



BILL OF QUANTITIES

IMPROVEMENT OF AGRI-ECO TOURISM FOREST PARK (Construction of Bicycle Zipline Structure and Two Units Pavilion) - 2nd Posting ABC: ₱ 1,660,492.15 COLLEGE/UNIT/CAMPUS: MAIN CAMPUS					
Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I. CONSTRUCTION OF BICYCLE ZIPLINE STRUCTURE					
A	EARTHWORKS (Pesos _____ _____ and _____ centavos)				
B	CONCRETE WORKS (Pesos _____ _____ and _____ centavos)				
C	CARPENTRY WORKS (Pesos _____ _____ and _____ centavos)				
D	MISCELLANEOUS WORKS (Pesos _____ _____ and _____ centavos)				
E	PAINTING WORKS (Pesos _____ _____ and _____ centavos)				
II. CONSTRUCTION OF TWO - UNITS PAVILION					
A	EARTHWORKS (Pesos _____ _____ and _____ centavos)				
B	CONCRETE AND MASONRY WORKS (Pesos _____ _____ and _____ centavos)				
C	CARPENTRY, ROOFING AND MISCELLANEOUS WORKS (Pesos _____ _____ and _____ centavos)				

D	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 AGRI-ECO TOURISM FOREST PARK (Construction of Bicycle Zipline Structure and Two Units Pavilion)

GENERAL NOTES:

1. The project should be finished in 180 calendar days.
2. Actual site inspection is a must.
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. Construction of Bicycle Zipline Structure

A. Earthworks

1. Mobilization/Demobilization

Provide the following:

- a. Billboard with project information
- b. Bunkhouse with office
- c. Temporary comfort rooms
- d. Site temporary enclosure may be blue sack or any suitable materials that may enclose the workplace.

2. This work includes excavation for all column footings.

3. Demobilization includes cleaning up of site, clearing, hauling and disposal of waste and construction debris. Restoration of any damages shall also be done before exiting the area.

4. The area should be cleared/cleaned before and after the construction work at least ten meters away from the building line. Unusable used components and all other unwanted debris of construction works should be disposed of properly. Notify the end-user regarding the properties that need to be hauled away from the site prior to construction.

B. Concrete Works

1. Concrete works include columns, footings, columns, slab, beams and all other concrete components needed to complete the structure.

2. Strength of concrete to be adopted shall be 3,500 psi.

3. Concrete works should be plain cement finished.

4. Provide necessary tools and equipment needed for concrete works.

5. Use deformed bar grade 40 for steel works.

6. Concrete baluster and parapet shall be installed.

7. Consult the inspector and see plan for the extent of work.

C. Carpentry Works

1. Provide necessary form lumber and scaffolding needed for the completion of the project.

D. Miscellaneous Works

1. Steps for the stairs shall use 1/4" thick checkered steel plate framed with 1/4" x 2" angle bars. See plans for sizes of bar and other details for the installation of stair and railings.

2. Tubular bars shall be 2.0mm thick while CEE purlins shall be 1.0mm thick with sizes as indicated in the plan.

3. Eye bolts with nut and washers shall be installed to the columns.

4. Bicycle and tension lines are not yet included.

5. See plans/ consult the end user and project inspector for further extent of works.

6. This work also includes painting of two (2) coats of epoxy primer.

7. Provide necessary tools and equipment.

8. All joint connections should be fully welded.

E. Painting Works

1. This work includes painting of the whole new structures.
 2. For painting of metal:
 - a. Apply zinc chromate primer by brush or spray. Allow to dry for 24 hours. Apply a suitable putty on imperfections. Sand to a smooth finish.
 - b. Apply two coats of Quick Dry Enamel in the desired color.
 3. For painting of concrete structures:
 - a. Treat the surface with concrete neutralizer. Mix one part with 16 parts water by volume.
 - b. Repair minor surface imperfections with a suitable putty. Let dry, sand then, spot coat with top coat color.
 - c. Apply two coats of colored elastomeric paint or factory mixed dirt resisting semi-gloss latex.
- II. Construction of Two Units Pavilion**
- A. Earthworks**
1. Excavation / backfilling /clearing
 - a. This work includes excavation for all column/wall footings and septic tank.
- B. Concrete and Masonry Works**
1. Concrete Works
 - a. Concrete works include columns/wall footings, columns, slab and all other concrete components needed to complete the structure.
 - b. Strength of concrete to be adopted shall be 3,500 psi
 - c. Concrete works should be plain cement finished.
 - d. Provide necessary tools and equipment needed for concrete works.
 - e. Use deformed bar grade 33.
 - f. Consult the inspector and see plan for the extent of work.
 2. Masonry Works
 - a. Installation of CHB reinforced with 10 mm 0 deformed bar spaced at 0.60 m. on center every three layers.
 - CHB 4" for the perimeter walls.
 - Masonry works should be plastered plain cement
- C. Carpentry, Roofing & Miscellaneous Works**
1. Rafters:
 - a. See plans for sizes of bar and other details for the installation of steel truss.
 - b. This work also includes painting of two (2) coats of epoxy primer.
 - c. Provide necessary tools and equipment.
 - d. All joint connections should be fully welded.
 - e. Use CEE purlins ga. 16, 2" x 3" x 1.0mm thick @ 0.60 m. on center.
 - f. Use tubular bar 2- 2" x 4" x 2.0mm thick for the fascia board.
 2. Roofing:
 - a. Adopt gauge 26 (0.5 mm.) prefabricated and pre-painted rib type sheet.
 - b. Adopt gauge 26 x 18 (0.5 mm.) prefabricated and pre-painted ridge roll.
 - c. Adopt gauge 26 (0.5 mm.) prefabricated and pre-painted fascia cover.
 - d. All attachment for roofing sheet and ridge roll shall be 4" tek screw for metal.
 - e. Provide water sealant for all attachments (water sealant should be provided for both inside and outside surface of tek screw head).
 3. Carpentry Works
 - a. Provide necessary form lumber and scaffolding needed for the completion of the project.
- D. Electrical Works**
1. Installation of 30A circuit breaker.
 2. Installation of wiring/conductors and PVC conduits/junction box/utility box from main/sub-main panel boards to convenience outlet/light outlet/ACU outlet.
 - a. THHN stranded wire, Phelps dodge or approved equal.
 - b. PVC conduit orange pipe with sizes as indicated on the plan.
 - c. Utility and junction boxes should be PVC & deep type.
 3. Installation of electrical fixtures/switches/outlets and other electrical devices.
 - a. Switches (Bticino, National or its equivalent)

- b. Pinlight with 9W LED bulb (4 sets)
 - c. LED circular lamp 15W (1 set)
- C. 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.
- D. Compression and slump tests shall be made for every batch of concrete. 1 set of tests shall be made from any one batch of concrete and all 3 tests shall be made from the same batch.
- E. 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.
- 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. 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.
- M. 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.