SCOPE OF WORK

CONSTRUCTION OF ACADEMIC BUILDING III
(NEGOTIATED PROCUREMENT-TWO FAILED BIDDINGS)
of
Philippine Science High School-Zamboanga Peninsula Region Campus
in Brgy. Cogon, Dipolog City
(DESIGN AND BUILD SCHEME)

I. BACKGROUND

The **PHILIPPINE SCIENCE HIGH SCHOOL-ZAMBOANGA PENINSULA REGION CAMPUS (PSHS-ZRC),** through the approved allocation for capital outlay under FY 2021 General Appropriations Act, intends to apply the sum of **FORTY-FIVE MILLION PESOS (₱45,000,000.00)** being the Approved Budget for the Contract (ABC) for the **CONSTRUCTION OF ACADEMIC BUILDING III-(Negotiated Procurement-Two Failed Biddings).**

II. PROJECT DESCRIPTION AND LOCATION

The proposed Construction of Academic Building III (Negotiated Procurement-Two Failed Biddings) project, on a design and build scheme, will be of three-storey with a basement. The basement however will be an open space. A portion in the basement shall be constructed with a retaining wall. Figure 1 shows the Design Perspective.

The project is located across the Academic Building I and beside the Academic Building II. See Annex A (Campus Master Plan).

The construction of the project requires 380 calendar days and it is expected that the entire building will be fully utilized after completion.

A maximum of 3% of the contract cost shall be allocated for the design, and the remaining is for the construction.

III. SCOPE OF WORK

1. DESIGN

The building shall be **17 meters wide and 35 meters long**, and **SHALL FOLLOW THE DESIGN AND AESTHETICS OF THE ALREADY COMPLETED ACADEMIC BUILDING I to provide symmetry of the two (2) academic buildings,** but shall incorporate revisions as specified in this Scope of Work. The building floor elevations should be leveled with the adjacent Academic Building I floor elevations. The building structure of this project shall consider the possible future conversion of the open basement floor into a living space basement with 3.0m floor to floor elevation.

Figure 1 Design Perspective

a. ARCHITECTURAL

The building shall have the following minimum standards and its corresponding dimensions below. Attached in Annex B (Floor Plans) can be referred to supplement these requirements.

Rooms	Location	Quantity	Minimum Requirement	
			Space	Dimension
Classrooms	2nd to 3rd floors	10	70 sq.m. , 2.1 sq.m./ person	10m x 7m
SMT Faculty Office	1st Floor	1	105 sq.m.	15m x 7m
Humanities Faculty Office	1st Floor	1	105 sq.m.	15m x 7m
CID Chief's Office	1st Floor	1	21 sq.m.	3m x 7m
Assistant CID Chief's Office	1st Floor	1	21 sq.m.	3m x 7m
Pantry	1st Floor	1	21 sq.m.	3m x 7m
Mini-conference room	1st Floor	1	32.2 sq.m.	4.6m x 7m
C.R. (separate for male and female and separate for employees and for students)	1st Floor	2 for female 2 for male	22.4 sq.m.	3.2m x 7m
C.R. (separate for male and for female)	2nd and 3rd floors	1 male and 1 female per floor	22.4 sq.m.	3.2m x 7m

The following are the features and fixtures for each particular room:

Area	Features
Classroom	• laminated white board (same as that in the Academic Building II) • five (5) pieces 3-gang electrical outlet • 2 pieces each on the left and on the right walls, and 1 piece at the front wall • one (1) piece cable television outlet • two (2) data outlets for internet connection. • with wirings for four (4) units ceiling fan • provision of HDMI cable/wiring for ceiling mounted projector
Humanities and SMT Office	• eight (8) pieces 3-gang electrical outlet • one (1) piece telephone outlet • four (4) pieces data outlet for internet connection.
CID Chief's Office and Assistant CID Office	• two (2) pieces 3-gang electrical outlet • one (1) piece telephone outlet • two (2) pieces data outlet for internet connection
Mini Conference Room	• two (2) pieces 3-gang electrical outlet • one (1) piece telephone outlet two (2) pieces data outlet for internet connection
Control Room	• Data steel rack(s) • All internet, CCTV, Telephone cables will be found here
Toilet	• provided with mirrors in the sink areas • with phenolic toilet partition wood grain design nylon series (same as that in Academic Building II • provided with one cubicle for PWDs • storage provision to keep the cleaning tools, equipment and materials
Pantry	• Provision of cabinets above and below sink.

Tile Works

- Classrooms, Offices, Mini Conference Room and hallway floors shall be porcelain tile finish
- Stairs' floor finish shall be porcelain tiles with groove
- Toilets shall be of unglazed porcelain tile finish

Ceiling Works

- Ceilings shall be made of Fiber Board Cement - Hardiflex or approved of equal or better quality
- Lobbies shall have unique lobby design

Doors and Windows

- All doors in the offices and the classrooms should be pulled from the outside or pushed from the inside to open
- Classroom doors shall be made of wood panel door with clear glass design with stopper
- Glass partition with sliding door in between the Humanities Office and SMT Office
- Partition with sliding door in between the Mini-Conference Room and the CID Office, CID Office and Assistant CID Office, and Assistant CID Office and Pantry. See attached Floor Plan.
- All classrooms in second to third floors, and all offices/rooms in the first floor should be half-glass, half-concrete design along the hallway.
- Sliding door glass shall be tempered glass
- Window glass shall be standard glass

Painting

- Colors shall be the same as those applied in Academic Building I

Roofing

- Provision of fixed access ladder at third floor level going to the rooftop for repair and maintenance purposes. See Annex D (Fixed Access Ladder).

b. PLUMBING, DRAINAGE AND WATER DISTRIBUTION SYSTEMS
   - Potable waterline shall be designed with cistern tank system. A bypass line shall be installed in the system to have continuous supply of water in case of power interruption or pump damage. Water closets shall be flush valve type and provided with bidets.
   - Preferred design for routing of rain water pipes would be to provide false column/pipe chase to hide the pipe or route the pipe where it is more practicable and accessible for repairs.
   - Trench Drain shall be installed to drain groundwater from building foundation.
   - Septic tank and piping shall be designed/constructed at a location approved by the master plumber and the procuring entity.

c. FIRE SPRINKLER SYSTEM AND FIRE DETECTION & ALARM SYSTEM
   - Fire Sprinkler system, and fire detection and alarm system shall be installed.
   - These systems shall have complete design and compliant to Republic Act No. 9514 Fire Building Code. Design parameters should cover the Basement up to the Third Floor. This design shall then be used in the construction and complete implementation in the Ground until the 3rd Floor. The Basement will only have provisions for a short length of cross main pipe and a closing valve considering that this is an open space. For cost estimate purposes, it is suggested to refer first to the BFP for the appropriate/approved provision setup for the Basement requirement.

d. EXHAUST AND AIRCONDITIONING
   - Compute/Design the exhaust fans and ACUs capacities according to the sizes of the rooms.
   - Install appropriate sizes and other specifications of pipes and fittings, including refrigerant pipes, insulation and vapor barriers, drain, control wirings, circuit breakers and other controls necessary, to get these ready for the installation of ACUs and outdoor condenser units that are fit for each identified room. Outdoor condenser units shall be designed to be installed in areas nearest to the ACUs, where these will not impair the aesthetics of the building and will not obstruct the mobility of people.
   - Provision of ACUs, ceiling fans and exhaust fans are not included.

e. ELECTRICAL
   - Provide wirings, outlets, pipings and foundation or mounting pad for Split-type Air-Conditioning Units (ACUs) per office, including the Mini-Conference Room. Provide wirings for window type ACU in Server Room.
   - Provide emergency line to the generator panel box near the Academic Building I.
   - Design and type of lighting fixtures shall be subject for procuring entity's approval.

f. INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) PROVISION
   - ICT plan includes:
     - Voice Communication (Telephone) System at the Mini-Conference Room & offices;
     - Data Communication System (Internet);
     - Cable Television System; and
     - CCTV Television System.

- All cables to be used shall be CAT 6 UTP cable.
- Design for the location of CCTV cameras shall consider a clear view of the areas and the people in those areas. These can be designed:
  - one (1) at the basement lobby;
  - one (1) at the ground floor entrance;
  - two (2) units at each hallway in the basement and in all floors

  Note: ICT system shall be designed in a way that it shall be ready for future provision of fiber optic connection around the building.

g. BASEMENT
- The wall facing the Academic Building II and its adjoining walls shall be designed and constructed as retaining walls/concrete poured walls. See Annex B (Topographic Survey) for design and cost estimate purposes.
- Floor layout should include steps to have direct access in going inside and outside the area if required.
- Waterproofing method to be used shall be integral waterproofing (Sika Cement Admixtures - Sika Control WT-220 PH), application of cold water proof liner (MACBARRR Water Proofing Liner) on exterior walls and installation of buried perforated drain pipe - 6.0-inch pipe with holes along the wall length, filled with gravel around and wrapped with filter cloth. Damp proofing film shall be installed beneath the slab on grade to stop damp from rising up to the basement.
- Construction of basement shall consider the possible conversion of this open space into classrooms. Hence, grade beams shall be provided with reinforcement in preparation to masonry wall for the later phase development.

h. FORMWORKS AND SCAFFOLDINGS
- Formwork material shall be phenolic board or approved equivalent. It should be considered in the costing that such material could be usable for up to three (3) times during construction.
- Scaffolding shall be steel G.I. pipes and cost to be charged for these shall only be for RENTAL.

The building design shall conform to the provisions of the National Building Code of the Philippines (RA 6541), Civil Engineering Law (RA 544), National Structural Code of the Philippines, Electrical Engineering Law (RA 7920), Mechanical Engineering Law (RA 5336), National Plumbing Code of the Philippines, Fire Code of the Philippines (RA 9514) and other laws and regulations covering environmental concerns and local ordinances and regulations.

2. CONSTRUCTION

The construction implementation of the project shall be performed as described in Section III.1 Design Requirements and below relevant works:

a. SITE WORKS

i. Includes handling, transportation and disposal of excavated materials considered not suitable for embankment/backfill at the Contractor's cost.

ii. Once the basement slab has been constructed, the areas beyond the retaining wall or without retaining wall shall be excavated to a finished grade 0.30m below the open basement slab, 1.0m away from the building edge to prevent storm water from entering the basement and to protect the structure from soil erosion. The slope grade minimum 5% shall be applied. This work shall adapt the method of perforated drain pipe installation.

iii. The Contractor shall provide all necessary means for dewatering excavations and maintain it free from all water, including groundwater or storm water.

b. PLUMBING/SANITARY WORKS
   i. The Potable Water System should provide a branch line for potable water distribution in Open Foundation Level.
   ii. Installation of downspouts to catch basin and tap to the nearest existing drainage system

c. MECHANICAL WORKS
   i. The Fire Sprinkler System should provide a cross main pipe for future system distribution in Open Foundation Level.

d. ELECTRICAL WORKS
   i. Include installation of lighting fixtures and emergency lights in Basement.
   ii. Electrical pipe conduits are designed to be embedded in structural members and walls.

e. ICT
   i. Complete Fire Detection and Alarm System. Supply and installation of wirings, fixtures and other accessories at 1st, 2nd and 3rd Floor.
   ii. Installation of CCTV, CATV, voice & data and Wi-Fi system conduits, cables, outlets and steel rack cabinets. System units are not to be provided in this work.
   iii. ICT pipe conduits are designed to be embedded in structural members and walls.
   iv. Cables shall all be properly labelled/with identification marks.

***Note**: Mock-up is required for every installation of works after the approval by the procuring entity of materials to be used/installed in the project. This will be done to avoid rework.*

3. BILL OF QUANTITIES -

BILL OF QUANTITIES AND ESTIMATE GUIDE

Enumerated under "Remarks" are items that should also be included aside from the requirements mentioned under Section III.1 Design and Section III.2 Construction. Should there be items that are required but are not found hereunder, such items should be covered and included in the Bid. The Contractor is responsible for completing the project in accordance with the Plans and Specifications found in this Scope of Work.

ITEM NO.	DESCRIPTION OF WORKS	UNIT	REMARKS
I.	**GENERAL REQUIREMENTS**		
	Detailed Design Fees		
	Mobilization/Demobilization	lot	
	Temporary Facilities	lot	Provide adequate and complete facilities for male and female employees
	Permits and clearances	lot	Include deposits, building permit fees, process of certificate of occupancy, clearances and other additional fees
	Construction Safety and Health	lot	Includes Safety Guideline for the Implementation of Infrastructure Projects During the COVID-19 Public Health Crisis and Construction Safety and Health Program Certificate from DOLE.
	Project Identification and Sign	lot	
II.	**SITE WORKS**		
	Survey and Test		Conduct Soil Boring Test
	Clearing and Grubbing	sq.m.	

	Excavation	cu.m	Includes manual and mechanical excavation works and excavation support system
	Fill/Backfill with Compaction	cu.m.	
	Gravel Bedding	cu.m.	
	Soil Treatment	sq.m.	Includes soil poisoning below structure and building premises
III.	**STRUCTURAL WORKS**		
	CONCRETE		Min. Compressive Strength 1. Foundation, Retaining Wall, Beams, Columns, Suspended Slab, Slab on Grade - 4,000 psi 2. all others - 2,500 psi
	Column Footing	cu.m.	Application of lean concreting aside from gravel bedding
	Grade Beam and Slab on Grade	cu.m.	1. Includes provision of masonry reinforcement on grade beam and slab on grade in preparation for the later phase development at Semi Basement 2. With integral water proofing
	Wall Footing	cu.m.	
	Columns	cu.m.	
	Beams and Girders	cu.m.	
	Roof Beams	cu.m.	
	Suspended Slab	cu.m.	
	Stairs and Canopy	cu.m.	Application of drip inducer on canopy for water shedding.
	Basement Wall	cu.m.	1. With integral waterproofing 2. See Attached Basement Floor Plan
	REBAR WORKS		
	Def Bars Grade 40	kgs.	All reinforcement for reinforced concrete structural members including gutters, parapets and canopies
	TESTING (Concrete and Rebars)	lot	Includes all laboratory testing of materials for concrete and reinforcements and all filed quality tests with guarantee
	FORMWORKS & SCAFFOLDINGS	sq.m.	Includes table forms and scaffolds, oil, ties, keyway, chain, expansion joint, wedges, block-outs, shoring, purlins, pins, clamps, reglets, insets, rental of form system. Scaffolding shall be steel/G.I. pipes and cost shall be RENTAL
	MASONRY		Includes all CHB units and other masonry wall system. Includes miscellaneous masonry accessories
	STEEL WORKS/METALS		
	Roof Framing	kgs.	Structural steel sections for trusses, purlins, sag rods, clips, cross bracings
	Pre-Painted Roofing	ln.m.	RED pre painted roofing sheets. Refer to existing Academic Building 1 roofing as reference
	Stainless Steel Hand & Grab Rails, Railings	lot	1. Complete staircase stainless steel handrails from Semi Basement up to Third Floor; 2-inch diameter stainless steel pipes. 2. Toilet Grab Rails - stainless steel 3. Ramp railings - stainless steel
IV.	**ARCHITECTURAL WORKS**		
	CARPENTRY		
	Laminated White Board	units	One unit per classroom
	Storage/Cabinets	lot	Installation of above and below cabinets at CID Office and Pantry
	Toilet Partition, all included	lot	Includes storage for cleaning tools
	THERMAL & MOIST PROTECTION		

	Semi Basement Damp proofing and Waterproofing	lot	1. Application of cold waterproof liner on exterior wall 2. Application of damp proof film/sheet beneath the semi basement slab
	Slab, Deck, Canopy, Gutter and Exterior Walls Waterproofing	sq.m.	First to Third Floor toilets, canopies, gutters and entire exterior wall exposed to rain to prevent seepage.
	Cistern Epoxy Waterproofing	sq.m.	
	DOORS AND WINDOWS		
	Sliding Tempered Glass Doors	lot	Installation at First Floor CID Office, Assist CID Office and Pantry. See Floor Plan
	Flush Hollow Core Doors (plywood & mahogany) including hardware	sets	For EE and Mechanical Room
	Solid Panel Doors with glass, including hardware and stopper	sets	Supply and install all wood panel doors with 4mm thick glass panel with door jambs and head. Include keyed door knobs and locksets. Applicable to all classrooms, offices, mini-conference room and pantry.
	PVC Panel Doors with Louvers	sets	Supply and install pvc panel doors (high quality) with louvers
	Fixed-Sliding Windows	sq.m.	Installation at First, Second and Third Floor - Interior
	Double Casement Windows	sq.m.	Installation at First, Second and Third Floor - Exterior
	Awning Windows	sq.m.	Installation at First, Second and Third Floor - Exterior
	FINISHES		
	Ceiling on Light Gauge Metal Frame	sq.m.	1. Installation at First, Second and Third Floor 2. Hardiflex or approved equal
	Vitrified Ceramic Wall & Floor Tiles	sq.m.	Installation at First, Second and Third Floor
	Porcelain Floor Tiles	sq.m.	Installation at First, Second and Third Floor - lobby, hallway, stairs, office and classrooms.
	PAINTING		
	Exterior and Interior Concrete Walls	sq.m.	Entire Building
	Ceiling	sq.m.	1. Complete works at First, Second and Third Floor 2. Control Room in Basement
V.	**PLUMBING AND SANITARY WORKS**		
	EQUIPMENT		
	Water Pressure Booster System	unit	1. For use of potable water supply system includes controller with complete accessories installed 2. For use with sprinkler system includes controller with complete accessories installed
	SANITARY & DRAINAGE		
	Plumbing Pipes and Fittings	lot	Includes pipes and fittings for sanitary, waste and ventilations systems, all fittings, traps, drains, cleanouts. Includes plumbing drains, traps, cleanouts, etc.
	Plumbing Fixtures	lot	1. Supply and installation and testing of all plumbing fixtures 2. Includes supply and installation of 4 units hose bibb at Semi Basement
	Storm Drain and Catch Basin and Trench Drain	lot	Complete piping installation from roof to catch basin to rain water tank with overflow pipe that will convey rainwater to the nearest drainage system.
	Septic Tank	lot	Provide septic tank conforming to National Plumbing Code of the Philippines. Includes laying out of pipe from overflow to the nearest sanitary sewer system
	DOMESTIC WATER SUPPLY		

	Pipes and Fittings, PPR	lot	1. Includes pipes, valves and all fittings for potable water supply from waterline main distribution system 2. Provision of four (4) units faucet for general utilities at Semi Basement 3. Provision of branch pipe with end cap below First Floor for future water distribution at Semi Basement.
	Potable Cistern Tank	cu.m.	Concrete work with waterproofing. Includes installation gauges, vent and overflow
VI.	**MECHANICAL WORKS**		
	FIRE PROTECTION SYSTEM		
	Fire Sprinkler System	lot	1. Includes pipes and fittings for fire sprinkler system, sprinkler heads including valves, fire department connections, fire hose and cabinets, fire extinguishers, fire pumps and controllers, hangers, supports, pipe sleeves, painting and identification items, and consumable items. Piping distribution shall cover only at First, Second and Third Floor. 2. Provision of cross main pipe for future system distribution at Semi Basement. 3. Includes fire protection equipment signages and fire evacuation plans in each floor including Semi Basement
	VENT AND AIRCON		
	Pipes and fittings (includes all refrigerant pipes and fittings insulation and vapor barriers; includes all wires and conduits wiring devices for all A/C units)	lot	A/C units
	Pipe Accessories (include hangers, rods, supports, pipe sleeves for all a/c and electrical pipes through wall and floors, painting and identification items and consumable items)	lot	A/C units, ceiling fans and exhaust fans
VII.	**ELECTRICAL WORKS**		
	Cables, Wires, Race-ways & Conduits	lot	1. Tap to existing main distribution/feeder line within the campus. 2. Includes intermediate metal conduit for outdoor exposure, PVC conduits and fittings, all cables and wires, risers, weather heads and all accessories required. 3. Includes provision of power and lighting at Semi Basement
	Panel Board & Breakers	lot	Design shall consider integration of emergency power generator
	Boxes & Wire Devices	lot	1. Includes pull-boxes, junction boxes, convenience and weatherproof outlets, switches, coverplates, other wiring devices and accessories at First, Second and Third Floor 2. Includes installation of necessary devices related to lighting and power at Semi Basement
	Lighting Fixtures & Accessories	lot	1. Includes all lighting fixtures, ballasts, housing, reflectors including supports and fasteners for mounting. 2. Basement shall be provided with lighting fixtures according to building code standard considering this area to be an open space and without ceiling.
X.	**ICT**		
	CCTV, CATV	lot	Includes roughing-ins/cable trays and outlets for CCTV and CATV

	VOICE AND DATA AND WIFI	lot	Includes roughing-ins/cable trays and outlets for Telephone System and Data Communication System.
	Fire Alarm System	lot	Complete and functional system excluding Semi Basement

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 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

1. Eligibility Requirements

The eligibility requirements in the construction 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. Mayor's/Business permit issued by the city or municipality where the principal place of business of the prospective bidders is located;

iii. Registration Certificate from the Securities and Exchange Commission (SEC), Department of trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives;

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

v. Statement of all on-going, completed, awarded but not yet started design/design and build-related contracts;

vi. Single Largest Completed Contracts (SLCCs) similar to the project to be bid that must be at least fifty percent (50%) of the ABC to be bid (in a joint venture/consortia, one should have at least one similar project, both in design and construction, with a cost of at least 50% of the ABC of the PSHS-ZRC project)
SLCC must be supported by any of the following documents:

-Owner's Certificate of Final Acceptance issued by the project owner other than the contractor

- Final rating of at least Satisfactory in the Constructors Performance Evaluation System (CPES). *In case of contracts with the private sector, an equivalent document shall be submitted.*

vii. PCAB licenses and registration for the type and cost of the contract for this project; **(PCAB License: General Building, Category B; Medium A)**

viii. Audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission;

ix. NFCC computation
NFCC = [(Current assets minus current liabilities) (15)] minus the value of all outstanding or uncompleted portions of the projects under ongoing contracts,

including awarded contracts yet to be started, coinciding with the contract to be bid.

Class " B " Documents

i. Joint Venture agreement, if applicable.
ii. Special PCAB license in case of a Joint Venture.

b. Technical Documents

i. Bid Security (in any form)
ii. Project Requirements
  ii1. Organizational Chart
  li5. List of Contractor's Personnel (design and construction) with complete qualification and experience data (with valid licenses issued by the PRC)
  li6. 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 equipment lessor/vendor for the duration of the project.
iii. Omnibus Sworn Statement
iv. Preliminary Conceptual Design Plan (Schematic Documents) in accordance with the degree of details specified under Section III SCOPE OF WORK -DESIGN

Schematic documents shall be scaled presentation drawings comprising, but not limited to, **perspectives, site development plan, floor plans, elevations, sections** and other necessary drawings to illustrate the size and character of the project.

These shall be drawn/printed on 20" x 30" sheets using appropriate scale and inserted (bound or not) in the technical documents.

Another complete set of the drawings should be printed on A4-size sheets and bound and submitted together with the other technical documents.

v. Design and Construction Methods
vi. 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, measured using the HOPE and approved PERT-CPM of the project
- Operational efficiency

c. Financial Component

i. Financial Bid Form
ii. Bill of Quantities
  - Indirect Cost (**OCM, Contractor's Profit and VAT**) should follow the standard costing
  - Units in Lump sum/Lots shall be provided with itemized breakdown of materials and their corresponding unit cost in Detailed Cost Estimates
iii. Detailed Cost Estimates
iv. Summary Sheet indicating the unit prices of materials, labor rates and equipment rental
v. Payment schedule

Three (3) sets of documents [i.e., one (1) original and two (2) photocopies] - each set containing the eligibility, technical and financial components -- shall be submitted. These sets of documents should be hard-bound or soft-bound or ring-bound.

2. Eligibility Criteria

a) The eligibility of the Contractors shall be based on the legal, technical and financial requirements above-mentioned. In the technical requirements, the Contractor (as solo or in joint venture/consortia) should be able to comply with the experience requirements under the IRR of RA 9184; and if a joint venture/consortia, one of the parties (in a joint venture/consortia) should have at least one similar project, with at least 50% of the cost of the Approved Budget for the Contract (ABC) of this PSHS-ZRC project.

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 23.4 of the IRR of RA 9184 on eligibility requirements shall be observed.

V. 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, and shall preferably be knowledgeable in the application of Green Design Technology in school construction.

B. Structural Engineer

The Structural Engineer must be 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 and Communications Engineer

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

The Master Plumber 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.

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 this Scope of Work for the Project. Prospective bidders shall attach each individual's resume and PRC license of the (professional) staff.

VI. 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 civil 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 civil 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 and Communications Engineer

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

The Master Plumber 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.

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.

VII. DETAILED ENGINEERING REQUIREMENT

1. Upon award of the DESIGN & 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 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

4. for such rectification. The DESIGN & 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.

VIII. PROJECT IMPLEMENTATION

As a rule, contract implementation guidelines for the procurement of infrastructure projects shall comply with Annex "E" of the IRR of RA 9184.

a. Design

In compliance with the DESIGN & BUILD Scope of Work, the DESIGN & 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 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. Conduct geotechnical/soil investigation report as basis for the computation of structural analysis of the building.
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, specifically items that are owner-

furnished materials.

k. Coordinate with all offices and agencies concerned, within and outside the Campus regarding utility connections, permits and other requirements needed.
l. Periodically coordinates and presents the status of the design phase to the Head of Procuring Entity and the PSHS-ZRC TWG.

All drawings included in the contract documents should be drawn using CAD software and plotted on 20"x30" sheets. All other textual submittals shall be printed and ring-bound on A4-sized sheets.

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 Design & Build Committee of the drawings, designs and bill of estimates as recommended by the Technical Working Group 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 of the PERT-CPM of the construction phase.
c) Provides all other necessary documents that shall be required by the Design & Build 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. Conducts all necessary testing required during construction and submit to the procuring entity.
c) Constructs the buildings complete with utilities and finishes, resulting in operable and usable structures indicated in the Construction Scope of Work.
d) Layouts piping, conduits, manholes, boxes and other lines for utilities including tapping to existing utility lines.
e) Prepares shop-drawings for approval.
i) Coordinates with the Design & Build Committee regarding scheduling of delivery and installation of all owner-furnished materials and equipment during construction.
j) Rectifies punch-listing works to be inspected and issued by the Design & Build 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 Design & Build Committee.

d. Post Construction Phase

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

e. Variation Orders

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.

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 & 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.

IX. 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 380 calendar days from the date of the issuance of the Notice to Proceed (NTP): THIRTY (30) calendar days for the Design Phase and THREE HUNDRED FIFTY (350) calendar days for the Construction Phase.**

X. THE IMPLEMENTING AGENCY'S GENERAL RESPONSIBILITY

The implementing agency for the project is the PSHS-ZRC with final approval for all decisions and actions from the Campus Director through FAD Chief and the TWG on Infrastructure. The TWG on Infrastructure 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 Scope of Work.
b) Coordinate with DESIGN & BUILD CONTRACTOR, and the Campus Director of PSHS-ZRC 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 the end-user to facilitate the implementation of the project.

XI. 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 approved by DOLE and designed specifically for the CONSTRUCTION OF ACAD BUILDING II.

g) The DESIGN & BUILD CONTRACTOR shall 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 constructionpersonnel.

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.

XII. 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 softcopy)
b) Technical specifications (7 sets hard copy and softcopy)
c) Detailed cost estimate (7 sets hard copy and softcopy)
d) Bill of quantities (7 sets hard copy and softcopy)
e) Site foundation investigation and construction survey
f) Documents required for securing the Building Permit
g) Drawings and reports that the Design & Build Committee 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 **(signed and sealed in one (1) original and two (2) reproducible copies) Electronic copies shall also be submitted in native files Autodesk software and pdf.**
b) All necessary permits (Fees shall be included in the contract)
c) Shop drawings (hard copy and softcopy)
d) PERT-CPM
e) Test results
f) Guarantees, warrantees and other certificates
g) Fire and Life Safety Assessment Report 2 and 3 (FALAR 2 and3)

C. FOR THE POST-CONSTRUCTION PHASE

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

XIII. 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.

XIV. 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-ZRC and its respective technical offices. However, subcontracting of any portion shall not relieve the DESIGN & 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.

XV. 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 Design & Build Committee.

XVI. MODE OF PAYMENT

a. The PSHS-ZRC shall pay the winning DESIGN & BUILD Contractor progress payments based on billings for actual works accomplished, as certified by Design & Build 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 (after the mobilization) shall have an accomplishment of at least 20% of the construction phase.

e. The following documents must be submitted to the Design & Build 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. Detailed Statement of Work Accomplished (SWA)
   vi. Payment of utilities (power and water consumption)
   vii. DESIGN & BUILD CONTRACTOR's affidavit (if accomplishment is more than 60%)

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