

**PROJECT** : REPAIR/ RENOVATION /EXTENSION/ CONSTRUCTION/ UPGRADING/  
IMPROVEMENT OF HEALTH FACILITIES FOR DON MANUEL LOPEZ MEMORIAL  
DISTRICT HOSPITAL  
**LOCATION** : BALAYAN, BATANGAS

## **S P E C I F I C A T I O N S**

This set specification going all method of construction and the kinds of materials to be used for the proposed building / structure as shown in the plans and detailed drawings. The plans detailed drawings and these specifications shall be considered as complementing each other so as what is mentioned or shown in one, although not mentioned in the other shall be considered appearing on both. In case of discrepancies, the same should be referred to the architect/engineer.

### **GENERAL CONDITIONS:**

All part of the construction shall be finished with first class workmanship to the fullest intent and meaning of the plans and these specifications and to the satisfactions of the architect/engineer and owner. The construction shall conform to all the requirements of the National Building Code as well as the rules and regulations of the city/municipality/province.

### **CLEARING THE SITE:**

The building site shall be levelled according to the plans and cleared of objectionable matters to a suitable subgrade.

### **STAKING OF THE BUILDING LINES:**

The Building lines shall be staked out and all time and grades shown in the drawings established before any excavation is started. Where the building site is covered with fills, the excavations for the footing should be until the stratum is safe bearing capacity of the soil is reached.

### **CONCRETE WORKS:**

All concrete shall be mixed thoroughly, until there is uniform distribution of the cement taken to avoid segregation of aggregate. Water to be used for mixing shall be clean and free from impurities and other organic materials. For columns, footing, tie beams and roof beam (3000 psi in 28 days). For slab on ramp and slab on fill (2500 psi in 28 days)

### **CONCRETE SLABS ON FILL:**

Concrete slabs on fill shall be poured not less than 0.10-meter-thick on gravel bed. Each concrete slab courses to be poured shall not be more than one meter wide. Each course shall be poured alternately.

### **PROPORTIONING OF CONCRETE:**

All concreting shall be done in accordance with the standard specification for plain and reinforced concrete as adapted by the government. Portland cement shall be used. Alternate cement selected must meet the requirement of Portland and approved by the architect/engineer. The following shall be followed on the proportioning of concrete.  
For columns, footing, tie beams and roof beams..... (Class A, 1:2:4)

CEMENT	:	Portland cement
SAND	:	White Sand
GRAVEL	:	Crushed gravel: $\frac{3}{4}$ " for column, tie beams G-1 for slab on grade

### **STEEL REINFORCEMENT:**

All reinforcing steel bars to be used in the construction shall consist of round deformed bars with lug or projection on their sides.

All reinforcing bars shall be standard size as indicated on the plans.

All reinforcing shall be spaced as indicated on the plans and shall be secured in place with no. 16 G.I. wire at their intersections. All bars shall be free from rust.

All reinforcing of steel shall execute with the use of bar cutter.

RE-BARS : Structure Grade,  $f_y = 275 \text{ MPa (40 ksi)}$

#### **FORMWORK:**

All forms for concrete work shall properly braced or tied together so as to maintain the correct position and shape of the concrete member. Forms shall be constructed sufficiently tight to prevent bulging and seepage of water.

#### **MASONRY WORKS:**

All masonry works shall be standard based on the plans. Use 6" CHB on all exterior partitions and 4" CHB on all interior partitions with 12mmØ Vertical and 10mmØ Horizontal Reinforcing as indicated in the plan. Also provide 12mm thk plastering.

#### **FINISHING WORKS:**

Installation of ceiling, tiles, doors, windows, cabinets and other finishing works shall be standard size as indicated on the plans.

- **Ceiling Works**
  - ✓ 4.5mm thk Fiber Cement Board
  - ✓ 12mm x 38mm x 0.80mm x 5000mm Carrying Channel Galvanized
  - ✓ 19mm x 50mm x 0.60mm Metal Furring (Double) Galvanized
  - ✓ 25mm x 25mm x Wall Angle
- **Doors & Windows**
  - ✓ D2.2.1m x 0.8m Single Leaf, Acrylic Painted Steel Swing Door Steel Door Jamb with Complete hardware and Accessories
  - ✓ D4 2.1m x 0.8m Single Leaf, Swing Type PVC Door with Louver
  - ✓ D5 2.1m x 0.9m Single Leaf, Swing Type PVC Door with Louver
  - ✓ W5 2.4m x 1.2m Sliding with Fixed Window Analok Aluminum
  - ✓ W14 1.2m x 1.2m Sliding with Fixed Window Analok Aluminum
- **Carpentry Works (Cabinet and Shelves)**
  - ✓ ¾" Marine Plywood
  - ✓ 1" x 1" x 8' Edging
  - ✓ 1 ½" x 1 ½" Angle Bar
- **Painting Works**
  - ✓ 2 coats of Flat Latex Paint on Masonry Wall
  - ✓ 1 coat of Semi Gloss Latex Paint on Final Coating of Masonry Wall
  - ✓ 2 coats of Red Oxide Primer of Roof Framing members
  - ✓ Quick Dry Enamel Paint
  - ✓ Ducco Paint Finish on all doors
- **Stainless Steel Railings**
  - ✓ 1 ½" Ø Schedule 40 Stainless Steel Pipe

#### **PLUMBING AND SANITARY WORKS**

All plumbing works in this construction shall be done in accordance with the approved plans and under the direct supervision and control of a licensed Master Plumber.

All plumbing installation shall conform to the latest provision of the National Plumbing Code and the rules and regulations enforced in the city/municipality.

##### **Materials:**

- ✓ Water Closet, Wall Hung Lavatory, Lavatory Faucet, Soap and Tissue Holder Complete with all Fittings and accessories
- ✓ 4" x 4" Floor Drains with Cover
- ✓ Faucet with Shower Set

## **ELECTRICAL WORKS:**

### **STANDARD OF MATERIALS**

All materials shall be new and shall conform to the requirements of technical specifications.

**WORKMANSHIP**

The contractor shall execute his work in a neat and workmanlike manner and in accordance with the plans and specifications. The installations shall be done in accordance with the best practices employed in modern electrical installations.

### **WIRING METHOD**

All wiring in general shall be installed inside standard conduits. All conduits shall be embedded in concrete hollow block structures, inside ceiling and double wall partitions. Where the installation of embedded/concealed conduit is impractical, exposed conduit wiring may be used.

### **GROUNDING**

All metallic conduits, supports, boxes, cabinets and non-current metal parts of electrical equipment shall be properly grounded in accordance with the PEC.

### **DISTRIBUTION FEEDERS**

Feeder conductors and raceways shall be installed as shown on the plans and no changes in size shall be made without consent of the Designer. Feeder conductor shall be continuous, without splices between terminals except that will exceed 150m per run.

### **BRANCH CIRCUITS**

The plans indicate the general methods of installation of all circuit wirings and outlets which are to be supplied from these circuits. Branch circuit raceways shall be run from outlet to panel boards as direct as the building conditions will allow. No wire of different circuit shall be inserted in one conduit. Where homeruns exceed 30m for lighting and power branch circuit, the next higher size shall be used.

### **PANELBOARDS**

Distribution, power and lighting panel boards shall be fabricated from 1.5mm thick black iron sheet with epoxy primer and baked enamel finish. Front cover shall have a stainless push to open lock type or 'TAKIGEN' LOCK. Dead front cover shall only be removed after the front cover has been detached.

Panel boards shall be heavy-duty type with bolted-in circuit breakers, and shall be provided with equipment grounding bars with grounding screw for field grounding to enclosure. All main CB of each panel board shall be vertically mounted.

### **CONDUIT INSTALLATION**

Installation of conduits shall be in accordance with PEC and good practice. Method of installation shall be as stated in Section 3.3 (Wiring Method).

### **CONDUCTOR INSTALLATION**

All power, lighting, control and alarm conductors shall be continuous from outlet to outlet and no splice shall be made except on outlet boxes. Care shall be exercised while installing wire in conduits so as not to injure conductor insulation. Use only UL listed wire pulling lubricants for pulling-in conductors.

## **PRODUCTS / MATERIALS SPECIFICATIONS**

### **WIRES AND CABLES**

Wires and cables for power and lighting shall be soft-drawn annealed copper, of 99% conductivity, type THHN / THWN.

Minimum size of wire for power and lighting shall be 3.5mm dia. (#12 AWG). THHN/THWN. All auxiliary wiring type and size shall be as per plan

**CIRCUIT BREAKERS**

All circuit breakers shall be molded case, thermal-magnetic bolt-on type with inverse time limit characteristics on overloads and instantaneous magnetic trip on short circuits.

Circuit breaker to be used for switching lighting circuits shall be switching duty rated. Breaker to be used for motor circuit disconnect and protection shall be industrial type. Only one brand of circuit breaker shall be used for the project.

**Materials:**

- ✓ 20mm Ø PVC Flexible Conduit
- ✓ 20mm Ø PVC Female Adapter
- ✓ 2" x 4" Utility Box
- ✓ Octagonal Junction Box
- ✓ 3.5 mm² THHN?THWN
- ✓ Lighting Switches
- ✓ Decorative Center Light
- ✓ 40w Recessed Panel Light 1.2m x 0.3m Daylight
- ✓ 12w Recessed Slim Downlight Daylight
- ✓ 6w Recessed Slim Downlight Warmwhite
- ✓ Dual Optics Emergency Light
- ✓ LED Exit Sign Acrylic Type
- ✓ Wall Lamp
- ✓ Ceiling Mounted Exhaust Fan
- ✓ Stainless Steel Vent Cap
- ✓ Flexible Air Duct
- ✓ 1.0 hp Window Type Airconditioning Unit

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