

- applied. Rubbing down between coats is to be done with fine abrasive paper.
- Wood Finishing: Wood to have natural satin varnish finish shall be stained as required and sealed as soon as such items are delivered to the job site. Seal all ends to exclude moisture. Knotting shall be carried out by using shellac dissolved in spirit or approved ready mixed compound.
- Woodwork and Metal Work: Primed or undercoated woodwork and metalwork shall not be left in an exposed or unsuitable situation for an undue period before completing the painting process. Stopping and filling shall be deemed to be included for all metal works, plaster works, and wood work specified to be used to produce a surface ready for priming and painting.
- Final Touch-Up: Upon completion, finish work shall be touched-up and restored where damaged and left in good condition.

Painting Schedule

General:

- Painting Systems shall be applied to surfaces as scheduled. All walls to be painted shall be plastered prior to painting. All under slabs to be painted shall have fair-faced concrete.
- Film Thickness: As recommended by paint manufacturer for the paint specified, includes thickness in mils and number of coats.

Schedule:

- Masonry and Dry Wall Surfaces

Interior Surfaces

Textured Finish (flat, semi – gloss, gloss paint). Treat with masonry neutralizer.

1st Coat : Flat Latex

Putty : Masonry Putty

2nd & 3rd Coat : low VOC, premium Acrylic, water-based w/
Microban Antibacterial protection (semi-gloss)

- Metal Surfaces

Gloss Finish (Epoxy type) for metal elements and fire exit doors, wrought iron grilles, W. I. railing, B. I. and G. I. pipe handrails

1st coat : Epoxy Primer

2nd coat : Epoxy Enamel

3rd coat : Epoxy Enamel

10340 Exterior Specialties

Scope of Work

- This item shall consist of Fabrication of aluminum handrail including labor, tools, equipment, and the satisfactory performance in undertaking the proper installation of the system as shown on the Plans and in accordance with this specifications.
- This item shall consist of supply and installation of signage's including labor, tools, equipment, and the satisfactory performance in undertaking the proper installation of the system as shown on the Plans and in accordance with this specifications.

Division 15 – Mechanical

Generator Set

Scope of Work

- This item shall consist of Supply, delivery install, testing and commissioning of generator set with automatic switch including labor, tools, equipment, and the satisfactory performance in undertaking the proper installation of the system as shown on the Plans and in accordance with this specifications.

Equipment Requirement

- Stand by rating 625kVA 3-Phase 230-Volts generator set with Soundproof Enclosure/All Weather Housing.
 - AUTOMATIC TRANSFER SWITCH (ATS) 2000
- (See attached ANNEX A for additional scope of works, technical specifications and other requirements.)

15400 Plumbing System

Scope of Work

- This item shall consist of supply of all plumbing system with accessories including labor, tools, equipment, testing, commissioning, and the satisfactory performance in undertaking the proper installation of the system as shown on the Plans and in accordance with this Specifications

Construction Notes

- All plumbing works included herein shall be executed in accordance to the provision of the Revised National Plumbing Code of the Philippines, 1999 Edition, The National Plumbing Code and Local Rules and Regulations of the Municipality.
- Coordinate the drawings with other related drawings and specifications. The Engineer and/or Architect shall be notified immediately of any discrepancy found herein.
- All pipes shall be installed as indicated, any relocation required for proper execution of the plumbing work shall be with prior approval of the Engineer and/or Architect.
- Proposed sanitary utilities shall conform to the actual location, depth and invert elevations of all existing pipes and structures as verified by the Contractor.
- All slopes for horizontal drainage shall maintain two percent (0.02) and one percent (0.01) minimum unless otherwise specified.
- Water supply pipe to fixture shall be sized in accordance with the manufacturer's recommendations and/or plumbing code.
- All branches of fixture or group of fixtures shall be provided with air chamber made of capped vertical extension pipe of 300mm min. to 450mm maximum.
- All water lines shall be hydrostatically tested at 100psi for a period of two (2) hours before buried or covered. Galvanized iron (G.I.) pipes directly in contact with soil shall be provided with two coats of coal tar and wrapped with jute sack and painted with coal tar.
- The Contractor shall verify all existing utilities at site and coordinate the work with the sewer and waterline service connecting/tapping point.
- All pipe sizes and other dimensions are in millimeter (mm) unless otherwise specified and are indicative of inside diameter.

Material Requirements

A. Storm Drainage System

- Use Polyvinyl Chloride (PVC) pipes and fittings for sanitary lines.
- Confer to Project Architect the brand and approved equivalent in conformity with the existing lines.
- Provide sample for approval.

Construction Requirements

- Make the necessary preparation works for the installation of water system, sanitary and sewer system, storm and drainage system, plumbing fixture, and plumbing equipment on the specified area.
- Ensure proper installation of the system, tap to the nearest water distribution area, and to the nearest sewer area
- Ensure complete and proper installation of brackets and supports.
- Testing and commissioning shall be done for the whole system and equipment in the presence of the Engineer and Owner or his representative.

Section 15700 Heating, Ventilating, & Air Conditioning Equipment

Exhaust Fan

Supply and installation of Metal Industrial Exhaust Fan with grilles and louver.

All restoration and rehabilitation works shall be done on the affected areas to the same features with the existing or as per the required finish.

Division 16 - Electrical

Workmanship and Materials

- All works shall be done in accordance with the requirements of the latest edition of the Philippine Electrical Code and National Safety Code. Nothing contained in these specifications or shown on the plan shall conflict with the requirements of these Codes, any discrepancies should be consulted to the Project Inspector / Electrical Engineer.
- All materials and equipment to be used and installed hereunder shall be of the approved type bearing the stamp or approval of the proper authorities concerned. Locally made or constructed materials shall first be approved before installation.
- All works shall be done in workmanlike manner and should present a neat and mechanical appearance when completed.

Plans

- The accompanying drawings shall indicate the general arrangement of the equipments, outlets and other works. When it is necessary to deviate from the arrangement indicated on plans in order to meet the structural conditions, such deviation shall be made at the expense of the Contractor and upon approval from the Project Inspector / Electrical Engineer.
- The outlets and circuit breakers shown on the plan are diagrammatic and approximately correct as to location. Minor changes shall be made through the

Contractor at his own expense. The exact location of all outlets and switches shall be determined by the Project Inspector/Electrical Engineer and the same shall be located accordingly. The Contractor shall be responsible for the accurate location of all outlets with respect to doors, partitions, water pipes, cabinets and other facilities.

16050 Basic Electrical Materials and Methods

Conduit System

- PVC Conduit pipe is primarily required for this work. Conduit runs shall be well supported especially on ceiling and slab, concrete encased on soil. All conduits placed on walls and partition shall be embedded, exposed layout will not be allowed. Conduit ends shall be provided with an end bell or adapter with locknut and bushing. Conduit shall enter knockouts squarely. Locknuts and bushing shall be used at termination of conduits in outlets, pull or junction boxes, panels and cabinets. Locknuts shall be screwed tight. Bends and offsets shall be avoided if possible, but when necessary it shall be made with an approved Field bend or pipe / conduit bending machine. The use of pipe tee or vice bending conduits will not be permitted.

Restrictions

- Supply and installation of all material not shown in the drawing nor mentioned in this specification but necessary for the completion of the construction works shall be included. Coordination with CPDMO and Project Inspector should be done for proper installation of all wiring systems.

16070 Hangers and Supports

Hangers and Support

- All electrical pipes and accessories shall be using appropriate hangers and support follow existing features. Exposed layout on walls and partition inside offices shall not be allowed. Chipping works required.

16080 Testing

Testing of system

- Complete testing of the system involved in operation and provision of all system apparatus for making test and guarantee for a period of one (1) year after acceptance of the project and shall agree to repair and make good at no additional cost to the end user.

16090 Restoration and Repair

Restoration Works

- All the necessary restoration works in all affected areas in the implementation of the project shall be the Contractors liability.

16120 Conductors and Cables

- Wires and cable for lights and power shall be type THHN/THW 600 volts insulation approved type building wire. No. 3.5 mm THHN shall be used from the panel board to the last outlet, and shall be the smallest wire that should be

conduits are cleaned and free of moisture. Conductors of other systems shall not occupy the same conduit and boxes used for light and power.

Scope of Works

- Complete supply and installation of wires and cable shall be included in this scope of works.
- Tagging of all switches, convenience outlet and ECB's MDP/Panel units corresponding to the branch circuit number as indicated on the respective panel boards directory using tagging machine.
- Balancing of loads
- Wires must be color coded using the standard color coding
- Securing Certificate of Electrical Inspection

16130 Raceway and Boxes

Boxes and Pull boxes

- All conduit boxes and fittings shall be standard manufactured by reputable electrical manufacturers. All conduit boxes not over 100 cubic inches in size, if constructed of sheet metal, the metal shall not be less than No.14 US gauge and shall be set flush with the surface of the structure in which they are installed and where conduit runs are concealed. Care shall be exercised to line up all outlet boxes, 4" octagon type and 1-½" depth. When more than two conduits enter the outlet box, the 2-1/8" depth type box shall be removed. All outlet boxes indicated to be used for lighting fixtures shall be provided with standard flat metal covers.
- Horizontal or vertical gang boxes shall be installed as indicated or when required. All conduit boxes, junction boxes, and blank outlet boxes shall be fitted with standard flat metal conduit box covers.

16140 Wiring Devices

Wiring Devices

- All wiring devices to be used hereunder shall be new and of approved type. All wall switches shall be top-action quiet-matic type, wide series, bases to be fire-resistant and non-absorptive material. When more than one switches is indicated in the same location, they shall be mounted in gang under a common plate.
- Convenience outlet shall be duplex-type, universal & flush-type with fire-resistant non-absorptive bases, minimum rating of 16 amperes at 250 volts wide series.
- Suitable single pole and heavy-duty switches shall be installed where indicated on the plans. Sample of wiring devices shall be presented for approval. Minor relocations and re-circuiting shall be the liability of the Contractor.
- Following features shall be followed: one gang, one way switch, 2 gang, one way switch, 3 gang, one way switch, one gang three way switch, two gang three way switch, three gang three way switch, duplex flush type convenience outlet universal grounding type and GFCI as indicated on the plan.