



TERMS OF REFERENCE

PROJECT NAME: REPAIR OF ICT BUILDING WITH EQUIPMENT AND FIXTURES AT DINALUPIHAN CAMPUS

LOCATION: BPSU, DINALUPIHAN CAMPUS, DINALUPIHAN BATAAN

I. BACKGROUND

The Repair of ICT Building with Equipment and Fixtures at Dinalupihan Campus which will provide learning facilities and to address the lack of conducive classrooms for the increasing number of students. The proposed building will accommodate a number of employees and students which contain lecture room, computer laboratories, Observer Rooms and Toilet Facilities.

II. PROJECT DESCRIPTION

Project Name: **Repair of ICT Building with Equipment and Fixtures**

Location: **BPSU Dinalupihan Campus, Dinalupihan Bataan**

ABC: **Php.8,000,000.00**

Infrastructure: 3,000,000.00

Furniture and Fixtures: 2,000,000.00

Laboratory Equipment: 3,000,000.00

III. GENERAL SCOPE OF WORKS:

- A. The project covers **the Repair of ICT Building with Equipment and Fixtures** with approximate total floor area of 548.19 sq.m.

| DIVISION | SCOPE | SPECIFICATION |
|----------------------|---------------|--|
| General Requirements | Scope of Work | The work covered under this Contract consists of the furnishing all materials, labor, equipment, transportation, incidentals, facilities, and superintendence necessary to complete the project. The Contractor is expected and required to attend the important phases of the bidding process of the said project. All concerns and questions shall be discussed on the Pre-Bid Phase. |



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| Plans and Specification | <p>The Contractor shall be responsible for carefully examining, comparing and verifying the data furnished by the Plans and specifications, the Contractor shall submit the matter to the Architect or his authorized representative for the proper explanation or necessary correction, before any adjustment shall be made. Any adjustment by the Contractor without such determination shall be at his risk and expense.</p> <p>Omitted or wrongly described details of work, which are manifestly necessary to carry out the true intent of the drawings and specifications, shall be performed as if fully and correctly set forth and described in the drawings and specifications.</p> <p>The procuring entity may, from time to time, make changes in the specifications and construction drawings. However, if the cost to the Contractor shall be materially increased by such change, the Procuring Entity shall pay the Contractor for the reasonable cost in accordance with the changes.</p> |
| Laws to be Observed | <p>The contractor shall comply with the laws, City or Municipal Ordinances and all government specifications and regulations in so far as they are binding upon or affecting the portion the work hereto. The Contractor or those engaged thereon shall obtain all necessary licenses and permits and pay all taxes or fees, which may due to the local and/or National Government in connection with the prosecution of the work. He shall also be responsible for all damages to persons or property that may occur.</p> |
| Materials A. Samples and Information on Materials | <p>Unless otherwise specified, all materials shall be new and free from defects and imperfection. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall be performed in the best and acceptable manner in strict accordance with the requirements of the Plans and Specifications. Preference will be given to articles or materials that are locally manufactured, conditions of quality and price being equal.</p> <p>When called for by the Architect, the Contractor shall furnish, for approval, full information and satisfactory evidence as to the kind and quality of materials or articles he will incorporate in the work. The contractor shall furnish, for Architect's approval, all samples when so directed.</p> |



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| | <p>The work shall be in accordance with approved samples. Materials and articles installed or used without such approval shall be at the risk of subsequent rejection. Any failure on the part of the Contractor to conform use materials that are not specified herein shall be under subsequent rejection, unless subject for approval.</p> <p>Any alteration or revision of material usage without approval from the Architect shall make the Contractor responsible and liable in terms of guarantee, workmanship and defects.</p> |
| Workmanship | <p>Workmanship shall be in accordance with the best standard practices and all operations required under any and all parts of the Specification shall be undertaken in a neat, workman-like manner. Only skilled personnel with sufficient experience in similar operations shall be allowed to undertake the same. Any alteration or revision on the execution of drawings without approval from the Architect shall be under subsequent rejection and shall make the Contractor responsible and liable for any workmanship and execution defects.</p> <p>Defective workmanship shall be remedied by the Contractor, at his expense. He shall not be entitled to any payment hereunder until defective workmanship has been remedied.</p> |
| A. Temporary Facilities | <p>The Contractor shall provide and maintain adequate weather-tight facilities with water, light, and toilet facilities. He shall keep such places clean and free from flies. He shall remove all connections and appliances connected there with prior to the completion of the Contract and leave the premises perfectly clean.</p> <p>The Contractor shall furnish all temporary water, lights and power and shall pay all expenses in connection therewith. Furthermore, the Contractor shall provide and pay for all water expenses for building purposes that are required by all trades.</p> |
| B. Protection of Work and Procuring Entity's Property | <p>The Contractor shall put up safety measures and continuously maintain adequate protection of all his work from damage and shall protect the Procuring Entity's property, as well as all materials furnished and delivered to him by the Entity. He shall make good any such damage, injury or loss, expect such as may be caused by agents or employees of the</p> |



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| | | Procuring Entity, or due to causes considered as an Act of God. |
| | Supervision and Inspection A. Authorized Representative B. Inspection of Work C. Constant Supervision D. Disputes E. Clean Up | <p>Whenever the Contractor is not at the site, orders maybe given by the Procuring Entity to his authorized representative and shall be accepted and complied to by the Site Engineer or foreman of the Contractor.</p> <p>The Architect / BPSU TWG Inspectorate Team shall, at all times have access to the work whenever it is in preparation or progress and the Contractor shall provide facilities for such access for inspection. The manner of work and all materials and equipment used therein shall be subject to inspection, tests, and approval of the Architect / TWG Inspectorate Team.</p> <p>The Contractor shall ensure that the project will have constant supervision by a competent superintendent, who shall be present where construction is being carried on at all times during the working hours.</p> <p>The Technical Working Group for Infrastructure shall, within a reasonable time, make decision on all claims of the Procuring Entity or Contractor and on all matters relating to the execution and progress of the work or the interpretation of the Contract Documents.</p> <p>Except as otherwise specifically provided in this contract, all disputes concerning questions of fact arising under this contract shall be decided by the Technical Working Group for Infrastructure, whose decisions shall be final and conclusive upon parties as to question of fact.</p> <p>The Contractor, prior to the turnover of the work to the Procuring Entity, shall remove any excess materials, waste, debris, rubbish, and all construction and installation equipment and tools from the premises.</p> |
| Site Work | Security Fences | The Contractor shall enclose the site he possessed by a security fence with gate. See-through security fence shall not be allowed. |
| | Slab and Floor Framing | Reinforced Concrete; with the necessary reinforcing steel bars as indicated in the structural plan and as designed by the structural engineer. Waterproofing shall be applied. |



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| Masonry Works | Walls | 5" Concrete Hollow Blocks (CHB) with concrete mix in the hollow core and with reinforcing bars as indicated in the plan unless other specified. Plain Cement Plastered finished on both side unless other specified. |
| Metal Works | Miscellaneous Metal Fabrication A. Railings | 2" x 6" and 1" x 1" square tube (see plans for dimensions) |
| Doors and Windows | Doors A. Lecture Room, Laboratories and Observer Room B. Lecture Room, Laboratories and Observer Room Exit Door and Toilet Facility C. Toilet Cubicle | - HDF Steel Door with side Tempered glass with lockset and door knob - HDF Steel Door with lockset and door knob - upvc Door with lockset and door knob |
| | Windows | Unplasticized Polyvinyl Carbon (uPVC) windows |
| Finishes | Portland Cement Plaster | Smooth plaster finish for interior and exterior wall, unless otherwise specified |
| | Accent Wall | Stone Cladding (for Architects approval) |
| | Floor Finish | Existing Tiles will retain except to hallways and Toilet Facility Hallway – Polished Concrete Toilet Facility – 60 x 60 non-skid Ceramic Tile |
| | Painting Works A. Masonry Walls B. Metal Surface | Masonry Neutralizer First Coat: Flat Latex, 10% Acrylic, water based Masonry Putty Second and Final Coat: Semi-gloss Latex Paint Epoxy Primer Gray, finish with two (2) coats Quick Drying Enamel (QDE) |



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| | C. Wood Surface | Epoxy Primer Gray, finish with two (2) coats Quick Drying Enamel (QDE) |
| | Ceiling Finish | shall be metal furring with 4mm thk. Fiber Cement Board |
| Fixtures | Toilet Facility | Toilet and Bathroom Package including accessories (water closet, faucet, lavatory, tissue holder, perineal wash hose/bidet spray) Lavatory – use Semi-Pedestal Sink Urinal Flush Valve – use lever type Water Closet – Use dual Flush type Provide Ceiling Exhaust Fan for every toilet |
| Plumbing System | Plumbing A. Sewage System B. Water Supply System | uPVC Pipes and Fittings by Standard or equivalent PPR Pipes and Fitting |
| Electrical System | Circuit Breakers | Metal Panel Board with 230v Industrial Type circuit breakers as indicated in the plan |
| | Electrical Wires | Manufactured by Phelp Dodge or equivalent and as designed by a Professional Electrical Engineer |
| | Conduits | Moldex rigid pvc conduits |
| | Lights and Bulbs | As designed by the Professional Electrical Engineer, considering illumination in all spaces LED light |
| | Switches and Convenience Outlet | Manufactured by National switches, convenience outlets or equivalent. |

B. With respect to the construction of the buildings and other structures, the design and specifications shall conform to the standards set by:

1. Department of Public Works and Highways (DPWH)
2. National Building Code of the Philippines (NBCP) National Structural Code of the Philippines, 2010
3. Electrical Code of the Philippines
4. Sanitary Code of the Philippines
5. Plumbing Code of the Philippines
6. Accessibility Law
7. Fire Code of the Philippines
8. Environmental Impact Statement as defined by the DENR other Engineering Standards.



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- C. Technical Reports on structural, mechanical, electrical, plumbing and sanitary shall be required before turnover of the project.
- D. A complete set as built plans of architectural, all engineering and structural plans/drawings at appropriate scales indicating all details necessary shall be furnished by the bidder as required in the Bidding Documents.
- E. The winning bidder shall enter into contract with the Bataan Peninsula State University that shall be in the nature of **“Repair of ICT Building with Equipment and Fixtures”**
- F. The winning bidder shall process the *application of building and other permits (including occupancy permit)* then proceed with the construction after the completion of the clearing /demolition works.
- G. Upon Project Completion and Final Acceptance in accordance with the terms and conditions set forth herein, the bidder shall turnover the completed project to the Bataan Peninsula State University for proper disposition.

The Bidder, by submitting his proposal, represents that:

- 1. He has thoroughly read/examined carefully and understand fully all the bid documents, and his proposal will be in accordance therewith.
- 2. His proposal is based upon the conditions and requirements of the bid documents without exemption.
- 3. He has visited and inspected the Site of Works and its surroundings and satisfied himself as to all matters pertaining to the project, including the location and the condition of the terrain, geological condition at site, transportation and communication facilities, the requirement and availability of materials, labor, water, electric power and roads, the location and extent of aggregate sources, and other factors that may affect the cost, duration and execution of the work and that he has determined the general characteristics of the project and the conditions indicated above.
- 4. He has acquainted and familiarized himself with all the conditions, local or otherwise, affecting the carrying out of the contract work and has arrived at an estimate of the facilities available and the facilities needed for the project.
- 5. He is aware that the Bataan Peninsula State University shall not assume any responsibility regarding erroneous interpretations out of any data furnished by the Procuring Entity.
- 6. He has familiarized himself with all laws, decrees, regulations of the Philippines and the Bataan Peninsula State University, which may affect or apply to the operations and activities of the contractors.



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7. He is aware that the construction period of the project shall be **180 days**.

OTHER CONSIDERATIONS:

- a. Fire Exits and Fire Protection System- putting two fire exits on both wing will be necessary and provision for appropriate Fire Fighting System with smoke detectors.
- b. Use of LED lighting and inverter technology on air-conditioning is required.
- c. Proper Lighting of The building including wall lamps and Roof Deck lighting
- d. Landscape Areas, Hard scape and Soft scape.

SUBMITTAL/S: Final Output for Bldg. Permit Requirements;

- a. Architectural plans in ten (10) copies – three (3) white print, and seven (7) blueprints drawn in 20x30 tracing paper in duly signed and sealed by a licensed Architect.
- b. Structural plans in ten (10) copies – three (3) white print, and seven (7) blueprints drawn in 20x30 tracing paper in duly signed and sealed by a licensed Civil Engineer
- c. Plumbing plans in ten (10) copies – three (3) white print, and seven (7) blueprints drawn in 20x30 tracing paper, SCALE: 1:150 plans / seven (7) copies plumbing design analysis in short/long bond paper size duly signed and sealed by a licensed Master Plumber. Other pertinent requirements as required by Building Official.
- d. Electrical plans in ten (10) copies – three (3) white print, and seven (7) blueprints drawn in 20x30 tracing paper, SCALE: 1:150 plans / ten (10) copies voltage drop analysis, short circuit load analysis, computation of illumination in short/long bond paper size duly signed and sealed by a Professional Electrical Engineer. Other pertinent requirements as required by Building Official.
- e. DOLE Requirements for Construction Safety and Health Program (CSHP) signed by a Safety Officer.



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IV. Project Cost Estimates

(INCLUDES THE QUANTITIES AND COST CALCULATIONS)

The bidders shall submit the quantities and cost of the different types of works to be carried out in accordance with DPWH Department Order No. 72 series of 2012 dated October 5, 2012. In particular, the quantities and cost of each work item shall be calculated and a bill of quantities shall be prepared. The bidders shall draw up a unit price analysis for each of the main pay work items. The unit price of each of the main work pay items shall include:

The unit price of each of the main work pay items shall include:

A. Cost of the Preliminary and Detailed Architectural and Engineering Design – Should be in accordance with NEDA guidelines.

a. Equipment Expenses:

a.1. Rental of equipment which shall be based on the prevailing "Associated Construction Equipment Lessors, Inc." (ACEL) rental rates approved for use by the DPWH (Presently it is the 2009 ACEL Rates). Rental rates of equipment not indicated in the ACEL booklet shall be taken from the rental rates prepared by the DPWH Bureau of Equipment. For simplicity in computation, the operated rental rates are preferred over the bare rental rates as the former includes operator's wages, fringe benefits, fuel, oil, lubricants and equipment maintenance. The make, model and capacity of the equipment should be indicated in the detailed unit cost analysis.

a.2. Mobilization and demobilization, shall be treated as a separate pay item. It shall be computed based on the equipment requirements of the project stipulated in the proposal and contract booklet. In no case shall mobilization and demobilization exceed 1% of the Estimated Direct Cost (EDC) of the civil works items.



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2. The Indirect Cost shall consist of the following:
 - a. Overhead Expenses - ranges from 5 - 8% of the EDC, which includes the following:
 - a.1. Engineering and Administrative Supervision.
 - a.2. Transportation allowances.
 - a.3. Office Expenses, e.g., for office equipment and supplies, power and water consumption, communication and maintenance.
 - a.4. Premium on Contractor's All Risk Insurance (CARI).
 - a.5. Financing Cost.
 - Premium on Bid Security
 - Premium on Performance Security
 - Premium on Surety for Advance Payment
 - Premium on Warranty Bond (one year)
 - b. Contingencies - ranges from 0.5 - 3% of the EDC. These include expenses for meetings, coordination with other stakeholders, billboards (excluding Project Billboard which is a pay item under the General requirements), stages during ground breaking & inauguration ceremonies and other unforeseen events
 - c. Miscellaneous Expenses - ranges from 0.5 - 1% of the EDC. These include laboratory tests for quality control and plan preparation.
 - d. Contractor's Profit Margin – shall be 8% of EDC: for projects above Php5Million and 10% for projects Php5Million and below
 - e. VAT Component - shall be 12% of the sum of the EDC, OCM and Profit.
The following items shall not be subjected to OCM and Profit mark-up:
 - e.1. Mobilization and demobilization
 - e.2. Provision of Service Vehicle



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f. The following non-civil works items shall not be subjected to OCM mark-up:

- f.1. Field/Laboratory Office & Living Quarters (Rental Basis)
- f.2. Furnishing, Laboratory Equipment, Survey Equipment and Consumables
- f.3. Assistance to the Engineers
- f.4. Photographs B.7.5 Health and Safety B.7.6 Traffic Management
- f.5. Environmental Compliance
- f.6. Communication Equipment, etc.

I. CONSTRUCTION PHASE - CONSIDERATIONS

A. Permits and Clearance

The bidders shall defray and all expenses necessary and incidental for the Repair of ICT Building with Equipment and Fixtures be able to secure the Environmental Clearance Certificate (ECC), including the corresponding Tree Cutting Permit (if any tree needs to be cut from the concerned government agencies, if necessary). The contractor shall, upon authorization of the Municipal Government, make representations with the government agencies concerned to expedite the release of the same. Obtain and pay the corresponding fees for all necessary approvals, permits and certificates such as the following:

- 1. Building Permit
- 2. Certificate of Completion of the Building c. Occupancy Permit
- 3. All other permits as may be required for the construction

B. Temporary Structures & Facilities

The contractor shall provide and maintain the following:

- 1. Temporary office and/or quarters for the contractor's project team personnel with water, light, telephone and toilet facilities.
- 2. Temporary bunkhouse/quarters for the contractor's workforce complete with toilet and bath facilities.



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C. Mobilization

The contractor shall mobilize all the required project team personnel, equipment, tools and manpower with the required skills and insufficient number as may be necessary for his efficient undertaking of the project.

D. Construction Proper

The contractor shall prosecute all the works under the contract in strict accord with standard engineering methodology and procedures and shall be responsible for maintaining cleanliness and orderliness in the project area throughout the duration of the contract.

E. Electrification

The contractor shall pay to the local power utility the cost of providing the additional electrical distribution facilities for the project.

F. Material Testing

All material testing shall be conducted by the accredited testing laboratories.

G. As-built plans

The contractor shall cause the preparation and submission of as-built plans duly signed and sealed by all concerned parties involved in the construction in the same sheet size and scale as the original drawings in two (2) white print copy and one (1) reproducible copy.



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H. Other considerations:

1. Project Staffing:
 - a. Design Group
 - a.1. Licensed Structural Engineer
 - a.2. Licensed Master Plumber
 - a.3. Professional Mechanical Engineer
 - a.4. Professional Electrical Engineer
 - a.5. Professional Electronics Engineer
 - a.6. Sanitary Engineer
 - b. Construction Group
 - b.1. Project Manager
 - b.2. Project Engineer
 - b.3. Material Engineer
 - b.4. Foreman
 - b.5. Safety Officer
 - b.6. First Aider

Prepared by:

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