Project Title: COMPLETION OF BU POLANGUI COMPUTER SCIENCE AND ENGINEERING BUILDING
Location: BU Polangui Campus, Polangui, Albay
ABC: PhP 19,300,000.00
Duration: 240 Calendar Days

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/Engineer.

ITEMS OF WORK INCLUDED

This program of work covers all necessary items needed for the completion of BU Polangui Campus Computer Science and Engineering Building. Such work will cover the Ground Floor construction of additional concrete pathway, transformer platform, & drainage line canal; complete renovation of comfort rooms; replacement of old existing ceilings; and repainting. On the Second Floor, this program of work will cover the construction & completion of classrooms, laboratories, storage rooms, faculty rooms/offices, corridors, and comfort rooms.

I. GENERAL REQUIREMENTS

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

II. CIVIL WORKS

A. SITE WORKS

This item of work includes the cleaning and clearing of site and disposal of waste materials, before and after construction. The contractor shall submit the waste material report prior to demobilization.

This item of work also includes excavation, backfill, filling materials, compaction, and gravel beddings needed for:

a. 2.0 m Concrete Pathwalk (Bounded by gridlines (5 to 6) and (B' to F') in the Ground Floor)
   - Excavation: 92.40 m³
   - Filling Materials and Compaction: 83.72 m³
   - Gravel Bedding (Material & Labor): 14.17 m³

b. Drainage Line Canal with Steel Grating
   - Excavation: 70.69 m³
   - Backfilling and Compaction: 10.97 m³
   - Gravel Bedding (Material & Labor): 16.63 m³

c. Transformer Platform
   - Excavation: 20.90 m³
   - Backfilling and Compaction: 17.42 m³
   - Gravel Bedding (Material & Labor): 2.09 m³

This item of work also includes demolition/dismantling and disposal as follows:

a. Demolition and disposal of walls (Along gridline 2' (D to E); B' (5 to 6); and F' (5 to 6) in the Ground Floor; Along gridline 2' (D to E), and 1 (D to E) in the Second Floor)
   - Wall Area: 15.16 m²

b. Dismantling and disposal of existing old ceiling in the Ground Floor
   - Ceiling Area: 1,223.72 m²
c. Dismantling and disposal of existing tiles in the Ground Floor
Male, Female, and PWD Comfort Rooms 227.83 m³
Porch Damaged Tiles 10.00 m³

Chipping works, removal and disposal of old plumbing fixtures and fittings in the Ground Floor
Labor & Misc. items 1.00 lot

Dismantling and disposal of existing foldable partitions in the Ground Floor
Labor & Misc. items 2.00 units

Dismantling of existing doors in the Comfort Rooms
Electrical Room, Janitor’s Room, and Storage Room in the Ground Floor
Labor 16.00 sets
Also included in this item of work is the rental of plate compactor and hauling truck as necessary to finish the work.

B. CONCRETE WORKS 212.54 m³

This item of work includes pouring of concrete (compressive strength, fc=25MPa) for structural members comprising of wall footings, columns, beams, suspended slabs, transformer platform, and pathwalk.

GROUND FLOOR 19.24 m³
a. Concrete Pathway [Bounded by gridlines (5 to 6) and (B’ to F’)]

b. Slanted Canopy [Along gridlines B’ (3’ to 6), & F’ (3’ to 6)]

c. Wall Footing

d. Transformer Platform 3.36 m³

SECOND FLOOR 192.93 m³

a. 4” Concrete Topping [Entire Second Floor]

b. Columns [Bounded by gridlines (4” to 6”) & (A to H’)]

c. Beams [Lintel beams, and beams bounded by gridlines (4” to 6”) and (A to H’)]

Concrete topping at the top of the porch shall be sloped towards the drain.
This item of work also includes the rental of 1-bagger concrete mixers, concrete vibrators, plate compactor and other equipments necessary to finish the work.
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 1.22520mm (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 canvas, 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.

Mixing concrete/materials shall be measured, batched and mixed in a mixer or by hand in a watertight wooden platform at the job site.

C. STEEL WORKS

This item of work includes furnishing, fabrication and installation of ASTM grade 60, ASTM grade 40 and ASTM grade 33 deformed steel bars comprising of wall footings, columns, beams, transformer platform, and pathwalk.

<table>
<thead>
<tr>
<th>GROUND FLOOR</th>
<th>1,724.87 kgs</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Concrete Pathwalk (Bound by gridlines [5 to 6] and [8' to F'])</td>
<td>210.40 kgs</td>
</tr>
<tr>
<td>b. Slanted Canopy (Along gridlines B' [3' to 6], &amp; F' [3' to 6])</td>
<td>372.69 kgs</td>
</tr>
<tr>
<td>c. Wall Footing</td>
<td>215.68 kgs</td>
</tr>
<tr>
<td>d. Transformer Platform</td>
<td>926.10 kgs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND FLOOR</th>
<th>10,944.73 kgs</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Columns (Bound by gridlines [4' to 6] &amp; [A to H])</td>
<td>3,490.12 kgs</td>
</tr>
<tr>
<td>b. Beams (Lintel beams, and beams bounded by gridlines (4 to 6) and [A to H])</td>
<td>5,243.87 kgs</td>
</tr>
<tr>
<td>c. Concrete Gutter, and Slanted Canopy (Bound by gridlines [4' to 6] and [A to H])</td>
<td>2,210.74 kgs</td>
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</tbody>
</table>

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 gauge 16.

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 = 275 MPa (Grade 40)
- 16 mm and larger fy = 415 MPa (Grade 60)

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

Splice and anchorages shall follow those set from development length (Ld) 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

D. MASONRY WORKS

This item of work includes furnishing and installation of machine pressed Concrete Hollow Blocks 150mm for exterior walls and concrete pathway; and machine pressed Concrete Hollow Blocks 100mm for the stairs and interior partition walls, 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.

This item of work also includes completion of plastering of all exterior and interior wall surfaces, columns, beams, canopies, parapets, and gutters.

<table>
<thead>
<tr>
<th>GROUND FLOOR</th>
<th>299.25 m²</th>
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</thead>
<tbody>
<tr>
<td>a. Exterior Walls [(Along gridlines A (5 to 6); and H (5 to 6)]</td>
<td>9.60 m²</td>
</tr>
<tr>
<td>b. Stairs</td>
<td>29.70 m²</td>
</tr>
<tr>
<td>c. Concrete Pathway</td>
<td>33.60 m²</td>
</tr>
<tr>
<td>d. Plastering [Walls along gridlines B' (3' to 6), F' (3' to 6), A (5 to 6), &amp; H (5 to 6); Columns along gridlines B' (3' to 6), B' (3' to 6), &amp; F' (3' to 6); Stairs’ Masonry; Canopies</td>
<td>226.35 m²</td>
</tr>
</tbody>
</table>
SECOND FLOOR

- Exterior Walls [Along gridlines A, B', F', & H (4 to 6); 6 (A to H); 1 (C to F) Porch; H (1 to 2); & 1 (D to E)]
  - 3,250.41 m²
- Interior Partition Walls [Along gridlines 4 (G to H); 5 (A to B & G to H); B (4 to 5); G (4 to 5); H (1 to 2); E (1 to 2); & 2 (D to E)]
  - 158.88 m²
- Plastering [All walls, exposed beams, columns, gutters, parapets, & canopies]
  - 2,917.41 m²

All masonry surfaces shall be cement plastered smooth finish ready to accept painting works.
All concrete hollow blocks for use in masonry works shall be load bearing-concrete hollow blocks with a minimum strength of 4.85 MPa.
All masonry shall be laid true, level, plumb and neat in accordance with the plans.
Units shall be cut accurately to fit all plumbing ducts, opening, electrical works, etc. and all holes shall be neatly patched.
Reinforcing bar shall conform to the provisions provided for the structural notes and their installation shall be in accordance with standard details provided for. All provisions for dowels shall properly laid in place prior to laying of masonry units. Splicing of bars shall conform to splicing standards set forth in the structural notes.
Unless otherwise shown on the drawings, all cells shall be filled with mortar mixture consisting part cement and three parts of sand.
All control joints shall be laid in accordance with the plans or as directed by the Engineer.
All exterior walls above grade which are not to be painted shall be waterproof with three coats of cement sealant which is one component colorless preparation on base of Alkony-Silan. The sample of the cement sealant shall be submitted to the Engineer for approval.
All masonry units shall be sound and free from cracks and other defects. Defective units shall be subject to rejection by the Engineer and shall be removed from the project site immediately upon receipt.

E. ROOFING WORKS

Area Bounded by Gridlines 3' to 6 (A to B' and F' to H)

- This item of work includes the furnishing and installation of 0.6mm pre-painted long span G.I. roofing, 0.6mm pre-painted G.I. ridge roll, 0.6mm pre-painted G.I. hipped roll, tekscrew, 50mm x 150mm x 2mm C-Purlins, 75mm x 75mm x 6mm angular cleats, 75mm x 75mm x 6mm angle bar, 65mm x 65mm x 6mm angle bar, 50mm x 50mm x 6mm angle bar, 50mm x 50mm x 4.5mm angle bar, 6mm gusset plate, 350mm x 350mm x 12mm base plate anchored with 20mm diameter x 350mm anchor bolts. This item also uses 12mm diameter sagsrods as for added reinforcements. This item also uses 10mm thick polyethylene double film foam as insulation.
- C-purlin's connection to existing c-purlin must be welded and supported with 75mm x 75mm x 6mm thick x 350mm long angle bars with 1 leg fully welded to the purlin interior connection and bolted with 16mm Ø bolts at its ends.
- This item of work also includes rental of welding machine, cut-off machine, use of E70 welding rod and acetylene with oxygen, and all other equipments needed to complete welding works.
- Laying should start from the opposite end direction of the prevailing monsoon wind.
- Laying of long-span roofing shall conform with the manufacturer's specifications.
- Apply sufficient amount of colored roof sealant to ensure leak free roofing and epoxy primer paint on trusses, purlins, and sagrods.
- All works shall be done in such a manner that will ensure a strong and lasting leak proof installation.
- The purlins shall be spaced as shown on plans. Sheets shall be laid with the ends lapping as indicated on the drawings, the minimum end lap shall be 0.30 meter.
- Each course shall be started in such a manner that the vertical joints are broken. Top sheets shall be laid with the side corrugation down, with a side lap of at least two corrugations. Each sheet laid shall be secured to the purlins with riveted straps.
- Straps shall be gauged #24, 25mm wide with corners clipped off at the riveting ends. They shall be cut sufficiently long and punched at correct distance to fit the rivet holes and allow for bending around the required size purlins. One strap shall be placed at each alternate corrugation at the gutter line.
- The lower end of each sheet shall be riveted to the sheet beneath such rivets to alternate with rivets engaging the straps. Side laps shall be riveted with two lines of rivets staggered and spaced as directed by the Engineer.
- The intersection of all walls with roof and wherever necessary shall be flashed with G.I. gauge #24 not less than 200 mm high unless otherwise shown on the detail drawings or full size details, and all connections shall be made watertight.
- Please refer to the plan for the complete details.

F. FORMWORKS AND SCAFFOLDINGS

This item of work includes the furnishing and installation of 1/4" thick Marine plywood, 2" x 2" coco lumber, 2" x 3" coco lumber, tiewire, and assorted nails.
This item of work also includes rental of GI Pipe H-frame scaffolding needed to complete the said item.
in this project.
Contraction of forms – Construct forms sufficiently tight to prevent leakage, securely brace and shore forms to prevent displacement and to safely support construction loads. Forms shall not be removed until concrete is set.

G. WATERPROOFING WORKS

[Concrete Gutters bounded by gridlines 4 to 8 (A to H), and
Slab bounded by gridlines 1 (C to F)]

This item of works includes application of three (3) coats of water tite cementitious waterproofing membranes in the surface of the gutter floors, gutter sidings up to 200 mm high, and roof slabs.
This item of work also includes integral waterproofing of concrete gutters to be constructed.
Add one pack of sahara for every bag of cement mixture.

III. ARCHITECTURAL WORKS

A. CEILING WORKS

This item of work includes the installation of ceiling in the Ground Floor and Second Floor classrooms, computer rooms, laboratory rooms, comfort rooms, admin office, janitor’s room, electrical room, and storage room using 3.5mm thick fiber cement board, 1” x 2” x 0.4mm double metal furring spaced at 600mm o.c. bothways, 1” x 2” x 0.7mm carrying channel, 25mm x 25mm x 0.5mm wall angle, blind revits, s-furring clips, hangers at 1200mm spacing, and 50cm x 50cm manholes with metal frames.
This item of work also includes the installation of ceiling in the Ground Floor corridors and lobby; and Second Floor corridors, and stairs using 6.0mm thick fiber cement board, 38mm x 38mm x 3mm angle bar ceiling joist spaced at 600mm o.c. bothways, hangers at 1200mm spacing, 200mm x 2400mm PVC ceiling vent, epoxy primer paint, and 50cm x 50cm manholes w/ metal frames.

GROUND FLOOR 1,223.72 m²
a. Ficem Board on Angle Bars 596.92 m²
b. Ficem Board on Metal Furring 626.80 m²

SECOND FLOOR 1,424.00 m²
a. Ficem Board on Angle Bars 503.03 m²
b. Ficem Board on Metal Furring 920.97 m²

Use bolts and/or nails for wall angles.
This item of work also includes rental of welding machine, cut-off machine, use of E-70 welding rod and all other equipments needed to complete welding works.
Use epoxy primer paint for painting angle bars.
Use ½” dia x ½” blind rivets and hangers rods, 0.4mm thick metal furring may be used as hangers rods.
It is necessary to use hacksaw blade for cutting rods and wall angles.
Use drill tool and drill bits, tiewires, level hose, nylon, and other miscellaneous hardware items necessary for the completion of work.
All materials shall be of approved high quality
Please refer to the Reflected Ceiling Plan for complete details.

B. DOORS & WINDOWS 98.00 sets

This item of work includes fabrication and installation of the following doors and windows for the Ground Floor and Second Floor of the Building
(please refer to the plan)

GROUND FLOOR 16.00 sets
Doors
D2 - 2.5m x 0.9m Hardwood Panel Type Door 7.00 sets
D2a - 2.5m x 1.0m Hardwood Panel Type Door 1.00 set
Cubicle Door 8.00 sets

SECOND FLOOR 82.00 sets
Doors
D1 - 2.5m x 1.1m Panel Type Door w/ Clear Glass Viewing Window (Provided with Sqaure Bar Security Grills) 20.00 sets
D1a - 2.5m x 1.1m Aluminum Framed Powder Coated Dual Swing Type with Clear Glass Panel 2.00 sets
D2 - 2.5m x 0.9m Hardwood Panel Type Door 6.00 sets
D2a - 2.5m x 1.0m Hardwood Panel Type Door 1.00 set

Windows
W1 - 1.2m x 2.4m Steel Casement Swing Type Window w/ 1/4" Thk. Clear Glass Panel and Security Grills 24.00 sets
W2 - 1.2m x 1.6m Steel Casement Swing Type Window w/ 1/4" Thk. Clear Glass Panel and Security Grills 2.00 sets
W3 - 0.4m x 2.4m Steel Casement Awning Type Window w/ 1/4" Thk. Clear Glass Panel and Security Grills 11.00 sets
W4 - 0.4m x 1.8m Steel Casement Awning Type Window w/ 1/4" Thk. Clear Glass Panel and Security Grills 4.00 sets
W5 - 0.4m x 1.8m Steel Casement Awning Type Window w/ 1/4" Thk. Clear Glass Panel and Security Grills 5.00 sets
W6 - 0.4m x 1.2m Steel Casement Awning Type Window w/ 1/4" Thk. Clear Glass Panel and Security Grills 4.00 sets
W7 - 1.5m x 3.0m Steel Casement Awning Type Window w/ 1/4" Thk. Clear Glass Panel and Security Grills 3.00 sets

All doors and windows shall be done as specified and shown on the detailed drawings. Windows shall be installed without forcing or distortion so that sills and heads are level and jambs are plumb. Each panel of hinged door shall be hung on 88.92mm x 88.92mm (3.5" x 3.5") pin hinges. All hinges shall be of heavy duty stainless steel.
All doors shall be duty and of approved good quality.
All locks shall be installed in door frames at the same height of 0.90 meter from finished floor line.
Please refer to the plan.

C. FLOOR AND WALL FINISHES 1,851.13 m²

This item of work includes furnishing and installation of the following tiles for the Ground Floor and Second Floor of the building.
(Please refer to the plan)

GROUND FLOOR
a. Stairs (4-Units) 354.53 m²
   300mm x 300mm Ceramic Floor Tiles, Non-Skid 116.70 m²
   400mm x 400mm Ceramic Floor Tiles 1,036.00 pcs
   400mm x 400mm Ceramic Floor Tiles 220.00 pcs
b. Male Comfort Rooms, Female Comfort Rooms, and PWD Comfort Room
   600mm x 600mm Granite Tiles 272.73 m²
   400mm x 400mm Ceramic Floor Tiles, Unglazed 16.00 pcs
   400mm x 400mm Ceramic Wall Tiles, Glazed 319.00 pcs
   400mm x 400mm Ceramic Floor Tiles 1,214.00 pcs
c. Porch Damaged Tiles 10.00 m²
   400mm x 400mm Ceramic Floor Tiles 69.00 pcs

SECOND FLOOR
a. Corridors, Classrooms, Laboratory, Storage Rooms, Electrical Room, Faculty Room, Office
   400mm x 400mm Ceramic Floor Tiles 1,496.60 m²
   400mm x 400mm Ceramic Floor Tiles 1,340.20 m²
   400mm x 400mm Ceramic Floor Tiles 9,214.00 pcs
b. Male and Female Comfort Rooms
   600mm x 600mm Granite Tiles 138.40 m²
   400mm x 400mm Ceramic Floor Tiles, Unglazed 13.00 pcs
   400mm x 400mm Ceramic Wall Tiles, Glazed 189.00 pcs
   400mm x 400mm Ceramic Wall Tiles, Glazed 736.00 pcs
c. Exterior Wall
   300mm x 600mm Outdoor Stone Tiles 18.00 m²
   300mm x 600mm Outdoor Stone Tiles 110.00 pcs

Use tile adhesive for bonding, and grout for filling joints.
Use grinder and diamond blade, anti-microbial tile sealer, masking tape, spacer, sleeves, and other consumable hardwares necessary for the completion of work.
Please refer to the Tiles Layout Plan and Perspective for complete details.
D. PAINTING WORKS 8,916.38 m²

This item of work includes the painting of exterior surfaces using concrete neutralizer, one (1) coat elastomeric latex primer paint, two (2) coats elastomeric latex topcoat, patching compound, tinting color, and paint thinner.

This item of work also includes the painting of ceiling and interior walls/surfaces using concrete neutralizer, one (1) coat flat latex paint undercoat, two (2) coats semi-gloss latex paint topcoat, patching compound, tinting color, and paint thinner.

This item of work also includes painting of installed doors and windows using one (1) coat epoxy primer, two (2) coats quick dry enamel, and paint thinner.

<table>
<thead>
<tr>
<th>Ground Floor</th>
<th>4,028.65 m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Exterior Surfaces</td>
<td>772.88 m²</td>
</tr>
<tr>
<td>b. Interior Surfaces</td>
<td>2,032.05 m²</td>
</tr>
<tr>
<td>c. Ceiling</td>
<td>1,223.72 m²</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Floor</th>
<th>4,887.73 m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Exterior Surfaces</td>
<td>937.60 m²</td>
</tr>
<tr>
<td>b. Interior Surfaces</td>
<td>2,374.75 m²</td>
</tr>
<tr>
<td>c. Ceiling</td>
<td>1,424.00 m²</td>
</tr>
<tr>
<td>d. Doors &amp; Windows</td>
<td>151.38 m²</td>
</tr>
</tbody>
</table>

Also included in this item of work is grouting/patching of all cracks in the interior and exterior surfaces of the Ground Floor using cement epoxy before application of paints.

Use only premium quality paint.
Use rollers & tray, brushes, old newspaper, sandpapers and rags as necessary.
The painting contractor shall supply all labor, tool and equipment necessary and shall perform all painting and finishing works as shown in the schedule of painting and other surfaces to render ready to use.
Painting materials shall be stored in one place in the building to be kept neat and clean.

This item of work also includes rental of welding machine, cut-off machine, use of E-70 welding rod and all other equipments needed to complete welding works.

(E Please refer to the plan)

b. Comfort Rooms Cubicle Partitions 1.80 m²
(MADE TO ORDER) ¾" thk. Heavy duty Phenolic PCB Board urinal partition with complete accessories (FABRICATION AND INSTALLATION INCLUDED).

<table>
<thead>
<tr>
<th>Second Floor</th>
<th>62.10 m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Foldable Social Hall Partition</td>
<td>40.50 m²</td>
</tr>
<tr>
<td>(MADE TO ORDER) Hollow Core Partition w/ 1/4&quot; thk. Marine Plywood Panel on Wooden Framing w/ Heavy Duty Top Track, Roller, and Bottom Guide, 8 nos. Barrel Bolt. 3/16&quot; x 1 1/2&quot; x 1 1/2&quot; Angle Bar and Diagonal and Vertical Support w/ 5mm thk. Ficem Board Covering (2 -sets FABRICATION AND INSTALLATION INCLUDED)</td>
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</tr>
</tbody>
</table>

b. Comfort Rooms Cubicle Partitions 21.60 m²
(MADE TO ORDER) ¾" thk. Heavy duty Phenolic PCB Board cubicle partition and SS Accessories, adjustable feet, wall brackets, self closing hinges, indicator lockset, coat hook, knob handle, top rail, L bracket (FABRICATION AND INSTALLATION INCLUDED) at ground floor.

(E Please refer to the plan)

F. STAIRS, RAILINGS & ARCHITECTURAL METALS 1.00 lot
This item of work includes fabrication and installation of the following items listed below:

- Brass Stair Nosing 2" 30.00 pcs
- 50mm Ø G.I. Pipe Handrail Schedule 40 8.00 pcs
- Consumable Hardwares 1.00 lot

Please refer to the Stairs and Railings Layout Plan for complete details.

G. SPECIALTIES, TOILET ACCESSORIES, AND ACCESSORIES 1.00 lot

This item of work includes furnishing and installation of the following items listed below:

- Wall Mirror, 120cm x 220cm 4.00 units
- Wall Mirror, 120cm x 130cm 1.00 unit
- Wall Mirror, 120cm x 100cm 2.00 units
- Soap Holder, Ceramic 0.70 units
- Tissue-Napkin Dispenser 3.00 units
- Consumable Hardwares 1.00 lot

IV. ELECTRICAL WORKS 1.00 lot

This item of work includes the manhole size cutting at the ceiling and restoration, chipping works if needed, and voltage test and megger testing. Also includes the supply and installation of the following electrical materials:

GROUND FLOOR
- Pinlight housing 6" dia with 15W led bulb 70.00 sets
- daylight, cylindrical recessed type
- 15W LED Compact Bulb, Daylight 68.00 pcs
- ceiling fan, 16" dia. 4.00 sets
- electrical tape 10.00 rolls
- Rubber tape 3.00 rolls
- PVC 20 mm dia conduit 25.00 pcs
- 3.5 sq. mm THHN wire 1.00 bx
- 50 sq. mm THHN wire 60.00 m
- 5.5 sq. mm THHN wire 2.00 bxs
- 5.5 sq. mm TW wire (grounding) 1.00 bxs
- 14.0 sq. mm TW wire (grounding) 15.00 m
- PVC 50 mm dia conduit 3.00 pcs
- PVC 50 mm dia elbow 2.00 pcs

SECOND FLOOR
- Pinlight housing 6" dia with 22W led bulb 162.00 sets
- daylight, cylindrical recessed type
- duplex convenience outlet with grounding 66.00 sets
- universal type, heavy duty, 16A
- Duplex socket outlet FM Grounding Type 16.00 sets
- Enclosed circuit breaker, 30AT, 2P, single phase in Nema 3R, metal enclosure with grounding lug (for accu)
- ceiling fan, 16" dia. 26.00 sets
- one gang switch 2.00 sets
- two gang switch 17.00 sets
- three gang switch 5.00 sets
- two gang three way switch 2.00 sets
- utility box, sch. 40 123.00 pcs
- junction box with cover, sch. 40 193.00 pcs
- pullbox 12" x 12" x 4" 1.00 pcs
- electrical tape 50.00 rolls
- Rubber tape 20.00 roll
- Mica tube 1/4" 200.00 m
- tie wire 5.00 kis
- PVC solvent 3.00 can
- PVC 20 mm dia conduit 886.00 pcs
- 3.5 sq. mm THHN wire 18.00 bxs
- 5.5 sq. mm THHN wire 17.00 bxs
- 5.5 sq. mm TW wire (grounding) 9.00 bxs
- 60 sq. mm THHN wire 100.00 m
- 22 sq. mm TW wire (grounding) 25.00 m
- PVC 50 mm dia conduit 10.00 pcs
- PVC 50 mm dia elbow 4.00 pcs
grounding rod with clamp 5/8" x 10'
other miscellaneous items
and consumables such as bolts, cable tie,
terminal lugs, tagging tape, compression tap,
solderless connector etc.

Installation of 350kVA Transformer
Supply of 350kVA Transformer Amorphous w/ Lighting
Arrester and Fuse Cut-Out
3.00 sets
insulator pin
12.00 pcs
Pole top pin
12.00 pcs
Bolt machine, 5/8 x 10
16.00 pcs
Bolt machine, 5/8 x 12
20.00 pcs
Washer, 2 1/4" x 2 1/4" x 3/16" x 13/16"
40.00 pcs
Spool insulator 1 3/4" dia groove
12.00 pcs
Pipe spacer 3/4" dia x 1 1/2"
5.00 pcs
Brace, 60 span
10.00 pcs
Cross arm
5.00 pcs
Guy hook J type
5.00 pcs
Locknuts 5/8"
60.00 pcs
Bolt single upset 9"
5.00 pcs
Insulator suspension
12.00 pcs
Clamp deadend
2.00 pcs
Clevis secondary swinging
8.00 pcs
Clevis secondary swinging insulated
2.00 pcs
Clamp loop deadend
10.00 pcs
Connector compression
14.00 pcs
Connector split bolt type
2.00 pcs
Clamp hotline
8.00 pcs
Ground wire # 4 AWG, 3 strand, al.
60.00 m
Bolt double upset 5/8" x 10"
8.00 pcs
Bolt single upset 5/8" x 10"
4.00 pcs
Bracket with spool
3.00 pcs
Bolt eye 5/8" x 10"
3.00 pcs
Nut eye 5/8"
3.00 pcs
Ground rod 5/8" x 10'
3.00 pcs
Ground rod clamp
3.00 pcs
Anchor log
6.00 pcs
Rod anchor, thimble eye
6.00 pcs
Anchor expanding type
6.00 pcs
Staples ground wire, 2" x 1/2" # 8 gauge
7.00 pcs
Ground wire clip
40.00 pcs
ACSR # 2/0 (insulated)
120.00 m
35 footer concrete/steel pole
2.00 pcs
Current transformer as required
3.00 unit
Current transformer box
1.00 pc
Main Service Equipment
300AT/400AT/400V/3P/Enclosed Circuit Breaker/ NEMA 3R
1.00 set
other miscellaneous items and consumables
such as cable tie, terminal lugs, tagging tape,
compression tap, etc.

Feederline and Panelboard
PP1 with main: 100AT/200AF,
Three phase, 3 pole + grounding terminal
10 kaic main circuit breaker, bolt on type
with 27 branches: all bolt on type
9-15AT, 1P, 5 kaic
9-20AT, 1P, 5 kaic
9-30AT, 1P, 5 kaic
2-space
1.00 unit
PP2 with main: 150AT/200AF,
Three phase, 3 pole + grounding terminal
10 kaic main circuit breaker, bolt on type
with 30 branches: all bolt on type
9-15AT, 1P, 5 kaic
9-20AT, 1P, 5 kaic
12-30AT, 1P, 5 kaic
2-space 1P, 5 kaic
1.00 unit
MDP with MTS: 2-300AT/400AF
Three phase, 3 pole + grounding terminal
10 kA IC main circuit breaker, bolt on type
with 30 branches: all bolt on type
2-100AT,200AF,3P,10kAIC
1-150AT,200AF,3P,10kAIC
1-50AT, 100AF, 3P, 10kAIC

Other miscellaneous labor cost
Labor for the replacement of existing compact bulb into 15W LED bulb
Dismantling of existing 3 sets of Panelboards
Retermination of existing circuit homerun to new Panelboard @ GF
Mounting of 3-50kVA transformer 13.2/7.62kV, 400/230V, Lighting arrester/ fuse cut-out combination 3-current transformer, 3-potential transformer includes boom truck rental
Testing and energization
As built plan
Service entrance retermination
Manhole size cutting at ceiling and restoration/ Chipping works if needed
Voltage test and megger testing

For piping and wiring layout:
For lighting layout - use 2-3.5 sq. mm THHN wire in PVC 20 mm dia conduit
For convenience outlet use 2-5.5 sq. mm THHN wire + 1-5.5 sq. mm TW in PVC 20 mm dia
For 3 tonner accu use 2-5.0 sq. mm THHN wire + 1-5.5 sq. mm TW in PVC 20 mm dia
For 250AT use2 set of 3-60 sq. mm THHN wire + 1-22 sq. mm THHN wire in PVC 50 mm dia

Wiring must be color coded:
Live - red, yellow
Neutral - black or white
Grounding - green

V. PLUMBING WORKS

This item of work includes furnishing and installation of the following plumbing materials and fire protection system for the Ground Floor and Second Floor of the building.

A. Fixtures & Accessories
   Lavatory Countersunk w/ Faucet
   Lavatory w/ Faucet
   Dual Flush Type Water Closet with Bidet
   Waterless Urinal
   Faucet, Heavy-Duty Brass
   4" x 4" Stainless steel floor drain

B. Construction of Drainage Canal
   RPC, 200mm Ø
   3" Ø x 3m PVC Pipe
   3" Ø Coupling
   3" Ø 45° Elbow
   Brass Strainer
   PVC Solvent cement
   Cement
   Sand
   Gravel
   12mm Ø RSB x 6m
   16mm Ø RSB x 6m
   50mm x 50mm x 6mm thick. Angle Bar
   Welding Rod
   Tie Wire #16
   Miscellaneous items and other consumables

C. Miscellaneous items and other consumables

D. Sanitary Waste Line
This item of work also includes the rental of 1-bagger concrete mixers and other equipments necessary to finish the work.

This item of work also includes rental of welding machine, cut-off machine, use of E-70 welding rod and all other equipments needed to complete welding works.

Please refer to plan for details.

Prepared by:

[Signature]

Director, BU-PDMO

Recommending Approval:

[Signature]

Prof. JERRY S. SIGORNA
VP for Planning and Development

Approved:

[Signature]

Dr. ARNOLD M. MASCARINAS
LGO/President IV