

PART I GENERAL PROJECT INFORMATION

1.0 PROJECT DESCRIPTION

1.1 Project Title:

Bidding for the **Design and Construction of the University of the Philippines Los Banos Controlled Environment Research Facility.**

1.2 General Description

The project shall cover the **design and construction** of the University of the Philippines Los Banos Controlled Environment Facility at Los Baños Campus. The proposed site is located along Pili Drive, UPLB, College, Laguna (**DRAWINGS SECTION OF PBD**).

The plans and designs shall be in accordance with the UPLB-approved Schematic Design Plans and the General Site Development and Building Design Specifications as prescribed in this Terms of Reference (TOR). The project shall have an Approved Budget for the Contract (ABC) of **Sixty-Six Million Four Hundred Thousand Pesos (Php 66,400,000.00)**.

The site shall be developed to accommodate the required standard requirements of a Laboratory Research Facility 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 a Controlled Environment Research Facility at Los Baños Campus. It is funded by **DOST**.

1.3 Project Components

The project shall have the following basic components:

- (a) Completed Architectural and Engineering (A&E) Plans and Designs for Controlled Environment Research Facility at Los Baños Campus Building at Los Baños Campus, including Site and Landscape Development, Building, 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 Controlled Environment Research Facility, Site Development, Buildings, Structures and Facilities.

The bid shall be based on schematic plans by the OVCPD 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, and other design and construction requirements.
- (d) Compliance with all applicable permits/licensing and documentary requirements.
- (e) Supply and Installation of the Research Facility Equipment as listed in the Detailed Project Reference of this TOR.

2.0 BACKGROUND

The Monitoring and Detection of Ecosystems Change for Resilience and Adaptation (MODECERA) Program is composed of 2 major parts: Environmental and Ecosystem Monitoring and Environment Controlled Studies. Onsite environmental and ecosystem monitoring component will focus on the interactions of multiple stressors, species populations and functions, while under the controlled environment component, interaction studies will focus on single stressors and species populations.

The Controlled Environment Research Facility (CERF) will be the main venue for such studies and this project strives to develop a state-of-the-art controlled environment research facility that will generate information on the responses of selected valuable crops, livestock, fisheries and marine resources, important wildlife resources, and pests and diseases to climate change and other stressors through studies under the MODECERA Program and other related R&D projects such as SARAI and INWARD. The results of these studies will serve as significant inputs to promoting science-based management and policy decisions towards enhancing resilience and adaptation of agriculture, fisheries and natural resources sectors.

Life sciences including agriculture studies under controlled environments have been gaining grounds in many parts of the world primarily because controlled environment facilities enable the study of responses of major agricultural and other life forms to various factors such as light intensity, temperature, relative humidity, photoperiod, irrigation systems, and elevated carbon dioxide levels. Under normal field conditions, the simultaneous effects of 2 and more variables on various life forms would be close to difficult and time consuming to undertake. In the Philippines, controlled environment studies in agriculture and natural resources are scarce to entirely non-existent, save for the studies conducted by the International Rice Research Institute that are limited to rice. This is because there are no controlled environment facilities elsewhere in the country dedicated for other valuable crops, livestock, fisheries and wildlife. Hence, the establishment of the proposed controlled environment facilities at UPLB will boost the generation of scientific information and databases on crops, livestock, fisheries, and wildlife under varying climate change scenarios that are vital for the development of science-guided interventions and policies. Without controlled environment facilities, the generation of these vital information will be tedious and cumbersome to generate from field experimental stations.

The knowledge on the effects of climate change on the Philippines' vast biodiversity in its ecosystems is also a black hole. We may be losing important biodiversity without being able to understand why they have become extinct or why they are threatened. Biodiversity studies in

the country have been largely on biological inventories and more recently on plant genome studies. Though these are equally important studies, there is a need to understand as well their responses to changes in the ecosystems (both natural and human) including changes in climate conditions. Improvement in our understanding on how biodiversity is influenced by the changes in the landscape will enhance the way we manage the natural and human systems that will benefit our indigenous populations and poor rural communities, whose resilience is dependent on the resources available in the wild. This could also avert the loss of opportunity to gain as a nation from the economic potentials of the wild as source of valuable compounds and minerals.

These gaps in knowledge hamper the understanding on the dynamics of our agricultural production systems (i.e., crops, fisheries and livestock) and our ecosystems containing diverse plants and animals under a changing climate and human activities. With the growing threats of climate change to food security and ecosystems integrity of the country, controlled environment studies through the MODECERA and other related research programs would fill in these critical knowledge gaps.

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 UPLB 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 UPLB 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

Read and accepted as part of the Contract:

Bidder/Contractor

- 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 UPLB community.
 - (b) Responsiveness to non-permanent transitional housing for young faculty and staff, projected on-campus housing demands, and faculty and staff population.
 - (c) Market, financial and economic viability balanced with social responsibility.
 - (d) Conformity to relevant laws, design standards and legal procedures.
- 5.2 To build a **RESEARCH FACILITY** that factors in the following principles:
- (a) Sustainable building and development by using renewable energy
 - (b) Minimizing adverse impacts on the natural environment
 - (c) Comprehensive A&E concepts including:
 - (i) day lighting and electric lighting concepts;
 - (ii) natural ventilation and thermal comfort concepts;
 - (iii) green architecture and engineering concepts;
 - (iv) environmental health concepts;
 - (v) safe building concepts;
 - (vi) other applicable concepts.
 - (d) 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) A&E Design Development Plans, Elevations and Sections
- (c) Detailed Architectural Designs and Plans
- (d) Detailed Architectural Interior Designs and Plans
- (e) Detailed Site and Building Engineering Designs and Plans
 - (i) Structural
 - (ii) Sanitary/Plumbing
 - (iii) Electrical
 - (iv) Electrical Auxiliaries
 - (v) Mechanical
- (f) Detailed Estimates, Bill of Quantities
- (g) Scope of Works and Technical Specifications
- (h) Proposed Design and Construction Schedule
- (i) Health and Safety Program for the Construction Phase

6.2 Construction Phase

Read and accepted as part of the Contract:

Bidder/Contractor

- (a) General Requirements
 - (i) Permits (Building Permit, Electrical Permit, Sanitary Permit, Mechanical Permit, Zoning Permit, Fire Safety Permit, etc.)
 - (ii) Project Billboard
- (b) Temporary Facilities and Facilities for the Engineer
- (c) Demolition Works
- (d) Earth Works
- (e) Structural Works
- (f) Architectural Works
- (g) Site and Landscape Architectural Works
- (h) Sanitary/Plumbing Works
- (i) Electrical Works
- (j) Electrical Auxiliaries Works
- (k) Mechanical Works
- (l) Architectural Interior Design Works
- (m) Installation of Research Equipment and other facilities

7.0 APPROVED BUDGET AND PROJECT DURATION

- 7.1 The Approved Budget for the Contract (ABC) is **Sixty Six Million Four Hundred Thousand Pesos (Php 66,400,000.00)**.
- 7.2 The Approved Period for the design and construction is **One Hundred Eighty (180) calendar days** starting seven (7) calendar days from the receipt by the Contractor of the Notice to Proceed.

END OF PART I