

Republic of the Philippines
BICOL UNIVERSITY
PHYSICAL DEVELOPMENT AND MANAGEMENT OFFICE
Legazpi City

Project Title: **REHABILITATION AND UPGRADE OF 2F OF U-BUILDING INTO THE OFFICE OF CIT**
Location: BU-East Campus, Legazpi City
ABC: **Php 1,461,250.00**
Duration: **120 C.D.**

SCOPE OF WORK & TECHNICAL SPECIFICATIONS

GENERAL CONDITIONS

All works to be undertaken shall be in accordance with the plans and working drawings. It includes the furnishing of all materials, labor and equipment with supervision necessary for the complete construction of the said project.

The plans, detailed drawings and this scope of work shall be considered as complementing with each other, so that what is mentioned or shown on one, although not mentioned or shown in another, shall be considered as appearing in both. In case of conflict between the two, the same should be referred to the designing Architect.

ITEMS OF WORK INCLUDED

I. GENERAL REQUIREMENTS

1.00 lot

This item of work includes the provisions for Project Sign Boards, Temporary Utilities and Enclosure, Safety and Health Program.

II. SITE WORKS

1.00 lot

This item of work includes the following:

Clearing and Cleaning of site before and after construction works	1.00 lot
Dismantling of existing tiles	1.00 lot
Demolition of walls on Ground and 2nd Floor for the opening of comfort Rooms	1.00 lot
Resizing of window @ Ground Floor affected by the opening of comfort Rooms	1.00 lot
excavation works	3.00 cu.m
backfilling works	2.70 cu.m
filling materials	5.81 cu.m

III. CONCRETE AND STEEL WORKS

4.07 cu.m / 1,842.85 kgs

This item of work includes pouring of concrete (compressive strength, $f_c' = 21\text{MPa}$) for structural members comprising of footing, column pedestal, slabs, lean concrete and slab on grade.

A. Concrete Works

4.07 cu.m

Cement	37.00 bags
Sand	4.07 cu.m
Gravel	2.04 cu.m

All surfaces must be plain cement finished.

All materials shall be so delivered, stored and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage.

Packaged materials shall be so delivered and stored in original packages until ready for use.

All materials delivered shall be of the respective qualities as specified.

Water to be used in gauging concrete shall be free of oil, acid, alkali, vegetable matter or other deleterious substance and shall be reasonably clear and clean. The use of sea or blackish water is not allowed.

Cements shall be of any standard commercial brand in standard 40kg bag. No re-bagged cement shall be used.

Fine aggregates used in the composition of concrete mortar, grout or plaster should consist of sand or other inert materials with similar characteristics or a combination thereof, having clean, hard, strong, durable, uncoated grains and free from injurious amount of dust, lumps, soft or flaky particles and shall not contain more than 5 percent of clay. In exposed work fine aggregates shall be free from any substance, which will discolor the concrete surface.

Coarse aggregate shall consist of crushed stones, gravel or other approved inert materials with similar characteristics or a combination thereof, having clean, hard, strong, durable, uncoated particles, free from injurious amount of soft, elongated and laminated pieces organic or other matter.

Coarse aggregate shall be well graded as to size, ranging from 6mm up to size which will readily pass between all reinforcing bars and between reinforcements and forms, but not to exceed 25mm in size for reinforced beams, floor slabs, columns, etc. and may range up to 50mm for less highly reinforced parts of structure such as footing.

Gravel under concrete slab shall be river run gravel with a maximum size of 50mm. A minimum size of 12.50mm.

Placing concrete- concrete shall be rapidly handled from the mixing site to forms and deposited as early as possible in its final position without loss of ingredients. Concrete shall be spaded and worked by hand to assure close contact to surfaces of forms and reinforcement. Concrete shall not be dropped freely more than 1.22520m (5ft.) for columns and not more than 920mm (3ft.) for footings and slabs.

Preparation for placing concrete- Before placing concrete, remove all sawdust, chips and other construction debris from the places to be occupied by the concrete. Reinforcement shall be secured in position and inspected by the authorized representative.

Curing shall be started as soon as free water has disappeared from the surface of the concrete. The entire surface of the concrete shall be covered with canvass, straw, jute sack or other satisfactory materials and kept moist by flushing or sprinkling water. Curing shall continue for a period of not less than 7 days after placing the concrete.

B. Steel Works

1,842.85 kgs

This item of work includes furnishing, fabrication and installation of ASTM grade 60, and ASTM grade 40 deformed steel bars comprising of footings, pedestal, slabs, lean concrete and slab on grade.

16mm dia x 6.00m RSB	131.60 kgs
10mm dia x 6.00m RSB	1,711.25 kgs
#16 tie wire	5.00 kgs

This item of work also includes the rental of cut-out machine and bar cutter as necessary as possible to finish the work.

Reinforcing bars shall be standard commercial deformed type.

Use 10mmØ steel bars spaced at 1200mm on center both ways for ceiling hangers.

Tie wire shall be local standard commercial G.I. wire gaug

Placing steel reinforcements – Place reinforcements securely fastened and support it to prevent displacement before or during placing of concrete. Bars shall be bent cold. Bars shall be free from rust, scales and oil. Splices in bars shall be made at critical points of maximum stresses.

Deformation of reinforcing bars shall conform to ASTM A615-68

Unless otherwise noted in the plans the minimum yield strength of the main reinforcing bars shall be as follows:

- 10 mm fy = 230 MPa (Grade 33)
- 12 mm fy = 276 MPa (Grade 40)
- 16 mm and larger fy = 414 MPa (Grade 60)

Development length requirements (l_d) shall be as tabulated in standard details.

Splice and anchorages shall follow those set from development length (l_d) unless otherwise shown in the plans or approved by the Engineer.

Standard hook for re-bars if required shall be either of the following:

Semicircular turns plus an extension of at least 4 bar diameters but not less than 65mm at free end of the bar.

90 degree turn plus an extension of at least 12 bar diameters at free end of the bar.

Minimum diameter of bend measured on the inside of the bar be as follows:

- 10 mm to 25 mm - 6 bar diameter

C. Wide Flange

1.00 lot

This item of work includes furnishing, fabrication and installation of W8 x 10 Wide Flange and W8 X 15 Wide Flange Columns and Beams.

W8 x 10 Wide Flange Steel I Beam	6.00 pcs
W8 x 15 Wide Flange Steel I Beam	6.00 pcs
12mm thick steel plate	1.00 sheet
16mm thick steel plate	1.00 sheet
16mm dia hilti awds DI.I welded stud anchor	24.00 pcs
16mm dia ASTM F1554 GR 36 anchor bolts w/std.nuts and PL washer	8.00 pcs
welding rod	30.00 kgs
miscellaneous items	1.00 lot

Please refer to the structural plan for complete details.

IV. MASONRY WORKS

155.93 sq.m

This item of work includes the furnishing and installation of machine-pressed concrete hollow blocks, 100mm thick for interior partitions walls and 150mm thick for comfort rooms reinforced with 10 mm diameter rebars spaced at 600 mm on center bothways. Concrete Hollow Blocks shall be filled with mortar and must be plain cement plaster finished.