



## A. PROJECT DESCRIPTION

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|--|---|
| Project Name:                          | Proposed Design and Build of MEZ Administration Office Building |
| Location:                              | Mactan Economic Zone, Lapu-Lapu City                            |
| Approved Budget for the Contract (ABC) | Php 258,250,252.90  |
| Total Floor Area:                      | ± 6,000 m <sup>2</sup>  |
| Project Duration:                      | 720 Calendar Days   |

## B. CONCEPTUAL DESIGN

### (ANNEX 1)

#### B.1 Architectural Design Concept

The design shall consider utilizing natural lighting and highly efficient materials, reducing energy costs. In addition, the plan shall have features that will help reduce greenhouse gas emissions and urban heat and help improve storm water management as it delays run-off into the storm drainage system and be disaster-ready.

As specified in the DBM and DPWH Joint Circular No. 1, the design proposal shall comply with the revised space allocation standards for the construction and acquisition of office building/space, as well as the National Building Code of the Philippines and its referral codes, Accessibility Law, and other related rules and standards.

#### B.2 Structural Design Concept

Structural framing shall be composed of reinforced concrete. Structural materials shall be locally available and accessible to avoid inconvenience and delay. Likewise, adopt economical design without compromising the allowable safety factor for structural design.

#### B.3 Electrical Design Concept

General lighting design shall be adequate for offices. It is recommended to use energy-efficient lighting systems. Electrical distribution systems shall also consider provisions for future electrical expansions and developments. Green energy shall also be regarded as a secondary source of energy.

#### B.4 Mechanical Design Concept

An elevator system shall be provided for the employees of PEZA and the public. The elevator shall be designed to carry at least 20 people. Design speed shall be set accordingly for efficient operation.



Fire protection and fire suppression systems shall be provided with wet and dry standpipes, fire hose cabinets, and sprinkle systems, among others.

Air-conditioning system shall be provided using energy-saving and cost-saving technology.

#### **B.5 Electronics Design Concept**

Together with the mechanical fire protection and fire suppression systems, a fire alarm system and smoke detectors shall be provided.

Offices shall have ready-provision for data and voice systems and other rooms that may require the provision. Telephone system design shall suit the building's function with easy and quick communication links. The provisions for LAN and telephone system expansion and development shall be considered. The whole building shall be provided with a ready WIFI connection for all rooms and facilities.

The security monitoring system shall be provided, including all the necessary devices, wirings, and accessories for the CCTV system to be located on strategic locations or as specified elsewhere in these specifications.

#### **B.6 Sanitary and Plumbing Design Concept**

Plumbing and sanitary systems shall use low-flow plumbing fixtures that use less water. Rooftop downspouts shall be directed to the rain catcher system. The rain catcher system shall serve as a retention pond to delay surface run-off in the street drainage. It shall be designed to infiltrate the rainwater into the ground while the excess is discharged to the drainage. The sewerage system shall be considered in the design.

Another consideration is the provision for future plumbing and sanitary expansions and development.

### **C. PERFORMANCE SPECIFICATIONS AND PARAMETERS**

(ANNEX 2)

### **D. PRELIMINARY SURVEY AND MAPPING**

The contractor shall establish control points in any preferred number and location during construction. All construction alignment, vertical or horizontal, shall be referred to the established control points.

The contractor shall be responsible for verifying the property boundaries on the approved technical description of the lot provided by the owner.

a) Existing Terrain, Line, and Grade



The contractor shall conduct actual field surveys as the basis for designing the required lines and grades.

- b) Setback requirements shall comply with the provision of the National Building Code of the Philippines and other governing codes.

#### **E. PRELIMINARY INVESTIGATIONS**

- a) Soil and Geotechnical

Foundation investigation shall be conducted for buildings two-story and higher. For building footprint below 50m<sup>2</sup>, one (1) borehole; below, two footprints; 500m<sup>2</sup> and above, the minimum required no. of boreholes is  $n = 2 + (A/1000)$  where A is the building footprint in m<sup>2</sup> (per NSCP 2015 Section 303.1)

- b) Hydrology

The Rainfall Intensity-Duration-Frequency (RIDF) of the nearest synoptic station of PAG-ASA may guide hydraulic calculations. The contractor is responsible for gathering and securing such hydrologic information to be used in his design. Considerations shall also be considered concerning the dramatic weather changes of the past few years, which may be attributed to climate change.

- c) Hydraulic

The contractor shall conduct an actual site inspection and undertake a survey of the existing drainage system in the vicinity of the project site.

- d) Seismic

The designer shall refer to the latest edition of the National Structural Code of the Philippines Volume One for complete seismic design parameters.

- e) Environmental Conditions

Wind

The proposed building falls under Building Category IV of the NSCP 2015, where Lapu-Lapu City has a wind speed of 270kph (See NSCP 2015 Figure 207A-5-1C).

#### **F. UTILITY LOCATIONS**

(ANNEX 2)

#### **G. APPROVED BUDGET FOR THE CONTRACT (ABC)**

**“Annex G”**

**Philippine Economic Zone Authority**

**PRELIMINARY DESIGN AND CONSTRUCTION STUDIES**

**Proposed Design and Build of MEZ Administration Office Building**



| ITEM   | ABC                |
|--|--------------------|
| DESIGN and BUILD of MEZ ADMINISTRATION OFFICE BUILDING | Php 258,250,252.90 |

**H. PROPOSED DESIGN AND CONSTRUCTION SCHEDULE**

The project shall be carried out within the duration herein specified:

**a. Design Phase**

Preparation of Architectural and Detailed Engineering (including presentation and approvals), and Permit Acquisition: 90 CDs

**b. Construction Phase**

(including post construction evaluation, testing and commissioning): 630 CDs

Total Contract Duration: 720 CDs

**I. MINIMUM REQUIREMENTS FOR A CONSTRUCTION SAFETY & HEALTH PROGRAM FOR THE PROJECT BEING CONSIDERED**

Every construction project shall have a suitable Construction Safety and Health Program, which must be in accordance with these rules, and other orders and issuances issued by the DOLE. The Construction-in-Charge, or an equally responsible officer, shall be responsible for compliance with this Section.

**a. Construction Safety and Health Committee**

**(a.1) Composition:**

- (i) Construction-in-Charge or his representative as chairperson ex-officio
- (ii) General Construction Safety and Health Officer
- (iii) Construction Safety and Health Officers
- (iv) Safety Representative/Officer
- (v) Doctors, nurses, and other health personnel pursuant to the requirements stated in Rule 1042 of the Occupational Safety and Health Services (OSHS)
- (vi) Workers’ Representative

**(a.2) Duties and Responsibilities:**

- (i) The Construction-in-Charge or his representative shall act as the Chairperson of the committee.
- (ii) The committee shall conduct safety meetings at least once a month.



- (iii) The persons constituting the Safety and Health Committee shall, as far as practicable, be at the construction site whenever construction work is being undertaken.
- (iv) The committee shall continually plan and develop accident prevention programs.
- (v) The committee shall review reports of inspection accident investigation and monitor implementation of the safety program.
- (vi) The committee shall provide necessary assistance to government authorities authorized to conduct an inspection in the proper conduct of their activities.
- (vii) The committee shall initiate and supervise safety training for its employees.
- (viii) The committee shall develop a disaster contingency plan and organize such emergency service units as may be necessary to handle disaster situations.
- (ix) The committee shall conduct safety inspection at least once a month shall conduct an investigation of work accidents, and shall submit a regular report to DOLE.
- (x) The committee shall initiate and supervise the conduct of daily brief safety meetings or toolbox meetings.
- (xi) The committee shall prepare and submit to DOLE reports on said committee meetings.

**b. General Safety within Construction Premises**

(b.1) The provision for personal protective equipment, danger signs, barricades, and safety instructions for workers, employees, public, and visitors, such as housekeeping, walkway surfaces, means of access, i.e., stairs, ramps, floor openings, elevated walkways, runways, platforms, and light.

**(b.2) Personal Protective Equipment**

(i) The Contractor shall provide adequate and approved protective equipment (hard hats, safety glasses with side-shields, rubber boots). Workers within the construction project site shall be required to wear the necessary Personal Protective Equipment (PPE) at all times.

(ii) Construction workers working from unguarded surfaced six (6) meters or more above grade, temporary or permanent floor platform, scaffold or where they are exposed to the possibility of falls hazardous to life or limb must be provided with safety harnesses and lifelines.

(iii) Specialty construction workers must be provided with special equipment, such as specialized goggles or respirators for welders and painters or paint applicators, and workers who work in confined and enclosed spaces.

(iv) All other persons who are either authorized or allowed to be at the construction site shall wear appropriate PPE.

**(b.3) Safety Personnel**



(i) The Contractor shall provide for a full-time officer, who shall be assigned as the general construction safety and health officer to oversee full time the overall management of the Construction Safety and Health Program.

(ii) The general construction safety and health officer shall frequently monitor and inspect any health and safety aspects of the undertaken construction. He shall also assist government inspectors in the conduct of safety and health inspection whenever work is being performed or during the conduct of accident investigation.

**(b.4) Emergency Occupational Health Personnel and Facilities**

(i) The Contractor shall provide a competent emergency health officer within the worksite duly complemented by adequate medical supplies, equipment, and facilities. The services of a full-time registered nurse shall be required when the total number of workers exceeds 50 but not more than 200.

(ii) Where the Contractor provides only a treatment room, he shall provide for his workers in case of emergency, access to the nearest medical clinic or a medical clinic located within 5-kilometer radius from the workplace. He can be reached within 25 minutes of travel. Such access shall include the necessary transportation facilities. In such a situation, there shall be a written contract with the medical clinic to attend to such workplace emergencies.

(iii) The engagement of an Emergency Health Provider for the construction project site shall be considered as having complied with the requirement of accessibility to the nearest hospital facilities.

(ix) The Contractor shall always have in the construction site the required minimum inventory of medicines, supplies, and equipment.

**(b.5) Construction Safety Signages and Barricades**

(i) Construction Safety Signages shall be provided as a precaution and advisory to workers and the general public about the hazards in the worksite.

(ii) Signage Procedure – the signages shall be:

1. Posted in prominent positions and at strategic locations.
2. As far as practicable, be in the language understandable to most of the workers employed in the site.
3. For non-raised floor areas, the attached yellow CAUTION sign shall be used when using yellow CAUTION tape.



4. For non-raised floor areas, the attached red DANGER sign shall be used when using the red DANGER tape.

5. Placed in designated areas at 1.2 meters from ground level if there is no other more practicable height for placement.

6. Regularly inspected and maintained in good condition to achieve its purpose.

7. Signages that are damaged, illegible, those no longer apply as to purpose, site, or language, shall be removed or be replaced by the safety officer when needed.

8. Removed after the hazard is eliminated. If upon work completion the risk is still present, the signage shall remain in place.

9. Designed and constructed following the Overall Dimensions of Safety Signs Formula as required by the Occupational Safety and Health Services (OSHS).

10. Specific with the type of hazard and should indicate the name of the contaminant/substance involved (for chemical hazards) and the type of PPE or respiratory equipment to be worn.

(iii) Posting of Signages shall include, but not limited to the following places:

1. Areas where there are risks of falling objects.

2. Areas with risks of falling, slipping, tripping among workers and the public.

3. Before entry into project sites, locations, and their perimeter.

4. Where there is a mandatory requirement on the usage of PPEs.

5. Areas where explosives and flammable substances are used or stored.

6. Approaches to working areas where danger from toxic or irritant airborne contaminants/substances may exist.

7. All places where contact with or proximity to electrical facility/equipment can cause danger.

8. All places where workers may contact dangerous parts of machinery or equipment.

9. Locations of fire alarms and fire-fighting equipment.



10. Locations for instructions on the proper usage of specific construction equipment tools.

(iv) Barricading Procedures – the following shall apply:

1. The Contractor shall provide all necessary barricades, safety tapes, safety cones, or safety lines as required in isolating or protecting an unsafe work area from other workers, pedestrians, or vehicular traffic.

2. Barricades shall completely enclose the hazardous area and limit unintentional or casual entry effectively.

3. Barricades shall be three (3) feet vertical from the ground, when no more practical height specification is available.

4. Barricades shall be maintained in good condition to achieve their purpose.

5. Barricades that are damaged, faded, or no longer apply to purpose, site or meaning shall be removed or replaced by the safety officer.

6. Barricade tape shall not be used on the floor as this presents a slipping hazard of its own.

7. In addition to using the proper warning tape, the Contractor shall use the appropriate safety signage when barricading an area.

8. All barricades shall be removed after the hazard is eliminated.

9. Upon work completion, the barricade shall remain in place if the hazard is still present.

(v) Installation of barricades shall include, but not limited to the conditions of the following worksite:

1. hazardous areas
2. trip hazard
3. robotic movement
4. energized electrical works
5. overhead suspended load test
6. critical high-pressure test
7. chemical introduction
8. fall exposure
9. emergency response zone
10. unsafe condition zone
11. danger zone
12. confined and enclosed space

(b.6) Safety on Construction Heavy Equipment





About heavy equipment operation in all construction sites, the following are required in the different phases of the project.

(i) Pre-Construction

The Contractor must ensure that appropriate certification is obtained from DOLE duly accredited organizations for the following:

1. All heavy equipment operators assigned at the project site must be tested and certified in accordance with a standard test prescribed by Technical Education and Skills Development Authority (TESDA) in coordination with its accredited organizations.
2. All heavy equipment must be tested and certified according to the standards prepared by DOLE or its recognized organizations prior to commissioning said equipment.

(ii) During Construction to Post Construction

The Contractor must ensure that the following conditions are met or complied with:

1. Load restriction of trailers carrying such heavy equipment shall be observed, the height and width clearances imposed by the DPWH.
2. Only duly certified operators can operate their designated heavy equipment and must wear personal protective equipment.

(b.7) Safety and Health Information

(i) Workers shall be adequately and suitably:

1. Informed of potential safety and health hazards to which they may be exposed at their workplace.
2. Instructed and trained on the measures available for the prevention, control, and protection against those hazards.

(ii) Every worker shall receive instruction and training regarding general safety and health common to construction sites which shall include, but not limited to the following:

1. The basic rights and duties of the workers at the construction site.
2. Normal work and in emergency situations.
3. The measures for good housekeeping.



4. The location and proper use of welfare and first-aid facilities.
5. The proper care and use of the items or personal protective equipment and protective clothing provided to the workers.
6. The general measures for personal hygiene and health protection.
7. The fire precautions to be taken.
8. The action to be taken in case of any emergency.
9. The requirements of relevant health and safety rules and regulations.

(iii) The instruction, training, and information materials provided shall be given in a language or dialect understood by the worker.

1. Written, oral, visual, and participative approaches shall ensure that the worker has understood and assimilated the information.
2. Each supervisor or any person, e.g., Foreman, lead man, and other similar personnel, shall conduct daily toolbox or similar meetings before the start of the operations for the day to discuss with the workers and to anticipate safety and health problems related.
3. No person shall be deployed in a construction site unless he has undergone a safety and health awareness seminar conducted by safety professionals, accredited organizations, or other institutions recognized by DOLE.

**(b.8) Construction Safety and Health Reports**

(i) The Construction Safety and Health Report shall include:

1. Monthly summary of all safety and health committee meetings
2. Summary of all accident investigations /reports
3. Corrective/Preventive measures/action for each hazard
4. Periodic hazards assessment with corresponding remedial measures for new hazards
5. Safety promotions and training conducted/attended

(ii) Submission of Reports:

1. The Contractor shall be required to submit a monthly construction safety, and health report to the Bureau of Working Conditions (BWC) copy furnished by the DOLE Regional Office concerned.
2. In case of any dangerous occurrence or major accident resulting in death or permanent total disability, the concerned Contractor shall



notify the appropriate DOLE Regional Office within twenty-four (24) hours from the occurrence.

3. After the investigation by the concerned construction safety and health officer, the Contractor shall report all disabling injuries to the DOLE Regional Office on or before the 20th of the month following the date of occurrence of the accident using the prescribed forms of the DOLE/BWC.

**(b.9) Workers' Welfare Facilities**

**(i) Adequate supply of safe drinking water:**

1. If the water is used in common drinking areas, it shall be stored in closed containers from which the water is dispensed through taps or cocks. Such containers shall be cleaned and disinfected at regular intervals, not exceeding fifteen (15) days.

2. Notices shall be posted conspicuously in locations where there is a water supply that is not for drinking purposes.

**(ii) Adequate sanitary and washing facilities**

1. Adequate facilities for changing, storing, and drying work clothes.

2. Adequate accommodation for taking meals and shelter.

3. Separate sanitary, washing, and sleeping facilities for men and women workers.

**(iii) Violations and Penalties**

1. Under the provisions of D.O. 13 and as circumstances may warrant, the DOLE shall refer to the Philippine Contractors Accreditation Board (PCAB) its findings, after due process, on any act or omission committed by construction contractors in violation of this rule, labor standards, safety rules and regulations, and other pertinent policies. Any such violation committed by construction contractors, whether general contractors or subcontractors, shall constitute a prima facie case of a construction mal performance of grave consequence due to negligence, incompetence, or malpractice contemplated under RA 4566 (Constructors' Licensing Law), as amended, and its Implementing Rules and Regulations.

2. In imminent danger situations, the DOLE Regional Director shall issue a stoppage order under the provisions of Rule 1012.02 of the Occupational Safety and Health Services (OSHS) and other pertinent issuances for stoppage of operation or for other appropriate action to abate danger.

**“Annex G”**

**Philippine Economic Zone Authority**

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3. Pending the issuance of the order, the Contractor shall take appropriate measures to protect his workers.
  
  4. The stoppage order shall remain in effect until the danger is removed or corrected permanently.
  
  5. Non-compliance with the order shall be penalized under existing provisions of labor laws.
  
  6. All processes and / or procedures in the conduct of General Labor Standards inspection, including General Occupational Safety and Health/Technical Safety Inspection shall be governed by Department Order No. 57-04 and its corresponding Manuals of Instructions.

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