Section VI. Specifications

SPECIFICATIONS

1. GENERAL CONDITIONS

The work under this specification shall include the furnishing of materials, tools and equipment and everything mentioned as scheduled in the drawings or herein specified or both for the Construction of Waiting Shed at Main Gate, Phase I, Port of Batangas, Batangas City, as per scope of work, plans and technical specification.

All drawings, small scale and detail drawings, are intended to cooperate with the specifications, to form part thereof and also to form part of the contract document. Where figures are given, they are to be followed in preference to measurement by scale. Anything shown in the drawings and not in the specifications or vice-versa or anything not expressly set forth in either but which is reasonably implied shall be furnished and installed as though specifically shown and mentioned in both, without extra cost to PPA.

2. SCOPE OF WORK

2.1 CONSTRUCTION OF WAITING SHED

2.1.1 CLEARING AND GRUBBING

The area within the limits shown shall be cleared of debris, existing foundations, pavements, utility lines, structures, fences and other items that would interfere with construction operations. Resulting depressions shall be completely filled with satisfactory material placed and compacted.

2.1.2 DISPOSAL OF CLEARED AND GRUBBED MATERIALS

Cleared and grubbed materials shall be disposed of outside the limits of the project site to the disposal area and its responsibility of the Contractor.

2.1.3 EXCAVATION

Excavation for structures shall be made accurately to the lines, grades and elevations or as directed. Trenches and foundation pits shall be sufficient size to permit the placement and removal of forms for the full length and width of structure footings and foundations. When concrete is to placed in excavated area, care shall be taken not to disturb the bottom of the excavation. Excavation shall be inspected and approved by the Engineer just before placing of the concrete. Excess excavation below footings or foundation shall be filled with gravel as indicated on the drawings.

2.1.4 BACKFILL

Backfill adjacent to any and all types of excavations, unless otherwise shown on the drawings, shall be selected granular materials and properly compacted. It shall not start until construction below finish grade has been approved by the Engineer. Heavy equipment for spreading and compacting shall not be operated closer to the foundation than a distance equal to the height of backfill above the top of footing the area remaining shall be compacted in layers not more than 15cm. in loose with power driven hand tempers suitable for the material being compacted. Backfill shall not placed against foundation walls prior to seven (7) days after the completion of the wall or structure and slope to drain from it.

2.1.5 FILLS

Fills shall be brought at the locations, lines and grades indicated. The complete fill shall conform to the shape of the typical sections indicated or shall meet the requirements of the particular case. It shall be satisfactory materials be fee from roots, other organic materials, and trash.

2.1.6 MATERIALS FOR CONSTRUCTION

2.1.6.1 Cement

Cement used shall be type 1 Portland cement conforming to the requirements of the latest version of ASTM C 150 "Standard Specifications for Portland Cement".

2.1.6.2 Coarse Aggregates

Coarse aggregates shall be washed, well graded, hard pieces of gravel, crushed gravel or rock confirming to the requirements of ASTM C 333 "Standard Specifications for Concrete Aggregates."

2.1.6.3 Fine Aggregates

Fine aggregates shall consist of clear, durable, natural sand, manufactured sand prepared sand. Natural sand shall consist of grains of clear, hard, durable rock.

2.1.6.4 Reinforcing Steel Bars

Reinforcing bars shall conform to PNS 49 or ASTM A 615, or approved quality. Bars shall be free from flaking rust, mill scale, grease, or coating of any type that would tend to reduce or destroy the bond.

2.1.6.5 Masonry and Concrete Works

All exterior walls shall be 150mm thick CHB as indicated otherwise on the drawings. All CHB wall shall be reinforced by 10mm diameter deformed bars vertical and horizontal at every 0.60m on the center and to every 3 layers of CHB, respectively. The concrete columns and footings shall be reinforced by 25 mm diameter deformed bars with 12 mm diameter lateral ties space @ 0.20m on center or as specified in the drawings. Also, concrete beams shall be reinforced by 20 mm diameter deformed bars with 10mm diameter stirrups space @ 0.20 m on center or as specified in the drawings. All walls shall be plain cement plaster finish except as otherwise indicated in the drawings. Mortar to be used shall be one (1) part cement with three (3) parts of the mortar sand. Grout shall be sufficient fluid to insure complete pouring of all sections of masonry requiring grout, but not so thin as to allow propagation and segregations of aggregates. Concrete use of footings, slabs, columns and beams shall be class "AA" (1:2:3) mixture. Concrete slab shall have 10mm thick properly laid on base coarse thoroughly packed and tampered. Concrete slab of the building shall have reinforcing bars of 10mm diameter space at 50mm on center both ways or as specified on the drawings.

2.1.6.6 Placing of Concrete

Placing of concrete shall be machine-mixed at the site. Hand mixing of concrete will be only allowed in case of mixer breakdown, in which case it shall be stopped as soon as poring of the particular section is complete or at contraction joint as directed by PPA Engineer. No placing of concrete will be allowed without concrete vibrator machine.

2.1.6.7 Tileworks

Passenger Waiting Area

Provide and install 400mm x 400mm ceramic tiles for the entire flooring of passenger waiting area or as shown in the drawings.

Flooring of Existing Waiting Shed

Provide, install and replace 300mm x 300mm vinyl tiles for existing damage floor tiles as directed and accepted by the Engineer.

Comfort Rooms of Existing Waiting Shed

Provide, install and replace 8" x 8" thick glazed ceramic tiles laid on walls and 8" x 8" thick unglazed ceramic tiles for flooring of existing comfort rooms as directed and accepted by the Engineer.

2.1.6.8 Carpentry

Lumber

(S4S) Apitong or equivalent – for all trusses, purlins, fascia board, ceiling joist and others as specified on plan.

Coco Lumber – for all forms and scaffoldings

Ordinary Plywood – for interior ceiling board.

Marine Plywood – for exterior ceiling board.

Doors

Fabricate and install two (2) units double action aluminum glass doors with fixed glass on top for main entrance using clear glass ¼" thick, ¼" x ½" for aluminum moulding and 1 ¾" for fixed aluminum door frame as shown in the drawings.

Windows

Fabricate and install nine (9) units steels casement window with fixed glass on top using ¼" thick clear glass, shown in the drawing. Also provide twenty eight (28) sets of 1.5 m x 1.6 m venetian blinds to be installed in all windows.

Downspouts

Pipes for downspout shall be PVC 3" diameter. All connections of pipes and fittings and their run shall be properly concealed.

Hardware

Provide one hundred seventy (170) pieces 10 mm dia. X 0.25 m bolt with nut and washer and three hundred sixty (360) pieces 10 mm dia. x 0.20 bolt with nut and washer to be installed in all wooden truss members for joints and connections.

2.1.6.9 Plumbing Works

Provide and install the following for replacement of plumbing fixtures and accessories for the existing building.

Four (4) sets water closet complete with fittings and accessories "saniware" brand or equivalent.

Two (2) sets urinal bowl with flush for men "saniware" brand or equivalent.

Two (2) set lavatory complete with accessories "saniware" brand or equivalent.

All plumbing installations and fixtures shall follow the standard practice according to the existing National Plumbing Code.

2.1.6.10 Roofing Works

Provide and install color bounded corrugated G.I. sheet gauge 26 for roofing with prefabricated gutter, ridge roll and flashing. All tekscrew used shall be properly nailed and sealed with roofing sealant.

2.1.6.11 Electrical

All works on the electrical system shall be under the direct supervision of a licensed Electrician. All materials to be used for the system should be new (see electrical plan layout). Electrical wire to be used shall be used THW wire nos. 2, 3.5 & 14 sq.mm. (stranded). Provide fifteen (15) sets of 40 watts fluorescent lamp (single), five (5) sets of watts energy saving light. Also, provide and install four (4) units airconditioning unit, 3-tonner package type, one (1) unit window Type 1.5hp.

2.1.6.12 Painting Works

CHB Walls, ceiling boards and windows shall be painted with at least 2 coatings. The brand and color of paint to be provide by the Contractor shall be at the choice of PPA.

3. CLEARING/CLEANING

After completion of project, the surrounding shall be cleared of all waste and excess materials. All existing scarified materials shall be placed to the area specified by the Project Engineer. Use lumber forms/scaffoldings shall be turned-over to PPA.

4. METHODS OF MEASUREMENT AND BASIS OF PAYMENT

All works accomplished in this project shall be measured in quantities as specified in the Bid Document for this project. It shall be paid individually for each item and payment made shall constitute full payment for all materials, labor and equipment used in the completion of each work item mentioned. All portions of the work previously rejected by the PPA Engineer/ Inspector shall not form part of the accomplishment to be paid.

All matters/changes relative to this project specification shall be brought to the attention of the Authority or the Project Engineer/Inspector assigned thereat.