

CONSTRUCTION OF COFFEE PROCESSING CENTER

Brgy. Aga, Nasugbu, Batangas

GENERAL CONDITIONS AND SPECIFICATIONS

SECTION I

EXCAVATION FILING AND GRADING

1.1 SCOPE

The work covered by this section of the specification consist in furnishing all items, articles, methods, plants, labor equipment appliances and materials and in performing all operations that may be necessary proper or incidental, to complete excavation, filing backfilling and grading in accordance with this section of specification all applicable plans and drawing, and subject to the term and condition of the contract.

1.2 EXCAVATION

A. The contractor shall make all necessary excavations for foundations to grades indicated without extra compensation including all other excavations, required and necessary for the proper persecution of the work. Incidental excavation to the level the bottom of footings compacting and tamping are included in the building contract.

B. Footing shall not be placed on fill.

1.3 FILLING AND GRADING

A. All excavations shall be backfilled presently as work permits after concrete walls and piers have attained full design strength and/or as the engineer directs.

B. After all forms have been removed from footings, walls and piers, the materials from excavation free from wastes and objectionable matter shall be use for backfilling around them. This filling shall be used for layers not exceeding 0.15 mts. (6"), thoroughly tampered.

C. In spaces where slab rest on ground, (or on fill) this shall be levelled and accurately graded with 0.10 mts (4") of gravel and sand, and tampered thoroughly before concrete pouring is done.

SECTION 2

CONCRETE AND MASONRY WORKS

2.1 GENERAL

All concrete work shall be done in accordance with standard "specification for government reinforced concrete" as adopted by the government in so far as it does not conflict with the specific provisions specified herein for "concrete masonry works" and the revised proportioning of concrete as specified hereinafter.

2.2 USE CLASS "A" (3000-PSI CONCRETE) FOR FOOTINGS, COLUMNS, BEAMS, AND ALL CONCRETE SLABS. (2500PSI) FOR SLAB ON FILL.

2.4 REINFORCING STEEL

Unless otherwise shown on plans, reinforcing steel shall be deformed bars, standard size, and in accordance with the metal reinforcement and requirements of standard specifications for concrete and reinforced concrete.

2.5 WOOD FORMS

Shall be sound, good quality lumber, free from large loose knots and shall be less than 1/2" thick plywood, or boards of even thickness.

2.6 CONCRETE HOLLOW BLOCKS

For walls and partitions shown in the drawing requiring concrete hollow blocks, use approved machine locally made blocks.

A. Specimens shall be representative of whole lot of units from which they are selected. (Twenty days before any work is started)

B. Reinforcing bars shall be 3/8" diameter bars. All horizontal reinforcement must be tied to the vertical reinforcement at their intersection. All horizontal reinforcement must be place at every three layers of hollow blocks and tied to the vertical reinforcement at 0.80m on centers at their intersections.

SECTION 3

FLOOR AND WALL TILES, FLOOR FINISHES

3.1 SCOPE

The work covered by this section of the specification consist in furnishing all plan, labor, equipment, appliances, methods, and materials and in performing all operation in connection with the installation of all floor tiles, floor finishes, complete in strict accordance with this section of the specifications and applicable drawings, and subject to the terms and conditions of the contract.

3.2 CEMENT FINISH OF CONCRETE FLOORS

Concrete floor without specific finish, find whenever so shown on plants as cement finish shall be given a wearing surface of 1:2 cement; one centimetre thick, applied immediately after the concrete has been placed and before it has set. The mortar shall be spread and troweled will to a smooth, even surface with sufficient slope for drainage where necessary. Straight v-grooves shall be placed where so indicated on plans and in accordance with patterns shown.

3.3 GENERAL REQUIREMENTS, TILES ON VERTICAL SURFACE

Vertical units and joints together with caps, cases and moulding, shall be maintained plumb and level and even. Every fourth coarse shall be brought to a level and straight line. All caps, bases cave mouldings or other trim tile shall be backfill with mortar. As soon as the mortar setting bed has sufficiently hardened, the tile walls or any vertical surface shall be washed with clean water prior to grouting or pointing. All tiles shall be firmly secure in place and all finish surfaces brought to true and level planes.

SECTION 4

DRAINAGE SYSTEM AND SOIL PIPING

4.1 SCOPE

The work covered by this section of the specification consist in furnishing of all plants, labor, equipment, appliances and materials and performing all operations, proper or incidental. In connection with the installation of drainage system and the sewer piping to and from septic vaults and private sewer as the case may be, applicable drawings and subjects to the terms and condition of the contract.

4.2 WORK INCLUDED

The following item of work are included:

- a. Septic well

SECTION 5

PLUMBING

5.1 SCOPE OF WORK

A. The contractor shall furnish all labor, tools and materials necessary for the complete installation of the plumbing system, including all fixtures and connections of the building to the sewer, or to and from septic vault as the case may be.

b. The plumbing shall also include the water service to all fixtures and equipment within the building, the water supply pipes to the water main. It also includes the waste, soil and bent pipes.

c. The contractor shall pay all fees and permits incidental to the completion of the work, ready for service.

d. All works shall comply with the pertinent provisions of the national plumbing code of the Philippines.

5.2 THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL PIPINGS. HOWEVER, WHERE LOCAL AND/OR ACTUAL CONDITIONS OF THE JJOB OR AT THE JOB SITE NECESSITATE A DEVIATIONS OR RE-ARRANGEMENT. THE CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL DRAWINGS FOR THE PROPOSED ARRANGEMENT.

5.3 PIPING

A. Every water closet and lavatory shall have a separate shut-off.

B. Water pipes shall consist of standard steel galvanized pipes.

C. Exposed bent pipes in rooms or on the exterior of the building 2 inches diameter shall be of steel, galvanized pipe. Waste pipes shall be of cast iron, except those exposed in rooms which shall be nickel plated like traps.

5.4 COVERING OF WORKS

No drainage of plumbing system or part thereof shall be covered until it has been inspected, tested and approved as specified.

SECTION 6

WATER DISTRIBUTION

6.1 GENERAL REQUIREMENTS

A. The contractor shall install the water distribution system complete with connections to public utility service main and service connection to buildings.

B. The layout of water pipes shall be approved by the engineer before any work in the water supply piping is started.

6.2 VALVED

A. Valves 3-inch diameter and under shall be bronze

B. No valve shall be set under roads, pavements or walls, except where noted. All valves on waterline underground shall be provided with cast iron extension boxes and covers at grade properly identified or marked "w" or enough to extend two feet above top of deepest valve box shall be provided for each valve furnished.

C. All water supply to each room shall have separate gate valve.

6.3 PIPE SIZES

Refer to the working drawings.

SECTION 7

CARPENTRY AND JOINERY WORKS

7.1 SCOPE

The work covered by this section of the specifications consists in the furnishing of all items, articles, plants, labor, materials, equipment, appliances and everything listed mentioned or scheduled on drawings and in the specifications and in performing all operations necessary for the completion of all carpentry and joinery work in

accordance with all applicable drawings and full size details, and subject to the terms and conditions of the contracts.

7.2 GENERAL CONDITIONS

A. Lumber shall be of the approved quality of the respective kinds required for the various parts of the work, well seasoned, thoroughly dry, straight and free from large loose or unsound knots, sap, shakes, or other imperfections impairing its strength, durability or appearance.

B. Framing lumber shall be of the rough lumber shown on drawings.

C. All exposed wood work shall be smoothly dressed and well sand papered.

7.3 FRAMES

All frames shall be done as far as possible with carefully putted mortise and tenent joints.

7.4 WORKMANSHIP

Unless otherwise specified, all wood mouldings, wood framing for doors and windows, cabinets and doors shall be shop-fabricated.

7.5 DOORS, GENERAL

A. All lumber for doors including bar doors, cabinet and closet doors and all wood work of similar nature, shall be kiln dried with not more than fourteen percent (14%) moisture content.

B. All doors must be guaranteed against warping, twisting, or cracking for a period of six (6) months from the date of final acceptance of the finished buildings.

7.6 KINDS OF LUMBER

Use kiln dry lumber for the following:

A. All wood in contact with or embedded in concrete masonry or plaster

B. All wood plates, if any

C. All doors, jamb, window frames, headers

D. All ceiling joints and nailing strips

E. Studding for plywood partitions

- F. All T&G wood ceiling if any
- G. All wood lattice and perforated wood works
- H. All interior wood work for closets, cabinets, drawers, etc.

7.7 KINDS OF PLYWOOD

Marine plywood for interior works and ordinary plywood for exterior works.

SECTION 8

PLUMBING FIXTURES (TOILET AND BATHROOM ACCESSORIES)

8.1 SCOPE

A. The work covered by this section of the specifications consists in furnishing all plants, labor, equipment, and tools articles, appliances and materials, and in performing all operations in connection with the installation of all plumbing fixtures, fittings and accessories complete in strict. Accord this section of the specifications and the applicable drawings, and subject to the term and conditions of the contract.

B. All plumbing fixtures, fittings, accessories, materials and all work obviously necessary for the proper functioning of all installations, whether or not specifically called for in the specifications or indicated on drawings, pre-included in this work.

C. Mirrors, glass shelves, electric water heaters, etc. whether shown or indicated on drawings are in this work.

8.2 MAKE

Locally manufactured plumbing fixtures shall be provided with U.S. manufacture fittings and accessories.

8.3 LAVATORIES

The contractor shall provide and set complete ready for service the following lavatories:

A. For all toilet rooms, use "Philippine Standard" vitreous China lavatory "New Lucerne" Modern PF 361, colored, size 16" x 20", with splash back-front overflow, anti-

splash rim cast-in-soap dish, basin off-center. To right hand side, pocket hanger and integral China brackets, (or approved equivalents)

B. Elsewhere, "Northern Hill" Grecian acid resisting enameled cast iron built-in lavatory with stainless steel frame (MF-1824) integral front overflow, anti-splash rim and two cast-in-soap depression, colored, size 20" x 18" (or approved equivalents)

8.4 WATER CLOSETS

Philippine standard, vitreous China free-standing close coupled closet combination "Compton" model PF 2107 colored, integral seat siphon wash bowl with jet, extended rear shelf, PF 4049 tank with cover and with locking device (or approved equivalents)

SECTION 9

HARDWARE

9.1 GENERAL CONDITION

A. The contractor shall provide all rough hardware required for the completion of work, including nails, spikes, bolts, lag, screws and shall provide and fit in place all finishing hardware hereinafter specified -put in the most improved manner with screws to match the finish.

B. Finishing hardware, suitable to the service required fully equip in the most satisfactory operative conditions, for all doors, windows, transom sashes, screen doors and windows, closet, built-in cabinets, counters, drawers, and other operating members throughout the project shall be furnished and installed or fitted by the contractor.

9.2 FINISH

Unless otherwise specified, exposed surface shall have the following U.S. standard finish.

- a. US 9 (policed, bright brass or bronze)
- b. US 6 (policed, chromium plated over nickel on brass) brass or bronze surface exposed in toilets, lavatory and shower and all others in the interior of the building.
- c. USP (Prime coated for painting) ferrous metal surfaces, unless zinc coated.

9.3 BUTT HINGES

Each panel of hinged door shall be hung on two (2) butts of doors 1.5m or less in height; three (3) butts over 1.5m high and not over 2.1m.; four (4) butts above 2.1m in height.

9.4 DOOR STOPS

Well type stops; cast bronze or brass, of approved plans and as specified shall be provided at all doors where the door or any items of hardware thereon strikes a wall, or other construction member submit samples for approval.

SECTION 10

STEEL WINDOWS, DOORS AND WOOD LOUVER WINDOWS

10.1 GENERAL

All windows, doors and structural steel shall be of intermediate and of the types shown on plans.

10.2 SCOPE OF WORK

The work covered by these specifications consists in the furnishing of all plant, equipment, appliances and materials, and labor in performing all connection with the installation of steel windows and doors complete in strict accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the contracts.

10.3 MATERIALS

All members shall be hot-rolled new billet steel frame and ventilators sections not less than 1" deep from front to back. Frame members to be equal leg design only at points where called for by detailed drawings. Zoo-type section of special design, with offset permitting down-turned leg of the bent member to seat flush when bent is in a fully closed position shall be used for frame. Ventilator have integral weathering battles provided double flat parallel weathering contracts of not less than ¼" width on all four sides of the vent. Muntis shall be 1/8" x 1".

10.4 CONSTRUCTIONS

Corner events shall be electrically butt welded and ground smooth. Corners of the frames all the window joints and interjections of Muntis with frames and all vent members shall be coped and electrically yielded, Muntis bars, except where ventilators accord, are to be continues from jamb to jamb. Muntis cross joints; shall be rigidly and neatly interlocked with faces flushed. Frame sections at vent sills have weep holes provide for drainage. Continues whether drips shall be provided where required at the heads for side hinged ventilator or doors. Windows and doors shall be designed for glassing from the outside with wire glazing cups and steel casement putty.

10.5 SIDE-HINGED VENTILATORS

A. Casement Type:

Each ventilator shall be hung on two heavy not rolled steel hinges of the extension type, welded to both frames and vent. Hinged design shall provide ferrous to non-ferrous contracts between all movable surfaces. Hardware shall control the ventilator independently of the screen and shall consist of a polished bronze locking handle and worn drive operator ventilator over 5'-0" in height shall have three (3) hinges and double locking device.

B. Polished bronze locking handle and strike shall be furnished for ventilators 5'-0" and under in height, two point locking device and three hinges be furnished for vents over 5'-0" in height.

10.6 WOOD LOUVERS

All wood louver doors & windows shall be of Tanguile Wood type. Double action hinges shall be provided to all wood louver doors located at all toilet rooms with barrel bolt locks.

10.7 SHOP FINISH

Rust resisting priming paints: All doors and windows shall receive one (1) coat of rust resisting priming paints, (first quality red lead paint) applied at the shop after fabrication.

10.8 ERECTION

A. No windows or door unit shall be allowed, in any case, to be installed in place in the form work previous to pouring concrete. Instead grooves for grouting shall be caused to be formed along the sides and heads of wall opening. Concrete below level of finished masonry or concrete opening, leaving the balance of grouting after window or door units are set in place.

B. Standard Anchors;

Clips, bolts, or screws shall be provided by the window manufacturer.

C. Grouting;

Windows and doors shall be grouted with a non-shrink aggregate as follows;

D. 1. Where free passage of grout is not hindered by pea gravel, grouting mix shall be:

1 part embeco non-shrink aggregate

1 part Portland cement

1 part sand

1.5 parts pea gravel (size 1/4"-3/4")

10.9 FIELD PAINTING

Prior immediately after steel windows and doors have been erected and before glazing, one coat of oil-base or metal protective paint shall be applied. A second coat shall be applied after putty has dried and set, not sooner than three weeks after glazing.

10.10 SHOP DRAWINGS

The contractor shall, before proceeding with the manufacture of steel windows and doors, prepare and submit complete manufacturing and installation drawing in full sizes and in triplicate, together with samples of member-sections and hardware to be used for approval.

NOTES:

- a. Use 200mm x 200mm x 10mm base plate with 2-20mm dia. X 450mm long anchor bolts at every supports of concrete beam/column.
- b. Use 4.75mm thick gusset plate at every point.
- c. Use Ga. 14 – 50mm purlins at 600mm on center.
- d. Provide 12mm dia. Sag rods for every 2m span, see roof framing plan.
- e. Provide 16mm dia. Cross bracing with turn buckle.
- f. Provide 1/2" thick steel base plate with 2-20mm dia. Anchor bolt to all truss resting in beams.
- g. Use 1/2" base plate for all truss interconnections and supports.
- h. Steel truss members and other framing shall be upgraded if not available in the market.

- i. Apply one (1) red lead primer upon delivery and another coat prior to installation.
- j. It is the Contractor's responsibility to make actual measurements prior to fabrication and must check all required steel section of trusses.

SECTION 11

ELECTRICAL, WIRING INSTALLATIONS

11.1 GENERAL

A. Under these specifications, the contractor shall furnish and deliver all equipment, materials, labor and supervision at the site or construction and shall install complete, ready for service, the electrical wiring installation of the buildings, all in accordance with the plans and accompanying specifications.

B. Tenders shall include the electrical installations complete as shown on plans including the service entrance ducts for the lighting and power systems, service meter and meter cabinet, feeder duct and feeder conductor, feeder panels, distributions branch circuits, conduit piping, conduit boxes, junction boxes, well switches, telephone outlets, convenience outlets, ceiling line outlets, recessed light outlets, lighting fixtures and outlets, air-conditioner and outlets, and all electrical connections of any description that may be required to complete the installation ready for service, all in accordance with the National and Philippine Electrical Codes, although such equipment and devices may not show on plans nor mentioned in these specifications.

C. All conductive and metallic materials enclosing electric conductors and equipment shall be positively grounded and shall have electrical continuity for the purpose of preventing a potential above ground on all metallic enclosures

D. The electrical work to be installed hereunder shall comply with the rules and regulations of the latest edition of the National and Philippine Electrical Codes with the existing applicable ordinances or the local government and with the rules and requirements of the local power and telephone companies.

E. All electrical materials, equipment, appliances, device, fittings to be used hereunder be brand new and of the types and manufacture approved by the Amedal National Board Office Underwriter's Laboratories, Incorporated.

11.2 TEST AND GUARANTEE

A. When the installation is reported in writing by the electrical contractor to be complete and ready for acceptance, test as directed shall be made by the electrical contractor in the presence of the engineer-in-charge.

B. All apparatus, materials and labor required for making test of all work shall be supplied by the contractor at his own expense.

11.3 DISTRIBUTION PANELS AND CABINETS

Shall be standard factory products of a reputable electrical manufacturer and shall be of the flush type. All trims shall each have a door equipped with chrome-plated catch look and two (2) keys.

11.4 CONDUIT WORKS

A. Conduit to be installed for this project shall be PVC electrical conduits smooth inside and free from flaws and imperfections.

B. No conduit of less than ½ inch nominal diameter will be permitted on any-part of the installation and shall be larger where so required by the number and size of wires to be installed therein.

11.5 WIRING METHODS

All conductors shall be used for this project shall be rubber-covered, double braided, single copper conductor of the approved type of building wires. They shall rubber-covered, double braided, single copper conductors. If run in underground conduits or conduits installed at wet locations, conductors shall be thermoplastic type "TW" or rubber covered type "RW" use "Phelps Dodge" electrical wire and cables.