XVII.A Metal Works (Stair Stainless Steel Railings – Main Stair)

a. This scope includes fabrication and installation of stainless-steel railings as per plan at Main Stairs from ground to second floor.
b. The Contractor shall install all railings prior to laying of floor tiles.
c. Contractor to ensure that all materials to be used shall be in accordance with the required specifications as stated on this scope:
   - 1.5mm thk. x 50mmØ x 6m Round Tube, Stainless Steel (SS-304) (see detail)
   - 40mm x 6mm thk. Stainless Flat Bar (see detail)
   - 12mmØ Stainless Solid Round Bar (see detail)

XVII.B Metal Works (Stainless Steel Railings – Fire Exit Stair)

a. This scope includes fabrication and installation of fire exit stair railings as per plan from ground floor to roof deck level
b. Contractor to ensure that all materials to be used shall be in accordance with the required specifications as stated on this scope:
   - 1.5mm thk. x 50mmØ x 6m Round Tube, Stainless Steel (SS-304) (see detail)
   - 40mm x 6mm thk. Stainless Flat Bar (see detail)

XVII.C Metal Works (Stainless Steel Railings - Ramps)

a. This scope includes fabrication and installation of ramp stainless stair railings as per plan from ground floor to second floor level including ramp at front of the building
b. Contractor to ensure that all materials to be used shall be in accordance with the required specifications as stated on this scope:
   - 1.5mm thk. X 50mmØ X 6m. Round Tube, Stainless Steel (SS-304) (see detail)
   - 40mm x 6mm thk. Stainless Flat Bar (See Detail)

XVII.D Metal Works (Window Grills)

a. This scope includes fabrication and installation of window grills to windows that can be seen outside the building
b. Interior windows such as fixed glass windows are not subjected to install a grill
c. Grills arrangement must be in horizontal position only with a maximum clear spacing of 200mm on center
d. Contractor to ensure that all materials to be used shall be in accordance with the required specifications as stated on this scope and plan.

XVII.E Metal Works (Steel Gate Under Fire Exit-2)

a. This scope includes fabrication and installation of steel gate under fire exit - 2
b. The steel bars and other metallic structural materials shall be coated with red oxide primer (two coats) before installation or after welding works.
c. Contractor to ensure that all materials to be used shall be in accordance with the required specifications as stated on this scope.
   - Heavy duty gate Hinges 4"
   - 38mm x 38mmx 2mm thk. Tubular Steel Bar
   - 12mm x 12mm Solid Steel Square Bar
   - Barrel Lock

XVIII. Cement Plaster Finish

This Item shall consist of furnishing all cement plaster materials, labor, tools and equipment required in undertaking cement plaster finish as shown on the Plans and in accordance with this Specification.

1. Use Portland cement that conform to the requirements as defined in Item 700, Hydraulic Cement.
2. Fine aggregates shall be clean, washed, and free from dirt, clay, organic matter or other deleterious substances.
3. Finish coat shall be pure Portland Cement properly graded conforming to the requirements of Item 700, Hydraulic Cement and mixed with water to approved consistency and plasticity.

4. Surfaces to receive cement plaster shall be cleaned of all projections, dust, loose particles, grease and bond breakers. Before any application is commenced all surfaces that are to be plastered shall be wetted thoroughly with clean water to produce a uniformly moist condition.
5. Cement plaster shall not be applied directly to concrete or masonry surface that had been coated with bituminous compound and surfaces that had been painted and previously plastered.
6. Cement plaster finish shall be true to details and plumbed. Finish surface shall have no visible junction marks where one (1) day's work adjoins the other.
7. All cement plaster finish shall be measured in square meters or part thereof for work actually completed in the building.
8. All cement plaster finish shall be 20mm thick minimum on vertical concrete or masonry walls
9. Cement plaster finish shall be true to details and plumbed. Finish surface shall have no visible junction marks where one day's work adjoints the other.
10. The contractor must provide competent person to execute the plastering works
11. The contractor must follow the specifications written at (part XIX-Cement Plaster Finish)

XIX. Cement Floor Topping Finish

This Item shall consist of furnishing all materials, labor, tools and equipment in undertaking cement floor finishing where shown on the Plans and in accordance with this Specification.

1. Use Portland cement conforming to the DPWH requirement for Item 700, Hydraulic Cement.
2. Fine aggregates shall be clean, washed, and free from dirt, clay, organic matter or other deleterious substances.
3. Concrete topping materials shall be measured accurately. Mortar topping shall be Class A, one (1) part Portland cement and two (2) parts fine aggregate by loose volume.
4. Surface to receive mortar concrete topping shall be cleaned of all projections, dust, loose particles and other foreign matters. Finish elevation shall be established over the areas indicated on the Plans.
5. Before any mortar concrete topping is applied, the prepared concrete base surface shall first be wetted and grouted with Portland cement.
    a. Mortar topping shall have a minimum thickness of 50mm to be spread over the prepared concrete base and shall be float finished using wood hand trowel. Batches of mortar topping shall be emplaced within one hour of mixing thereof.
    b. As soon as the water sheen has disappeared the surface shall be lightly scratched with a stiff bristle broom
    c. The finish topping mixture shall be spread over the lightly scratched surface before final set taken place and hand troweled to produce a smooth surface.
    d. The finished surface shall be free of trowel marks, have uniform texture and true to a plane within an allowable tolerance of 3 mm in 3.0 meters.
6. Cement floor finished surface shall be covered with appropriate covering to avoid injurious action by sun, rain, flowing water and mechanical injury.
7. Cement floor shall be finished level and true to finish elevation as shown on the Plans.
8. Finish topping shall have no visible junction marks where one (1) day's work adjoins the other.
9. Finish topping shall be properly graded to drain rainwater. Provide a minimum pitch of 1 on 100 satisfactorily drain rainwater freely into the drainage lines, gutters and downspouts.
10. All cement floor finish shall be measured in square meters or part thereof for work actually completed and accepted.

XX. Cementitious Waterproofing

This Item shall consist of furnishing all waterproofing materials, labor, tools, equipment and other facilities and undertaking the proper installation works required as shown on the Plans and in accordance with this Specification.

1. Cement-base waterproofing powder mix shall be cement-base, aggregate type, heavy duty, water-proof coating for reinforced concrete surface and masonry exposed to water. When mixed with other ingredients are free flowing, water-proof coatings that possesses strength durability and density.
2. Water shall be clean, clear and potable.
3. Second Floor Shower Room & Comfort Room, Roof decks and parapet walls and other area indicated on the plans to be waterproof shall first be rendered with cement-based waterproofing before any type of waterproofing is applied.

4. Concrete surface to be applied with waterproofing shall be structurally sound, clean and free of dirt, loose mortar particles, paints films oil, protective coats, efflorescence laitance, etc.
5. All defects shall be properly corrected and carefully formed to provide a smooth surface that is free of marks and properly cured prior to application works.
6. Drainage connections and weep holes shall be set to permit the free flow of water.
7. Any expansion and contraction joints shall be cleaned, primed, fitted with a backing rod and
8. caulked with sealant.
9. Prepared surfaces shall be cured and kept wet by sprinkling with water at regular intervals for a period of at least three days and allow surface to actually set within seven days.
10. Ensure that the prepared surface has completely set and all defects repaired.
11. Prior to application of membrane concrete surfaces should be sound and cured without the use of curing compound.
12. Application shall be done one direction strip to assure uniform thickness. Apply waterproofing membrane at shower rooms & comfort room second floor level and roof deck.
13. Allow primer to dry until it is ready to receive next coat or layer as specified in the manufacturing instructional manual.
14. After application, surface shall be uniformly smooth, free from irregularities folds and knots.
15. Where weather disturbance interrupts the work and exposing the membrane to moisture remove the layer exposed to moisture and repeat procedure until completion of the process.
16. Provide concrete cement topping of at least 50mm thick on the membrane after five days where protective coatings have been applied in accordance with Item XX.

XXI. Ceiling Works

The work under this Item shall consist of furnishing all required materials, tools, equipment and labor and performing all operations necessary for the satisfactory completion of all ceiling works in strict accord with applicable drawings, details and these Specifications.

1. All materials to be incorporated in this item of work shall be brand new and of good quality. Before incorporation in work, all materials shall have been inspected/accepted by the Project Monitoring Committee or the agency's authorized representative.
2. All materials shall be protected from dampness during and after delivery at the site. Materials shall be delivered well in advance of actual need and in adequate quantity to preclude delay in the work. Ceiling boards shall be piled in orderly stack at least 150 mm above ground and at sheltered place where it will be of least obstruction to the work.
3. Ceiling boards and PVC/Acoustic panel shall be cut and laid precisely to ensure that there are no gaps and/ or overlap between adjacent boards and panels. Slits between adjacent boards and panels shall not be greater than 4mm. Any visible slits greater than the acceptable and/or overlapping boards and panels shall be removed and replaced by the contractor.
4. Nails, screws, rivets, suspension hangers and other fasteners shall be provided and used at specified spacing as per plan and whenever necessary for ceiling systems to prevent ceiling boards from sagging. All fasteners shall also be brand new and of adequate size to ensure rigidity of connections.
5. Workmanship and finish shall be in accordance with the best general practice. Portions of the work exposed to view shall be finished neatly.
6. The Contractor shall deliver all materials to be used in accordance with the required specifications as follows:

Note: Ceiling height shall be verified per actual site condition prior to installation of ceiling system.

XXI.A Ceiling Works (WPC Fluted Ceiling)

This Item shall consist provision of fluted ceiling, materials, labor tools, and equipment required in undertaking the proper installation as shown on the plans in accordance with this specification listed below.

a. Use Queensway WPC Fluted Panel – WPCBGNO (12mm thk. x 200mmW x 2900mmL) Color: Pine Teak
b. Provide ceiling furring and suspension rod as per plan and specification.
c. Use carrying Double Furring Channel 17mm x 49mm x 17mm x 5m, 0.6 mm thk. spaced at 300mm O.C. perpendicular to shorter span and 400mm O.C. perpendicular to longer span.
d. Use metal carrying channel joist 11mm x 37mm x 11mm x 5m x 0.8mm thk. Spaced @ 600mm O.C. perpendicular to longer span.

e. Provide 10 mm Ø suspension rod, use bolts w/ nuts and washers and carrying channel clip for metal carrying connection spaced at 600mm O.C. perpendicular to longer span and 300mm O.C. perpendicular to the shorter span. See spacing as specified per plan.
f. Use metal furring clip for metal carrying channel and double furring channel connection.
g. Provide Wall angle 38mm x 38mm x 5m x 0.8mm thk. attached to wall at perimeter with tekscrew spaced at 300mm O.C.
h. Use WPC Bracket clip for fluted panel and furring connections
i. The contractor must provide a mock – up for the approval of PMC & TPC

Note: Ceiling height shall be verified per actual site condition prior to installation of ceiling system.

XXI.B Ceiling Works (Fiber Cement Board Ceiling)

This Item shall consist provision of fiber cement board ceiling, materials, labor tools, and equipment required in undertaking the proper installation as shown on the plans in accordance with this specification listed below.

a. Use 4.5mm thk. x 1200mm x 2400mmm HardieFlex fiber cement board
b. Provide ceiling furring and suspension rod as per plan and specification.
c. Use carrying Double Furring Channel 17mm x 49mm x 17mm x 5m, 0.6 mm thk. spaced at 600mm o.c. perpendicular to shorter span and 400m o.c. perpendicular to longer span.
d. Use metal carrying channel joist 11mm x 37mm x 11mm x 5m x 0.8mm thk. Spaced @ 1200mm o.c. perpendicular to longer span.
e. Provide 10 mm Ø suspension rod, use bolts w/ nuts and washers and carrying channel clip for metal carrying connection spaced at 1200mm o.c. perpendicular to longer span and 600mm o.c perpendicular to shorter span. See spacing as specified per plan.
f. Provide 6mm thk x 50mm Angle Bar spaced at 1200mm o.c. perpendicular to longer span and 600mm o.c perpendicular to shorter span where the suspension hanger rod shall be fastened/ connected.
g. Use metal furring clip for metal carrying channel and double furring channel connection.
h. Provide Wall angle 38mm x 38mm x 5m x 0.8mm thk. Attached to wall at perimeter with teks screw spaced at 300mm o.c.
i. Use fiber cement board screws to fasten fiber cement ceiling panels to the metal furring ceiling joist.

Note: Ceiling height shall be verified per actual site condition prior to installation of ceiling system.

XXI.C Ceiling Works (Acoustic Ceiling)

This Item shall consist provision of acoustic ceiling, materials, labor tools, and equipment required in undertaking the proper installation as shown on the plans in accordance with this specification listed below.

a. Use 5/8" thk. x 2' x 4' Fine Fissured Acoustic Tile Ceiling Excelboard Brand, 24mm x 32mm Main Tee Runner, 24mm x 26mm Cross Tee Runner, 38mm x 38mm Ceiling Wall Angle, Driven Ramset 1", Job screw ½", Expansion Bolt 3/8", Threaded Rod 3/8", Nut & Washer 3/8", Twisted Hanger ¼"
b. Cut 45-degree angle for every corner of the wall angle/ perimeter molding. Fasten against wall by tek screw spaced at 200mm on center.
c. Install the main tee runners perpendicular to the longer span at 4ft space interval and cross tee runners perpendicular to the shorter span at 2ft space interval.
d. Make sure the grid is square prior to installation of ceiling tiles to the grid system.
e. The contractor must provide a mock – up for the approval of PMC and TPC.

Note: Ceiling height shall be verified per actual site condition prior to installation of ceiling system.

XXII. Wood Plastic Composite (WPC) Fluted Wall Panel

The work under this Item shall consist of furnishing all required materials, tools, equipment and labor and performing all operations necessary for the satisfactory completion of fluted wall panel in strict accord with applicable drawings, details and these Specifications.

1. All materials to be incorporated in this item of work shall be brand new and of good quality. Before incorporation in work, all materials shall have been inspected/accepted by the Project Monitoring Committee or the agency's authorized representative.
2. The contractor must provide a mock – up of wall panel in actual for the approval of PMC and TPC.