



**TERMS OF REFERENCE & TECHNICAL SPECIFICATION**

**PROJECT NAME:** CONSTRUCTION OF DORMITORY (LADIES) AT BPSU ABUCAY CAMPUS

**LOCATION:** Bataan Peninsula State University, Abucay Campus

**SECTION 1: THE PROJECT**

**3. PROJECT DESCRIPTION:**

PROJECT NAME:	Construction of Dormitory (Ladies) at BPSU Abucay Campus
LOCATION:	Bataan Peninsula State University, Abucay Campus
APPROVED BUDGET FOR CONTRACT (ABC):	Php. 25,000,000.00 (Infrastructure Only)
TOTAL BUILDING FLOOR AREA:	1,220.00 sq.m
FLOOR AREAS:	GROUND FLOOR: 600.00 sq.m MEZZANINE: 120.00 sq.m SECOND FLOOR: 500.00 sq.m
PROJECT DURATION:	270 Calendar Days

**GENERAL SCOPE OF WORK:**

Construction of Dormitory (Ladies) at BPSU Abucay Campus with the following work breakdown:

- General Requirements
  - Application of Building Permit and Occupancy Permit
  - Application to Penelco for temporary and final electrical supply
  - Landscaping (soft scape and hardscape with perimeter light)
  - Fence along the road
- Architectural Works:
  - Masonry Works
  - Ceiling Works (Rooms and CR only)
  - Painting Works
  - Sand blast (for selected area only, see architectural plan)
  - Tiling Works (Rooms and CR only)
  - Supply and Installation of Doors and Windows
  - Roofing
- Plumbing Works
  - Water Lines with pipe chase
  - Sewer Line with pipe chase
  - Storm Drainage Line
  - Construction of Cistern Tank
  - Supply and Installation of 2.0 hp jet matic pump with cover (U.S. Brand or equivalent) with pressurized tank
  - Supply and Installation of plumbing fixtures
  - Supply and Installation of plumbing fittings
  - Signed and sealed with latest PRC and PTR and Curriculum Vitae of Master Plumber
- Design and Build of Structural
  - Design and Analysis for:
    - Foundation



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1. Isolated / Combined / Mat Footing
    2. Footing Tie Beam
  - ii. Framing Plan
    1. Columns / Shear walls
    2. Beams and Girders
    3. Suspended Slabs
    4. Roof Trusses
    5. Concrete / Steel Canopies
  - b. Signed and sealed with latest PRC and PTR and Curriculum Vitae of Civil Engineer
5. Design and Build of Electrical
  - a. Single phase design
  - b. Rental of designed KVA Transformer included
  - c. Metering included
  - d. Service Entrance included
  - e. Design of
    - i. Service Entrance
    - ii. Ground, Mezzanine and Second Floor Lighting Layout
    - iii. Ground, Mezzanine and Second Floor Power Layout
    - iv. Schedule of Load computation
    - v. Single line diagram
    - vi. Notes and Specification
    - vii. Legends and Symbols
  - f. Analysis of
    - i. Electrical System using Electrical Transient Analyzer Program (E-tap)
    - ii. Illumination Design via Dialux / Relux
  - g. Signed and sealed with latest PRC and PTR and Curriculum Vitae of Professional Electrical Engineer (PEE)
6. Design and Build of Fire Detection Alarm System (FDAS)
  - a. Supply and Installation of FACP, wired Horn bell and pull switch
  - b. Design of
    - i. FDAS Layout Plan
    - ii. FACP and Fire Extinguisher Location Plan
    - iii. Single Line Diagram
    - iv. Details
  - c. Signed and sealed with latest PRC and PTR and Curriculum Vitae of Professional Electrical Engineer (PEE) or Professional Electronics and Communication Engineer (PECE)

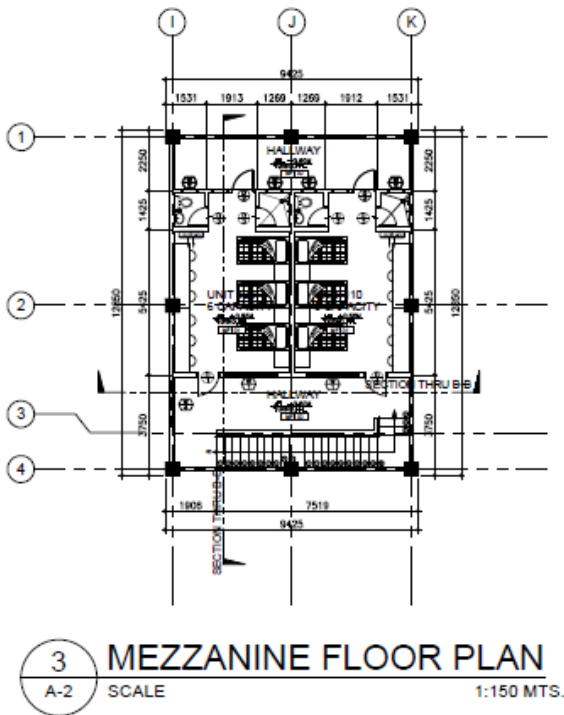
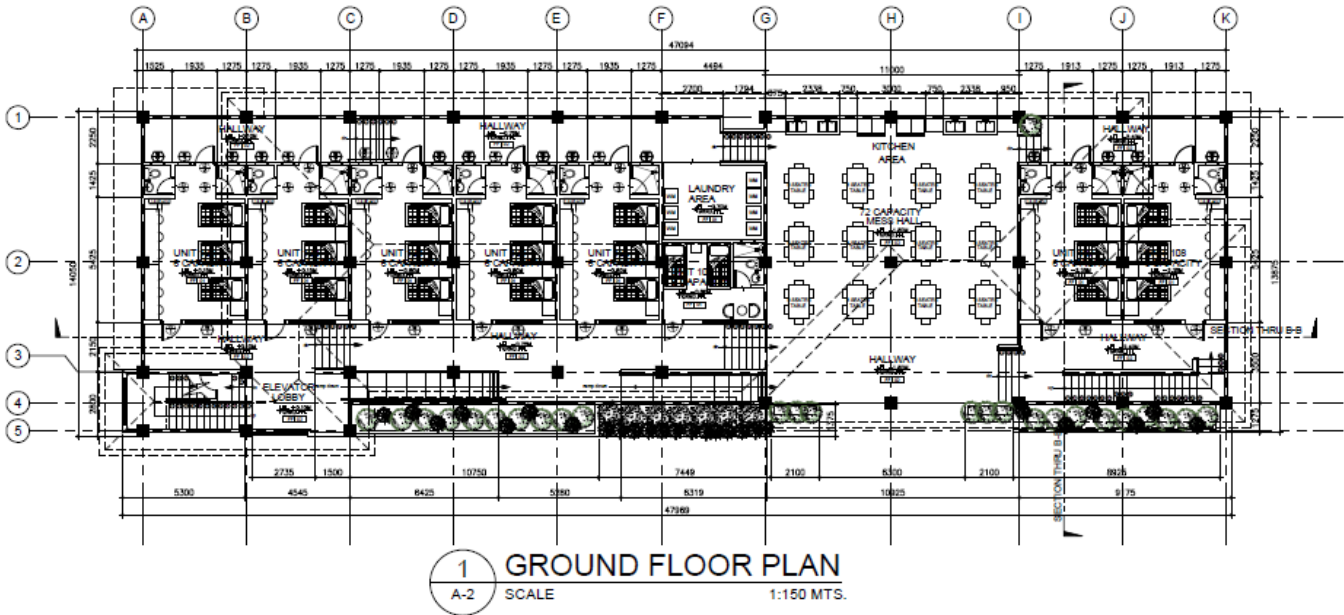
## SITE LOCATION:





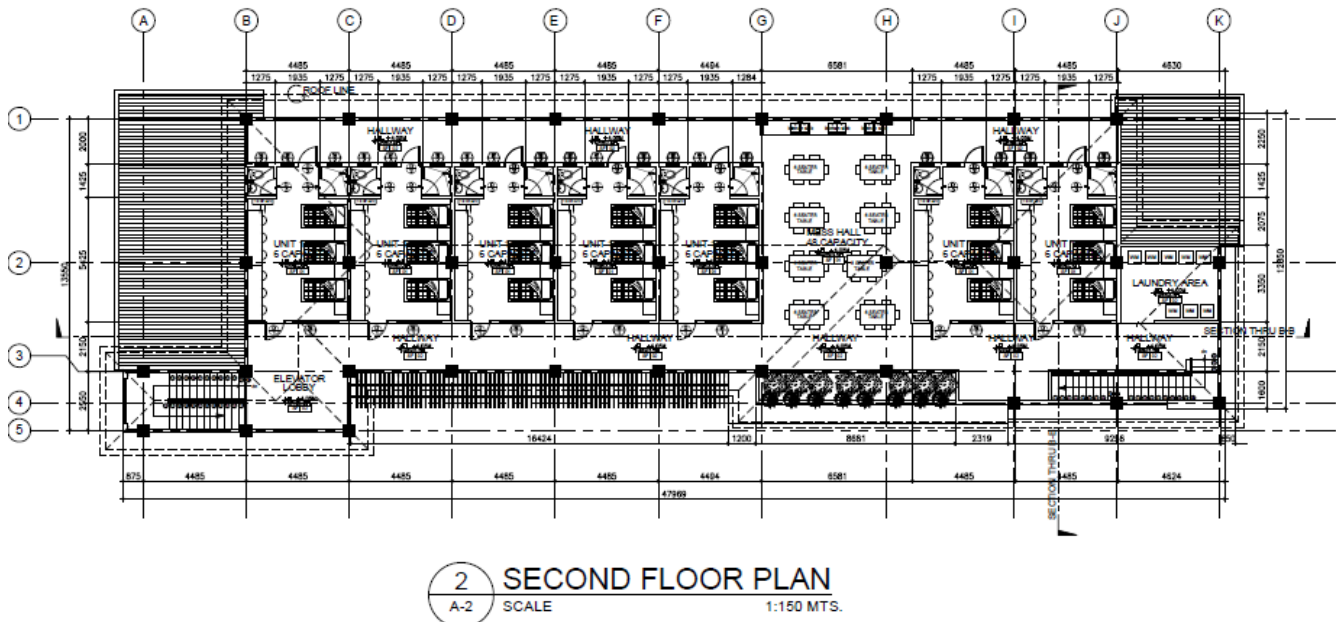
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**PROPOSED BUILDING:**





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### Project Description:

The building Total Floor Area is 1,220.00 sq.m with 600.00 sq.m at Ground Floor, 120.00 sq.m for the Mezzanine and 500.00 sq.m at Second Floor. It can accommodate 96 up to 160 female students.

Ground floor areas are the following:

1. 7 Rooms with Cr and Shower room (4.50m x 7.00m each room)
2. 1 House Parent Room (4.50m x 3.50m)
3. Laundry Area (4.50m x 3.50m)
4. Mess Hall with Double-sink Lavatory (11.0m x 12.50m)
5. Storage room

Mezzanine Floor areas are the following:

1. 2 Rooms with Cr and Shower room (4.50m x 7.00m each room)

Second floor areas are the following:

1. 7 Rooms with Cr and Shower room (4.50m x 7.00m each room)
2. Laundry Area 4.50m x 3.50m)
3. Mess Hall with Double-sink Lavatory (6.50m x 11.30m)

### II. OBJECTIVES:

1. To provide a background information regarding the proposed project which should be handled in the shortest possible time, at an acceptable quality and performance to the contractor.
2. To outline the "Scope of work" that has to be performed under the terms of its contract.
3. To establish a gender-neutral facilities
4. To create a Safe, Functional and Energy Efficient Building considering all specification given and space requirements and ready to use building.

- END OF SECTION -





## **TERMS OF REFERENCE & TECHNICAL SPECIFICATION**

### **SECTION 2: TECHNICAL SPECIFICATIONS**

#### **DIVISION 01: GENERAL REQUIREMENTS**

1. The work covered under this Contract consists of the furnishing all materials, labor, equipment, transportation, incidentals, facilities, and superintendence necessary to complete the project.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. Any alteration or revision of material usage without approval from the BPSU PPES Architect / Engineer shall make the Contractor responsible and liable in terms of guarantee, workmanship and defects.



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10. 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.
11. Any alteration or revision on the execution of drawings without approval from the Architect / Engineer shall be under subsequent rejection and shall make the Contractor responsible and liable for any workmanship and execution defects.
12. 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.
13. 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.
14. 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.
15. 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, except such as may be caused by agents or employees of the Procuring Entity, or due to causes considered as an Act of God.
16. The Contractor shall enclose the site he possessed by a security fence with gate. See-through security fence shall not be allowed.
17. With respect to the construction of the buildings and other structures, the design and specifications shall conform to the standards set by:
  - a. Department of Public Works and Highways (DPWH)
    - i. DO\_39\_S2020
  - b. National Building Code of the Philippines (NBCP) National Structural Code of the Philippines, 2010
  - c. Philippines Electrical Code (PEC)
  - d. Sanitary Code of the Philippines
  - e. National Plumbing Code of the Philippines
  - f. Philippine Mechanical Engineering Code (PMC)
  - g. Accessibility Law (BP344)
  - h. Fire Code of the Philippines (RA 9514)



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- i. Philippine Environmental Code (P.D. 1152)

### **DIVISION 02: SITE CONSTRUCTION**

#### **SEC. 02100 SITE PREPARATION:**

##### **SCOPE**

Furnish equipment and perform labor required to complete demolition of the existing structures, removal of salvaged materials, and disposal of resulting trash, waste, and other vegetation. See drawings for area coverage of work involved.

##### **EXAMINATION OF SITE**

Visit the site of the work and examine the premises to fully understand all existing conditions relative to the work. No increase in cost or extension of performance time will be considered from failure to verify and know actual site conditions.

##### **PERMITS**

Secure and pay for all necessary permits needed for the work.

##### **PROTECTION**

Protect adjacent properties, persons, shrubs, trees, lawns, structures, and utilities against harm or damage.

##### **DISPOSAL OF MATERIALS**

1. All salvageable material shall remain the property of the Owner. Hauling and stacking of salvaged materials within a 300-meter radius to Owner's specified storage shall be at the account of the Contractor.
2. All debris and other materials resulting from the demolition work shall be immediately removed from the premises and dumped at sites provided by the Contractor.

##### **DEMOLITION**

1. Demolish and remove from site existing structures and other obstructions within the building and as indicated in the plans.
2. Where existing concrete on ground is to be demolished, remove all existing concrete and other obstructions to a depth of 300 mm below grade.
3. Cap all existing utility lines. Consult Owner before commencing work.

##### **REPAIRS**

Repair damage done to property of any person or persons on or of the premises, by reason of the required work for Demolition.

##### **VERIFICATION OF EXISTING CONDITIONS**

Verify and examine the site of work to familiarize with the character of materials to be encountered and all other existing conditions affecting the work.

##### **SUBSTITUTION OF MATERIALS**

Should the contractor desire to substitute any material or brand or manufacturer other than those specified material proposed, the substitution must be equal or superior in quality to the material specified in the specifications. The Contractor shall submit to the BPSU PPES Office Director through Technical Working Group for Infrastructure Head a written request signed by Material Engineer for approval for the proposed substitution and if possible, shall be accompanied by samples of the proposed substitution.



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### **DIVISION 03– MATERIAL TECHNICAL SPECIFICATION**

#### **1. Architectural Works:**

##### **a. Masonry Works**

- i. Use 5" CHB for Exterior walls with "Class B" mixture for mortar and plaster
- ii. Use 4" CHB for Interior walls with "Class B" mixture for mortar and plaster
- iii. Use Portland Cement and vibro sand for the mixture of mortar and plaster

##### **b. Ceiling Works**

- i. Use 4mm Fiber cement board in metal furring system for Bedrooms, Comfort Rooms, Shower Room and House parent's room
- ii. Use Flat Latex white for Primer paint with skim coat or masonry putty
- iii. Use Latex Paint (White color) minimum 2 coats

##### **c. Interior Painting Works**

- i. Use Concrete Neutralizer before application of Primer. Let it dry for 24 – 48 hours
- ii. Use Concrete Primer / Flat Latex white for Concrete surface and epoxy Primer (gray) for metal surface
- iii. Use masonry putty and/or skim coat for covering uneven surface
- iv. Use Latex Paint (White color) minimum 2 coats for concrete surface
- v. Use Quick Drying Enamel (QDE) for metal surface

##### **d. Exterior with Primer, concrete cement finished wall with clear matte coating finished**

- i. Use Concrete Primer / Flat Latex white for Concrete surface and epoxy Primer (gray) for metal surface
- ii. Use masonry putty and/or skim coat for covering uneven surface
- iii. Use Faux Concrete wall with clear matte coating finished as final coating
- iv. Use Quick Drying Enamel (QDE) for metal surface
- v. Sand blast with groove
  1. Use sandblast finish concrete for columns and accent wall
- vi. Metal louver (see plans for details)
  1. For vertical louver use 2" x 3" x 1.5mm Tubular in color chocolate brown painted finished
  2. For horizontal louver use 2" x 2" x 1.5mm Tubular in color chocolate brown painted finished

##### **e. Tiling Works (Rooms, CR and Laundry area only)**

- i. Room– Use 60cm x 60cm ceramic non-skid tiles (gray color)
- ii. Comfort Room – Use 30cm x 30cm ceramic non-skid tiles (light color) for flooring and 30cm x 60 cm ceramic tiles (combination of light and dark color) for wall (1.5m high)
- iii. Laundry Room – Use 40cm x 40cm ceramic non-skid tiles for flooring
- iv. Hallway and Mess Hall – Use pebble washout with smooth cement border

##### **f. Supply and Installation of Doors and Windows**

- i. Use Metal door and frame for all doors of rooms
- ii. Use Upvc door for Comfort room and Shower room
- iii. Use Jalousie Window in Upvc frame with grills for all windows of rooms
- iv. Use Upvc Awning window for Comfort rooms and shower room

##### **g. Roofing Works**

- i. Use Gauge 24 Rib type Roofing (color brown)
- ii. Use Gauge 24 Spandrel (color brown)
- iii. Use Gutter ga. 24 (color brown) with screen





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- iv. Use 10mm thk, double sided Insulation
  - h. Concrete Stair
    - i. Riser must be 150mm and tread must be 300mm
    - ii. Use: 30cm x 60 cm ceramic non-skid floor tiles for the tread (use light gray color)
    - iii. Use 2" x 3" x 1.5mm Tubular for Handrail and newel in painted finished color chocolate brown
    - iv. Use 1.5" x 1.5" x 1.5mm Square tube for baluster in painted finished color chocolate brown
2. Plumbing Works
- a. Water Lines with pipe chase
    - i. Inlet – use 2" Ø PVC pipe
    - ii. From Pump use 1 ½" Ø PVC pipe
    - iii. Main Water Distribution – use 1" Ø PPR pipe
    - iv. From main going to the fixtures – use ½" Ø PPR pipe
  - b. Sewer Line with pipe chase
    - i. use 6" Ø PVC pipe and use 4" Ø for vertical pipe
    - ii. use 3" Ø PVC Pipe for waste pipe
    - iii. use 2" Ø PVC Pipe for vent stack
  - c. Storm Drainage Line with catch basins
    - i. Use 4" Ø PVC pipe for downspout
  - d. Construction of two (2) chamber Cistern Tank 2.40m x 3.00m x 2.00m depth
  - e. Supply and Installation of 2.0 hp jet matic pump with cover (U.S. Brand or equivalent) with pressurized tank
  - f. Supply and Installation of plumbing fixtures
    - i. Water Closet – Cistern with dual flush fittings 3/6 Lpf, with bidet and soft-closing toilet seat cover
    - ii. Lavatory – Use wall-hung Lav. With single faucet hole and stainless faucet
    - iii. Kitchen Sink – Use 304 stainless steel double sink with gooseneck pull down and single handle faucet
3. Fire Detection Alarm System
- a. Use us Brand or equivalent for Smoke detectors
  - b. Manual fire alarm (with strobe lights)
  - c. Emergency Lights – all lighting fixtures, shall comply with and have relevant standards.
  - d. Use wired Horn Bell
  - e. Use Manual Pull Switch
  - f. Use US / Japan Brand or equivalent for FACP
  - g. Use 10 lb ABC Type Fire Extinguisher (Min. 2 at Ground Floor, 1 at Mezzanine and 2 at Second Floor)
4. Guidelines on Structural Design:
- a. Positioning of columns must be based on given Architectural Plan as reference.
  - b. Use Metal Decking for Second Floor and Mezzanine
5. Guidelines on Electrical Design:
- a. Put Exhaust Fan on every Comfort Rooms
  - b. Use LED Lights
  - c. Min. 6 outlets for every rooms
  - d. Min. 8 of outlets for mess hall
  - e. Use NEMA 3R (enclosure) breaker cut-out after transformer



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### **SECTION 3: PROJECT COST ESTIMATES**

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:

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

B. Construction Cost of the Project;

1. The Direct Cost are the following:

a. Cost of Materials to be used in doing the work item called for, which shall include the following:

- a.1. Cost of source, including processing, crushing, stockpiling, loading, local taxes, construction and/or maintenance of haul roads, etc.
- a.2. Expenses for hauling to project site.
- a.3. Handling expenses
- a.4. Storage
- a.5. Allowance for waste and/or losses, not to exceed 5% of materials requirement.

b. Cost of Labor:

- b.1. Salaries and wages as authorized by the Department of Labor and Employment

c. Equipment Expenses:

- c.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.

- c.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.

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.



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- 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).
  - 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 Php5 Million and 10% for projects Php5Million and below
- e. VAT Component – shall be 7% 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
- 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
  - f.5. Health and Safety
  - f.6. Traffic Management
  - f.7. Environmental Compliance
  - f.8. Communication Equipment, etc.



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### **SECTION 4: CONSTRUCTION PHASE CONSIDERATIONS**

#### **1. Permits and Clearance**

The bidders shall defray and all expenses necessary and incidental for the Project 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 and Occupancy Permit
3. All other permits as may be required for the construction

#### **2. 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.

#### **3. 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.

#### **4. 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. The Contractor shall deploy qualified workers with necessary certification.

#### **5. Electrification**

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

#### **6. Material Testing**

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

#### **7. Subcontracts**

Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS**, which shall not exceed fifty percent (50%) of the contracted Works. Subcontracts were not allowed in Structural, Civil and Architectural Works



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**8. Key Personnel**

The key personnel must meet the required minimum years of experience set below:

Key Personnel	General Experience	Relevant Experience
1 – Project Engineer/ Manager	5 years	3 years
1 – Safety Officer	Completed 88 hours	n/a
1 – First Aider with latest ID and certificate issued by red cross	1 year	1 year
1 – Master Plumber	1 year	1 year
1- Professional Electrical Engineer	5 years	3 years
1 – Civil Engineer	5 years	3 years
1 – Foreman	10 years	5 years
1 – Electrician	5 years	5 years
5 – Skilled	5 years	3 years
10 – Helper/ Laborer	1 year	1 year

**9. Equipment**

The minimum major equipment requirements are the following:

Equipment	Capacity	Number of Units
Backhoe / Excavator	92 L cap of Bucket	1
Boom Truck	2 to 3 tons	1

**SECTION 5: SUBMITTALS**

**I. BIDDING REQUIREMENTS:**

**A. Documents Comprising the Bid: Eligibility and Technical Components**

4 Copies (1 original copy and 3 duplicate copies) of bid documents

- a. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- b. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder’s affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.
- c. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.
- d. A List of Contractor’s key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.





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A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

- e. Construction safety and health program duly signed by the safety officer

### **B. Documents Comprising the Bid: Financial Component**

4 Copies (1 original copy and 3 duplicate copies) of bid documents

- a. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- b. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- c. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

### **C. Additional Bidding Document Requirements:**

#### **1. Design and Build of Structural**

- a. Design and Analysis for:
  - i. Foundation
    - 1. Isolated / Combined / Mat Footing
    - 2. Footing Tie Beam
  - ii. Framing Plan
    - 1. Columns / Shear walls
    - 2. Beams and Girders
    - 3. Suspended Slabs
    - 4. Roof Trusses
    - 5. Concrete / Steel Canopies
- b. Signed and sealed with latest PRC and PTR and Curriculum Vitae of Civil Engineer

#### **2. Design and Build of Electrical**

- a. Single phase design
- b. Rental of designed KVA Transformer included
- c. Metering included
- d. Service Entrance included
- e. Design of
  - i. Service Entrance
  - ii. Ground, Mezzanine and Second Floor Lighting Layout
  - iii. Ground, Mezzanine and Second Floor Power Layout
  - iv. Schedule of Load computation
  - v. Single line diagram
  - vi. Notes and Specification
  - vii. Legends and Symbols
- f. Analysis of
  - i. Electrical System via E-tap
    - 1. Short circuit calculation
    - 2. Voltage drop analysis
    - 3. Arc Flash analysis



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4. Protection device coordination
5. Load flow analysis
- ii. Illumination via Dialux
- g. Signed and sealed with latest PRC and PTR and Curriculum Vitae of Professional Electrical Engineer (PEE)
3. Signed and sealed of Plans given by BPSU:
  - a. Plumbing Plans – Master Plumber with latest PRC and PTR and Curriculum Vitae
  - d. Fire Detection Alarm System (FDAS) – PEE / PECE with latest PRC and PTR and Curriculum Vitae

- END OF SECTION -

Prepared by:

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**Dr. Gregorio J. Rodis**  
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