

- 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 2400mm 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 1/2", Expansion Bolt 3/8", Threaded Rod 3/8", Nut & Washer 3/8", Twisted Hanger 1/4"
- 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.

3. 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. Panels 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.
4. Fluted wall panels shall be cut and laid precisely to ensure that there are no gaps and/ or overlap between adjacent boards and panels. Any visible slits greater than the acceptable and/or overlapping boards and panels shall be removed and replaced by the contractor.
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:
 - a. Queensway WPC Fluted Panel (12mm thk. x 200mmW x 2800mmL) – WPCBGNO Color: Pine Teak (Big Groove)
 - b. For the connections of panel and masonry wall, put WPC bracket with fixing accessories.
 - c. The contractor must insure that the wall surface must be perfectly plane for the installation of wall panels
 - d. The wall surface must be free from dirt and dust before the installation of wall panel.

XXIII. Tile Works

This Item shall consist of furnishing and installing all ceramic tiles, cementitious materials, wood tiles, tools and equipment including labor required in undertaking the proper installation of walls and floor tiles as shown on the Plans and in accordance with this Specification.

1. Trims are manufactured to match wall tile color, texture and to coordinate with it in dimension.
2. Accessories like some soap holders and shall be made wall mounted type with colors to reconcile with the color of the adjacent wall tiles.
3. Tile work shall not be started until roughing-ins for plumbing, electrical and other trades have been completed and tested. The work of all other trades shall be protected from damage.
4. Surface to receive tile must be level, true to elevation, dry, free from dirt, oil and other ointments. Allow at least seven days curing of scratch coat and setting bed.
5. Installation work shall not be allowed to proceed until unsatisfactory conditions are corrected.
6. Thoroughly dampen surfaces of masonry or concrete walls before scratch coat and/or tile adhesive is applied.
7. On masonry or concrete surface first apply a thin coat with pressure, then bring it out sufficiently to compensate for the major irregularities of the surface to a thickness not less than 10 mm. at any point.
8. Evenly rate scratch coat to provide good mechanical key before the mortar/ tile adhesive mix has fully hardened.
9. Use tile adhesive as prescribed by the tile manufacturer. No voids are allowed between tile adhesive and tiles before installation.
10. The tile setting shall be properly leveled.
11. Tile adhesive shall be applied to the surface with a notched trowel to a thickness of approximately 3-4 mm.
12. Tiles shall be pressed into the adhesive, tapped firmly into position, and cleaned as soon as the bedding is complete.
13. Grouting mortar shall be applied over the tile by float or squeegee stroked diagonally across the joints. Remove excess mortar with a wet squeegee stroked diagonally or in a circular motion after 12-15 minutes. Follow with a barely damp or dry sponge to remove the remaining haze while smoothing all grouted joints.
14. Finish tiled flooring shall be properly graded to drain rainwater. Provide a minimum pitch of 1 on 100 satisfactorily drain rainwater freely into the floor drain, drainage lines, gutters and downspouts.
15. Tile setting finish must be observed in proper setting, fit, and stable. Any improper setting shall be reworked/reinstalled by the Contractor.
16. Clean tile surfaces thoroughly as possible upon completion of grouting. Remove all grout haze, observing tile manufacturers recommendations as to use of acid or chemical cleaners. Rinse tile thoroughly with clean water before and after using chemical cleaners. Polish surface of tile with soft cloth.

XXIII.A Ceramic & Porcelain Tiles (9mm thk. x 600mm x 600mm)

- a. Floor surface shall be tested for levelness or uniformity of slope by flooding it with water. Area where water ponds are filled or levelled, shall be retested before the setting bed is applied.
 - b. Establish lines of borders and center of the walls at the field work in both directions to permit the pattern to be laid with a minimum of cut tiles.
 - c. Apply and spread mortar mix and/ or tile adhesive for setting bed and tamp to assure good bond over the entire area to be laid with tile.
 - d. In main stair, the imbedded support for the installation of balusters must be installed first prior for tile setting.
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- Ceramic Floor Tiles, Terra White Color – Rustic Texture, 9mm thk. x 600mm x 600mm **(FF-1)**
 - Ground Floor Level - Main Entrance flooring (*see details*)
 - Ceramic Floor Tiles, Maine White Color – Glossy Texture, 9mm thk. x 600mm x 600mm **(FF-2)**
 - Ground Floor Level - Lobby, Display Area, Hallway
 - Second Floor Level - Hallway, Office
 - Ceramic Floor Tiles, Caris Beige Color – Glossy Texture, 9mm thk. x 600mm x 600mm **(FF-3)**
 - Ground Floor Level - Conference Room, Pantry, Office of The Director, Staff Extension Services Office, Office of Extension Coordinator
 - Ceramic Floor Tiles, Caris Grey Color – Glossy Texture, 9mm thk. x 600mm x 600mm **(FF-4)**
 - Ground Floor Level - Control Room, Function Hall
 - Ceramic Floor Tiles, Newcastle Brown Color – Matte Texture, 9mm thk. x 600mm x 600mm **(FF-5)**
 - Ground Floor Level - Powder Room-Director's Office
 - Ceramic Floor Tiles, Madison Ivory Color – Matte Texture, 9mm thk. x 600mm x 600mm **(FF-6)**
 - Ground Floor Level - Powder Room-Function Hall, Common Women's CR
 - Second Floor Level - Kitchen, Common Women's CR, CRs: Room 203, Room 204, Room 206
 - Ceramic Floor Tiles, Madison Grey Color – Matte Texture, 9mm thk. x 600mm x 600mm **(FF-7)**
 - Ground Floor Level - Janitorial Room, Storage Room, Electrical Room, Common Men's CR, PWD's CR
 - Second Floor Level - Utility Room, Storage, Common Men's CR, CRs: Room 201, Room 202, Room 205
 - Ceramic Floor Tiles, Frontier Grey Color – Glossy Texture, 9mm thk. x 600mm x 600mm **(FF-8)**
 - Second Floor Level - Room 201, Room 202, Room 205
 - Ceramic Floor Tiles, Frontier Beige Color – Glossy Texture, 9mm thk. x 600mm x 600mm **(FF-9)**
 - Second Floor Level - Room 203, Room 204, Room 206

- Ceramic Floor Tiles, Arizona Ivory Color – Glossy Texture, 9mm thk. x 600mm x 600mm **(FF-10)**
 - Second Floor Level - Mess Halls
- Ceramic Accent Wall Tiles, Hub Beige Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Ground Floor Level - Common Women's CR (*see details*)
- Ceramic Accent Wall Tiles, Hub Grey Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Ground Floor Level - Common Men's CR, Common CR-PWD (*see details*)
- Ceramic Accent Wall Tiles, Braganza Brown Color – Glossy Texture, 9mm thk. x 600mm x 600mm
 - Ground Floor Level - Director's Powder Room (*see details*)
- Ceramic Accent Wall Tiles, Hub Coral Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Ground Floor Level - Function Hall's Powder Room (*see details*)
- Ceramic Accent Wall Tiles, Hub Grey Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Second Floor Level - Common Men's CR (*see details*)
- Ceramic Accent Wall Tiles, Hub Beige Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Second Floor Level - Common Women's CR (*see details*)
- Ceramic Accent Wall Tiles, Hub Beige Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Second Floor Level – CRs: Room 203, Room 204, Room 206 (*see details*)
- Ceramic Accent Wall Tiles, Hub Grey Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Second Floor Level – CRs: Room 201, Room 202, Room 205 (*see details*)
- Porcelain Floor Tiles, STP 6421 Ivory Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Located at the Center of Main Stair Floor Landing (*see details*)
- Porcelain Floor Tiles, STP 6422 Grey Color – Matte Texture, 9mm thk. x 600mm x 600mm
 - Located at the Side of Main Stair Floor Landing (*see details*)
Note: The step tiles have a built-in nosing on its edge

XXIII.B Ceramic & Porcelain Tiles (9mm thk. x 300mm x 600mm)

- e. Floor surface shall be tested for levelness or uniformity of slope by flooding it with water. Area where water ponds are filled or levelled, shall be retested before the setting bed is applied.
 - f. Establish lines of borders and center of the walls at the field work in both directions to permit the pattern to be laid with a minimum of cut tiles.
 - g. Apply and spread mortar mix and/ or tile adhesive for setting bed and tamp to assure good bond over the entire area to be laid with tile.
- Ceramic Wall Tiles, Canyon Brown Color – Rustic Texture, 9mm thk. x 300mm x 600mm
 - Located in Front of building near windows (*see details*)
 - Porcelain Floor Tiles, STP 6422 Grey – Matte Texture, 9mm thk. x 300mm x 600mm
 - Located at side of main stair step flooring (*see details*)
Note: The step tiles have a built-in nosing on its edge
 - Porcelain Floor Tiles, STP 6421 Ivory – Matte Texture, 9mm thk. x 300mm x 600mm
 - Located at the center of main stair step flooring (*see details*)
Note: The step tiles have a built-in nosing on its edge
 - Ceramic Wall Tiles, Canyon Grey Color – Rustic Texture, 9mm thk. x 300mm x 600mm
 - Located at Side and Front of building plant box (*see details*)
 - Ceramic General Wall Tiles, Nueva Beige Color – Matte Texture, 9mm thk. x 300mm x 600mm
 - Ground Floor Level - Common Women's CR (*see details*)