TERMS OF REFERENCE
FOR THE PROCUREMENT AND IMPLEMENTATION
OF THE PROJECT
'CONSTRUCTION OF ADMINISTRATIVE, ACADEMIC BUILDING (PHASE 2)" AND BIRTHING CENTER BUILDING AT UPMSHS BALER, AURORA CAMPUS
UTILIZING THE DESIGN AND BUILD SCHEME

I. Background

The establishment of the UP Manila School of Health Sciences Extension Campus in Baler, Aurora was approved by the UP Board of Regents during its 1223rd meeting held on 22 August 2007. The School opened its door for its first batch of 62 students, all were scholars of their respective communities on 14 July 2008.

The UPMSHS Baler held its offices and classes at the Aurora State College of Technology (ASCOT) during its first two years of operation. It was transferred to its permanent home at a donated one-hectare property located at Barangay Reserva, Baler, Aurora. The first structure constructed was the academic building costing P20M funded by the national government.

The UP Board of Regents (BOR) at its 1266th meeting on 27 January 2011 approved the use of reprogrammed fund of the University in the implementation of Phase 2 of campus development of UP Manila School of Health Sciences Baler, Aurora Extension Campus.

II. Project Description and Location

The project will involve the **Design and Build Scheme Leading to Construction** of the 2-storey Academic Building 2 (Total Lot Area of 715sq.m.), 2-storey Administration Building (Total Floor Area of 600sq.m.) and a 2- storey Birthing Center (Total Floor Area of 285sq.m.) within the UPM School of Health Sciences Baler Extension Campus at Barangay Reserva, Baler, Aurora, as shown in the attached location map *(Annex A)*.

The plans and designs shall be in accordance with the attached University-approved Design Brief and shall have an indicative cost of **Twenty Five Million Pesos (P25M),** including all taxes and applicable government permits, licenses and clearances.

III. CONCEPTUAL DESIGN

The proposed project shall have three (3) buildings. The proposed 2-storey Academic Building 2 shall have a total floor area of 715 square meter, the 2-storey Administration Building which shall have a floor area of 600 square meter and a 2-storey Birthing Center that that will have a floor area of 285 square meter. The Administration Buildings shall house the Director, Faculty, Admin Offices, Pantry and the Supply, while the Academic Building will house the Nursing Skills Lab., multidisciplinary laboratories, library, LRC, and multi-purpose room. The Birthing Center with a floor area of 285 sq.m. shall have reception area, labor and delivery rooms and lodging rooms which shall be compliant to DOH and Philhealth guidelines in terms of location, design and sizing of rooms. All the proposed building design shall also consider provisions of basic components like toilet, hallway, emergency exits and stairs (for 2-storey building). For the full details, refer to the attached Design Brief which shall be an integral part of the Terms.

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 Special Bids and Awards Committee constituted to conduct the procurement of the project.

UP Manila will constitute the Technical Working Group (TWG), to be composed of highly technical personnel in the field of architecture and engineering/construction. The TWG shall prepare the design brief

and performance specifications and parameters, review the detailed engineering design. The TWG shall, likewise assist the Special Bids and Awards Committee in the evaluation of technical proposals, in accordance with the criteria set. The Technical Working Group/CPDMO shall likewise supervise the overall project implementation.

1. Eligibility Requirements

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

1.2 A modified set of requirements integrating the eligibility documents and criteria for infrastructure projects and consulting services shall be adopted, as follows:

1.2.1 Class A Documents (Legal, Technical and Financial Documents) and Class B Documents

i. Relevant statements of all on-going, completed, awarded but not yet started design, design and build related contracts, curriculum vitae of key staff, partners or principal officers; and

ii. Valid licenses issued by the Professional Regulations Commission (PRC) for design professionals.

1.2.2 Eligibility Criteria

i. The eligibility of design and build contractors shall be based on the legal, technical and financial requirements. 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).

ii. 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.

iii. The relevant provisions under Section 23.5.2 of the IRR of RA 9184 on eligibility requirements shall be observed.

2. Submission and Receipt of Bids

2.1 The Technical Proposal shall be comprised of all the required documents for infrastructure projects under Section 25.2 (b) of the IRR of RA 9184 and the following additional documents:

2.1.1 Schematic documents

The schematic documents shall be a take-off from the approved design brief. These 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. Also included in the presentation drawings is the proposed unique structural and construction system for consideration. They shall be submitted on 20" x 30" boards using appropriate scale. The schematic documents shall also include an outline of specifications, illustrating the size and character of the project, and showing the kinds of materials intended to be used, the structural concept and type, the types of mechanical, electrical, sanitary and other utility systems and equipment to be installed, including other items of work that are indicated in the Terms of Reference and Design Brief. They shall be submitted, printed

and ring-bound on A4-sized sheets.

2.1.2 Design and construction methods

Emphasis shall be made on the construction methods that best befit the cost and compressed duration of the project. Prefabricated and/or modular construction systems, with a proven track record and history of past projects, may only be accepted after passing a thorough evaluation.

2.1.3 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:

i. Cost-saving (can be measured by a per square meter average figure) than conventional construction methods
ii. Time-saving in design and construction duration (can be measured by an initial proposed PERT-CPM of the PROJECT) due to the expertise and past experiences with the proposed method
iii. Operational efficiency (consider green building design, take advantage of natural lighting and ventilation in some areas, use of efficient toilet, and environment friendly material).

2.1.4 List of design and construction personnel, to be assigned to the contract to be bid, with their complete qualifications and experience

FOR DESIGN PERSONNEL

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

i. DESIGN ARCHITECT

The Design Architect must be duly-licensed with at least ten (10) years experience in the design of residential, academic or institutional facilities, and shall preferably be knowledgeable in the application of rapid construction technologies.

ii STRUCTURAL ENGINEER

The Structural Engineer must be a duly-licensed Civil Engineer with at least ten (10) years experience in structural design and shall preferably be knowledgeable in the application of rapid construction technologies.

iii. ELECTRICAL ENGINEER

The Electrical Engineer must be a registered Professional Electrical Engineer with at least five (5) years experience in the design of lighting, power distribution, communication systems (specifically structured and local area network cabling, PABX), building management systems and preferably knowledgeable in developments in emergent efficient lighting technologies and energy management.

iv. MECHANICAL ENGINEER

The Mechanical Engineer must be a Professional Mechanical Engineer with at least five (5) years experience in HVAC and fire protection systems and preferably

knowledgeable in emergent, alternative energy-efficient HVAC technologies.

v. SANITARY ENGINEER

The Sanitary Engineer must be duly-licensed with at least five (5) years 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 these Terms of Reference, for the PROJECT. Prospective bidders shall attach each individual's resume and PRC license of the (professional) staff.

FOR CONSTRUCTION PERSONNEL

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

i. PROJECT MANAGER

The Project Manager shall be a licensed architect or engineer with at least (10) 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.

ii. PROJECT ENGINEER/ARCHITECT

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

iii. MATERIALS ENGINEER

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

iv. ELECTRICAL ENGINEER

The Electrical Engineer must be duly-licensed with at least five (5) years experience in similar and comparable projects in the installation of lighting, power distribution, communication systems (specifically structured and local area network cabling, PABX), building management systems.

v. MECHANICAL ENGINEER

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

vi. SANITARY ENGINEER

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

vii. FOREMAN

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

viii. 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 hr 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.

2.2 THE FINANCIAL PROPOSAL

The Financial Proposal, shall be comprised of all the required documents for infrastructure projects under Section 25.3 (b) of the IRR of RA 9184

2.2.1 Lump sum bid prices which shall include the detailed engineering cost in the Bill of Quantities in the prescribed Bid Form, not to exceed **PhP 25,000,000.00 (Twenty Five Million Pesos).**

2.2.2 Detailed estimates including a summary sheet indicating the unit prices of construction materials, labor rates, testing and equipment rentals in coming up with the bid; and

2.2.3 Cash flow by the quarter and payments schedule.

IMPORTANT: *Please refer to the Instructions to Bidders to be issued by the SBAC for more detailed instructions regarding the bidding process, requirements and schedule.*

2.3 BID EVALUATION

For the detailed evaluation of the design and build proposals a two-step procedure shall be adopted by the BAC, which may be undertaken with the assistance of the Design and Build Contractor. Refer to RA9184 Annex G Sec. 11

V. SCOPE OF WORKS AND PROJECT IMPLEMENTATION

1. DESIGN

The University of the Philippines Manila, through the Campus Planning, Development and Maintenance Office (CPDMO), shall provide the design brief in terms of architectural schematic plans, elevations and sections, as well as a conceptual site development plan. In compliance with the design brief and this Terms of Reference, the DESIGN AND BUILD CONTRACTOR shall:

1.1 Provide geotechnical/soil investigation report which will serve as basis for the actual sizing of the column and foundation of the building.

1.2 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.

1.3 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.

1.4 Prepare the scope of work for construction based on the prepared bill of quantities and cost estimates while fitting within the approved budget.

1.5 Provide value engineering analysis on all prepared construction documents.

1.6 Coordinate with all offices and agencies concerned, within and outside the University regarding utility connections, permits and other requirements needed.

1.7 Periodically coordinate and present the status of the design phase to the CLIENT and CPDMO.

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 OVCPD of the drawings, designs and bill of estimates as recommended by the Technical Working Group (TWG) and upon accomplishing all necessary PRE-CONSTRUCTION tasks.

2. CONSTRUCTION

2.1 PRE-CONSTRUCTION PHASE

2.1.1 Secure all necessary building permits prior to construction. All incidental fees shall be included in the cost estimate of the building.

2.1.2 Preparation of the PERT-CPM of the construction phase.

2.1.3 Provide all other necessary documents that shall be required by CPDMO.

2.2 CONSTRUCTION PHASE

2.2.1 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.

2.2.2 Provide soil filling, grading and other soil protection measures of the building and other elements of the site, in response to the results of soil and materials testing.

2.2.3 Construct the buildings and other necessary structures, complete with utilities and finishes, resulting in operable and usable structures.

2.2.4 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.

2.2.5 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.

2.2.6 Preparation of shop-drawings for approval.

2.2.7 Coordinate with the CPDMO regarding scheduling of delivery and installation of all owner-furnished materials and equipment during construction.

2.2.8 Conduct all necessary tests (to be required by *CPDMO*) and issue reports of results.

2.2.9 Rectification of punch-listing works to be inspected and issued by CPDMO and/or the End-user.

2.2.10 Provide all other necessary documents that shall be required by CPDMO.

2.3 POST-CONSTRUCTION PHASE

2.3.1 Preparation of as-built plans

2.3.2 Turn-over of all manuals, certificates and warrantees of installed items.

VI. 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 **240 calendar days** (eight months) from the date of the issuance of the Notice to Proceed (NTP): sixty (60) calendar days for the Design Phase and one hundred eighty (180) calendar days for the Construction Phase.

VII. THE IMPLEMENTING AGENCY'S GENERAL RESPONSIBILITY

The implementing agency for the project is the Campus Planning, Development and Maintenance Office (CPDMO), with final approval for all decisions and actions from the Office of the Chancellor through the Office of the Vice Chancellor for Planning and Development. The CPDMO shall:

1. Prepare the design brief for the project in accordance with University policies, existing codes and standards, the traditions of the University of the Philippines and the conditions and design criteria enumerated in the Terms of Reference.

2. Coordinate with DESIGN & BUILD CONTRACTOR, and the Dean of SHS with regards to the design and implementation of the project.

3. Assist in the coordination of the DESIGN & BUILD CONTRACTOR with various utility agencies during the detailed design and implementation phases of the project.

4. Conducts regular coordination meetings between the DESIGN & BUILD CONTRACTOR and the end-user to facilitate the implementation of the project.

VIII. THE DESIGN & BUILD CONTRACTOR'S GENERAL RESPONSIBILITY

1. 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.

2. 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.

3. The DESIGN & BUILD CONTRACTOR shall provide the University with complete reports such as technical analysis, maps and details regarding the existing conditions and proposed improvements within the site.

4. The DESIGN & BUILD CONTRACTOR shall consider the academic calendar and critical dates and occasions within the University, in order to align his work schedule with critical academic and University activities, in order to avoid the disruption of such activities due to construction activities such as closure of water and power supply and non-usage of the existing roads.

5. The DESIGN & BUILD CONTRACTOR shall inform the University of critical times during construction, especially in cases where the normal course of activities of the University shall be affected.

6. 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 Baler Campus Building phase 2 project.

7. 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.

8. 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.

9. Only the plans approved by the University shall be signed and sealed by the DESIGN & BUILD CONTRACTOR, and thereafter shall be the plans used for construction.

10. All works designed and constructed should be guaranteed to seamlessly fit into the overall system of the UP Manila-SHS Baler Campus.

IX. 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:

1. 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 CPDMO may require for the periodic update concerning the status of the design phase.

2. 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, warrantees 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 CPDMO

X. CODES AND STANDARDS

The project shall be designed, engineered, installed, tested, commissioned and handed over in conformity with the general policies of the University of the Philippines 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.

XI. INSTALLATION AND WORKMANSHIP

1. 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.

2. All work to be subcontracted shall be declared by the DESIGN & BUILD CONTRACTOR and shall be approved by the University and its respective technical offices. 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.

3. 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.

XII. MATERIALS

1. 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.

2. 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 complete 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.

3. Materials and systems for structured cabling shall be in accordance with standards set by the U.P. IMS.

4. All materials shall be in conformance with the latest standards and with inspection and approval from CPDMO.

XIII. MODE OF PAYMENT

1. The University shall pay the winning DESIGN & BUILD CONTRACTOR progress payments based on billings for actual works accomplished, as certified by CPDMO of the University. 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.

2. 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.

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

4. First Payment/Billing shall have an accomplishment of at least 20%.

5. The following documents must be submitted to the CPDMO/OVCPD before processing of payments to the DESIGN & BUILD CONTRACTOR can be made:

   Progress Billing
   -Request for payment by the DESIGN & BUILD CONTRACTOR
   -Pictures/photographs of original site conditions (for First Billing only)
   -Pictures/photographs of work accomplished
   -Payment of utilities (power and water consumption)
   -DESIGN & BUILD CONTRACTOR's affidavit (if accomplishment is more than 60%)

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

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