1.0 FLOORING

1.1 TERRAZO TILES/CAST-IN-SITU

1.1.1. Tiles will generally be 250 x 250 x 20mm laid over concrete bedding to resulting an overall thickness of 40mm

1.1.2. 40mm thick cast in-situ mosaic flooring shall be used.

1.2 CERAMIC/ VITRIFIED TILES

1.2.1 Ceramic tiles with matt finish will be used in toilets. The tiles will be 300 x 300 x 6.80mm (approx.) of approved shade brand and colour.

1.2.2 Vitrified ceramic tiles of approved size, shade and brand shall be used

1.3 ACID / ALKALI RESISTING TILES

1.3.1 Areas coming into contact with acid / alkali vapours or fumes will be given acid / alkali resistant tiles 20 mm thick, jointed with acid / alkali resistant cement mortar. Bedding will comprise of potassium silicate mortar conforming to IS:4832 (Part-1) and resin based mortar like epoxy for jointing. Total thickness of flooring will be 40mm.

1.4 PVC FLOOR FINISH

1.4.1 2mm thick antistatic PVC tiles as per IS:3462 and laid as per IS:5318 over concrete under bed of 38mm will be provided in all control room, electronic cubicle rooms, conference room, etc.

1.5 FINISH FOR STAIR CASES

1.5.1 Risers and treads of staircases will be provided with finish matching with the skirting/floor finish with 25mm nosing. Staircase wall will be given dado of same finish to a height of 2100mm

1.6 IRONITE / IPS FLOOR

1.6.1 Ironite flooring with metallic hardener / non metallic hardener of 40mm thickness shall be used.
1.6.2 40mm thick IPS flooring shall be used.

1.7 STONE FLOOR

1.7.1 20/25mm thick kota stone flooring shall be used.

1.7.2 18/20mm white marble flooring shall be used

1.8 MISCELLANEOUS

1.8.1 Angles 75 x 75 x 6mm (minimum) with lugs will be provided for edge protection of cutouts/openings in floor slabs, edge of drains covering gratings, edge of R.C.C. cable/pipe trenches of any other place where breakage of edges / corners is expected.

1.8.2 Architectural features with ceramic wall tiles cladding shall be used as per requirement.

1.8.3 False flooring with 8mm thick granite tiles topping to be used

1.8.4 False flooring with 2mm thick PVC tile topping to be used

2.0 SKIRTING / DADO

2.1 Minimum 100mm / 125mm skirting matching with floor finish will be provided in all areas unless specified other wise elsewhere.

2.2 Toilets will be provided with dado up to the height of 2100mm from floor with colour / design glazed tiles of minimum 5mm thickness generally as per IS:777.

2.3 Areas coming in contact with acid / alkali spillage / fume, dado of acid /alkali resistant tiling will be provided to a height of 2100mm set in potassium silicate mortar and joints pointed with resin bounded mortar.

3.0 PLASTERING

3.1 External face of all walls will be provided minimum 20mm thick cement mortar plastering.

3.2 Internal face of all walls will be provided with minimum 15mm cement mortar plastering

3.3 Inside surfaces of walls will be provided with 2mm thick plaster of paris punning over the plastered surfaces in office areas, corridor, control room and all other
air-conditioned rooms etc. Wall putty of approved brand shall be provided wherever required.

3.4 Ceiling of all buildings except over false ceilings will be given 6mm thick cement sand plaster 1:4.

4.0 PAINTING

4.1 Details furnished below are the minimum acceptable standard for painting

4.2 Exterior emulsion paint of approved brand and shade will be provided on external faces of walls, sunshades, etc.

4.3 Inside surfaces will be provided with Acrylic emulsion paint for Control Room, Control Equipment Rooms, all air conditioned areas and all other areas and above dado in toilets etc.

4.4 All plastered ceilings will be painted with Acrylic / synthetic distemper over a coat of cement primer.

4.5 Painting for structural steel will be as described in technical specifications.

4.6 Battery rooms / laboratories will be painted with acid/alkali resistant paint

i) All paints will be of approved brand and make as per the approval of owner.

ii) A minimum of two finishing coats of paint over a primer will be provided.

iii) All fire exits will be painted in Post Office red colour shade which will not be used anywhere except to indicate emergency or safety measure.

iv) All painting on masonry or concrete surfaces will preferably be applied by rollers.

v) Surface texture finish shall be used

5.0 ROOF DRAINAGE AND WATER PROOFING

5.1 The gradient will preferably provided by sloping the structural framing system itself. Gradient may also be provided using screed concrete of grade M20 using 12.5mm downgraded aggregate. But the average thickness of such screed concrete will be restricted to about 50mm. In the case of metal roofing system the roof slope will be 1 vertical:3 horizontal.
6.0 FALSE CEILING AND UNDER DECK INSULATION

6.1 Gyp board false ceiling system will consist of 600 x 600 x 12.5mm gypboard with one coat of primer and two or more coats of acrylic emulsion paint. The suspension system will be provided with G.I. system as per manufacturer’s specification.

6.2 Suitable M.S. channel (minimum ISMC 100) grid will be provided above false ceiling for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc.

6.3 A layout of the false ceiling system shall be prepared incorporating light fixtures, supply air diffuser, return air grills, fire detectors, fire protection sprinklers etc. such that the ceiling looks aesthetically pleasing. Work will commence only after the approval of the layout.

6.4 Under deck insulation, wherever required, will be as detailed in the technical specifications.

7.0 DOOR, WINDOWS & PARTITION

7.1 All doors, will be of 35mm thick flush door, windows and ventilators will be of steel. View panels will be provided in doors wherever required. The fixtures and hardware will be of best quality and will be provided as detailed in the technical specifications.

7.2 Wherever functionally required, rolling shutters with suitable operating arrangement manual / Electrical will be provided to facilitate smooth operations.

7.3 Fireproof doors will be provided at all fire exit points as per the recommendations of LPA. These doors will generally be as per IS:3614 (Part-I and Part-II). Fire rating of the doors will be as per LPA requirements. However minimum rating will be 2 hours. These doors will be double cover plated type with mineral wool insulation.

7.4 Aluminium doors & windows

7.4.1 Aluminium glazed glass door with floor spring and toughend shall be used.

7.4.2 Aluminium glazing with double layer heat insulated glass shall be used.

7.4.3 Aluminium partition with aluminium frame using toughend glass to be used.

7.4.4 Aluminium window with toughend glass to be used.
7.5 PVC Doors

7.5.1 PVC door with PVC frame work and hardware fitting shall be used.

7.6 Hardware fittings for doors and sindows:

Fittings for steel doors:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item</th>
<th>Nos. of Single leaf</th>
<th>Nos. for double leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>MS Aldrop</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>MS Tower bolt for top</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Mortice lock</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>MSHinge</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>5.</td>
<td>MS Door handle (One on each face)</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Fittings for flush door shutter:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item</th>
<th>Nos. of Single leaf</th>
<th>Nos. for double leaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Towerbolt 300mm for top</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>Tower bolt 150mm for bottom</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>Aldrop 300mm long with 16mm sliding bolt</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>Door handles with continuous plate 150x38x12mm rod</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>Butt hinge (125 x 63x4mm) with cadmium plated MS screws</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>6.</td>
<td>Door stopper</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
<td>Rubber buffer</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: Mortice lock and hydraulic door closer to be used in door.

8.0 GLAZING

8.1 All ventilators and windows on external face of all the buildings covered in the scope will be provided with plain glass of minimum 4mm thickness conforming to IS:5437.

8.2 Ground glass / frosted glass of minimum 4mm thickness will be used for all windows / ventilators in toilets.
8.3 Toughend glass shall be used in partition and glazing

9.0 WATER SUPPLY AND SANITATION

9.1 Polyethylene water storage tank conforming to IS:12701 will be used. The tank will be complete with all fittings including float valve, stop cock etc.

9.2 Galvanized iron pipe of medium class conforming to IS:1239 will be used for internal piping works for potable water supply. For concealed pipes the pipes will be of heavy class.

9.3 The toilet block will have the following minimum facilities calculated based on minimum 25 persons as per stipulations of National Building Code. The facilities will be suitably increased based on the stipulation of NBC for every increase of 25 users. Unless specified all the fittings will be of chromium plated brass. The toilet blocks will be provided with adequate capacity exhaust.

i) All the facilities such as WC, Urinals, wash basins etc. will be of approved colour

ii) WC (Indian type) Orissa pattern (580 x 440mm) as per IS:L2556 (Part-3) with all fittings including flushing arrangement of appropriate capacity and type.

iii) WC western type 390mm high as per IS:2556 (Part-2) with toilet paper roll holder and all fittings including flushing system of appropriate capacity and type.

iv) Urinal with all fittings, marble partition and flushing system as per IS:2556 (Part-6, Sec.1)

v) Wash basin with all fittings as per IS:2556.

vi) Wall to wall bathroom mirror (5.5mm thick float glass) with bevelled edges including all fittings.

vii) Stainless steel towel rail (600 x 20mm)

viii) Stainless steel liquid soap holder cum dispenser.

ix) Installation of water cooler of adequate capacity

9.4 All plumbing, sanitary fittings, connections and service lines will be provided as per requirement. All service lines, water supply, plumbing lines and other utility lines will be concealed with in the brick / concrete work and removable wooden panels will be provided at intervals for access.

9.5 Sewerage system will be provided with adequate ventilation for the pipe work as well as manhole.