



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

-ADMN-QF-09

BILL OF QUANTITIES

IMPROVEMENT OF ELECTRICAL POWER SYSTEM OF CARMONA CAMPUS					
ABC: ₱ 6,383,469.90			Bill of Quantities		
COLLEGE/UNIT/CAMPUS: CARMONA CAMPUS					
Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I	MOBILIZATION (Pesos _____ _____ and _____ centavos)				
II	EXCAVATION WORKS (Pesos _____ _____ and _____ centavos)				
III	CONCRETE WORKS (Pesos _____ _____ and _____ centavos)				
IV	MASONRY WORKS (Pesos _____ _____ and _____ centavos)				
V	MISCELLANEOUS WORKS (Pesos _____ _____ and _____ centavos)				
VI	CARPENTRY WORKS (Pesos _____ _____ and _____ centavos)				
VII	TRUSSES & ROOFING WORKS (Pesos _____ _____ and _____ centavos)				
VIII	PAINTING WORKS (Pesos _____ _____ and _____ centavos)				

IX	ELECTRICAL 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. IMPROVEMENT OF ELECTRICAL POWER SYSTEM OF CARMONA CAMPUS

GENERAL NOTES:

1. The project should be finished in 150 calendar days.
2. There is an existing structure. Site inspection is a must to verify site condition.
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. Earthworks

A. This work includes the following:

- a. Site preparation
- b. Site temporary enclosure may be blue sack or any suitable materials that may enclose the workplace.
- c. Mobilization and Demobilization
- d. Billboard
- e. Office/Bunk house, etc.

II. Excavation Works

1. Excavation work for footings and concrete encasement raceway.

III. Concrete Works

1. Concrete works include columns, footings and wall footings.
2. Concrete should be plain cement finish.
3. Provide necessary tools and equipment needed in concrete works.
4. Use deformed bar grade 40.
5. Provide 10mm Ø deformed bar @ 0.30 meter on center both ways on slab on fill.
6. Construction of service entrance concrete pedestal (2 sets - CP 1 and CP 5).
7. Construction of concrete encasement raceway.
 - * E-6, A1 design - CP 8 to CP 9
 - * E-6, A3 design - CP 9 to CP 12
 - * E-6, A4 design - CP 12 to CP 13, CP 12 to CP 14, CP 14 to CP 15, CP 15 to CP 16
 - * E-6, A5 design - CP 9 to CP 10, CP 9 to CP 11
8. Provide necessary tools and equipment needed in steel works.

IV. Masonry Works

1. Supply and installation of CHB reinforced with 10 mm Ø deformed bar spaced at 0.60m on center every 3 layers.
 - a) CHB 5" for the perimeter walls
2. Masonry works should be plastered plain cement.
3. Construction of Electrical cable chamber / manhole.
 - * E-7, B1 design (2 sets - CP 8 and CP 9).
 - * E-7, B3 design (7 sets - CP 10, 11, 12, 13, 14, 15 and 16)

V. Miscellaneous Works

1. Supply and installation of 1 set of solid panel door w/ complete accessories.
2. Supply and installation of 1 set of window w/ complete accessories.

VI. Carpentry Works

1. Provide necessary form works needed for the completion of the project.
2. Provide ceiling works inside the electrical house.

VII. Trusses and Roofing Works

1. Adopt gauge 26 (0.5 mm.) rib type pre-painted roof sheet.
2. All attachments for roofing sheet shall be 4" tek screw for metal connection
3. Provide water sealant for all attachments (water sealant should be provided inside and outside of the connection).

VIII. Painting Works

1. Apply skim coat on all concrete surfaces. Let dry, then sand.
2. Apply Latex flat as primer. Repair minor imperfections with suitable putty.

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.

IX. Electrical Works

1. Dismantling of existing electrical equipment, conductor wires and conduits needed to be replaced.
2. All damaged fixtures and materials should be replaced.
3. Supply and Installation of panel boards and circuit breakers in accordance with the plan. G.E., Himel, Schneider or approved equal.
 - a. Panel board MDP, 1 Main with 7 Branches and 1 Spare, 3P
Main: 1200AT, 1200 AF, 3P, 230V, MCCB
Branch : 1-500 AT 3P; 1-400 AT 3P, 4-200 AT 3P, 1-15 AT 2P, 1-SPARE
 - b. CONVERSION FROM SINGLE PHASE TO THREE PHASE
Panel board EBDP, 1 Main with 4 Branches and 2 Spare, 3P
Main: 500AT, 500 AF, 3P, 230V, MCCB
Branch : 2-300 AT 3P, 2-175 AT 3P, 2-SPARE
 - c. Disconnecting Mean
1200 AT/1200 AF/ 3P/230V, MCCB with NEMA 3R Metal Enclosure (to be installed in concrete service entrance pedestal)
Note: Bolt-on type, Nema Standard should be used. Refer to the plan for the exact location of panel boards and circuit breakers.
* Any discrepancies or changes shall be promptly notified to the designer or consultant.
* Load balancing shall be done if necessary.
4. Chipping works for conduit pipe raceways.
5. Supply and Installation of conductors wires, conduit pipes and support brackets in accordance with the plan.
 - a. PVC conduit orange pipe or equivalent. Neltex or approved equal.
 - b. RSC/IMC metal conduit
 - c. Utility and junction boxes should be PVC and deep type. Neltex or approved equal.
 - d. Galvanized steel for fabricated support brackets.
 - e. THHN and THW copper stranded wire, Phelps dodge, Philflex or approved equal.
6. Supply and Installation of electrical fixtures/switches/outlets and other electrical devices.
 - a. 9W LED light bulb (1 set). Philips, Firefly or approved equal.
 - b. Emergency light twin head (1 unit). Firefly or approved equal.
 - c. 1-gang switch, 15A 300 VAC. Bticino, National or approved equal.
7. Restoration, repair and repainting of concrete walls to be chipped for conduit pipe raceway.
8. Energization of circuit breakers including test and commissioning.
 - a. Phase sequence test.
 - b. Continuity test.
 - c. Insulation test.
 - d. Load test.
9. Include testing and commissioning.
10. Consult inspectors for details and extent of work.

Note:

1. Contractor's representative should assist MERALCO crew during the energization, testing and commissioning of electric KWH meter. Load balancing shall be done if necessary.
2. Electrical testing and guarantee, electrical supervision and final electrical inspection report should be signed and sealed by Professional Electrical Engineer with notary public.

D. Electrical permits, necessary clearances and other government taxes should be shouldered and settled by the contractor.

E. Contractor should have a PCAB license with a specialty in electrical works.

F. 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.

- G. 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.
- H. 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.**
- I. 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.**
- J. 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.
- K. Construction safety and health program as well as construction schedule (PERT/CPM/S-Curve) shall be provided by the winning bidder.
- L. 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.