



**Design and Construction of the
CENTER FOR ADVANCEMENT
OF RESEARCH IN MINDANAO
(PHASE 2)**

UP Mindanao Campus, Mintal,
Tugbok District, Davao City

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PROJECT MANUAL
Volume 2

TERMS OF REFERENCE
- Design and Build -

Campus Planning and Development Office
OFFICE OF THE CHANCELLOR
UNIVERSITY OF THE PHILIPPINES MINDANAO

PROJECT MANUAL VOLUME 2

TERMS OF REFERENCE

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Read and accepted as part of the Contract:

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PART I GENERAL PROJECT INFORMATION

1.0 PROJECT DESCRIPTION

1.1 Project Title:

Design and Construction of the Center for Advancement of Research in Mindanao (Phase 2)

1.2 General Description

The project shall cover the **design and construction** of the Center for Advancement of Research in Mindanao (Phase 2). The project site of **13,646.00 square meters** along the Maguindanaoan Road is within the Academic 2/Academic Support Zone of the Proposed UP Mindanao Campus Land Use Plan of 2016.

The plans and designs shall be in accordance with the UP-approved Schematic Design Plans and the General Site Development and Building Design Specifications as prescribed in this Terms of Reference (TOR). The project has an Approved Budget for the Contract (ABC) of **Thirty Three Million Four Hundred Nine Thousand Ninety Pesos and Ninety One Centavos (Php 33,409,090.91)**.

The site shall be developed to accommodate the required standard requirements of an **educational research facility of two (2) stories** as prescribed by the National Building Code of the Philippines and other generally-accepted design standards for such facility.

The project subject of this TOR is the design and construction of the Center for Advancement of Research in Mindanao (Phase 2). **In particular, the design scope will cover a total of 5,408 sq.m. in area while the construction scope will include only 1,065 sq.m. of the designed structure.** The design shall then consider the phasing of construction as approved by the University.

Funding has been provided by the Government of the Philippine (GOP) through the Fiscal Year 2015 General Appropriation Act (FY 2015 GAA).

1.3 Project Components

The project includes the following basic components:

- (a) Completed Architectural and Engineering (A&E) Plans and Designs for the **Center for Advancement of Research in Mindanao (Phase 2)**, including Site and Landscape Development, Buildings, Structures and Facilities.

Such plans, designs and specifications shall be subject to review and approval by the University. The Design Development (DD) and the Contract Documents (CD) phases of the design shall continue after the bid is awarded. It shall likewise be subject to review and approval by the University.

- (b) Construction of the Center for Advancement of Research in Mindanao (Phase 2) at Mindanao Campus Site Development, Buildings, Structures and Facilities.

The bid shall be based on schematic development plans by the Campus Planning and Development Office (CPDO) which are pre-approved by the University.

- (c) Aside from the A&E professional design fees, other incidental expenses that is also to the account of the winning bidder shall include the geodetic survey of the project lot, soil bearing and geotechnical tests and other required geologic and geomorphologic tests, and other design and construction requirements.

- (d) Compliance with all applicable permits/licensing and documentary requirements.

2.0 BACKGROUND

2.1 Legal Basis

In 2006, initial plans were crafted to expand the Office of Research into the "Coordinating Arm for Research in Mindanao" (CARIM), which was envisioned to take the lead in novel research along its research agenda, in particular prioritized issues in Mindanao (i.e. biodiversity, cultural diversity, and policy issues). CARIM was later renamed the "Center for the Advancement of Research in Mindanao." CARIM will coordinate the various knowledge-generation and dissemination activities in the colleges and network with various research institutions within Mindanao and across the country and around the world.

The CARIM building will be designed in line with the Green UP initiative, with an interior courtyard and gardens and surrounding gardens, rainwater catchment/ harvesting facility, passive cooling systems to lessen reliance on air-conditioning, and future plans for the installation of solar panels to produce green energy for the needs of CARIM facilities and surrounding buildings.

Sec. 22 (*Land Grants and Other Real Properties of the University*) of Republic Act No. 9500, "An Act to Strengthen the University of the Philippines as the National University", signed into law on 29 April 2008, provides that the UP Land Grants, or "parcels of land ceded by law, decree or presidential issuance to the University of the Philippines are...declared to be reserved for the purposes intended." RA 9500 confirms "the absolute ownership of the national university over these landholdings, including those covered by original and transfer certificates of title in the name of the University of the Philippines and their future derivatives..." Sec. 22 states that: "The Board may plan, design, approve and/or cause the implementation of land leases: *Provided*, That such mechanisms and arrangements shall sustain and protect the environment in accordance with law, and be exclusive of the academic core zone of the campuses of the University of the Philippines: *Provided, further*, That such mechanisms and arrangements shall not conflict with the academic mission of the national university." Sec. 23 (*Safeguards on Assets Disposition*) provides that "the preservation of the value of the assets of the national university shall be of primordial consideration," and that "the sale of any existing real property of the national university shall be prohibited: *provided*, that the Board may alienate real property donated after the effectivity of [RA 9500] if the terms of the donation specifically allow it."

3.0 PROCUREMENT OVERVIEW

- 3.1 The procurement of this project will be conducted through open and competitive bidding in adherence to the declared policies of Republic Act (RA) 9184, Section 2, Implementing Rules and Regulations (IRR-A).
- 3.2 Eligibility requirements shall be subject to Section 23 and Section 24, Rule VIII, RA 9184 and in compliance with the requirements enumerated under the Instruction to Bidders (ITB) and in the forms prescribed by the Government Procurement Policy Board (GPPB) for this type of procurement.
- 3.3 The determination of award to the winning bidder shall be subject to compliance with the minimum qualification requirements for this contract and through a series of pre-determined evaluation processes and procedures as enumerated under this Terms of Reference (TOR) and in accordance with the provisions of RA 9184 and other pertinent laws, circulars and orders.
- 3.4 UP shall accept the bid proposal determined to be most advantageous to the University and consider award of the contract on a best value for money basis.
- 3.5 UP reserves the right to accept or reject any bid, to annul the bidding process, and to reject all bids at any time prior to contract award without thereby incurring any liability to the affected party(ies).

4.0 PROCUREMENT MODE

- 4.1 The Design and Build scheme of procurement was recommended, endorsed and adopted pursuant to the guidelines provided in Annex "G" – *Guidelines for the Procurement and Implementation of Contracts for Design and Build Infrastructure Projects* of the IRR of RA 9184.

5.0 PROCUREMENT OBJECTIVES

- 5.1 To prepare complete A&E Plans and related studies/investigations that consider the following:
- (a) Optimal benefits for all stakeholders, which include the procuring entity, the direct users and the UP community.
 - (b) Market, financial and economic viability balanced with social responsibility.
 - (c) Conformity to relevant laws, design standards and legal procedures.
- 5.2 To build an educational research facility that factors in the following principles:
- (a) Comprehensive A&E concepts including:
 - i. Sustainable building and green architecture and engineering concepts;
 - ii. Safe building and resilient design concepts in response to climate change;
 - iii. Natural ventilation and thermal comfort concepts;
 - iv. Energy savings concepts through day lighting, electric lighting, and power consumption monitoring;
 - v. Water use efficiency concepts;
 - vi. Expansibility and flexibility concepts;
 - vii. Environmental health concepts;

- viii. Culture sensitivity concepts; and
 - ix. Other applicable concepts.
- (b) Site development and building design adaptability and flexibility to organizational, community and technological changes.
- 5.3 To implement a turnover procedure in accordance with Part VIII Project Acceptance and Turnover.

6.0 GENERAL SCOPE OF WORK

6.1 Design Phase

- (a) Geodetic Survey
- (b) Soil Foundation Investigation
- (c) Architectural & Engineering (A&E) Design Development Plans, Elevations and Sections
- (d) Detailed Architectural Designs and Plans
- (e) Detailed Architectural Interior Designs and Plans with Sample Boards
- (f) Detailed Furnishing Plans
- (g) Detailed Site/Civil Landscape Architectural Designs and Plans
- (h) Detailed Site and Building Engineering Designs and Plans:
 - a. Structural
 - b. Sanitary/Plumbing
 - c. Electrical
 - d. Electrical Auxiliaries (i.e. Internet Cabling/Fiber Optics Cabling, Public Address Systems)
 - e. Mechanical Ventilation
- (i) Detailed Estimates, Bill of Quantities
- (j) Scope of Works and Technical Specifications
- (k) Proposed Design and Construction Schedule
- (l) Health and Safety Program for the Construction Phase

6.2 Construction Phase

- (a) General Requirements:
 - a. Permit to Construct
 - b. Permits (Building Permit, Electrical Permit, Sanitary Permit, Mechanical Permit, Zoning Permit, Fire Safety Permit, etc.)
 - c. Project Billboard
- (b) Temporary Facilities and Facilities for the Engineer
- (c) Earth Works
- (d) Structural Works
- (e) Architectural Works
- (f) Site and Landscape Architectural Works
- (g) Sanitary/Plumbing Works
- (h) Electrical Works
- (i) Electrical Auxiliaries Works
- (j) Mechanical Works: Ventilation Systems
- (k) Architectural Interior Design Works

7.0 APPROVED BUDGET AND PROJECT DURATION

- 7.1 The Approved Budget for the Contract (ABC) is **Thirty Three Million Four Hundred Nine Thousand Ninety Pesos and Ninety One Centavos (Php 33,409,090.91)**.
- 7.2 The Approved Period for the design and construction is **Four Hundred Eighty (480) calendar days** starting seven (7) calendar days from the receipt by the Contractor of the Notice to Proceed.

END OF PART I

Read and accepted as part of the Contract:

Bidder/Contractor

PART II DETAILED PROJECT REFERENCE

1.0 ELIGIBILITY AND QUALIFICATION PROCESS

- 1.1 All submittals and attendances required for this bidding and enumerated in the Invitation to Bid must be strictly complied with, without exemption to the place, date and time unless otherwise modified with proper notification thru Bid Bulletin by UP. The eligibility requirements and qualification process shall be in accordance with the provisions of Annex "G" of the IRR of RA 9184.
- (a) The eligibility requirements shall be in accordance with the provisions of Section 24.1 and Section 23.1 of the IRR of RA 9184 for the design phase and construction phase, respectively.
 - (b) The eligibility criteria shall be in accordance with the Section 24.3 and Section 23.5.2 of the IRR of RA 9184 for the design phase and construction phase, respectively.

2.0 CONCEPTUAL DESIGNS

The proponent/bidder shall abide by these criteria and parameters for the Design of the New Building for the Center for Advancement of Research in Mindanao (Phase 2) at UP Mindanao Campus.

2.1 CLASSIFICATION

- (a) Ownership : University of the Philippines Mindanao
- (b) Type : Educational Research Facility

2.2 MAIN REQUIREMENTS

The proponent/bidder shall consider in their proposal the following space program requirements for the new building. (See Section 00600. Drawings in Project Manual Volume 1)

- (a) Educational/research areas:
 - (i) Research Support Facilities
 - (ii) Video Conference Rooms
 - (iii) Multi-purpose Rooms
 - (iv) Training Room
 - (v) Building Support Utility
 - Electrical Room
 - Mechanical Room
 - Utility Room
 - (vi) Restrooms
- (b) Parking
 - (vii) Provision for at least two (2) parking spaces for the disabled
 - (viii) Provision for more parking spaces on-site compliant with NBC requirements

- (c) Others
 - (i) Covered Walkways/Corridors
 - (ii) Landscaped Courtyards
 - (iii) Exhaust Ventilation and Air Conditioning System

2.3 OTHER SERVICES

- (a) Room Identification and Wayfinding System
- (b) Power Supply System
- (c) Potable Water Supply, Sanitary System
- (d) Stormwater (Grey Water) Retention and Use System
- (e) Communication and Information Technology System (e.g. Wi-Fi connectivity, Electronic access with intercom system, Internet/Fiber Optics Cabling, Campus ISP, etc.)
- (f) Fire Sprinkler System
- (g) Waste Management System

2.4 FUTURE SITE EXPANSION

The proposed Center for Advancement of Research in Mindanao (Phase 2) shall be so planned and designed as to anticipate both vertical and horizontal expansion of the research facility, including the addition of a second research laboratory building and an auditorium facility within the 13,646 square meter site.

2.5 OTHER PHYSICAL ELEMENTS

The proponent/bidder shall consider in their proposal the following supplemental physical requirements:

- (a) Security
 - (i) Non-permanent Perimeter Fencing/Protective Barriers
 - (ii) CCTV Security systems
- (b) Vehicular and Pedestrian Access System
 - (i) Entrance and Exit Access (Stairs, ramps, and the like)
 - (ii) Parking Spaces, loading area below the Main Floor
- (c) Universal Design Access Systems
 - (i) Ramps
 - (ii) Visual alarms and strobe lighting
 - (iii) Signage standards for hearing and visually impaired

2.6 SITE DEVELOPMENT PLAN

- (a) Site components shall consist of buildings, driveways, ample parking, green areas and other landscape elements.
- (b) The proponent/bidder shall fit in the above mentioned services (Items 2.1 to 2.5) in the Site Development Plan taking into consideration the functional design requirements and

relationships with other buildings and services in the University of the Philippines Mindanao Campus.

- (c) Lot Occupancy, Building Shape and Orientation:
 - (i) Building to block ratio shall be planned so as to allow for efficient traffic circulation between buildings and to provide adequate ventilation.
 - (ii) The buildings shall be oriented along the east-west axis to maximize natural ventilation and day lighting.
 - (iii) Minimum building setbacks shall be as specified in the recommended drawings and plans provided by the Campus Planning and Development Office (CPDO).
 - (iv) Building shape shall be in accordance with **Section 00600. Drawings** or as recommended by drawings provided by the CPDO.

- (d) Circulation
 - (i) Minimum number of entry points and total width shall follow the NBC and Fire Code provisions.
 - (ii) Detailed designs shall provide for pedestrian and vehicular traffic for the projected user population. Circulation and parking areas shall be provided in relation to the nearby surrounding buildings and developments.
 - (iii) The circulation system shall designate emergency routes.

3.0 ARCHITECTURAL AND ENGINEERING DESIGN PARAMETERS

3.1 GENERAL A&E DESIGN PARAMETERS

- (a) Use of Appropriate Building Design and Technology
 - (i) The architectural character of the building should appropriately project the image of a low-rise educational research development or structure belonging to Group C under the National Building Code of the Philippines, and all its services.
 - (ii) Building form shall be adapted to tropical climate conditions and the functional requirements of an educational research building.
 - (iii) Detailed design of interior spaces should accommodate the building program requirements.
 - (iv) Building systems shall adopt energy-efficient and user-friendly technologies. Day lighting shall be interfaced with energy-efficient electric lighting. Passive cooling and thermal comfort systems and monitoring of power consumption shall be incorporated.
 - (v) Building envelope, materials and finishes shall be specified in accordance with green building principles. Use of renewable and recyclable materials should be maximized.

- (b) Compliance with Relevant Laws and Design Standards
 - (i) PD 1096 or National Building Code of the Philippines and its Latest and Amended IRR
 - (ii) BP 344 or Accessibility Law and its Latest and Amended IRR
 - (iii) RA 9514 or Fire Code of the Philippines and its Latest and Amended IRR
 - (iv) Laws concerning senior citizens
 - (v) National Structural Code of the Philippines (NSCP) 2010
 - (vi) National Plumbing Code of the Philippines (NPCP)

- (vii) Sanitation Code of the Philippines
 - (viii) Mechanical Engineering Code of the Philippines
 - (ix) Philippine Electrical Code
 - (x) National Electrical Code
 - (xi) ISO 9001 certification
- (c) Incorporation of Waste Management Systems
- (i) All liquid waste and sewage shall be treated and free from harmful elements prior to their disposal to the waste disposal system.
 - (ii) Hazardous and toxic waste shall be treated before entering the public sewer.

3.2 GENERAL PERFORMANCE SPECIFICATIONS

Unless otherwise specifically specified by UP, the architectural/engineering designs should conform to the specifications set by the functional requirements of the [Center for Advancement of Research in Mindanao \(Phase 2\)](#).

- a. Adjacencies and Space Inter-relation
Spatial disposition shall be based on rational zoning that considers related and complementary uses.
- b. Design Standards
- (i) Have a thorough understanding of the policies of the University of the Philippines.
 - (ii) Be familiar with the campus development of UP Mindanao, as well as the context of the proposed [Center for Advancement of Research in Mindanao \(Phase 2\)](#) at Mindanao Campus in relation to the rest of the campus.
 - (iii) Have field verified the topographic survey and other site investigation procedures.
 - (iv) Have studied the layout and site development plans of existing buildings to align the development of the proposed building and its site within its environs.
 - (v) Identify the architectural features and academic character of the surrounding structures.
 - (vi) Identify the location of critical areas and portions of utility systems within and around existing buildings, including the outflow direction of sanitary lines, septic tanks, building water meter and water supply lines, power supply service entrances, cisterns and other utility lines.
 - (vii) Have studied the flow of people, vehicles and activity within and proximate to the project site to allow for the provision of sidewalks, lighting systems, directional signs and traffic signs, to effectively design an efficient vehicular and pedestrian circulation route.
 - (viii) Identify the presence of vegetation that may be affected during and after the development of the site and the proposed buildings.
 - (ix) Common or public spaces shall follow general design criteria that would allow ease of egress in times of emergency.
 - (x) Ceiling heights should allow ductwork and plumb utilities to run below the largest structural elements (beams). Slab to slab heights should be reviewed in relation to the expected structural supports and other building elements.
 - (xi) Provide and install required signage for proper fire escape and identification of private spaces from public spaces.

- (xii) Enclosures (fences)/ Lot perimeters
 - (xiii) Provisions for special needs
 - (xiv) Consider views and vistas
 - (xv) Safety (on-site and within the vicinity)
 - (xvi) Security systems
 - (xvii) IT systems (Wi-Fi connectivity, etc.)
- c. Environmental Hazards
- (i) Space for "shelter-in-place" should be reviewed for future needs.
 - (ii) For spaces to be conducive to learning, design features that would abate noise, visual and air pollution must be incorporated.
 - (iii) Designs for interior and exterior spaces must incorporate disaster-preparedness features.
- d. Maintenance
- (i) The design shall consider both capital and long-run costs. The latter involves efficient life cycle operation.
 - (ii) Energy-efficient systems shall be incorporated to minimize operation costs.
 - (iii) Access panels and doors shall be planned for periodic service and inspection.
- e. Urban Integration
- (i) Site development shall seamlessly integrate with the circulation and other service systems, either existing or proposed, of the proposed UP Mindanao Campus Land Use Plan of 2016.
 - (ii) The project should fit well into the proposed UP Mindanao Campus Master Development Plan, including its overall ecological concept.
 - (iii) Avoid conflict with perceived property limits of adjacent buildings.

END OF PART II

PART III

DETAILED ARCHITECTURAL AND ENGINEERING DESIGNS

1.0 DETAILED ARCHITECTURAL DESIGN PLANS AND SPECIFICATIONS

- 1.1 The bidder shall prepare and submit a complete set of detailed architectural drawings/plans and specifications of all the structures/buildings in accordance with the herein attached checklist of requirements of Annex 2 to 4.
- 1.2 Minimum Qualifications Required:
- (a) The individual or the designated principal of the firm must be a licensed Architect with a long experience and solid background in Architecture and Engineering Design and Development of low rise research facility..
 - (b) The Designer(s) shall be an architect, an architectural firm of two or more associated individuals or a partnership with expertise in structures and facilities belonging to mixed occupancies such as **offices and research facilities (Group C-Education and Recreation)** under the National Building Code of the Philippines and latest amendments.

2.0 DETAILED ENGINEERING DESIGN PLANS AND SPECIFICATIONS

- 2.1 The bidder shall prepare and submit a complete set of detailed engineering drawings/plans and specifications for the below cited engineering discipline in accordance with the checklist of requirements of the respective Annexes:
- (a) Structural Designs - Annex 5
 - (b) Sanitary/Plumbing Designs - Annex 6
 - (c) Electrical Designs - Annex 7
 - (d) Electrical Auxiliaries - Annex 8
 - (e) Mechanical - Annex 9

END OF PART III

PART IV DETAILED ESTIMATES

1.0 PROJECT COST ESTIMATES

1.1 The bidder shall prepare and submit for the purpose of the Bill of Quantities (BOQ) in his contract, a detailed cost estimate in accordance with the limit of the available Approved Budget for the Contract and following the sequence of priorities below:

(a) Design Development Phase

The detailed costing for the design phase is for the preparation, submittal and approval of the following:

- (i) Preliminary Surveys/Studies, including:
 - Geodetic Survey of the Lot
 - Soil Foundation Investigation
 - Location and Invert Elevations of Existing Utilities.
- (ii) Architecture & Engineering (A&E) Design Development Plans, Elevations and Sections
- (iii) Detailed Architectural Designs and Plans
- (iv) Detailed Architectural Interior Designs and Plans with Sample Boards
- (v) Detailed Furnishing Plans
- (vi) Detailed Site/Civil Landscape Architectural Designs and Plans
- (vii) Detailed Site and Building Engineering Designs and Plans:
 - Structural
 - Sanitary/Plumbing
 - Electrical
 - Electrical Auxiliaries (i.e. Internet Cabling/Fiber Optics Cabling, Public Address Systems
 - Mechanical Ventilation
- (viii) Detailed Estimates, Bill of Quantities
- (ix) Scope of Works and Technical Specifications
- (x) Proposed Design and Construction Schedule
- (xi) Health and Safety Program for the Construction Phase

(b) Construction Phase

- (i) Detailed A&E Fee
- (ii) General Requirements
 - Permit to Construct (PTC)
 - Permits (Building Permit, Electrical Permit, Sanitary Permit, Mechanical Permit, Zoning Permit, Fire Safety Permit, etc.)
 - Project Billboard
- (iii) Temporary Facilities and Facilities for the Engineer
- (iv) Earth Works
- (v) Structural Works
- (vi) Architectural Works and Finishes
- (vii) Sanitary/Plumbing Works and Finishes

- (viii) Electrical Works and Finishes
- (ix) Electrical Auxiliaries Works and Finishes
- (x) Mechanical Works and Finishes
- (xi) Architectural Interior Works
- (xii) Wayfinding and Room Signage Systems
- (xiii) Site and Landscape Architectural Works

2.0 COST ESTIMATE GUIDELINES

- 2.1 In the preparation of all detailed cost estimates, the proponent/bidder shall be guided by the herein attached **Section 00470. Cost Estimate Form** and **Section 00475. Cost Estimate Guide** in **Project Manual Volume 1 Philippine Bidding Documents**.
- 2.2 The labor component of the cost estimates shall follow the ranges provided in the ordinance and the latest wage order of the Department of Labor and Employment (DOLE) of the National Capital Region (NCR).

3.0 UNIT PRICE ANALYSIS

- 3.1 The proponent/bidder shall draw up a unit price analysis for each of the pay item.

END OF PART IV

PART V CONSTRUCTION PHASE

1.0 PERMITS AND CLEARANCES

- 1.1 The contractor shall pay for any and all expenses necessary and incidental for UP to be able to secure the following:
- (a) Permit to Construct (PTC);
 - (b) Environmental Clearance Certificate (ECC), including the corresponding Tree Cutting Permit from the concerned government agencies, if necessary;
 - (c) Building Permit, Zoning Permit, Electrical Permit, Fire Safety Permit.
- 1.2 The contractor shall, upon authorization by the City Government, make representation with the concerned government agencies to expedite the release of the same.

2.0 TEMPORARY STRUCTURES AND FACILITIES

- 2.1 The contractor shall provide and maintain the following:
- (a) Temporary office and/or quarters with water, light, telephone and toilet facilities for the contractor's project team personnel.
 - (b) Temporary bunkhouses/quarters for the contractor's work force complete with toilet and bath facilities.
- 2.2 The contractor shall also prepare and implement a plan for egress upon completion of the project.

3.0 MOBILIZATION

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

4.0 CONSTRUCTION SUPERVISION

The contractor shall execute all the works under the contract in strict accord with standard engineering methodology and procedures and shall be responsible for maintaining cleanliness and orderliness, health and safety of workers and general public in the project area throughout the duration of the contract.

4.1 Coordination of Work with Construction Management Team

The Owner (the University of the Philippines Mindanao), through the Campus Planning and Development Office (CPDO) and the Physical Plant Office (PPO), will contract a Construction Management Team who will work with the contractor during design, construction, and post-construction.

5.0 ELECTRIFICATION

The contractor shall pay for expenses for the acquisition of the power connection to the local electric utility/cooperative for the temporary lighting of the work area and temporary facilities.

6.0 QUALITY CONTROL

The contractor shall adhere to the submitted and approved Minimum Material Testing Plan.

6.1 Special Inspection and Testing Requirements

Contractor shall provide quality assurance for the construction of the seismic force resistance system designed by the Structural Engineer of Record by recording periodic inspections and testing of structural components in a timely manner during construction. The system may include structural elements such as a steel intermediate moment resistance frame and concrete shear walls, and additional systems such as anchorage of equipment and exhaust ducts containing hazardous materials, anchorage of piping systems and mechanical units containing flammable, corrosive or toxic materials, anchorage or electrical equipment used for emergency and standby equipment.

7.0 PROPOSED DESIGN AND CONSTRUCTION SCHEDULE

The target number of days to complete the Project Center for Advancement of Research in Mindanao (Phase 2) at UP Mindanao Campus is **Four Hundred Eighty (480)** calendar days, seven (7) calendar days upon receipt by the Contractor of the Notice to Proceed.

8.0 MINIMUM CONSTRUCTION SAFETY AND HEALTH PROGRAM

The contractor shall abide with the following minimum safety and health program:

8.1 SAFETY PROGRAM

- (a) Contractor provides skull guards, raincoats, working shades, and boots to employees who are assigned to hazardous areas;
- (b) Operators, drivers, and other employees who handle equipment must thoroughly check their equipment, lubricate and handle them properly and should be cautious, extra careful at all times to avoid accidents while on duty;

- (c) Wires, nails, bolts and other pointed objects should be eradicated in the working areas to avoid possible injuries/accidents;
- (d) Seat belts are provided in every truck/vehicle that is being used in the project site;
- (e) Fire extinguishers are to be placed in equipment such as fuel truck; and
- (f) Employees are advised on the use of cigarettes, candles and other flammable materials to avoid occurrence of fire.

8.2 HEALTH PROGRAM

- (a) Upon entrance, every employee automatically becomes a member of SSS and Phil Health Corporation;
- (b) A Medicare cabinet which contains over the counter drugs and other first aid supplies are ready for use in case of sickness or accidents that occur. In case of serious incidence, they are immediately brought to nearest hospitals;
- (c) Employees are being lectured once in a while of personal hygiene, number of children one family would have to be able to provide the family's needs of food, clothing and shelter; and
- (d) Strictly no drinking liquor and smoking during working hours to ensure safety and for health purposes.

9.0 AS-BUILT PLANS

The contractor shall prepare and submit as-built plans duly signed and sealed by a civil engineer in the same sheet size and scale as the original drawings in two (2) reproducible copies, and in electronic format. CAD files prepared for the project shall be updated using the as-built plans and submitted to the Owner. The *.PDF format files shall be delivered with the CAD or BIM files.

END OF PART V

PART VI PROPONENT'S/BIDDER'S RESPONSIBILITIES

1.0 BIDDING

- 1.1 The prospective Bidder shall be responsible for taking the necessary steps to carefully examine all documents. It also rests upon the Bidder to acknowledge all conditions, local or otherwise, affecting the carrying out of the contract works, and arrive at an estimate of the facilities available and needed for the project. Failure to do so shall be at the proponent's/bidder's risk.
- 1.2 It shall be the sole responsibility of the Bidder to determine and suit himself by such means as he considers necessary or desirable as to all matters pertaining to the project, including the location and nature of work, climatic conditions, nature and condition of the terrain, geological conditions at the site; transportation and communication facilities, requirement and availability of materials, labor, water, electrical power and roads; location and extent of aggregate source; and other factors that may affect the cost, duration and execution of the work. The Proponent/Bidder, by the act of submitting his proposal, acknowledge that he has inspected the site and determined the general characteristics of the project and the conditions indicated above. UP requires an affidavit, duly notarized, of such site inspection from the Proponent/Bidder.
- 1.3 Prior to submittal of proposals, it is assumed that the Proponent/Bidder is already familiar with all existing laws, decrees, ordinances, acts and regulations of the Philippines, which may affect or apply to the operations and activities of the contractor. However, in the case where the cost of the awarded contract is affected by applicable new laws, decrees, ordinances, regulations and other acts of government promulgated after the date of submission of proposals, a contract price adjustment may be made or appropriate relief be applied on a no loss – no gain basis provided such is not covered by the provisions on price escalation hereof and subject further to the availability of funds.

2.0 PRELIMINARY SURVEYS AND STUDIES

UP Mindanao Campus Planning and Development Office (CPDO) and Physical Plant Office (PPO) shall provide the bidders with storm drainage plans, sewer lines plan, and cold water supply line plan, and other utility plans only if available. The bidder shall include a line item that will cover the cost of completing geodetic site survey and soil investigation in the event that historical infrastructure plans are not available. The projected cost of preliminary surveys shall be submitted with bids.

3.0 PLANNING AND DESIGN PHASE

- 3.1 The proponent/bidder is expected to have visited the project site, familiarized themselves of the terrain, climatic conditions, availability of local manpower and construction materials, and local statutes that have direct bearing on the project.
- 3.2 The bidder is required to submit the proposed relocation map/plan of affected utilities.

- 3.3 The proponent/bidder is required to submit the Preliminary Conceptual Design Plans in accordance with the degree of details specified in this Terms of Reference (TOR). Prior to the award of the contract, the preliminary designs shall be rectified for errors in the interpretation of the specified conceptual design specifications and parameters.

4.0 ENVIRONMENTAL CORPORATE RESPONSIBILITY (ECR)

- 4.1 The proponent/bidder shall donate and plant native trees (1.2M to 1.5M in height) at the start of construction, in places designated by the University, at the rate of **one tree per 100 square meters of building area** (excluding parking area). The proponent/bidder shall use a variety of native tree species as specified by the University.
- 4.2 The proponent/bidder shall maintain the tree saplings by watering and ring weeding during the construction period.
- 4.3 Dead saplings within the construction period must be replaced with same species and height at least 30 days before project turn-over.

END OF PART VI

Read and accepted as part of the Contract:

Bidder/Contractor

PART VII RESPONSIBILITIES OF THE UNIVERSITY OF THE PHILIPPINES

1.0 RIGHT-OF-WAY

Being the Owner-Developer, the University of the Philippines Mindanao shall secure the necessary Right-of-Way and access to the site from the date of contract award until building construction and site work is completed.

2.0 ENVIRONMENTAL CLEARANCE CERTIFICATE

UP shall assist the contractor in securing the necessary Environmental Clearance Certificate (ECC). It shall be the responsibility of the contractor to pay for any and all expenses necessary in the preparation of Environmental Impact Statement and to secure such and to make representation and follow-ups to expedite the release of the same.

3.0 ELECTRICAL FACILITIES

UP shall assist in securing the electrical facilities in the project by filing the application with the local electric utility. It shall be the responsibility of the contractor to pay for any and all expenses necessary in the acquisition of the electrical facilities.

END OF PART VII

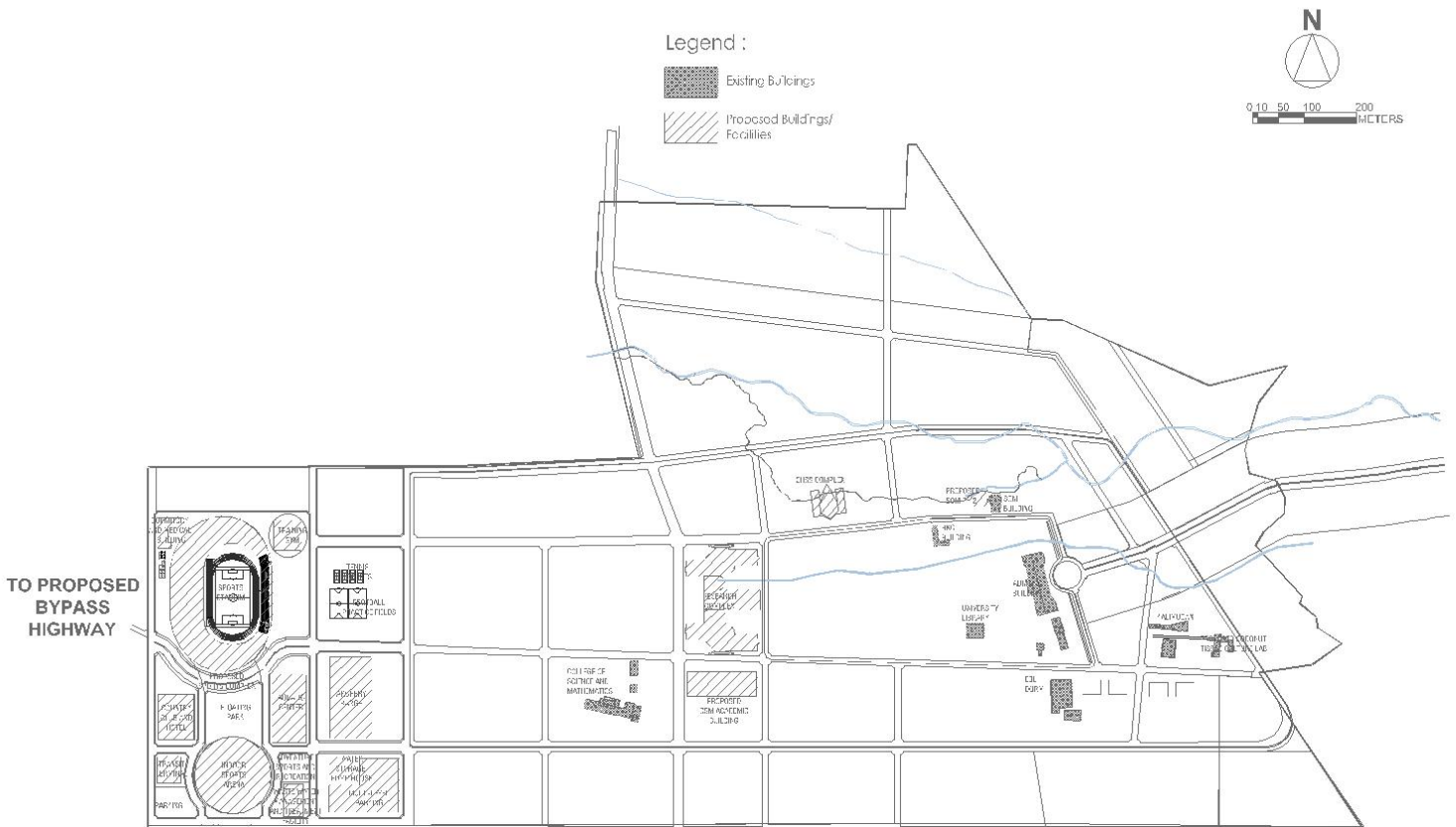
PART VIII PROJECT ACCEPTANCE AND TURNOVER

- 1.0** A Construction Management Team shall be created by UP to ensure that the completed works are:
- 1.1 In accordance with the For Construction contract documents (plans and specifications) approved by the End User (Center for Advancement of Research in Mindanao) and the Owner (University of the Philippines Mindanao)
- 1.2 Able to perform as expected and was constructed in a way to allow successful certification.
- 1.3 The defects listed in the punch-list after the inspections have been corrected/rectified.
- 2.0** Should the Construction Management Team members notice minor defects after completing the punch-list, new items may be added to the list which the contractor shall correct prior to final acceptance.
- 3.0** Upon final acceptance of the project, the retention money for the project shall be released accordingly, upon the request and posting of the required one (1) year guarantee bond for contract.

END OF PART VIII

PART IX ANNEXES

1.0 ANNEX 1A: VICINITY MAP



THE UP MINDANAO CAMPUS MASTER DEVELOPMENT PLAN
"Green University Town"

17 AUGUST 2016

Read and accepted as part of the Contract:

Bidder/Contractor

2.0 ANNEX 2: CHECKLIST OF REQUIREMENTS – DETAILED ARCHITECTURE DESIGN

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for Infrastructure Project Implementation

Reference: Revised Implementing Rules and Regulations of the National Building Code of the Philippines (PD 1096)

Project : CENTER FOR ADVANCEMENT OF RESEARCH IN MINDANAO (PHASE 2)
Location : MAGUINDANAOAN ROAD, UP MINDANAO, DAVAO CITY

SHEET NUMBER	SHEET CONTENTS	REMARKS*
	ARCHITECTURAL DRAWINGS (as applicable)	
A – 1 (a...n)	Perspective, Site Development Plan, Vicinity Map/Location Plan (2.00 Kms. Radius), Table of Contents	
A – 2 (a...n)	Floor Plans (scale 1:100m minimum) including furniture layout when necessary	
A – 3 (a...n)	Four (4) Elevations (scale 1:100m minimum)	
A – 4 (a...n)	Two (2) Sections (scale 1:100m minimum) including spot details when necessary	
A – 5 (a...n)	Roof Plan/s showing downspouts (scale 1:100m minimum), including detail of gutter, downspout, etc.	
A – 6 (a...n)	Reflected Ceiling Plan/s (scale 1:100m minimum), including details	
A – 7 (a...n)	Details of Stairs, fire escapes/exits, accessible ramps, etc. (scale 1:50m), including details of railings, treads, risers, etc., in the form of plans, elevation/section	
A – 8 (a...n)	Details of Toilets (1:50 m) including accessible toilets in the form of plans, elevation/section	
A – 9 (a...n)	Details of specialized design features (scale 1:50 m) such as partitions, cabinets, etc. and accessible design features	
A – 10 (a...n)	Detail of typical bay section from lower ground to roof (scale 1:50 m)	
A – 11 (a...n)	Schedule of doors, gates, emergency exits, etc. (scale 1:50 m), including specifications for materials and hardware	
A – 12 (a...n)	Schedule of windows (scale 1:50 m), including specifications for materials and hardware	
A – 13 (a...n)	Schedule of finishes for interior and exterior floors, walls, ceilings	
	Architectural Technical Specifications	
	Architectural Scope of Works	
	Architectural Bill of Quantities	
* To be marked as either Complying or Non Complying/Complete or Incomplete by the evaluator or to be filled with supporting comments (use additional sheets if necessary)		
Evaluated by: _____ Architect		

Read and accepted as part of the Contract:

Bidder/Contractor

**3.0 ANNEX 3: CHECKLIST OF REQUIREMENTS –
DETAILED ARCHITECTURAL INTERIOR DESIGN**

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for Infrastructure Project Implementation

Reference: Revised Implementing Rules and Regulations of the National Building Code of the Philippines (PD 1096)

Project : CENTER FOR ADVANCEMENT OF RESEARCH IN MINDANAO (PHASE 2)

Location : MAGUINDANAOAN ROAD, UP MINDANAO, DAVAO CITY

SHEET NUMBER	SHEET CONTENTS	REMARKS*
	ARCHITECTURAL INTERIOR DRAWINGS (as applicable)	
AID – 1 (a...n)	Floor Plans showing layout of floor finishes (scale 1:100m minimum)	
AID – 2 (a...n)	Interior Elevations and Sections showing wall patterns, ceiling sections, etc. (scale 1:100m minimum)	
AID – 3 (a...n)	Schedule of Finishes and Details	
AID – 4 (a...n)	Details of Partitions, Cabinets, Furniture, Ceiling and other Interior Design Features (scale 1:100 minimum)	
AID – 5 (a...n)	Schedule of Fixed Furniture and Details	
AID – 6 (a...n)	Paint Color Swatch Combinations	
AID – 7 (a...n)	Architectural Interior Perspective/s	
	Architectural Interior Design Technical Specifications	
	Architectural Interior Design Scope of Works	
	Architectural Interior Design Bill of Quantities	
	Program of Requirements	
<p><i>* To be marked as either Complying or Non Complying/Complete or Incomplete by the evaluator or to be filled with supporting comments (use additional sheets if necessary)</i></p> <p>Evaluated by: _____ Architect</p>		

Read and accepted as part of the Contract:

Bidder/Contractor

**4.0 ANNEX 4: CHECKLIST OF REQUIREMENTS –
DETAILED LANDSCAPE ARCHITECTURE DESIGN**

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for Infrastructure Project Implementation

Reference: Revised Implementing Rules and Regulations of the National Building Code of the Philippines (PD 1096)

Project : CENTER FOR ADVANCEMENT OF RESEARCH IN MINDANAO (PHASE 2)
 Location : MAGUINDANAOAN ROAD, UP MINDANAO, DAVAO CITY

SHEET NUMBER	SHEET CONTENTS	REMARKS*
	LANDSCAPE ARCHITECTURE DRAWINGS (as applicable)	
LA – 1 (a...n)	Site Development Staking Plan and Details	
LA – 2 (a...n)	Exterior Lighting Plan and Details	
LA – 3 (a...n)	Exterior Building Lighting and Details	
LA – 4 (a...n)	Schedule of Landscape Exterior Finishes and Details	
LA – 5 (a...n)	Other Spot details	
LA – 6 (a...n)	Landscape Architectural Perspective/s	
LA – 7 (a...n)	Planting Schedule and Plant Identification	
	Landscape Architecture Design Technical Specifications	
	Landscape Architecture Design Scope of Works	
	Landscape Architecture Design Bill of Quantities	
<p>* To be marked as either Complying or Non Complying/Complete or Incomplete by the evaluator or to be filled with supporting comments (use additional sheets if necessary)</p> <p>Evaluated by: _____ Landscape Architect</p>		

Read and accepted as part of the Contract:

 Bidder/Contractor

5.0 ANNEX 5: CHECKLIST OF REQUIREMENTS – STRUCTURAL DESIGN

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for Infrastructure Project Implementation

Reference: Revised Implementing Rules and Regulations of the National Building Code of the Philippines (PD 1096)

Project : CENTER FOR ADVANCEMENT OF RESEARCH IN MINDANAO (PHASE 2)
Location : MAGUINDANAOAN ROAD, UP MINDANAO, DAVAO CITY

SHEET NUMBER	SHEET CONTENTS	REMARKS*
	STRUCTURAL DRAWINGS (as applicable)	
S – 1 (a...n)	General Notes and Construction Standards	
S – 2 (a...n)	Site Development Plan	
S – 3 (a...n)	Foundation Plan/s (scale 1:100m minimum)	
S – 4 (a...n)	Floor Framing Plan/s (scale 1:100m minimum)	
S – 5 (a...n)	Roof Framing Plan (scale 1:100m minimum)	
S – 6 (a...n)	Schedule and Detail of Footings, Columns and Shear Walls	
S – 7 (a...n)	Schedule and Detail of FTB's, Girders, Beams and Floor Slabs	
S – 8 (a...n)	Detail of Trusses	
S – 9 (a...n)	Details of Stairs, Ramps, Fire Exits	
S – 10 (a...n)	Other Spot details	
	Structural Analysis and Design	
	Boring and Land Test Results	
	Seismic Analysis	
	Structural Technical Specifications	
	Structural Scope of Works	
	Structural Bill of Quantities	
<p>* To be marked as either Complying or Non Complying/Complete or Incomplete by the evaluator or to be filled with supporting comments (use additional sheets if necessary)</p>		
<p>Evaluated by: _____ Civil Engineer</p>		

Read and accepted as part of the Contract:

Bidder/Contractor

6.0 ANNEX 6: CHECKLIST OF REQUIREMENTS – SANITARY/PLUMBING DESIGN

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for Infrastructure Project Implementation

Reference: Revised Implementing Rules and Regulations of the National Building Code of the Philippines (PD 1096)

Project : CENTER FOR ADVANCEMENT OF RESEARCH IN MINDANAO (PHASE 2)
Location : MAGUINDANAOAN ROAD, UP MINDANAO, DAVAO CITY

SHEET NUMBER	SHEET CONTENTS	REMARKS*
	PLUMBING/SANITARY DRAWINGS (as applicable)	
P – 1 (a...n)	General Notes and Legends	
P – 2 (a...n)	Location and Site Plan	
P – 3 (a...n)	Storm Drainage Layout (scale 1:100m minimum) including actual length of tapping line to Main Drainage Line	
P – 4 (a...n)	Water Line Layout (scale 1:100m minimum) including actual length of tapping line from main source when applicable	
P – 5 (a...n)	Sewer line and Vent line layout (scale 1:100m minimum) including actual length of tapping line to septic tank or existing sewer line	
P – 6 (a...n)	Isometric Layout, showing Waterline, sewer line and drainage line	
P – 7 (a...n)	Detail of connections, catch basins, downspouts, etc.	
P – 8 (a...n)	Detail of Cistern: Schedule of Pumps	
P – 9 (a...n)	Detail of Septic Tank/Sewer Treatment Plant	
P – 10 (a...n)	Details Water Tank (scale 1:50m)	
	Design Analysis	
	Sanitary Technical Specifications	
	Sanitary Scope of Works	
	Sanitary Bill of Quantities	
<p>* To be marked as either Complying or Non Complying/Complete or Incomplete by the evaluator or to be filled with supporting comments (use additional sheets if necessary)</p>		
<p>Evaluated by: _____ Sanitary Engineer</p>		

Read and accepted as part of the Contract:

Bidder/Contractor

7.0 ANNEX 7: CHECKLIST OF REQUIREMENTS – ELECTRICAL DESIGN

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for Infrastructure Project Implementation

Reference: Revised Implementing Rules and Regulations of the National Building Code of the Philippines (PD 1096)

Project : CENTER FOR ADVANCEMENT OF RESEARCH IN MINDANAO (PHASE 2)
Location : MAGUINDANAOAN ROAD, UP MINDANAO, DAVAO CITY

SHEET NUMBER	SHEET CONTENTS	REMARKS*
	ELECTRICAL DRAWINGS (as applicable)	
E - 1 (a...n)	General Notes and/or specifications	
	Legends or Symbols	
E - 2 (a...n)	Location and Site Plan	
E - 3 (a...n)	Lighting and Receptacle Outlets Layout (scale 1:100m minimum) and details including Schedule of Lighting Fixtures and Control Devices	
E - 4 (a...n)	Power Layout (scale 1:100m minimum) and details including Schedule of Panels	
E - 5 (a...n)	Fire Detection and Alarm Circuits Layout (scale 1:100m minimum) and details including Schedule of Equipment	
E - 6 (a...n)	Emergency Lighting Layout for Exits and Hallways (scale 1:100m minimum) and details including Schedule of Emergency Lighting Fixtures and Signages	
E - 7 (a...n)	Schedules, and Detail breakdown of Loads	
E - 8 (a...n)	One Line Diagrams	
E - 9 (a...n)	Other Details including and not restricted to wiring penetrations through fire-rated walls, section details of devices and wall plates located in exterior areas, containment areas, animal care areas, and office areas.	
	Electrical Computation	
	Design Analysis	
	Electrical Scope of Works	
	Electrical Bill of Quantities	
<p>* To be marked as either Complying or Non Complying/Complete or Incomplete by the evaluator or to be filled with supporting comments (use additional sheets if necessary)</p> <p>Evaluated by: _____ Registered/Professional Electrical Engineer</p>		

Read and accepted as part of the Contract:

Bidder/Contractor

8.0 ANNEX 8: CHECKLIST OF REQUIREMENTS – ELECTRICAL AUXILIARIES DESIGN

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for Infrastructure Project Implementation

Reference: Revised Implementing Rules and Regulations of the National Building Code of the Philippines (PD 1096)

Project : CENTER FOR ADVANCEMENT OF RESEARCH IN MINDANAO (PHASE 2)

Location : MAGUINDANAOAN ROAD, UP MINDANAO, DAVAO CITY

SHEET NUMBER	SHEET CONTENTS	REMARKS*
	ELECTRICAL AUXILIARIES DRAWINGS (as applicable)	
EA – 1 (a...n)	General Notes and/or specifications	
	Legends or Symbols	
EA – 2 (a...n)	Location and Site Plan	
EA – 3 (a...n)	Telephone and Wi-Fi Systems Layout, One Line Diagram (scale 1:100m minimum) and details including Schedule of Equipment	
EA – 4 (a...n)	Voice Over IP System Layout and Entrance Access System Layout (scale 1:100m minimum) and details including Schedule of Equipment	
EA – 5 (a...n)	Public Address and Sound Systems Layout, One Line Diagram (scale 1:100m minimum) and details including Schedule of Equipment	
EA – 6 (a...n)	Wi-Fi Layout, One Line Diagram (scale 1:100m minimum) and details including Schedule of Equipment	
EA – 7 (a...n)	Cable TV, Master Antenna TV and CCTV Layout, One Line Diagram (scale 1:100m minimum) and details including Schedule of Equipment	
EA – 8 (a...n)	Building section details showing cable tray and wiring pathways in relation to the work of other trades	
EA – 9 (a...n)	Other Details including and not restricted to wiring penetrations through fire-rated walls, section details for devices located in exterior areas, containment areas, animal care areas, and office areas.	
	Electrical Auxiliaries Scope of Works	
	Electrical Auxiliaries Bill of Quantities	
<p>* To be marked as either Complying or Non Complying/Complete or Incomplete by the evaluator or to be filled with supporting comments (use additional sheets if necessary)</p> <p>Evaluated by: _____ Registered/Professional Electrical Engineer</p>		

Read and accepted as part of the Contract:

Bidder/Contractor

9.0 ANNEX 9: CHECKLIST OF REQUIREMENTS – MECHANICAL DESIGN

Checklist of Drawing Requirements in the preparation/evaluation/approval of Detailed Architectural and Engineering Plans and other Documents for Infrastructure Project Implementation

Reference: Revised Implementing Rules and Regulations of the National Building Code of the Philippines (PD 1096)

Project : CENTER FOR ADVANCEMENT OF RESEARCH IN MINDANAO (PHASE 2)
 Location : MAGUINDANAOAN ROAD, UP MINDANAO, DAVAO CITY

SHEET NUMBER	SHEET CONTENTS	REMARKS*
	MECHANICAL DRAWINGS (as applicable)	
M – 1 (a...n)	General Notes and Legends	
M – 2 (a...n)	Floor Plans/Isometric Drawings (scale 1:100m minimum) showing Fire Suppression Systems including sprinkler system (if required), wet stand pipe, dry standpipe and other installations	
M – 3 (a...n)	Floor Plan showing location of Fire Extinguishers (scale 1:100 minimum) and details including Complete Fire Hose Cabinet with fire fighting equipment	
M – 4 (a...n)	Floor Plans/Isometric Drawings (scale 1:100m minimum) of Room Exhaust Ventilation System and Details	
M – 5 (a...n)	Floor Plans/Isometric Drawings (scale 1:100m minimum) of Air Supply Systems and Details (A/C Equipment not included)	
M – 6 (a...n)	Floor Plans for Building Monitoring System (BMS) and Building Alarm System (BAS)	
M – 7 (a...n)	Detail of Other Machinery/Equipment (scale 1:50)	
M – 8 (a...n)	Longitudinal and Transverse Section of Building (scale 1:100m) showing manner of support of machines/equipment	
	Mechanical Technical Specifications	
	Mechanical Scope of Works	
	Mechanical Bill of Quantities	
<p>* To be marked as either Complying or Non Complying/Complete or Incomplete by the evaluator or to be filled with supporting comments (use additional sheets if necessary)</p> <p>Evaluated by: _____ Mechanical Engineer</p>		

END OF PART IX-A

Read and accepted as part of the Contract:

 Bidder/Contractor