



September 8, 2022

For: **THE EXECUTIVE COMMITTEE**
PSHS System

From: 
JOSE M. ANDAYA, D.T.
Director III

Subject: Administrative Matter – Construction of Boys and Girls Residence Hall for Senior High (Utilizing the Design and Build Scheme) under the FY 2023 National Expenditure Program

For Approval: Terms of Reference for FY 2023 Infrastructure Project – Construction of Boys and Girls Residence Hall for Senior High (Utilizing the Design and Build Scheme)

This is to request to PSHS Executive Committee, the approval of Terms of Reference for FY 2023 Infrastructure Project with the following details:

Project Title	Funding Source	Proposed Budgetary Allocation	Duration
Construction of Boys and Girls Residence Hall for Senior High (Utilizing the Design and Build Scheme)	FY 2023 National Expenditure Program	Sixty Million Pesos (P60,000,000.00)	300 calendar days

Supporting Documents:

- A. Terms of Reference
- B. Building Plans
- C. FY 2023 National Expenditure Program



Republic of the Philippines

DEPARTMENT OF SCIENCE AND TECHNOLOGY

PHILIPPINE SCIENCE HIGH SCHOOL - CALABARZON REGION CAMPUS



Certificate No. SCP000420Q

**TERMS OF REFERENCE
FOR THE PROCUREMENT AND IMPLEMENTATION
OF THE PROJECT CONSTRUCTION OF
BOYS AND GIRLS RESIDENCE HALL FOR SENIOR HIGH
(UTILIZING THE DESIGN AND BUILD SCHEME) / INFRA-2023-01**

I. BACKGROUND OF THE PROJECT

The PHILIPPINE SCIENCE HIGH SCHOOL-CALABARZON REGION CAMPUS (PSHS-CALABARZONRC) through the allocation for the Construction of Boys and Girls Residence Hall for Senior High Utilizing Design and Build Scheme amounting to SIXTY MILLION PESOS (P60,000,000.00) under FY 2023 National Expenditure Program (NEP) intends to apply the sum of **SIXTY MILLION PESOS ONLY (P60,000,000.00)** being the APPROVED BUDGET for the CONTRACT (ABC) on the **BOYS AND GIRLS RESIDENCE HALL FOR SENIOR HIGH (UTILIZING THE DESIGN AND BUILD SCHEME)**.

The project will involve the Design and Build Scheme leading to the construction of the Boys and Girls Residence Hall for Senior High pursuant to the technical specifications indicated in this Terms of Reference, and the PSHS System Building Standards and Specifications, enclosed herein.

The project will have an indicated cost of **SIXTY MILLION PESOS ONLY (P60,000,000.00)**, including but not limited to all taxes and applicable permits, licenses and clearances, painting works, tile works, glass works and built-in furnishings in which a maximum of 2.5% shall be allocated for the design and the balance for the Civil Works.

II. PROJECT ELEMENTS/COMPONENTS

The construction and design of the Boys and Girls Residence Hall for Senior High must comply with the minimum specifications and standards set forth by the National Building Code of the Philippines (PD 1096- R.A. 6541 Revision); Accessibility Law (BP 344), National Structural Code of the Philippines, Civil Engineering Law (R.A. 544), Electrical Engineering Law (RA 7920), Mechanical Engineering Law (RA 5336), Plumbing Code (RA 1378, 1993-1994 Revisions), Fire Code (RA 9514); Philippine Green Building Code (PD1096); and other related safety, health, labor and sanitary laws.

Engineering surveys and investigations will be submitted by the winning bidder. Surveys and investigations of the site includes boundaries of the property, elevations, and contours at 0.5m interval, soil tests, location, dimension, floor elevations and other pertinent data on existing buildings and improvements (roads, parking areas, mature trees) and existing utility lines.

Detailed design will also be submitted by the winning bidder including but not limited to the following:

- Preparation of Detailed Design Drawings based on the approved Design Development Drawings and Design Parameters including any revisions and refinements as approved and required by PSHS-CALABARZONRC
- Detailed Architectural Plans
- Detailed Structural Plans

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- Detailed Electrical Plans
- Detailed Mechanical Plans
- Detailed Sanitary and Plumbing Plans
- Structural Computations including Soil Investigation Report and Seismic Analysis
- General Notes and Technical Specifications describing type and quality of materials and equipment to be used, manner of construction and the general conditions under which the project is to be constructed.
- Detailed Bill of Quantities, Cost Estimates including a summary sheet indicating the unit prices of construction materials, labor rates and equipment rentals.
- Summary of Works

As a rule, contract implementation guidelines for procurement of infrastructure projects shall comply with Annex E and guidelines for the implementation of contracts for Design and Build infrastructure projects shall comply with Annex G of the Revised IRR of RA 9184. The following provisions shall supplement these procedures:

1. No works shall commence unless the contractor has submitted the prescribed detailed drawings as requirements, and the PSHS-CALABARZONRC has given written approval; Work execution shall be in accordance with reviewed and approved documents.
2. The contractor shall be responsible for obtaining all necessary information as to risks, contingencies and other circumstances which may affect the works and shall prepare and submit all necessary documents specified by the concerned Building Officials to meet all regulatory approvals as specified in the contract documents.
3. The contractor shall submit a detailed program of works within fourteen (14) calendar days after issuance of the Notice to Proceed for approval by the procuring entity that shall include among others:
 - The order in which it intends to carry out the work including anticipated timing for each stage of design/detailed engineering and constructions
 - Periods for review of specific outputs and any other submissions and approvals;
 - Sequence of timing for inspection and tests;
 - General description of the design and construction methods to be adopted
 - Number and names of personnel to be assigned for each stage of the work
 - List of equipment required on site for each stage of the work
 - Description of the quality control system to be utilized for the project
4. Any errors, omissions, inconsistencies, inadequacies, or failure submitted by the contractor that does not comply with the requirements shall be rectified, resubmitted and reviewed at the contractor's cost. If the contractor wishes to modify the design or document which has been previously submitted, reviewed, and approved, the contractor shall notify the PSHS-CALABARZONRC within a reasonable period of time and shall shoulder the cost of such changes
5. 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:
 - Change orders resulting from design errors, omissions or non-conformance

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with the performance specifications and parameters and the contract documents by the contractor shall be implemented by the contractor at no additional cost to PSHS-CALABARZONRC

- Provided that the contractor suffers delay and/or incurs costs due to changes or errors in the PSHS-CALABARZONRC performance specifications and parameters, the contractor shall be entitled to either one of the following:
 - Any extension of time for any such delays under Section 11 of Annex E of the Revised IRR RA 9184;
 - 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 project cost.
- The contract documents shall include the manner and schedule of payment specifying the estimated contract amount and installments in which the contract will be paid.
- The contractor shall be entitled to advance payment subject to the provisions of Section 4 of Annex E, Revised IRR RA 9184.
- The PSHS-CALABARZONRC shall define the quality control procedures for the design and construction in accordance with PSHS-CALABARZONRC guidelines and shall issue the proper certificates of acceptance for sections of the works or whole of the works as provided for in the contract documents.
- The contractor shall provide all necessary equipment, personnel, instruments, documents, and others to carry out specified tests.
- This design and build project 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 to the liabilities imposed upon the engineer/architect who drew up plans and specifications for building sanctioned under Section 1723 of the New Civil Code of the Philippines.
- The contractor shall be held liable for design and structural defects and/or failure of the completed project within the warranty period of 15 years for permanent structures/buildings as specified in Section 62.2.3.2 of the Revised IRR of RA 9184.

The project will consist of 2 elements: Design and Build components for the Construction of Boys and Girls Residence Hall for Senior High of Philippine Science High School CALABARZON Region Campus. The required spaces are listed below

III. CONCEPTUAL DESIGN (300 CALENDAR DAYS)

The Design Project

The proposed Boys and Girls Residence Hall for Senior High shall have One (1) duplex type 4-storey building, and dimensions and space area consistent with the PSHS Building Standards and Specifications, enclosed herein. The building shall have the following specifications:



Room	Qty			Space Requirement	Total
	Girls'	Boys'	Total		
Rooms for Dormers with CR (6 students per room)	18	18	36	30 sq. m. per room	1,080.0 sq. m.
Guest Rooms with CR (6 person per room)	3	3	6	30 sq. m. per room	180 sq. m.
Room for Dorm Manager with CR	1	1	2	12 sq. m. per room	24 sq. m.
Lobby/Reception Area	1	1	2	30 sq. m. per room	60 sq. m.
Pantry/Mess Hall	1	1	2	18 sq. m. per room	36 sq. m.
Computer Room	1	1	2	18 sq. m. per room	36 sq. m.
Common CR in GroundFloor	1	1	2	30 sq. m. per room	60 sq. m.
TOTAL FLOOR AREA WITHOUT (COMMON AREAS)					2,084 sq.m.
TOTAL FLOOR AREA WITH (COMMON AREAS)					2,300 sq.m.

It is assumed that the dormitory shall be well designed to encourage better student performance and make sense to scholars a place where they can feel home, feel safe and happy. A place where they can meet friends and be with their second family.

The design shall be disaster resistant to achieve the most successful way to mitigate losses of life, and property. The residence hall should not be patterned after an ordinary/ condominium building or a medium rise commercial building.

The interior side shall be congruent to the expected feeling or ambiance from dormitories or houses in foreign universities.

The aesthetics of the residence hall shall be based on the existing Boys' Residence Hall and Girls' Residence Hall, which is properly oriented against prevailing winds and direction of sunlight. The construction and design of the boys and girls' residence hall must comply with the minimum specifications and standards set forth by the National Building Code of the Philippines (R.A. 6541); Civil Engineering Law (R.A. 544), and related safety, health, labor and sanitary laws.

All rooms shall have adequate capacity for the operation of the emergency load when normal electric power supply is interrupted.

Scope of Work

This specification covers the construction of Boys' and Girls' Residence Hall for Senior High project. The works be considered out, but not limited to, shall be the following:

1. The residence hall is a duplex type building with 4 floors each side. The Left side shall be the Girls' residence hall side while the other shall dedicated to Boy's residence hall.
2. The residence hall shall consist of a minimum of 18 rooms each side (36 rooms total) or 6 rooms for students with toilet and bathroom with complete fixtures



and accessories per floor for the 2nd, 3rd and 4th floor of each side (12 rooms total) for six occupants in each room.

3. The residence hall shall also include the following rooms in the Ground Floor:
 - 3.1 Dormitory manager's room with CR
 - 3.2 Lobby/Dormitory manager's office
 - 3.3 Common CR for male, female and PWD.
 - 3.4 Pantry/Mess Hall
 - 3.5 Computer Room
 - 3.6 3 Guest Rooms with CR for 6 occupants in each room.
4. A balcony which can also provide shading for vehicles shall be designed and constructed in the second-floor level provided that the boys' and girls' dormers will have no access to their opposite sides. Bidders are given the artistic freedom to propose other functions for the balcony.
5. Residence hall construction shall also include all finishing works and shall have fully functional rooms and amenities.
6. The residence hall shall also include overhead 304-grade stainless steel water storage tank to showcase 2nd, 3rd and 4th floor to sustain the water supply demand of the building and to justify the water pressure demand expecting all the occupants using at the same time.
7. Fire exit shall be designed and constructed to ensure a safety precaution for the building provided that the dormers remain no access to their opposite side.
8. Finally, the design should incorporate latest design trends, must be energy efficient and must use green technology.

Construction Requirements (300 CALENDAR DAYS)

Removal of Existing Perimeter Fence

The Contractor shall remove the existing perimeter fence along side of the location lot and the Girls' Residence Hall and also remove the side that will serve as the frontage of the project.

Construction of Perimeter Fence

The Contractor shall construct a perimeter fence beside the project property line to ensure security and safety of the property, facilities and students in the proposed residence hall.

Plain and Reinforced Concrete Works

Structural Concrete

This covers ready-mixed concrete manufactured and delivered to a purchaser in a freshly mixed and unhardened state as hereinafter specified. Requirements for quality of concrete shall be either as hereinafter specified or as specified by the purchaser. In any case where the



requirements of the purchaser differ from those in this specification, the purchaser's specification shall govern. This specification does not cover the placement, consolidation, curing, or protection of the concrete after delivery to the purchaser. The required strength of concrete is 3,500 psi at 28 days curing.

Reinforcing Steel (Deformed)

All reinforcements shall be weldable deformed bars, new and free from rust, oil, defect, grease or kinks. They shall conform to the AASHTO M 31 (ASTM A 615) – Specification for Billet-Steel Bars for Concrete Reinforcement as manufactured by Pag-Asa Steel Works, Inc., Capitol Steel, and Steel Asia or approved equivalent. Strength of reinforcing steel bars shall conform and have a minimum grade of PNS Grade 40.

Formworks and Falseworks

Concrete forms shall be mortar-tight, true to the dimensions, lines and grades of the structure and with the sufficient strength, rigidity, shape and surface smoothness as to leave the finished works true to the dimensions shown on the Plans or required by the Engineer and with the surface finish as specified. The materials used in the falsework construction shall be of the quantity and quality necessary to withstand the stresses imposed. The workmanship used in falsework shall be of such quality that the falsework will support the loads imposed on it without excessive settlement or take-up beyond that shown on the falsework drawings

Termite Control Works

Soil Poisoning

This Item shall consist of furnishing and applying termite control chemicals, including the use of equipment and tools in performing such operations in accordance with this Specification. Termite control chemicals or toxicants shall be able to immediately exterminate termites or create barriers to discourage entry of subterranean termites into the building areas.

Masonry Works

Concrete Hollow Block

Concrete hollow block shall be of standard manufacture machine-vibrated and shall have fine and even texture and well defines edges. Concrete hollow blocks to be used shall conform to the requirements of ASTM Specification C-90 and PNS 16. Dimensions and tolerances shall be as individually specified on plans.

Reinforcing Steel Bar (Deformed) – Concrete Hollow Blocks

Same as with the specification stated with Reinforcing Steel Deformed for Concrete Works, they shall conform ASTM A 615. Strength of reinforcing steel bars shall conform and have a minimum grade of PNS Grade 40. The minimum reinforcing diameter of deformed bars shall be 10 mm. with GA #16 G.I. Tie wire.



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FINISHING WORKS

Cement Plaster Finish

Cement plaster finish shall be true to details and plumed. Finish surface shall have no visible junction marks where one (1) Day's work adjoins the other. Where directed by the Engineer or as shown on the Plans vertical and horizontal groove joints shall be 25 mm wide and 10 mm deep.

Ceramic Tiles

Ceramic tiles and trims shall be made of clay, or a mixture of clay and other materials which is called the body of the tile. Tile bodies are classified by ASTM C 242 as to their degree of water absorption.

Floor Finishes

Glossy ceramic tiles with dimensions of 600mm x 600mm x 10mmTHK shall be installed in all rooms and hallways.

Non-skid ceramic tiles with dimensions of 600mm x 600mm x 10mmTHK shall be installed in all comfort rooms.

Wall Finishes

Glazed ceramic wall tiles with a dimension of 300mm x 600mm x 10mmTHK shall be installed from finish floor line to ceiling line of the individual comfort rooms and common male and female comfort rooms. Tile color and design shall be approved first before installation.

Ceiling Works

The contractor shall provide ceiling for fourth floor and comfort rooms, and shall be 6-mmTHK marine plywood or fiber cement board. They shall also include manhole in the ceiling for access of maintenance work provided that it is well design and build.

FABRICATED MATERIALS

Doors

Solid kiln-dried door panel with 4 hinges lever type privacy lockset for rooms and common comfort room.

Provide double swing double panel glass door for Lobby area and Balcony Area.

For fire exit, provide fire rated fire exit steel door.

PVC flush door with 3 hinges with doorknob lockset for individual comfort rooms.



Aluminum Glass Window

Tubular aluminum casement type window frame with glass panels shall be in all Rooms to provide sufficient sunlight and ventilation. All windows for the rooms shall be installed with complete accessories.

Aluminum awning window frame with glass panels shall be installed in all male and female comfort rooms and to individual comfort rooms and it shall be installed with complete accessories.

Window Grills

Each room shall be provided with fixed steel grills in all windows for the protection, safety and security of its occupants.

Railings

The contractor shall provide railings for stairs and access ramp for the safety of the occupants.

Ceiling Fans

The contractor shall provide provisions for ceiling fan (at least 1 unit per room).

Plumbing Works

The contractor shall provide all cold-water line system and sewer line system devices and accessories necessary to make the system functional.

All rooms shall be provided with good quality of bathroom fixtures including shower set, tissue holder, soap holder, lavatory fixture and water closet all with complete set of accessories. Include also mirror for guest rooms only. And take note, shower fixture for scholars' room shall be fixed on the wall.

Electrical Works

The contractor shall provide all electrical requirements to energize the residence hall from the service entrance. Underground electrical lines shall be installed.

The contractor shall also provide sufficient emergency lights along the hallway and other areas that the designer may identify necessary.

Each room shall use pin lights and LED surface-mounted for lighting fixtures. Submit product catalog and sample for approval. All lighting fixtures shall be LED type.

The contractor shall provide at least 4 electrical outlets for each room.

Roof Framing and Roofing Works

The contractor shall provide all the roof framing requirements necessary or specified by the design or Engineer. The contractor shall install Pre-Painted Metal Sheets (0.5mmTHK, Rib



Type, Long Span, Chocolate Brown), Roofing accessories for flashing and Ridge/Hip Rolls shall be gauge 26.

Fire Protection Sprinkler and Fire Alarm System

The contractor shall also include a functional fire protection and detection system which includes but not limited to automatic sprinkler made of wrought iron or galvanized steel that has sufficient strength to withstand water pressure when ready for service in all rooms, smoke detector in all rooms, automatic chemical fire extinguishers as per the allowed specifications and quantity per floor in the National Building Code and Bureau of Fire Protection requirement and a fire alarm system.

RAMP

The Contractor shall provide access ramp for PWD.

LOBBY

The character and function of the lobby often influences a visitor's first impression upon entering a building. It is also the place where dormers will be able to accommodate their visitors (Immediate family). Key design concerns for this space shall include balance aesthetics, security and operational considerations. This should provide ample space for visitors and a receiving counter with granite counter top which will also function as the office of the dormitory manager and reception area for guests and visitors.

The design and construction shall be able to utilize appropriate finishes with granite type lobby countertop. The design of the lobby shall also provide the dormers with a relief opportunity from the more confined spaces of their quarters. Details of the design of the lobby should also be included in the design proposal. Finishes shall also be subject for approval.

Pantry

The pantry shall include one lavatory countertop of good quality and shall be provided with a wash area and outlets for appliances.

Common Comfort Room

A minimum of 3 toilets for female common comfort room and 2 toilets with urinals for male common comfort room each should be provided including all fittings and accessories.

IV. 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 shall be conducted by the Bids and Awards Committee (BAC) constituted to conduct the procurement of the project. The Campus Director of PSHS-CALABARZONRC will create the Design and Build Committee (DBC) and Technical Working Group (TWG), 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 proposals in accordance with the criteria set.

Eligibility Requirements

The eligibility requirements for Design and Build infrastructure projects shall comply with the applicable provisions of Section 23 of the IRR of RA9184.

Eligibility and Technical Documents

a) Class "A" Documents Legal Documents

- (i) Registration certificate from SEC, Department of Trade and Industry (DTI) for sole proprietorship, or CDA for cooperatives.
- (ii) Mayor's/Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas

A recently expired Mayor's/Business permit together with the official receipt as proof that the prospective bidder has applied for renewal within the period prescribed by the concerned local government unit, shall be accepted by the PhilGEPS for the purpose of updating the PhilGEPS Certificate of Registration and Membership in accordance with Section 8.5.2 of this IRR.⁴²

- (iii) Tax clearance per E.O. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Technical Documents

- (iv) Statement of the 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.
- (v) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid. All of the above statements shall include all information required in the PBDs prescribed by the GPPB.

The two statements required shall indicate for each contract the following:

- ii.1) name of the contract;
- ii.2) date of the contract;
- ii.3) contract duration;
- ii.4) owner's name and address;
- ii.5) nature of work;
- ii.6) contractor's role (whether sole contractor, subcontractor, or partner in a JV) and percentage of participation;



- ii.7) total contract value at award;
- ii.8) date of completion or estimated completion time;
- ii.9) total contract value at completion, if applicable;
- ii.10) percentages of planned and actual accomplishments, if applicable; and
- ii.11) value of outstanding works, if applicable.

The statement of the Bidder's SLCC shall be supported by the Notice of Award and/or Notice to Proceed, Project Owner's Certificate of Final Acceptance issued by the Owner other than the Contractor or the Constructors Performance Evaluation System (CPES) Final Rating, which must be at least satisfactory. In case of contracts with the private sector, an equivalent document shall be submitted;

- (vi) In the case of procurement of Infrastructure Projects, a valid Philippine Contractors Accreditation Board (PCAB) License or Special PCAB License in case of Joint Ventures, and registration for the type and cost of the contract to be bid.

Financial Documents

- (vii) The bidder's audited financial statements, showing, among others, the bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission.^(a)
- (viii) The bidder's computation of Net Financial Contracting Capacity (NFCC). However, in the case of procurement of Goods, a bidder may submit a committed Line of Credit from a Universal or Commercial Bank, in lieu of its NFCC computation.^(a)

b) Class "B" Documents

- (ix) For Infrastructure Projects, JV bidders shall submit a JVA in accordance with R.A. 4566 and its IRR.

Technical Documents

- (i) Bid security in accordance with ITB Clause 18. If the Bidder opts to submit the bid security in the form of:
 - (i.1) a bank draft/guarantee or an irrevocable letter of credit issued by a foreign bank, it shall be accompanied by a confirmation from a Universal or Commercial Bank; or
 - (i.2) a surety bond accompanied by a certification coming from the Insurance Commission that the surety or insurance company is authorized to issue such instruments.



- (ii) Project Requirements, which shall include the following:
- (ii.1) Organizational chart for the contract to be bid;
 - (ii.2) List of contractor's 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. These personnel must meet the required minimum years of experience set in the **BDS**; and
 - (ii.3) 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, which must meet the minimum requirements for the contract set in the **BDS**; and
 - (ii.4) Revised Omnibus Sworn statement in accordance with Section 25.3 of the IRR of RA 9184.
 - (ii.5) Schematic documents. The schematic documents must be based on the approved design brief. The following shall be submitted on 20x30in boards using appropriate scale:
 - A. Layout for the floor plans of the building for the consideration of the PSHS-CALABARZONRC Management Committee (ManCom).
 - B. Elevation and Sections of the building
 - C. Site Development Plan
 - D. Engineering Plans, Layout and Schematic Diagram
 - E. Foundation Plan (if applicable)
 - F. Photo Realistic Representation of Building
 - (ii.6) 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:
 - Cost-saving, measured on a per square meter average figure
 - Time-saving in design and construction duration
 - Operational efficiency to take advantage of natural lighting and ventilation in some areas and use of efficient toilet.
 - (ii.7) Manpower Schedule
 - (ii.8) Equipment Utilization Schedule
 - (ii.9) Bar Chart and S-curve showing weekly accomplishment and cumulative percentage
 - (ii.10) Construction Safety and Health Program received by DOLE for bidding purposes
 - (ii.11) PERT-CPM



Financial Component

- i. Financial Bid in prescribed form
- ii. Bill of Quantities following the DPWH format
- iii. Detailed Cost Estimates following the DPWH format
- iv. Summary Sheet indicating the unit prices of materials, labor rates and equipment rental for the construction
- v. Payment schedule

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.

FOR DESIGN PERSONNEL

The key professionals and the respective qualifications of the DESIGN PERSONNEL shall be 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. The five-year experience as Junior Architect (apprentice) shall be counted.

B. STRUCTURAL ENGINEER

The Structural Engineer must be a duly-licensed Civil Engineer with at least five (5) years of experience in structural design of academic or institutional facilities.

C. PROFESSIONAL ELECTRICAL ENGINEER

The Electrical Engineer must be a registered Professional Electrical Engineer with at least five (5) years of experience. The 5-year experience as Registered Electrical Engineer shall be included in the computation of the 5-year experience.



D. 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 and plumbing.

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.

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 licensed and DPWH 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. PROFESSIONAL ELECTRICAL ENGINEER

The Electrical Engineer must be a registered Professional Electrical Engineer with at least five (5) years of experience. The 5-year experience as Registered Electrical Engineer shall be included in the computation of the 5-year experience.

E. 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 and plumbing.



F. CONSTRUCTION FOREMAN

The Foreman must have at least five (5) years of experience in similar and comparable projects.

G. 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 these Terms of Reference, 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.

V. 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.

VI. DETAILED ENGINEERING REQUIREMENT

1. Upon award of the design and build contract, 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 this IRR (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.

VII. SCOPE OF WORKS AND PROJECT IMPLEMENTATION

A. Design

The Philippine Science High School - CALABARZON Region Campus, 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 RA9184 Annex G Sec. 11.

In compliance with the design and build Terms of Reference, the DESIGN AND BUILD CONTRACTOR shall submit a detailed program of work within fourteen (14) calendar days after the issuance of the Notice to Proceed for approval by the procuring entity that shall include, among others:

- a. The order in which it intends to carry out the work including anticipated timing for each stage of design/detailed engineering and construction;
- b. 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. Provide geotechnical/soil investigation report which will serve as basis for the actual sizing of the column and foundation of the building.
- i. Prepare from the approved schematic design documents, 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, specifically 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 coordinate and present 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. 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 HOPE of the 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. Secure all necessary building permits prior to construction. All incidental fees shall be included in the cost estimate of the building.
- b. Preparation of the PERT-CPM of the construction phase.
- c. Provide all other necessary documents that shall be required by B&D Committee

C. Construction Phase

- a. Implement 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. Provide soil filling, grading and other soil protection measures of the building and other elements of the site including soil and materials testing.
- c. Construct the buildings and other necessary structures, complete with utilities and finishes, resulting in operable and usable structures.
- d. Provide 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. Layout 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. Preparation of shop-drawings for approval.
- g. Coordinate with the B&D Committee regarding scheduling of delivery and installation of all owner-furnished materials and equipment during construction.
- h. Conduct all necessary tests (to be required by B&D Committee) and issue reports of results.
- i. Rectification of punch-listing works to be inspected and issued by the B&D Committee and/or the End-user.
- j. Provide all other necessary documents that shall be required by the B&D Committee.

D. Post Construction Phase

- a. Preparation of as-built plans
- b. Turn-over of all manuals, certificates and warranties of installed items.

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.

VIII. 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 300 calendar days from the date of the issuance of the Notice to Proceed (NTP): Forty-five (45) calendar days for the Design Phase and Two Hundred Fifty-five (255) calendar days for the Construction Phase.

IX. THE IMPLEMENTING AGENCY'S GENERAL RESPONSIBILITY

The implementing agency for the project is the Campus Director of PSHS-CALABARZONRC the B&D 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-CALABARZONRC with regards 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) Conducts regular coordination meetings between the DESIGN & BUILD CONTRACTOR and the end-user to facilitate the implementation of the project.

X. 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 the school 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 the School, 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 the school 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 and designed specifically for the CONSTRUCTION OF FABRICATION LABORATORY Utilizing the Design and Build Scheme.
- 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.

XI. 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 (12 sets hard copy and soft copy)
- b) Technical specifications (7 sets hard copy and soft copy)
- c) Detailed cost estimate (3 sets hard copy and soft copy)
- d) Bill of quantities (3 sets hard copy and soft copy)



- e) Site survey, topographic survey, survey of existing trees, geotechnical report including soil test 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 B&D Committee may require for the periodic update concerning the status of the design phase.

B. FOR THE CONSTRUCTION PHASE

- 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
- e) Test results
- f) Guarantees, warranties and other certificates
- g) Fire and Life Safety Assessment Report 2 and 3 (FALAR 2 and 3)
- h) Certificate of Occupancy
- i) All other necessary documents to be required by B&D Committee

XII. 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.

XIII. 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-CALABARZONRC and its respective technical offices. Tapping for utilities such as power supply, water supply and sewage drainage shall be coordinated 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.



XIV. 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 from B&D Committee.

XV. MODE OF PAYMENT

- a) The PSHS-CALABARZONRC shall pay the winning DESIGN & BUILD CONTRACTOR progress payments based on billings for actual works accomplished, as certified by B&D Committee of the PSHS System. 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%. Succeeding billing and payment shall be made on a MONTHLY BASIS.
- e) The following documents must be submitted to the B&D Committee before processing of payments to the DESIGN & BUILD CONTRACTOR can be made:
 - i. Progress Billing
 - ii. Request for payment by the DESIGN & BUILD CONTRACTOR
 - iii. Pictures/photographs of original site conditions (for First Billing only)




- iv. Pictures/photographs of work accomplished
- v. Accomplishment Report
- vi. Material Testing Results
- vii. Payment of utilities (power and water consumption)
- viii. DESIGN & BUILD CONTRACTOR's affidavit (if accomplishment is more than 60%)

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

Prepared by:


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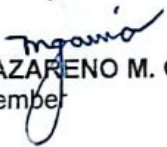
End User Unit Representative:


JORGE M. JOB
SSD Chief

Design and Build Committee:


ENGR. SHIELA-LIZ L. ATIVO
Member


MARBECEL C. FLORIDA
Member


NAZARENO M. GAVINA
Member

Approved:


JOSE M. ANDAYA, D.T.
Director III

100 EXPENDITURE PROGRAM FY 2023 VOLUME III

310100200165000	Implementation of K - 12 Program (MITHI - ICT Infrastructure)	750,000	750,000
	Cordillera Administrative Region (CAR)	750,000	750,000
	Cordillera Administrative Region Campus	750,000	750,000
310100200175000	Completion of Academic Building III	10,000,000	10,000,000
	Region IX - Zamboanga Peninsula	10,000,000	10,000,000
	Zamboanga Peninsula Region Campus	10,000,000	10,000,000
310100200178000	Completion of Administration Building	5,000,000	5,000,000
	Region IX - Zamboanga Peninsula	5,000,000	5,000,000
	Zamboanga Peninsula Region Campus	5,000,000	5,000,000
310100200193000	Construction of Administration Building - New Clark City	1,900,000	1,900,000
	Region III - Central Luzon	1,900,000	1,900,000
	Central Luzon Campus	1,900,000	1,900,000
310100200194000	Construction of Auditorium	50,000,000	50,000,000
	National Capital Region (NCR)	50,000,000	50,000,000
	Office of the Executive Director (Central Office)	50,000,000	50,000,000
310100200195000	Construction of Boys and Girls Residence Hall for Senior High	60,000,000	60,000,000
	Region IVA - CALABARZON	60,000,000	60,000,000
	CALABARZON Region Campus	60,000,000	60,000,000
310100200196000	Construction of Dormitory Building III	15,000,000	15,000,000
	Region IX - Zamboanga Peninsula	15,000,000	15,000,000
	Zamboanga Peninsula Region Campus	15,000,000	15,000,000
310100200197000	Construction of Sewerage System	15,000,000	15,000,000
	Region VIII - Eastern Visayas	15,000,000	15,000,000
	Eastern Visayas Campus	15,000,000	15,000,000
310100200198000	Construction of Solar Power System	10,000,000	10,000,000
	Region II - Cagayan Valley	10,000,000	10,000,000
	Cagayan Valley Campus	10,000,000	10,000,000
310100200199000	Construction of Woodworking and Engineering Shop	5,000,000	5,000,000
	Region II - Cagayan Valley	5,000,000	5,000,000
	Cagayan Valley Campus	5,000,000	5,000,000
310100200200000	Installation of Fire Protection System	22,500,000	22,500,000
	Region IVA - CALABARZON	22,500,000	22,500,000
	CALABARZON Region Campus	22,500,000	22,500,000

