calendar Days for the Design Phase and One Hundred Fifty Five (155) Calendar Days for the Construction Phase.

N. THE IMPLEMENTING AGENCY'S GENERAL RESPONSIBILITY

The implementing agency for the project is the Campus Director of PSHS- CMC with final approval for all decisions and actions from the PSHS System Office of the Executive Director through the Design and Build Committee. The D&B Committee shall:

- a) Prepare the design brief for the project in accordance with PSHS Systems' policies, existing codes, traditions, standards, and the conditions and design criteria enumerated in the Terms of Reference.
- b) Coordinate with DESIGN & BUILD CONTRACTOR, and the Campus Director of PSHS-CMC with regard to the design and implementation of the project.
- c) Assist in the coordination of the DESIGN & BUILD CONTRACTOR with various utility agencies during the detailed design and implementation phases of the project.
- d) Conduct regular coordination meetings between the DESIGN & BUILD CONTRACTOR and PSHS-CMC to facilitate the implementation of the project.

O. THE DESIGN & BUILD CONTRACTOR'S GENERAL RESPONSIBILITY

- a) The DESIGN & BUILD CONTRACTOR shall certify that he has, at his own expense, inspected and examined the proposed project site, its surroundings and existing infrastructure and facilities related to the execution of the work and has obtained all the pieces of information that are considered necessary for the proper execution of the work covered under these Terms of Reference.
- b) The DESIGN & BUILD CONTRACTOR shall ensure that all works at the stages of design, construction, restoration of affected areas, and testing and commissioning shall be carried out efficiently and effectively.

- c) The DESIGN & BUILD CONTRACTOR shall provide PSHS- CMC with complete reports such as technical analysis, maps and details regarding the existing conditions and proposed improvements within the site.
- d) The DESIGN & BUILD CONTRACTOR shall consider the academic calendar and critical dates and occasions within PSHS- CMC, in order to align his work schedule with the academic calendar of the school to avoid unnecessary disruption of school activities due to construction activities such as closure of water and power supply and non-usage of the existing roads.
- e) The DESIGN & BUILD CONTRACTOR shall inform PSHS- CMC of critical events during construction, especially when such events can potentially disrupt school activities.
- f) The DESIGN & BUILD CONTRACTOR shall be PCAB accredited and shall have a Construction Safety and Health Program approved by DOLE and designed specifically for the DESIGN AND BUILD SERVICES FOR THE CONSTRUCTION OF THE ADMINISTRATION BUILDING.
- g) The DESIGN & BUILD CONTRACTOR will be held accountable for accidents that might occur during the execution of the project. The DESIGN & BUILD CONTRACTOR is required to install warning signs and barriers for the safety of the general public and the avoidance of any accidents and provide appropriate and approved type personal protective equipment for their construction personnel.
- h) The DESIGN & BUILD CONTRACTOR shall be professionally liable for the design and shall submit a signed and sealed copy of the approved construction documents to form part of the Contract Documents.
- i) Only the plans approved by the Head of Procuring Entity (HOPE) shall be signed and sealed by the DESIGN & BUILD CONTRACTOR, and thereafter shall be the plans used for construction.
- j) All works designed and constructed should be guaranteed to seamlessly fit into the overall system general design standards of the PSHS System.

P. PROJECTED SUBMITTALS DURING THE PROJECT

The following submittals and accomplished documents shall be duly completed and turned-over by the DESIGN & BUILD CONTRACTOR for the project:

A. FOR THE DESIGN PHASE

- a) Construction plans (signed and sealed) that include Architectural, Civil, Structural, Electrical, Structured Cabling, Mechanical, Fire Protection and Plumbing plans (7 sets hard copy and soft copy)
- b) Technical specifications (7 sets hard copy and soft copy)

- c) Detailed cost estimate (7 sets hard copy and soft copy)
- d) Bill of quantities (7 sets hard copy and soft copy)
- e) Site survey, topographic survey, survey of existing trees and all other pertinent data related to the conditions of the project site
- f) Documents required for securing the Building Permit.
- g) Drawings and reports that the PSHS-CMC may require for the periodic update concerning the status of the design phase.

B. FOR THE CONSTRUCTION PHASE (7 copies each)

- a) As-built plans (hard copy and soft copy)
- b) All necessary permits (Fees shall be included in the contract)
- c) Shop drawings (hard copy and soft copy)
- d) PERT-CPM , Gantt Chart , S-Curve
- e) Manpower and Equipment Schedule
- f) Test results
- g) Guarantees, warranties and other certificates
- h) Health and Safety Program approved by DOLE.

C. FOR THE POST-CONSTRUCTION PHASE (7 copies each)

- a) Certificate of Occupancy
- b) Fire Safety Inspection Certificate
- c) All other necessary documents to be required by B&D Committee

XIV. CODES AND STANDARDS

The project shall be designed, engineered, installed, tested, commissioned and handed over in conformity with the Building and Design Standards of the PSHS System and with the latest editions of the National Building Code of the Philippines, the National Structural Code of the Philippines, the Philippine Electrical Code, Philippine Mechanical Code, the National Plumbing Code of the Philippines, National Fire Code of the Philippines and other relevant codes and standards.

XV. INSTALLATION AND WORKMANSHIP

Personnel of the DESIGN & BUILD CONTRACTOR should be specialists highly skilled in their respective trades, performing all labor according to first-class standards. A full time Project Engineer/Architect and Construction Safety Engineer shall be assigned by the DESIGN & BUILD CONTRACTOR at the job site during the construction of the project.

All work to be subcontracted shall be declared by the DESIGN & BUILD CONTRACTOR and shall be approved by the Campus Director of PSHS-CMC. However, subcontracting of any portion shall not relieve the design and build contractor from any liability or obligation that may arise from the contract for this project.

Tapping for utilities such as power supply, water supply and sewage drainage shall be coordinated with their respective utilities/ service provider/ companies, and all works involved, including access to utilities tapping point, excavation, removal of

obstructions, concrete breaking, backfilling and restoration of affected areas, shall be coordinated and included in the scope of work and cost of the project.

Any errors, omissions, inconsistencies, inadequacies or failure submitted by the DESIGN & BUILD CONTRACTOR that do not comply with the requirements shall be rectified, resubmitted and reviewed at the DESIGN & BUILD CONTRACTOR'S cost. If the DESIGN & BUILD CONTRACTOR wishes to modify any design or document which has been previously submitted, reviewed and approved, the DESIGN & BUILD CONTRACTOR shall notify the procuring entity within a reasonable period of time and shall shoulder the cost of such changes.

XVI. MATERIALS

All materials and equipment shall be standard products of manufacturers engaged in the production of such materials and equipment and shall be the manufacturer's latest standard design.

The materials and workmanship supplied shall be of the best grade and constructed and/ or installed in a practical and first class manner. It will be completed in operation, nothing being omitted in the way of labor and materials required and it will be delivered and turned over in good condition, complete and perfect in every respect.

Materials and systems for structured cabling shall be in accordance with standards set by the PSHS System.

All materials shall be in conformance with the latest standards and with inspection and approval of the Campus resident engineers.

XVII. MODE OF PAYMENT

- a) The PSHS-CMC shall pay the winning DESIGN & BUILD CONTRACTOR progress payments based on billings for actual works accomplished, as certified by the Campus Resident Engineer. In no case shall progress billing be made more than once every thirty (30) calendar days. Materials or equipment delivered on the site but not completely put in place or used in the project shall not be included for payment.
- b) All progress payment shall be subject to retention of ten percent (10%) based on the amount due to the winning DESIGN & BUILD CONTRACTOR prior to any deduction. The total retention money shall be released only upon Final Acceptance of the Project. The winning DESIGN & BUILD CONTRACTOR may, however, request for its release prior to Final Acceptance subject to the guidelines set forth in R.A. 9184 and its Implementing Rules and Regulations.
- c) The DESIGN & BUILD CONTRACTOR may request in writing which must be submitted to form part of the Contract Documents, for an advanced payment equivalent to fifteen percent (15%) of the total Contract Price. The advance payment shall be made once the DESIGN & BUILD CONTRACTOR issues its irrevocable standby letter of credit from a reputable bank acceptable to the



PSHS System, or GSIS Surety Bond of equivalent value, within fifteen (15) days from the signing of the Contract Agreement to cover said advanced payment.

- d) First Payment/Billing shall have an accomplishment of at least 20% of the construction phase.
- e) The following documents must be submitted to the D&B Committee before processing of payments to the DESIGN & BUILD CONTRACTOR can be made:
 - i. Progress Billing
 - ii. Detailed Statement of Work Accomplished (SWA)
 - iii. Request for payment by the DESIGN & BUILD CONTRACTOR
 - iv. Pictures/photographs of original site conditions (for First Billing only).
 - v. Pictures/photographs of work accomplished
 - vi. Payment of utilities (power and water consumption)
 - vii. DESIGN & BUILD CONTRACTOR's affidavit (if accomplishment is more than 60%).

Note: The DESIGN & BUILD CONTRACTOR can bill the PSHS-CMC of up to a maximum of 90% accomplishment.

