



Republic of the Philippines
CAVITE STATE UNIVERSITY
 Don Severino delas Alas Campus
 Indang, Cavite

ADMN-QF-09

BILL OF QUANTITIES

CONSTRUCTION OF FACULTY HOUSING (PHASE II)				Bill of Quantities	
ABC: ₱ 10,000,000.00					
COLLEGE/UNIT/CAMPUS: MAIN CAMPUS					
Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I	PRELIMINARY WORKS AND EARTHWORKS (Pesos _____ _____ and _____ centavos)				
II	CONCRETE WORKS (Pesos _____ _____ and _____ centavos)				
III	MASONRY WORKS (Pesos _____ _____ and _____ centavos)				
IV	TILE WORKS (Pesos _____ _____ and _____ centavos)				
V	CARPENTRY WORKS (Pesos _____ _____ and _____ centavos)				
VI	RAFTERS AND ROOFING WORKS (Pesos _____ _____ and _____ centavos)				
VII	MISCELLANEOUS WORKS (Pesos _____ _____ and _____ centavos)				
VIII	ELECTRICAL WORKS (Pesos _____ _____ and _____ centavos)				

IX	PLUMBING WORKS (Pesos _____ _____ and _____ centavos)				
X	PAINTING WORKS (Pesos _____ _____ and _____ centavos)				
GRAND TOTAL _____					
Write grand total in words _____ _____ _____					

Submitted by: _____ Date: _____
Name of Bidder/Bidder's Representative: _____
Position: _____
Construction Company/Contractor: _____

CAVITE STATE UNIVERSITY

SCOPE OF WORK:

A. CONSTRUCTION OF FACULTY HOUSING (PHASE II)

GENERAL NOTES:

1. The project should be finished in 120 calendar days.
2. Actual site inspection is a must. Verify the actual condition of the site.
3. This set of specifications shall govern the methods of construction and the kinds of materials to be used for the proposed project shown in the plans and detailed drawings.
4. All parts of the construction shall be finished with first class workmanship, to the fullest talent and meaning of the plans and these specifications, and to the entire satisfaction of the project inspector and the end-user.

B. Technical Description

I. Preliminary Works and Earthworks

A. Permit Processing, etc.

1. Taxes, fees, etc.
2. Conduct confirmatory soil boring tests.
3. Provide certified true copy of clearances and permits.
4. Include application for Certificate of Occupancy.

B. Mobilization / Demobilization

Provide the following:

1. Billboard with project information
2. Bunkhouse with temporary office
3. Temporary comfort rooms
4. Site temporary enclosure may be blue sack or any suitable materials that may enclose the workplace.
5. It includes cleaning up of site, clearing, hauling and disposal of waste and construction debris before and after the construction work at least six meters away from the building line. Notify the end-user regarding the properties that need to be hauled away from the site prior to construction. All waste materials shall be disposed of by the contractor at his expense.
6. Any excess materials resulting from all earthwork operations not required or unsuitable for backfill as directed by the project inspector, shall be disposed of by the contractor at his expense.
7. Restoration of any damages shall also be done before exiting the area.

B. Earthworks

a. Staking out the building lines

1. The building lines shall be staked out and all lines and grades shown in the drawing shall be established before any excavation is started. Batter boards and reference marks shall be erected at such places where they will not be disturbed during the excavation of the building.

b. Excavation

1. This work includes excavation for all footings, columns, wall footings, tie beams, catch basins and septic tanks.

c. Backfilling Works

1. Backfill and fills shall be placed in layers not exceeding 150 mm in thickness, and each layer shall be thoroughly compacted by wetting, tamping and rolling.

d. Additional Fill and Gravel fill

1. Provide additional fill.
2. Gravel fill should be 0.05m thick.

C. Soil poisoning

1. The area should be treated with termite proofing. Termite proofing should be conducted by an accredited termite specialist.
2. The contractor shall provide a service guarantee covering the treatment of termite infestation or the repetition of the above termite control services without extra cost to the end-user if any manifestation of recurrence or infestation occurs during the guarantee period of one year.

II. Concrete Works

A. Cast-in place concrete

- A. Concrete works include columns, footings, stiffener columns, wall footings, slab on fill, ledge/canopy, concrete counter. perimeter walk, roof beams, and all other

- concrete components needed to complete the structure.
- B. Provide lintel beams for the opening of windows and doors. Use 0.15m x 0.20m reinforced with 2-12 mm Ø bars enclosed with 10mm Ø bars spaced at 0.20m on center.
- C. Provide concrete pathwalk with 4" CHB zocalo around the perimeter of the building. W = 1.0m; Thickness = 0.10m
- D. Provide columns with footings for every three meters of perimeter walls.
- E. Strength of concrete to be adopted shall be 3,000 psi at 28 days equivalent to Class A mixture.
- F. Provide trial mix for cast-in place concrete.
- G. Concrete works should be plain cement finish.
- H. Provide necessary tools and equipment needed for concrete works.
- I. Reasonable number of tests on the concrete is required by the implementing agency during the progress of the work. Not less than two (2) cylindrical specimens shall be reserved for the 28th day test. The Contractor shall pay for the cost of material testing.
- J. In case of failure of test cylinders to meet the specified strengths, the Contractor shall at his expense obtain concrete core samples from the poured concrete and the compressive strength of same be taken by a competent testing authority to determine the conclusive strength and integrity of the concrete poured.
- B. Steel reinforcement
 - 1. Provide 10 mm Ø deformed bars at 0.30m on center both ways for slab on fill .
 - 2. Use deformed bar grade 33.
 - 3. See plan for the quantity and sizes of steel reinforcement
 - 4. Provide necessary tools and equipment needed for steel works.
 - 5. See plan for details and extent of work.
 - 6. The contractor shall furnish 2 copies of the manufacturer's certificate of mill tests of all reinforcing steel. The contractor shall at his own expense employ an approved testing laboratory which shall conduct testing of all reinforcement sizes of each bulk under the supervision of the project inspector.

III. Masonry Works

- A. CHB laying
 - 1. Installation of CHB reinforced with 10 mm Ø deformed bar spaced at 0.60 m. on center every three layers.
 - a. CHB 5" for the perimeter/ exterior walls and septic tanks, perimeter walls at rear and two sides.
 - b. CHB 4" for interior walls.
 - 2. Masonry works should be plastered plain cement.

IV. Tile Works

Supply and installation of the following:

- 1. Ceramic colored tiles (locally made) 0.40m x 0.40m for the concrete counters and whole floor area of the building. Tiles must be accented with dark colors.
- 2. For the comfort rooms:
 - a. Adopt unglazed ceramic colored tiles 12" x 12" for flooring
 - b. Adopt glazed tiles for the entire wall from floor to ceiling.
- 3. Consult the end-user for color preference of tiles.

V. Carpentry Works

- A. Formworks
 - 1. Provide necessary form lumber and scaffolding needed for the completion of the project.
- B. Ceiling Works
 - 1. Provide ceiling works for the whole area.
 - 2. Use 3/16" thick fiber cement board for ceiling board.
 - 3. Use metal furring as ceiling runner and ceiling joist at 0.40m on center both ways.
 - 4. Provide 3/16" x 1" flat bar coated with primer and paint for ceiling hanger every 1.20m. both ways.
 - 5. Use wall angle on the perimeter walls.
 - 6. Use rivet or black screw for connections.
 - 7. Provide 3" decorative ceiling cornice/wooden molding to all ceiling perimeter and corners.
 - 8. Use pre-painted spandrel for the whole area of eaves.
 - 9. Provide pre-painted spandrel with holes as ceiling ventilation for every 1 meter

and all corners of the eaves.

VI. Rafters and Roofing Works

A. Rafters

1. See plans for sizes of bar and other details for the installation of steel rafters. All tubular should be 2.0mm thick.
2. This work also includes painting of two (2) coats of epoxy primer and two (2) coats of quick dry enamel black.
3. Provide necessary tools and equipment.
4. All joint connections should be fully welded.
5. Use galvanized CEE purlins ga. 16, 2" x 4" (1.5mm thick) at 0.60m on center.
6. Provide ¼" x 2" angle bar for purlins connector or cleats.
7. Provide 4-16mm Ø anchor bolts with nuts and washer for each support.

B. Roofing

1. Adopt gauge 26 (0.5 mm.) rib type pre-painted colored roofing sheets.
2. Adopt gauge 26 (0.5 mm) pre-fabricated and stainless gutter.
3. Adopt gauge 26 (0.5 mm) pre-fabricated and stainless flashing.
4. Adopt gauge 26 (0.5 mm) pre-fabricated and pre-painted fascia cover.
5. All attachments for roofing sheets shall be 2 & ½" teck screw for metal.
6. Provide water sealant for all attachments. Water sealant should be provided for both inside and outside surface of teck screw head.

VII. Miscellaneous Works

A. Supply and Installation of Doors

- a) 8.0 sets D-1: Pre-painted steel door with view window, complete with heavy duty accessories.
- b) 8.0 sets D-2: Pre-painted steel door, complete with heavy duty accessories.
- c) 16.0 sets D-3: Flush door with 2" x 5" KD jamb, complete with all accessories
- d) 8.0 sets D-4: PVC door, complete with all accessories

B. Supply and Installation of Windows

- a) 24.0 sets W-1: Aluminum sliding window with ¼" thick clear glass on powder coated finish on aluminum frame; complete with all accessories, with 12mm square bar grills.
- b) 16.0 sets W-2: Aluminum awning window with ¼" thick clear glass on powder coated finish on aluminum frame; complete with all accessories, with 12mm square bar grills.
- c) 8.0 sets of W-3: Aluminum sliding window with ¼" thick clear glass on powder coated finish on aluminum frame; complete with all accessories, with 12mm square bar grills.
- d) 8.0 sets W-4: Aluminum awning and fixed window with ¼" thick clear glass on powder coated finish on aluminum frame; complete with all accessories, with 12mm square bar grills.

C. Aluminum cabinet with drawer

- a) 8.0 units of Aluminum cabinet with drawer for kitchen counter

VIII. Electrical Works

1. Supply and installation of feeder line and concrete secondary post including all its accessories.
 - a. Installation of MDP, ACP, LP and all other panel boards on the plan and their circuit breakers. Bolt-on type Nema Standard should be used. Tap to the source including testing.
 - b. 4 sets of service entrance concrete pedestals and 8 sets of RSC/IMC metal conduit, Thhn copper wire, disconnecting mean (ECB), grounding rod, solderless connectors, oval eye-bolt 1" dia. x 6" length and electrical service entrance accessories.
2. Supply and installation of wiring/conductors and PVC conduits/ junction box/ utility box from main/ sub-main panel boards to convenience outlets/ light outlets/ ACU outlets.
 - a. THWN/THHN stranded wire, phelp dodge or approved equal.
 - b. PVC conduit orange pipe with sizes indicated on the plan.
 - c. Utility and junction boxes should be PVC and deep type.
3. Supply and installation of electrical fixtures/ switches/ outlets and other electrical

devices in accordance with the plan.

- a. Switches (Bticino, National or approved equal)
 - b. Convenience outlets (Bticino, National or approved equal)
 - c. Outlets for ACU, Emergency light and exhaust fan (Bticino, National or approved equal)
 - d. LED bulb 7W (24 sets)
 - e. Pinlight with 7W LED bulb (64 sets)
4. Include testing and commissioning.
 5. Consult inspectors for details and extent of work.

NOTE:

Electrical testing and guarantee, electrical supervision and final electrical inspection report should be signed and sealed by Professional Electrical Engineer with notary public.

IX. Plumbing Works

A. Water Supply Line

1. Adopt (PN 20) PPR pipes and fittings for water lines (½").
2. Tapping to the source is included.
3. No pipe should be embedded without testing it to leak.

B. Sewer Line

1. Adopt PVC heavy duty orange pipes and fittings for ventilation, downspout (Sanimold type with O-ring or its equivalent) for the whole sewer line system including septic vault fittings.
 - a. Use 4" Ø for main line and water closet.
 - b. Use 3"Ø for downspout
 - c. Use 2" Ø for lavatory and ventilation
2. Provide eight units septic tank with pipes extending to the nearest disposal area.
3. Provide catch basin with PVC pipes. See plan for sizes.

C. Fixtures

Supply and Installation of the following:

1. Colored Water Closet (tank type)
2. Wall hung lavatory
3. Stainless kitchen sink (deep type) with gooseneck faucet
4. American standard made heavy duty faucets (24 pcs)
5. Brass roof drain dome type (16 pcs)
6. Brass floor drain (16 pcs)

Note: All fixtures must be HCG, American Std, or approved equivalent complete with all accessories.

7. Storm Drainage

- a. Adopt RCP for storm drainage.
- b. Provide catch basin with concrete pipes. See plan for sizes.

X. Painting Works

A. This includes painting of the whole structures both interiors and exterior including doors.

B. Concrete and Masonry

1. This work includes the painting of the interior and exterior concrete and masonry components of the structure.
2. Repair minor surface imperfections with skim coat. Let dry, then sand. Spot coat with top coat color.
3. Apply two coats of colored factory mixed dirt resistant semi-gloss latex.

C. Ceiling

1. This work includes painting of all newly installed ceiling components in the building.
2. Apply one coat of flatwall enamel white. Allow to dry overnight.
3. Repair minor surface imperfections with glazy putty. Let dry then sand.
4. Apply at least two coats of Quick Dry Enamel in the desired color. Allow an overnight inter coating interval.

D. Metal and Roofing

1. This work includes painting of all roofing sheets and all metal components of the structures.
2. Apply red oxide primer by brush or spray. Allow to dry for 24 hours. Apply suitable putty on imperfections.
3. Apply at least two coats of Quick Dry Enamel in the desired color.
Note: Color of paint will depend upon the preference of the end-user. Paints and its accessories should be Boysen or approved equal.

- C. Contractor of the said project must provide an as-built plan of the project at the end of the contract as a requirement for the release of their final billing.
- D. For color/types of any fixtures or materials to be used on site, consult the end-user and the inspector for approval. Consult the plan and the scope of work for the extent of tasks of the contract. If possible, let the end-user sign your sample as proof of approval.
- E. The plans, detailed drawings and these specifications shall be considered as complementing each other, so that what is mentioned or shown in one, although not mentioned or shown in the other, shall be considered as appearing on both. **In case of conflict between the two, generally, the scope of work prevails.**
- F. Resident site engineer is a must for the projects to be undertaken by the contractor of the university. In cases where there are electrical works, it is required that an electrical engineer or a master electrician be a part of the contractor's team to supervise all electrical works. Likewise, master plumbers must supervise plumbing works. It can be considered when only one person is the master plumber and master electrician at the same time as long as his major duty is supervision of both fields. Safety engineer is a must as per DOLE requirement. **Note: All key personnel should be included in the list of personnel for submission.**
- G. In cases of participation in two or more projects, the set of workers and foreman shall be different per project, however, the set of engineers and equipment may be reused.
- H. Construction safety and health program as well as construction schedule (PERT/CPM/S-Curve) shall be provided by the winning bidder.
- I. All public utilities used by the winning contractor in the construction of the project, such as electricity, water, telephone, etc., shall be for the sole account of the contractor.
- J. See plans/consult the end-user and project inspector for details and extent of work. The silence of specifications, plans, special provisions and supplementary specifications as to any detail, or the apparent omission therein of detailed description or definition of the quality of materials and workmanship shall be regarded to mean that only materials and workmanship of first class quality are to be used or employed.