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

BILL OF QUANTITIES

REPAIR AND IMPROVEMENT OF BEAUTIFUL HOUSE (GRANARY)
ABC: ₱ 2,980,101.24 **Bill of Quantities**
COLLEGE/UNIT/CAMPUS: CED

Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I	PRELIMINARY AND DISMANTLING WORKS (Pesos _____ _____ _____ and _____ centavos)				
II	EARTHWORKS (Pesos _____ _____ _____ and _____ centavos)				
III	CONCRETE WORKS (Pesos _____ _____ _____ and _____ centavos)				
IV	MASONRY WORKS (Pesos _____ _____ _____ and _____ centavos)				
V	TILE WORKS (Pesos _____ _____ _____ and _____ centavos)				
VI	CARPENTRY WORKS (Pesos _____ _____ _____ and _____ centavos)				
VII	STEEL WORKS (Pesos _____ _____ _____ and _____ centavos)				
VIII	FORMWORKS AND SCAFFOLDINGS (Pesos _____ _____ _____ and _____ centavos)				

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

Submitted by: Date: _____

Name of Bidder/Bidder's Representative: _____

(Signature over Printed Name)

Position: _____

Construction Company/Contractor: _____

SCOPE OF WORK:

A. **REPAIR AND IMPROVEMENT OF BEAUTIFUL HOUSE (GRANARY)**

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, since there is an existing structure.

B. Technical Description

I. Preliminary Works and Dismantling works

A. 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. Restoration of any damages shall also be done before exiting the area.

B. Dismantling Works

1. This work includes demolition of existing stairs at the main entrance, kitchen countertops, mezzanine floor, and existing partitions.
2. Consult the project inspector for the other scope and technical details of the projects.

II. Earthworks

1. The work involves excavation of soil for footings, tie beams and wall footings. Refer to the plan for details.
2. Provide imported fill for areas to be filled, ensuring that the soil is well compacted.
3. Provide 50mm thick gravel bedding.
4. Consult the project inspector for the other scope and technical details of the projects.

III. Concrete Works

A. Cast-in place concrete

1. Concrete works include footings, columns, stiffener, slab, footing tie beans, stairs, beams, lavatory countertops, kitchen sink counter top, PWD ramp, and all other concrete components needed to complete the structure.
2. Strength of concrete to be adopted shall be 3,500 psi at 28 days equivalent to Class A mixture.
3. Provide trial mix for cast-in place concrete.
4. Concrete works should be plain cement finish.
5. Provide necessary tools and equipment needed for concrete works.
6. 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.
7. 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 at ground floor and for PWD ramp.
2. Use deformed bar grade 40.
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.

IV. Masonry Works

1. Supply and installation of CHB reinforced with 10mm Ø deformed bars spaced at 0.60m on center every three layers.
2. Use 4" CHB for supporting the imported fill for the construction of the PWD ramp and porch. The finish of the CHB should be plain cement finished.
3. Consult the project inspector for the other scope and technical details of the projects.

V. Tile Works

1. Supply and installation of the following:
   a. 12" x 12" Unglazed floor tile with grooves on the stairs and front porch.
   b. Natural Granite slab at kitchen counter top and concierge table. Refer to the approved detailed plan.
2. For comfort rooms, supply and install the following:
   a. 24" x 24" unglazed colored granite tiles for flooring
   b. 12" x 24" glazed ceramic colored tiles for the entire wall from floor to ceiling.
   c. Natural granite slab for lavatory concrete counter.
3. Consult the project inspector for the other scope and technical details of the projects.

VI. Carpentry Works

1. Provide ceiling works for the whole area of ground floor and second floor.
   a. Use fiber cement board for ceiling.
   b. Use a light steel frame for the ceiling frame. Refer to the approved detailed plans.
   c. Provide decorative wooden molding to all ceiling perimeter and corners.
   d. Provide rod suspension hanger for every 1.20m both ways.
2. Provide ceiling works for the whole eaves.
   a. Use pre-painted spandrel 4" for the whole area of eaves.
   b. Provide pre-painted spandrel with hole as ceiling ventilation for every 1 meter and all corners of the eaves.
   c. Use pre-painted spandrel for the porch ceiling.
3. Supply and installation of drywall partitions.
   a. Use MR gypsum board 4' x 8' x 9.0mm thick for double wall partition.
   b. Use metal stud at 0.40m on center and metal tracks.
4. Supply and fabrication of concierge table.
   a. Use laminated MDF wood, ¾" thick. Refer to approved detailed plans.
5. Installation of mezzanine floor.
   a. Use 4" x 16' and 4" x 12' T&G for the flooring of mezzanine floor. Ensure that it is properly fixed to the tubular frame.
6. Consult the project inspector for the other scope and technical details of the projects.

VII. Steel Works

A. Trusses

1. This work also includes painting of two (2) coats of epoxy primer and two (2) coats of QDE paint.
2. Provide necessary tools and equipment.
3. All joint connections should be fully welded.
4. For Truss 1 and HT1, use angle bars, 2" x 2" x ¼" thick for the top and bottom and 1 ½" x 1 ½" x ¼" thick for web members. Please refer to the approved detailed plans.
5. For HT 2 and HT 3, use angle bar, 1 ½" x 1 ½" x ¼" thick for top, bottom, and web members.
6. Use ¼" thick gusset plates at every connection where the members intersect and provide base plates.
7. Provide 12mm Ø with nut and washer for sag rod.
8. Use CEE purlins 2" x 4".

9. Consult the project inspector for the other scope and technical details of the projects.

B. Floor Framing
   1. This work includes painting of two (2) coats of epoxy printer and two (2) coats of QDE paint.
   2. Provide necessary tools and equipment.
   3. All joint connections should be fully welded.
   4. Use 2" x 4" x 1.5mm thick and 2" x 6" x 1.5mm thick B.I. tubular. Refer to the approved detailed plans.
   5. Consult the project inspector for the other scope and technical details of the projects.

C. Roofing
   1. Adopt gauge 26 (0.5mm) rib type pre-painted roof sheet.
   2. Adopt gauge 26 x 18 (0.5mm) prefabricated and pre-painted ridge roll.
   3. Adopt gauge 26 x 18 (0.5mm) prefabricated and pre-painted roof hips.
   4. Adopt gauge 26 (0.5mm) prefabricated and pre-painted fascia cover.
   5. Provide fascia board, 12mm x 12" (2438mm x 305mm).
   6. All attachments for the roofing sheet and ridge roll should be 2 ½" teck screw for metal.
   7. Provide water sealant for all attachments. It should be provided for both the inside and outside surface of teck screw head.
   8. Adopt gauge 26 x 18 (0.5mm) prefabricated and pre-painted ridge roll.

D. Stainless Railing
   1. Provide stainless railings for the PWD ramp, porch and stairs.
   2. Adopt 1 ½" Ø stainless steel pipe 304 Sch. 40 for the handrail and vertical pipe railing. Refer to the approved detailed plans.
   3. All joint connections should be fully welded.
   4. Adopt gauge 26 x 18 (0.5mm) prefabricated and pre-painted ridge roll.

VIII. Formworks and Scaffoldings

1. Provide necessary form and lumber and scaffolding needed for the completion of the project.
2. Adopt gauge 26 x 18 (0.5mm) prefabricated and pre-painted ridge roll.

IX. Miscellaneous Works

Supply and Installation of the following:

A. Doors

1.0	set	D-1, 1.80m x 2.10m. Double swing door with tempered glass on 52mm white powder coated aluminum frame with complete accessories
3.0	sets	D-2, 0.90m x 2.10m, Panel door on 50mm wood jamb with complete accessories
1.0	set	D-3, 0.70m x 2.10m, Aluminum door on 50mm jamb with complete accessories

B. Windows

4.0	sets	W-1, 1.75m x 1.10m in 50mm white powder coated aluminum casement window with 6mm thick clear glass with complete accessories
12.0	sets	W-2, 1.75m x 0.65m in 50mm white powder coated aluminum casement window with 6mm thick clear glass with complete accessories
1.0	set	W-3, 0.55m x 0.15m in 50mm white powder coated aluminum casement window with 6mm thick clear glass with complete accessories

X. Electrical Works

1. Dismantling of existing electrical components needed to be replaced.
2. Installation of scaffolding and chipping of concrete walls for conduit pipe raceway.
3. Supply and installation of panel boards and circuit breakers. G.E., Himel, Schneider or approved equal. Refer to Schedule of load for rating and specification.
    a. Main (125AT, 200AF, 2P, 230V, MCCB) and Branches (1-40 AT 2P, 5-20 AT 2P, 2-15 AT 2P, 2 spare) 1 set for panel MDP.
    b. 125 AT, 200 AF ECB 1 set for (Disconnecting Mean) to be installed at the service entrance concreted pedestal.
    c. 40 AT, 2P, 230V Circuit breaker w/ NEMA 3r panel enclosure 1 sets for ACU power outlet.
    d. 20 AT, 2P, 230V Circuit breaker w/ NEMA 3r panel enclosure 3 sets for ACU power outlet.
    NOTE: Bolt-on type, NEMA Standard should be used.
4. Construction of 1 set service entrance concrete pedestal (see E-5 for details).
5. 2 sets of 9.5 m concrete poles with mounting brackets (see E-5 for details).
6. Supply and installation of RSC/IMC metal conduits, PVC orange conduit pipes, conduit fittings and support brackets in accordance with the plan.
    a. RSC/IMC metal conduit pipes for service entrance.
    b. PVC orange pipe embedded all throughout. To be used only for lighting, exhaust fan
    c. PVC conduit fittings
    d. Galvanized steel for fabricated support brackets.
7. Supply and Installation of copper conductors wires, cable tie and messenger wires in accordance with the plan.
    a. THHN/THWN copper wire. 99.99% pure copper conductor, fire retardant. Phelp dodge, Philflex or approved equal. Refer to Schedule of loads for proper color coding of wires.
    b. 10 mm. diameter guy messenger wire.
    c. Cable tie 7.6 x 300 mm. installed every 500 mm.
8. Supply and installation of utility PVC box, junction box, lighting fixtures/switches/outlets and other electrical components in accordance with the plan.
    a. LED panel light, round, 3W (32 sets).
    b. LED wall lamp, 2-7W (2 sets).
    c. LED panel light, square, 20W (8 sets).
    d. Chandelier > 500 mm.dia x H1600 mm., > 50-60 watts, > 500 lm. - 600 lm., 175-265 V, Warmlight (1 set).
    e. Emergency light twin head (5 sets).
    f. Wide series switches.
    g. 2-gang convenience outlet, universal type w/ ground (18 sets).
    h. 1-gang convenience outlet, outlet for emergency lights (5 sets).
    i. Digital KWH electric meter (1 set).
    j. PVC orange junction and utility boxes.
9. Restoration/repair and re-painting of walls to be chipped.
    a. Skim coat.
    b. Portland cement.
    c. Latex flat. Boysen, Davies or approved equal.
10. Supply and installation of ACU including piping and cooling refrigerant (4 sets).
    a. 3HP, 230 V, 60 HZ, 1PH, SPLIT TYPE, AIRCONDITIONING UNIT (1 set).
    b. b. 1.5HP, 230 V, 60 HZ, 1PH, SPLIT TYPE, AIRCONDITIONING UNIT (1 set).
    c. 1.0HP, 230 V, 60 HZ, 1PH, SPLIT TYPE, AIRCONDITIONING UNIT (2 sets).
11. Include tapping to the source, electrical testing and commissioning.
    a. Continuity test.
    b. Insulation test.
    NOTE: Electrical wiring and layout is to be connected from MDP to existing single phase distribution transformer located in front of CEIT building (85 linear meter distance of MDP to DT). Provide the necessary connectors & equipment for the wiring installation.

12. Consult inspectors for details and extent of work.

XI. Plumbing Works

A. Water Supply Line
   1. Adopt (PN 20) PPR pipes and fittings for water line.
      a. Supply and installation of 25mm PPR pipes.
      b. Provide gate valve , water meter, and check valve from water source.
      c. Provide gate valves in the kitchen sink and comfort room.
   2. Tapping to the source is included.
   3. No pipe should be embedded without testing it to leak.

B. Sewer Line
   1. Adopt heavy duty orange pipes and fittings for ventilation and the entire sewer line system.
      a. Use 4" Ø for sewer lines.
      b. Use 2" Ø for VTR, lavatory, floor drains, and kitchen sink.
      c. Provide 2 cleanouts. Please refer to the approved plans.

C. Fixtures

   Supply and Installation of the following:
   1. 1 pc. heavy duty faucet (stainless) at kitchen sink.
   2. 1 unit of heavy duty spray bidet.
   3. 1 set of water closet (tank type), 680mm x 425mm x 770 mm
   4. 1 set of lavatory with faucet
   5. 2 pcs.of floor drain strainer (brass)
   6. 1 set single bowl kitchen sink.
   7. 1 set of exposed shower set

XII. Painting Works

1. Wood
   1. Apply two coats of polyurethane varnish sealer. Allow to dry overnight.
   2. Repair minor surface imperfection with glazing putty. Let dry then sand.
   3. Apply at least two coats of polyurethane varnish topcoat. Allow an overnight intercoating interval.
2. Metal
   1. Apply epoxy primer by brush or spray. Allow to dry for 24 hours. Apply suitable putty on imperfections, then sand.
   2. Apply at least two coats of Quick Dry Enamel in the desired color.
3. Concrete
   1. Treat the surface with concrete neutralizer. Mix one part with 16 parts water by volume.
   2. Apply Latex flat as primer. Repair minor surface imperfections with a suitable putty. Let dry, then sand.
   3. Apply at least two coats of colored dirt resisting semi gloss latex paint (factory mixed).

      Note: Color of paint will depend upon the preference of the end-user. Paints and its accessories should be Boysen or approved equal.

C. The 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.