## SECTION IV: TECHNICAL SPECIFICATION

**Project:** PROPOSED COMPLETION OF FOOD TECHNOLOGY BUILDING (PHASE II)
**Location:** SLSU-MAIN CAMPUS, SOGOD, SOUTHERN LEYTE
**Owner:** SOUTHERN LEYTE STATE UNIVERSITY

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| **I MOBILIZATION** | |
| 1.0 Mobilization/Demobilization | Contractor shall mobilize and put into operation all equipment and plants required to undertake the Bid Documents, which is the Bill of Quantities and all associated work items. Demobilization includes the clean-up of the site and the removal of materials, debris, waste, etc., and making good damages or temporary alterations, restoration of damages to the surrounding area (including vegetation, minor structures etc) resulting from the construction or construction-related activities. |
| 2.0 Temporary Facilities/ Water & Electric/ Site Clearing | Contractor shall, as a priority in all his activities, undertakings and endeavors, ensure the continued and continuous safety of the public and all persons directly or indirectly associated with the Works. During the entire process of constructing the Works -- including preparation of the site, temporary water and electric line, barracks and final clean up upon completion -- the Contractor shall exercise the utmost care in order to prevent damage to the environment and adjoining properties. Due precautions shall be taken by the Contractor, at his own cost, to ensure the safety and protection against accidents of all staff and labor engaged on the Works and the public in the vicinity of the Works. The Contractor will be responsible for the safety of the public legitimately passing through the site. All excavations and items of potential danger to the public must be barricaded and sign-posted to the satisfaction of the Engineer, and the Contractor must provide sufficient watchmen to ensure the safety of the public at all times. |
| **II EARTHWORKS** | |
| 1.0 Excavation/Backfilling | Labor only. Volume of footing, wall footing and covering of foundation |
| 2.0 Batter Board | 2" x 2" x 8' cocolumber |
| 3.0 Stake | 2" x 2" x 8' cocolumber |
| 4.0 Consumable for Lay-out | 2" Common Nail, Red Oxide Primer, Nylon Strings #80 |
| 5.0 Soil Poisoning | Application at wall footing perimeter |
| **III CONCRETING WORKS** | |
| 1.0 Concrete | |
| 1.1 Footing | Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G3/4" |
| 1.1.1 Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.1.2 Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.1.3 Gravel | Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.1.4 Mixture | Class AA concrete mixture ( 1 : 1-1/2 : 3 ratio ) , 0.53 water / cement ratio |
| | |
| 1.2 Wall Footing | Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G1 |
| 1.2.1 Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.2.2 Sand | White Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.2.3 Gravel | Gravel (1"). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.2.4 Mixture | Class AA concrete mixture ( 1 : 1-1/2 : 3 ratio ) , 0.53 water / cement ratio |
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| 1.3 | Column | Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G3/4" |
| 1.3.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.3.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.3.3 | Gravel | Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.3.4 | Mixture | Class AA concrete mixture ( 1 : 1-1/2 : 3 ratio ) , 0.53 water / cement ratio |
| | | |
| 1.4 | Roof Beam | Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G3/4" |
| 1.4.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.4.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.4.3 | Gravel | Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.4.4 | Mixture | Class AA concrete mixture ( 1 : 1-1/2 : 3 ratio ) , 0.53 water / cement ratio |
| | | |
| 1.5 | Slab | Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G3/4" |
| 1.5.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.5.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.5.3 | Gravel | Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.5.4 | Mixture | Class AA concrete mixture ( 1 : 1-1/2 : 3 ratio ) , 0.53 water / cement ratio |
| | | |
| 1.6 | Stair | Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G3/4" |
| 1.6.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.6.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.6.3 | Gravel | Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.6.4 | Mixture | Class AA concrete mixture ( 1 : 1-1/2 : 3 ratio ) , 0.53 water / cement ratio |
| | | |
| 1.7 | Ramp - | Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G3/4" |
| 1.7.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.7.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.7.3 | Gravel | Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.7.4 | Mixture | Class AA concrete mixture ( 1 : 1-1/2 : 3 ratio ) , 0.53 water / cement ratio |
| 1.8 | Canopy & Lintel Beam | Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G3/4" |
| 1.8.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.8.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.8.3 | Gravel | Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.8.4 | Mixture | Class AA concrete mixture ( 1 : 1-1/2 : 3 ratio ) , 0.53 water / cement ratio |
| 2.0 Rebars | | |
| 2.1 | Footing | |

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|---|---|---|
| 2.1.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength (Grade 40) |
| 2.1.2 | Material | 16mm X 6.0m Deformed Rebars, 12mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16 |
| 2.1.3 | Typical Plan | Refer to Structural plans for details |
| 2.2 | Wall Footing | |
| 2.2.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength, FY = 280 MPa (Grade 40) |
| 2.2.2 | Material | 10mm X 6.0m Deformed Rebars, 12mm X 6.0m Deformed Rebars, G.I. Tie Wire # 18 |
| 2.2.3 | Typical Plan | Refer to Structural plans for details |
| 2.2 | Column | |
| 2.2.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength, Grade 40 |
| 2.2.2 | Material | 20mm X 6.0m Deformed Rebars (Grade40), 10mm X 6.0m Deformed Rebars (Grade40), G.I. Tie Wire # 18 |
| 2.2.3 | Typical Plan | Refer to Structural plans for details |
| 2.3 | Roof Beam | |
| 2.3.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength (Grade 40) |
| 2.3.2 | Material | 16mm X 6.0m Deformed Rebars, 12mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16 |
| 2.3.3 | Typical Plan | Refer to Structural plans for details |
| 2.4 | Slab | |
| 2.4.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength, (Grade 40) |
| 2.4.2 | Material | 10mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16 |
| 2.4.3 | Typical Plan | Refer to Structural plans for details |
| 2.5 | Stair | |
| 2.5.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength, (Grade 40) |
| 2.5.2 | Material | 16mm X 6.0m Deformed Rebars (Grade40), 12mm X 6.0m Deformed Rebars (Grade40), 10mm X 6.0m Deformed Rebars (Grade40), G.I. Tie Wire # 18 |
| 2.5.3 | Typical Plan | Refer to Structural plans for details |
| 2.6 | Ramp Slab & Stairs | |
| 2.6.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength (Grade 40) |
| 2.6.2 | Material | 16mm X 6.0m Deformed Rebars (Grade40), 12mm X 6.0m Deformed Rebars (Grade40), 10mm X 6.0m Deformed Rebars (Grade40), G.I. Tie Wire # 18 |
| 2.6.3 | Typical Plan | Refer to Structural plans for details |
| 2.7 | Lintel Beam | |
| 2.7.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength, (Grade 40) |
| 2.7.2 | Material | 12mm X 6.0m Deformed Rebars (Grade40), 10mm X 6.0m Deformed Rebars (Grade40), G.I. Tie Wire # 18 |
| 2.7.3 | Typical Plan | Refer to Structural plans for details |
| 3.0 | Formworks & Shoring | |
| 3.1 | Formworks-Structural | |
| 3.1.1 | Material Specification | 2" x 2" x 12' cocolumber, 2" x 3" x 12' cocolumber, 1/4" Plywood, Common Nail no. 1-1/2,2-1/2, 4 |
| 3.2 | Formworks-Beam | |
| 3.2.1 | Material Specification | 2" x 2" x 10' cocolumber, 2" x 2" x 8' cocolumber, 1/2" Plywood, Common Nail 2", Common Nail 3" |
| 3.3 | Formworks-Suspended Slab | |
| 3.3.1 | Material Specification | 2" x 2" x 8' cocolumber, 1/2" Plywood, Common Nail 3" |
| 3.4 | Formworks-Ramp Slab & Stairs | |
| 3.4.1 | Material Specification | 2" x 2" x 8' cocolumber, 1/2" Plywood, Common Nail 3" |
| 3.5 | Shoring | |
| 3.5.1 | Material Specification | 2" x 3" x 12' cocolumber, Common Nail 3" |

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| IV **MASONRY WORKS** | |
| 1.0 Masonry Wall | |
| 1.1 Concrete Mortar | 4" Ordinary Concrete Hollow Blocks |

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| 1.1.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.1.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.1.3 | Mixture | Class A mortar mixture (1 : 2 ratio) |
| 1.2 Reinforcing Bars | | |
| 1.2.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength (Grade 40) |
| 1.2.2 | Material | Deformed Steel Bar 10mm X 6.0m, G.I. Tie Wire # 16 |
| 1.2.3 | Typical Plan | Refer to Structural plans for details |
| 2.0 Interior Walls | | 4" Ordinary Concrete Hollow Blocks |
| 2.1 Concrete Mortar | | |
| 2.1.1 | Cement | Portland Cement |
| 2.1.2 | Sand | White Sand (S1) |
| 2.1.3 | Mixture | Class A mortar mixture (1 : 2 ratio) |
| 2.2 Reinforcing Bars | | |
| 2.2.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength, FY = 280 MPa (Grade 40) |
| 2.2.2 | Material | Deformed Steel Bar 10mm X 6.0m, G.I. Tie Wire # 18 |
| 2.2.3 | Typical Plan | Refer to Structural plans for details |
| 3.0 Stairs and Ramp Wall | | 4" Ordinary Concrete Hollow Blocks |
| 3.1 Concrete Mortar | | |
| 3.1.1 | Cement | Portland Cement |
| 3.1.2 | Sand | White Sand (S1) |
| 3.1.3 | Mixture | Class A mortar mixture (1 : 2 ratio) |
| 3.2 Reinforcing Bars | | |
| 3.2.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength, FY = 280 MPa (Grade 40) |
| 3.2.2 | Material | Deformed Steel Bar 10mm X 6.0m, G.I. Tie Wire # 18 |
| 3.2.3 | Typical Plan | Refer to Structural plans for details |
| 4.0 Counter (Sink) Assembly | | 4" Ordinary Concrete Hollow Blocks |
| 4.1 Concrete Mortar | | |
| 4.1.1 | Cement | Portland Cement |
| 4.1.2 | Sand | White Sand (S1) |
| 4.1.3 | Mixture | Class A mortar mixture (1 : 2 ratio) |
| 4.2 Reinforcing Bars | | |
| 4.2.1 | Reinforcing Bars | Deformed type reinforcing bars with minimum yield strength, FY = 280 MPa (Grade 40) |
| 4.2.2 | Material | Deformed Steel Bar 10mm X 6.0m, G.I. Tie Wire # 18 |
| 4.2.3 | Typical Plan | Refer to Structural plans for details |
| 2.0 Plastering | | |
| 1.3 Plastering | | 1" (25.4mm) thick plastering. Maximum Compressive Strength = 40 000 psi |
| 1.3.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| 1.3.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| 1.3.3 | Mixture | Class A mortar mixture (1 : 2 ratio) |
| 5.4 Counter (Sink) Assembly | | 1" (25.4mm) thick plastering. Maximum Compressive Strength = 400 psi |
| 5.4.1 | Cement | Portland Cement |
| 5.4.2 | Sand | White Sand (S1) |
| 5.4.3 | Mixture | Class A mortar mixture (1 : 2 ratio) |

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| V **STRUCTURAL STEEL** | | |
| 1.0 Roof Framing | | |
| 1.1 Framing | | |
| 1.1.1 | Truss | Top and Bottom Chord 2-2"x2"x1/4" thick angle bar, Vertical and Web member 2-2"x2"x3/16", Gusset Plate 1.20m x 2.40m x 6mm thk, Base Plate 1.20m x 2.40m x 12mm thk |
| 1.1.2 | Frame | 1"x 1"x3/16"x6m. Angle bar (Metal Fascia Frame), 16mm dia. Round Bars Cross Bracing, 20mmØ Turnbuckle |
| 1.1.3 | Purlins | 2"x 4"x 20'x 1.5mm C-Purlins |
| 1.1.4 | Sagrod | Deformed Steel Bar 10mm X 6.0m |
| 1.1.5 | Consumables | Anchor Bolt 16mmØ x 50mm x 300mm Long w/ Nuts and Washer, Welding Rod, Rust Converter, Red Lead Paint, Paint thinner, Roller & Paint brush, #16 GI wire |

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| VI | **THERMAL AND MOISTURE PROTECTION** | | |
| 1.0 | Roofing | | 0.5mm thick Twin Rib Type Prepainted Rib type roof long span, Oceanic Blue |
| 1.1 | Accessories | | 0.5mm thick Preformed Ridge Roll, (Oceanic Blue) 10"Prepainted MetalFascia (Canyon Beige) |
| 1.2 | Insulation | | 10mm thk Double Sided PE Foam |
| 1.3 | Consumables | | 2-1/2" tekscrews, 1/8" x 1/2" Blind Rivets, Sealant |
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| VII | **DOORS AND WINDOWS** | | |
| 1.0 | Door | | |
| 1.1 | Interior Doors | | Frameless Glass door, 1/2" thick glass panel, Clear glass panel faces, Glass edges fully tempered. |
| 1.2 | Terrace Door | | Double Swing Glass Door 1/4" thick clear glass, w/ 2.40m. x 2.10m. Aluminum Powder Coated Frame (White) |
| 1.3 | Comfort Rooms | | Solid Wood Panel Door with Jamb (0.90m. x 2.10m.) |
| 1.4 | CR Cubicles | | 3/4"x600mmx1800mm Phenolic Board Door with complete accessories |
| 2.0 | Door Accessories | | |
| 3.1 | Lockset | | Cylindrical Lockset |
| 3.0 | Door cornering | | |
| 3.1 | Concrete Mortar | | |
| | 3.1.1 | Cement | Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge. |
| | 3.1.2 | Sand | Washed Sand (S1). Uncoated granules, strong, durable, reasonably clean and free from organic matter |
| | 3.1.3 | Mixture | Class A mortar mixture (1 : 2 ratio) |
| 4.0 | Window | | |
| 4.1 | Glass | | 1/4" Clear glass panels w/ 2"x4" Aluminum Powder Coated Frame (White), |
| 4.2 | Dimension | | Refer to Architectural Details |
| 4.3 | Location | | Refer to Architectural Details |
| | | | |
| VIII | **FINISHES** | | |
| 1.0 | Floor Topping | | |
| 1.1 | Floors | | |
| | 1.1.1 | Ground & Second Floor | Seamless floor, Acrylic Water- Based Epoxy Paint, Light Gray |
| 2.0 | Exterior Finishes | | Painted plain cement finish |
| 3.0 | Interior Finishes | | Painted plain cement finish |
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| 4.0 | Carpentry Works | | |
| 4.1 | Exterior Ceiling | | Light Metal Frame, 0.60m offset from exterior wal |
| | 4.1.1 | Wall Angle | 25mm x 25mm x 0.4mm thick, 2.40m, Ga 26, wall angle fastened to wall |
| | 4.1.2 | Double Furring | 19mm x 50mm x 0.4mm thick, 5m, Ga 26, double furring at board terminations only |
| | 4.1.3 | Carrying Channel | 12mm x 38mm x 0.80mm thick, 5m, Ga 22 carrying channel with double furring clip (W-clip) to fasten carrying channel and double furring spaced at 1.20m O.C. |
| | 4.1.4 | Single Furring | 19mm x 25mm x 0.4mm, 5m, Ga 26 thick single furring spaced at 0.60m O.C. |
| | 4.1.5 | Accessories | Double Furring Clips, Hardi Screws (6mm dia. X 3/4"), Blind Rivets (1/8" dia. X 1/2"), Fanhead Screws for Wall Angle to Furring Connection, Concrete Nail 1" for Wall Angle to Wall Connection |
| | 4.1.6 | Sheeting | 1/4" thick fiber cement board (4' x 8'). Allow 5mm gap in all terminations |
| | | | |
| 4.2 | Interior Ceiling | | Light Metal Frame |
| | 4.2.1 | Wall Angle | 25mm x 25mm x 0.4mm thick, 2.40m, Ga 26, wall angle fastened to wall |
| | 4.2.2 | Double Furring | 19mm x 50mm x 0.4mm thick, 5m, Ga 26, double furring at board terminations only |
| | 4.2.3 | Carrying Channel | 12mm x 38mm x 0.80mm thick, 5m, Ga 22 carrying channel with double furring clip (W-clip) to fasten carrying channel and double furring spaced at 1.20m O.C. |

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| | 4.2.4 | Single Furring | 19mm x 25mm x 0.4mm, 5m, Ga 26 thick single furring spaced at 0.60m O.C. |
| | 4.2.5 | Accessories | Double Furring Clips, Hardi Screws (6mm dia. X 3/4"), Blind Rivets (1/8" dia. X 1/2"), Fanhead Screws for Wall Angle to Furring Connection, Concrete Nail 1" for Wall Angle to Wall Connection |
| | 4.2.6 | Sheeting | 1/4" thick fiber cement board (4' x 8'). Allow 5mm gap in all terminations |
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| 4.3 | Ceiling Vents | | Straight type ceiling vent with screen located at the perimeter of the ceiling at the ramp area. |
| | 4.3.1 | Material Specification | 150mm width 1" x 1" (25mm x 25mm) wood KD vent slats spaced at 6.5mm (clear) |
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| 4.4 | Stairs | | |
| | 4.4.1 | Handrail | 25x75x1.5mm Rectangular Tubing, 50x150x1.5mm tubular |
| | 4.4.2 | Railings | 16mm Square Bar, 2"x1/4" Flat Bar |
| | 4.4.3 | Consumables | Welding Rod |
| | | | |
| 4.5 | Ramp | | |
| | 4.5.1 | Handrail | 2½"Øx 6.0m. G.I. Pipe, Sch. 40 |
| | 4.5.2 | Consumables | Welding Rod |
| | | | |
| 4.6 | Partition Walls | | |
| | 4.6.1 | Comfort Room (Pilaster, Side & Middle Divider) | 12mm thick water proof Phenolic Compact Board with Hanging brace. 1820mm high Pilaster & Side Divider, 1800mm high Middle Divider. |
| | 4.6.2 | Comfort Room Partition Accessories | Rising Hinge, Indicator, Adjustable Foot, Bracket, U aluminum profile, Corner aluminum Profile, Edge aluminum Profile, Top aluminum Profile, Coat Hook, Toilet paper holder |
| | 4.6.3 | Interior Partition | 1/2" thick clear glass panel. |
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| 5.0 | Painting Works | | |
| 5.1 | Exterior Wall | | Application of Concrete Nuetralizer, 1 coat Primer, 2 coats gloss latex Use # 120 sandpaper |
| | 5.1.1 | Color | White; Oceanic Blue (Accent Wall) |
| 5.2 | Eaves and Ceiling Vent | | Epoxy adhesive, 2 coats semi-Flat Wall Enamel Use # 120 sandpaper |
| | 5.2.1 | Color | White, |
| 5.3 | Interior Wall | | Application of Concrete Neutralizer, 1 coat Primer, 2 coats semi-gloss latex Use # 120 sandpaper |
| | 5.3.1 | Color | White, |
| 5.4 | Interior Ceiling | | Epoxy adhesive, 2 coats semi-Flat Wall Enamel Use # 120 sandpaper |
| | 5.4.1 | Color | White |
| 5.5 | Handrail/Railings | | Red oxide primer, 1 coat quick dry enamel paint Use # 120 sandpaper |
| | 5.5.1 | Color | Black |
| 5.6 | Consumables | | Paint brush 2", 3", Roller 6" |

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| 6.0 | Tile Works | | |
| 6.1 | Ramp Flooring | | #10 Black,White & Brown Pebbles |
| 6.2 | Stairs | | 12" x 12" (300mm x 300mm) textured floor tiles |
| | 6.2.1 | Terminations | Grout Termination, shade depending on the choice of tiles |
| | 6.2.2 | Nosing | Stair Nosing 1½" x 3m. Brass |
| 6.3 | Comfort Room | | 16" x 16" (400mm x 400mm) textured floor tiles & glazed premium wall tiles |
| | 6.3.1 | Waterproofing | 2 coats Flexibond on flooring and 2 layers on wall tiles |
| | 6.3.2 | Terminations | Grout Termination, shade depending on the choice of tiles |
| | 6.3.3 | Layers | Refer to Architectural plan details |
| 6.4 | Counter | | Granite 3/4", White or equivalent |
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| IX | **ELECTRICAL** | | |
| 1.0 | Roughing Ins | | |
| 1.1 | Circuit Breaker and Branch | | Refer to Electrical details and design analysis |

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| 1.1.1 Panel Board | Panel board, 250 AT,3P,6 holes (bolt-on type Center Main), Panel board, 150 AT,3P,8 holes (bolt-on type Center Main), Panel board, 100 AT,3P,18 holes (bolt-on type Center Main), Panel board, 60 AT,3P,12 holes (bolt-on type Center Main) |
| 1.1.2 Breakers | Refer to Electrical details and design analysis |
| 1.1.3 Ground | Copperclad Gound rod, Ground Rod Clamp |
| 1.2 Conduits - Main Line | 65mm x 3m dia. RSC, service entrance cap 65mm Ø |
| 1.3 Conduits Powerline | PVC Rigid Conduit 20mm dia. x 3m, 20mm dia. Long Elbow |
| 1.4 Conduits Lighting line | PVC Rigid Conduit 13mm dia. x 3m, 13mm dia. Long Elbow |
| 1.5 Conduits - ACU | PVC Rigid Conduit 25mm dia. x 3m, 25mm dia. Long Elbow |
| 1.6 Wiring Main Panel-PowerPanel | THHN wire 22 sq.mm stranded |
| 1.7 Wiring Main Panel-LightPanel | THHN wire 14 sq.mm stranded |
| 1.8 Wiring Main 3 Phase Panel | THHN wire 38 sqmm stranded |
| 1.9 Wiring ACU | THHN wire #8 or 8.0 sq.mm stranded |
| 2.0 Wiring Powerline | THHN wire #10 or 5.5 sqmm stranded |
| 2.1 Wiring Lightingline | THHN wire #12 or 3.5 sqmm stranded |
| 2.2 Wiring Rough-ins | PVC Utility Box 2"x4", PVC Junction Box 4"x4" |
| 2.3 Cables Rough-in (Internet) | PVC Rigid Conduit 1/2" x 3m |
| | |
| 2.0 Finishing | |
| 2.1 Switches | Switch, Flush Type, "Wide series" |
| 2.2 Outlets | Duplex Convinience Outlet, Flush Type "Wide series", ACU outlet flushtype1 "Wide Series" |
| 2.3 Fixtures | |
| 2.3.1 Lobby (2/F) | LED Circular Downlight 8"Ø, 20 Watts (Day Light) |
| 2.3.2 Ramp/Stairs/CR/Eaves | LED Circular Downlight 6"Ø, 12 Watts (Day Light) |
| 2.3.3 Rooms | LED-PANEL Light, 595mmx595mmx10mm, 36w-220V (Comlete Set)(Day Li |
| 2.3.4 Terrace Wall | 12 watts LED wall Lamp |
| 2.3.5 Ceiling Fan | 56" Industrial Fan |
| | |
| X **SANITARY** | |
| 1.0 Pipes and Fittings-Waterline | PPR- 1/2" x 3 meters, 1/2" Tee, 1/2" Threaded Elbow, 1/2" Plain Elbow, 1/2" Threaded Tee, 1/2" End Cap, Teflon Tape 1/2", Solvent Cement (400 cc), Male Adapter 1/2" |
| 2.0 Pipes and Fittings-Sanitaryline | 4" X 3.00m PVC Orange pipe S-1000, 2" X 3.00m PVC Orange pipe S-1000, 2" X 3.00m PVC Orange pipe S-1000, PVC Orange Elbow, Wye, Tee, (Refer to Plumbing drawings for connections), PVC Orange Bushing Reducer 4" X 2", PVC Orange P-trap 2", PVC Orange clean out with 4" cap |
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| 3.0 Plumbing Fixtures | |
| 3.1 Water Closet | Front round water closet with tank fitting, seat and cover, flexible hose, bidet hose, angle valve, soap & tissue holder. |
| 3.2 Lavatory | Granite Lavatory set up with complete accessories (see plan for detail) |
| 3.3 Foot Faucet | Plain Bibb Faucet (1/2" x 4") - Chrome |
| 3.4 Floor Drain | 4" x 4" (100mm x 100mm) Stainless floor drain |
| 3.5 Water Tank | Gravity Water Stainless Tank with complete accessories 2000 liters |
| 3.6 Pump | 1 hp motor pump gouldspump (shallow well) automatic switch with gauge |
| XI **TESTING** | |
| 1.0 Materials Testing | Construction materials such as steel bars and concrete must be subjected to Tensile and Compressive strength respectively. If tests are conducted outside, certificate must be secured as proof. |
| 2.0 Flood Test | CR flooring must undergo flood testing prior to installation of tiles. All fixtures must be tested prior to acceptance to ensure its functionality. |
| 3.0 Leak Test | Water line must be tested prior to plastering and prior to the acceptance of the project to ensure that no leak will occur and to verify continuous flow of water along the line |
| 4.0 Electrical Test | Electrical breakers and lines must be tested for its functionality. |