

SECTION IV: TECHNICAL SPECIFICATION

Project: PROPOSED COMPLETION OF UNIVERSITY LIBRARY AT SOGOD CAMPUS
Location: SLSU-MAIN CAMPUS, SOGOD, SOUTHERN LEYTE
Owner: SOUTHERN LEYTE STATE UNIVERSITY

ITEMS	DETAILS
I MOBILIZATION	
1.0 Mobilization/Demobilization/Site Clearing	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	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 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	Labor only. Volume of footing, wall footing if any
2.0 Backfilling Materials	Labor only. All excavations shall be backfilled immediately as work permits. Filling materials shall be made in ayers not to exceed 15cm and thoroughly tamped before the next fill is placed
3.0 Lines and grades	Labor only. Operation shall start from areas affected by the construction to limits indicated by the Owner and or as specified.
III CONCRETING WORKS	
1.0 Concrete	
1.1 Footing (Stairs Area)	Maximum Compressive Strength at 28 days = 21 MPa (3000psi),
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. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.1.3 Gravel	Crushed 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 Slab - L1 & Roof Deck Slab including Concrete topping at Ballroom	
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	Washed Sand. Uncoated granules, strong, durable, reasonably clean and free from organic matter

ITEMS		DETAILS
1.2.3	Gravel	Crushed Gravel (3/4"). 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
1.3	Column - L1 to L2	Maximum Compressive Strength at 28 days = 21 MPa (3000psi),
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. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.3.3	Gravel	Crushed 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	Column - L2 to L3	Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G 3/4"
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. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.4.3	Gravel	Crushed 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	Column - L3 to Roof Beam	Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G 3/4"
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. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.5.3	Gravel	Crushed 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	Beam - L2, L3 & Roof Deck Beam	Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G 3/4"
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. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.6.3	Gravel	Crushed 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	Roof Beam & Water Wall	Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G 3/4"
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. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.7.3	Gravel	Crushed 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

ITEMS		DETAILS
1.8	Lintel Beam	Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G 3/4"
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. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.8.3	Gravel	Crushed 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
1.9	Stair - L1 to L3	Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G 3/4"
1.9.1	Cement	Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge.
1.9.2	Sand	Washed Sand. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.9.3	Gravel	Crushed Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.9.4	Mixture	Class AA concrete mixture (1 : 1-1/2 : 3 ratio) , 0.53 water / cement ratio
1.9.1	Ramp & Stair @ entrance	Maximum Compressive Strength at 28 days = 21 MPa (3000psi), G 3/4"
1.9.1	Cement	Portland Cement (Type1) in 40kgs. Use one brand of cement all through-out acceptable to the Engineer -in-charge.
1.9.2	Sand	Washed Sand. Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.9.3	Gravel	Crushed Gravel (3/4"). Uncoated granules, strong, durable, reasonably clean and free from organic matter
1.9.4	Mixture	Class AA concrete mixture (1 : 1-1/2 : 3 ratio) , 0.53 water / cement ratio
2.0 Rebars		
2.1	Footing (Stairs Area)	
2.1.1	Reinforcing Bars	Deformed type reinforcing bars (Grade 40)
2.1.2	Material	20mm X 6.0m Deformed Rebars, 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	Slab - L1 & Roof Deck Slab including Concrete topping at Ballroom	
2.2.1	Reinforcing Bars	Deformed type reinforcing bars (Grade 33)
2.2.2	Material	10mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16
2.2.3	Typical Plan	Refer to Structural plans for details
2.3	Column - L1 to L2	
2.3.1	Reinforcing Bars	Main Bars: Deformed type reinforcing bars (Grade 40), Lateral Ties:Deformed type reinforcing bars (Grade 33)
2.3.2	Material	20mm X 6.0m Deformed Rebars, 16mm X 6.0m Deformed Rebars,10mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16
2.3.3	Typical Plan	Refer to Structural plans for details
2.4	Column - L2 to L3	
2.4.1	Reinforcing Bars	Main Bars: Deformed type reinforcing bars (Grade 40), Lateral Ties:Deformed type reinforcing bars (Grade 33)

ITEMS			DETAILS
2.4.2	Material		20mm X 6.0m Deformed Rebars,10mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16
2.4.3	Typical Plan		Refer to Structural plans for details
2.5	<i>Column - L3 to Roof Beam</i>		
2.5.1	Reinforcing Bars		Deformed type reinforcing bars with minimum yield strength, FY = 420 MPa (Grade 60)
2.5.2	Material		25mm X 6.0m Deformed Rebars, 12mm x6.0m Deformed bar, G.I. Tie Wire # 16
2.5.3	Typical Plan		Refer to Structural plans for details
2.6	Beam - L2, L3 & Roof Deck Beam		
2.6.1	Reinforcing Bars		Main Bars: Deformed type reinforcing bars (Grade 40), Stirrups:Deformed type reinforcing bars (Grade 33)
2.6.2	Material		20mm X 6.0m Deformed Rebars,10mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16
2.6.3	Typical Plan		Refer to Structural plans for details
2.7	Roof Beam & Water Wall		
2.7.1	Reinforcing Bars		Main Bars: Deformed type reinforcing bars (Grade 40), Stirrups:Deformed type reinforcing bars (Grade 33)
2.7.2	Material		16mm X 6.0m Deformed Rebars,10mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16
2.7.3	Typical Plan		Refer to Structural plans for details
2.8	<i>Lintel Beam</i>		
2.8.1	Reinforcing Bars		Main Bars: Deformed type reinforcing bars (Grade 40), Stirrups:Deformed type reinforcing bars (Grade 33)
2.8.2	Material		12mm X 6.0m Deformed Rebars,10mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16
2.8.3	Typical Plan		Refer to Structural plans for details
2.9	Stair - L1 to L3		
2.9.1	Reinforcing Bars		Main Bars: Deformed type reinforcing bars (Grade 40)
2.9.2	Material		16mm X 6.0m Deformed Rebars,12mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16
2.9.3	Typical Plan		Refer to Structural plans for details
2.9.1	Ramp & Stair @ entrance		
2.9.1	Reinforcing Bars		Main Bars: Deformed type reinforcing bars (Grade 33)
2.9.2	Material		10mm X 6.0m Deformed Rebars, G.I. Tie Wire # 16
2.9.3	Typical Plan		Refer to Structural plans for details
IV FORM WORKS			
1.0 Formworks & Shoring			
1.1 Formworks-Column			
1.1.1	Material Specification		2" x 2" x 8' cocolumber, 1/2" Plywood, Common Nail 3"
1.2 Formworks-Beam			
1.2.1	Material Specification		2" x 2" x 10' cocolumber, 2" x 2" x 8' cocolumber, 1/2" Plywood, Common Nail 2", Common Nail 3"
1.3 Formworks-Suspended Slab			
1.3.1	Material Specification		2" x 2" x 8' cocolumber, 1/2" Plywood, Common Nail 3"
1.4 Formworks-Ramp Slab & Stairs			
1.4.1	Material Specification		2" x 2" x 8' cocolumber, 1/2" Plywood, Common Nail 3"

ITEMS		DETAILS
1.5	Shoring	
1.5.1	Material Specification	2" x 3" x 12' cocolumber, Common Nail 3"
IV MASONRY WORKS		
1.0	Wall and Plant Box	4" Ordinary Concrete Hollow Blocks
1.1	Concrete Mortar	
1.1.1	Cement	Portland Cement
1.1.2	Sand	White Sand (S1)
1.1.3	Mixture	Class A mortar mixture (1 : 2 ratio)
1.2	Reinforcing Bars	
1.2.1	Reinforcing Bars	Deformed type reinforcing bars (Grade 33)
1.2.2	Material	Deformed Steel Bar 10mm X 6.0m, G.I. Tie Wire # 18
1.2.3	Typical Plan	Refer to Structural plans for details
2.0	Water Wall	4" Ordinary Concrete Hollow Blocks
2.1	Concrete Mortar	
2.1.1	Cement	Portland Cement; Note: Provide WaterProofing
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 (Grade 33)
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
V CEILING AND PARTITION WORKS		
4.1	Ceiling	Light Metal Frame, 0.60m
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	CR Partition	
4.2	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.
4.3	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
VII DOORS AND WINDOWS		

ITEMS		DETAILS
1.0	Doors and Windows	
1.1	(Presidential, Guest, Storage & Dressing Room	0.90m x 2.10m panel Door-8 w/ door jamb and design (mahogany)
1.2	Presidential, Guest, 3rd Floor Cr	0.70m x 2.10m panel Door-3 w/ door jamb and design
1.3	Refer to Door Schedule	Swing Glass Door (0.90m. x 2.10m.)w/ 1½" x 3" Powder Coated Frame & concealed heavy duty door close
1.4	Linen Room	Double Swing Glass Door-17 Heavy Duty (1.20m. x 2.10m.)w/ 1½"x4" Analok Frame & concealed heavy duty door closer
1.5	Ballroom & Function Hall	Double Swing Glass Door-18 Heavy Duty (2.00m. x 2.10m.)w/ 1½"x4" Analok Frame & concealed heavy duty door closer
1.6	Resto Area	Double Swing Glass Door-18a Heavy Duty (2.00m. x 2.10m.)w/ Fixed Glass, 1½"x4" Analok Frame & concealed heavy duty door closer
1.7	1st Floor Ramp Area	Swing Glass Door-22 Heavy Duty (1.00m. x 2.10m.)w/ Fixed Glass, 1½"x4" Analok Frame & concealed heavy duty door closer
1.8	3rd Floor Ramp Area	Double Swing Glass Door-23 Heavy Duty (2.00m. x 2.10m.)w/ Fixed Glass, 1½"x4" Analok Frame & concealed heavy duty door closer
1.9	Presidential	Sliding Glass Door-11 Heavy Duty (2.00m. x 2.10m.)w/ 1½"x4" Analok Frame
2	Presidential Bath Rm.	Swing Tempered Glass Door-24 (0.70m. x 2.10m.)w/ Fixed Tempered Glass & Complete Accessories
2.1	Stair Landing Area	Swing Glass Door-26 Heavy Duty w/ Fixed Glass (1/4"xW-1.25m. x H-3.10m.)w/ 1½"x 4" Analok Frame
2.2	Function Hall, Ballroom & Dressing Room	Typical Window 1 w/ capiz design 1.20x2.40m
2.3	Presidential Room	Typical Window 2 w/ capiz design 1.20x1.80m
2.4	Guest Room	Typical Window 3 w/ capiz design 1.20x0.80m
2.5	Kitchen	0.40x1.20m Sliding Window 4, glass with analok frame
2.6	Presidential	0.45x0.60m awning Window 5, glass with analok frame
2.7	3rd Flr Male and Female Toilet	0.45x1.20m awning Window 14, glass with analok frame
2.8	Ballroom	Typical Window 15 w/ capiz design 1.20x1.20m
2.9	Dressing Room Male and Female CR	0.45x1.80m awning Window 20, glass with analok frame
3	Storage & Linen Room	0.45x2.40m awning Window 21, glass with analok frame
3.1	AVR	Tinted Fixed Glass Panel (1/4"xW-3.60m. x H-1.85m.)w/ 1½"x 4" Analok Frame
3.2	Stairs Landing Area	Hidden Frame Curtain Wall with Awning window 2½"x6" Powder Coated Frame (White) & sealant using 1/4" thick Tinted Glass(W-4.10m. x H-2.80m.)
3.3	Stairs Landing Area	Hidden Frame Curtain Wall with Awning window 2½"x6" Powder Coated Frame (White) & sealant using 1/4" thick Tinted Glass(W-4.10m. x H-3.10m.)
3.4	Stairs Landing Area	Hidden Frame Curtain Wall with Awning window 2½"x6" Powder Coated Frame (White) & sealant using 1/4" thick Tinted Glass(W-4.10m. x H-0.80m.)
3.5	Stairs Landing Area	Hidden Frame Curtain Wall with 2½"x6" Powder Coated Frame (White) & sealant using 1/4" thick Tinted Glass(W-1.25m. x H-2.80m.)
3.6	Stairs Landing Area	Hidden Frame Curtain Wall with 2½"x6" Powder Coated Frame (White) & sealant using 1/4" thick Tinted Glass(W-1.25m. x H-3.10m.)
3.7	Stairs Landing Area	Hidden Frame Curtain Wall with 2½"x6" Powder Coated Frame (White) & sealant using 1/4" thick Tinted Glass(W-3.10m. x H-2.20m.)

ITEMS		DETAILS
3.8	Stairs Landing Area	Hidden Frame Curtain Wall with 2½"x6" Powder Coated Frame (White) & sealant using 1/4" thick Tinted Glass(W-1.25m. x H-2.00m.)
3.9	Stairs Landing Area	Hidden Frame Curtain Wall with 2½"x6" Powder Coated Frame (white) & sealant using 1/4" thick Tinted Glass(W-2.70m. x H-2.80m.)
4	Stairs Landing Area	Hidden Frame Curtain Wall with 2½"x6" Powder Coated Frame(White) & sealant using 1/4" thick Tinted Glass(W-2.70m. x H-3.10m.)
4.1	Stairs Landing Area	Hidden Frame Curtain Wall with Awning window 2½"x6" Powder Coated Frame (White) & sealant using 1/4" thick Tinted Glass(W-2.70m. x H-3.10m.)
4.2	Floor Lobby Area	Hidden Frame Curtain Wall with Awning window 2½"x6" Powder Coated Frame(White) & sealant using 1/4" thick Tinted Glass(W-7.00m. x H-2.40m.)
4.3	1stFloor resto	Tinted Fixed Glass Panel (1/4"xW-7.20m. x H-2.15m.)w/ 1¼"x 4" Analok Frame
4.4	1stFloor resto	Tinted Fixed Glass Panel (1/4"xW-4.10m. x H-2.15m.)w/ 1¼"x 4" Analok Frame
4.5	1st Floor Male and Female Toilet	Tinted Fixed glass 1/4"x 0.15x0.20m. Door design
4.6	1st Floor Male and Female Toilet	0.20x0.80m Wooden louver with frame
4.7	Resto Area	Swing Glass Door (0.90m. x 2.10m.)w/ 1¼"x 3" Powder Coated Frame & concealed heavy duty door close
4.8	Resto Area	Swing Glass Door-15 Heavy Duty (1.10m. x 2.10m.)w/ 1¼"x4" Analok Frame & concealed heavy duty door closer
2.0	Door Accessories	
2.1	Lockset	Cylindrical Lockset, (3½"x 4") Loose Pin Hinges
3.0	Fixed Glass and Glass Door with Sensor	
3.1	Lobby Entrance	Automatic sliding Frameless Tempered Glass Sensor Operated Door and Fixed glass Partition, with complete fittings and Accessories including fabrication and installation
VIII TILE WORKS		
1.0	Tile Works	
1.1	Stair Entrance & Stair 1st to 3rd floor	16" x 16" (400mm x 400mm)(for approval of MTI)
1.2	Veranda 1st Floor	24" x 24" (600mm x 600mm) (for approval of MTI)
1.3	Floor tiles Presidential & Guest CR	24" x 24" (600mm x 600mm)(for approval of MTI)
1.4	Wall tiles Presidential & Guest CR/Floor to Ceiling	24" x 24" (600mm x 600mm) (for approval of MTI)
1.5	Floor tiles CR Male & Female 3rd floor	16" x 16" (400mm x 400mm)(for approval of MTI)
1.6	Wall tiles CR Male & Female 3rd floor/Floor to Ceiling	16" x 16" (400mm x 400mm)(for approval of MTI)
1.7	3rd floor Dressing Rm. and Lobby, 1st flr. Storage, Linen Rm.	24" x 24" (600mm x 600mm)Polished(for approval of MTI)
1.8	1st floor Presidential Suite area	24" x 24" (600mm x 600mm)Polished Granite Tiles (for approval of MTI)
1.9	1st flr. Lobby entrance & expansion	32" x 32" (800mm x 800mm)Polished Granite Tiles (for approval of MTI)
2	Water Wall	16" x 16" (400mm x 400mm)(for approval of MTI)
2.1	Veranda wall, Stairs, Plantbox, 2nd and 3rd floor ramp Area	Stone Cladding (for approval of MTI)
2.1.1	Terminations	Grout Termination, White
2.1.2	Nosing	Stair Nosing 1½" x 3m. Brass
IX ROOFING WORKS		
1.0	Roof Framing	

ITEMS		DETAILS
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",
1.1.2	Frame	1"x1"x3/16"x6m. Angle bar (Metal Fascia Frame), 12mm dia. Round Bars Cross Bracing, 16mmØTurnbuckle
1.1.3	Purlins	2"x3"x20'x1.5mm 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
1.0	Roofing	0.5mm thick Twin Rib Type Prepainted Rib type roof long span, (white)
1.1	Accessories	Prefomed Gutter(white), 0.40mm thk Aluminum Composite Panels, Pre-Painted, Pre-Fabricated Soffit Plain (Driftwood/Wood Stain), Downspout roof drain Stainless Strainer 3", Series 1000 downspout
1.2	Insulation	10mm thk Double Sided PE Foam
1.3	Consumables	2-1/2" tekscrews, 1/8" x 1/2" Blind Rivets, Sealant
IX PAINTING WORKS		
1.0	Painting Works	
1.1	Interior Wall & Exterior Wall	1 coat skimcoat (Primer), 2 coats semi-gloss latex Use # 120 sandpaper
1.1.1	Color	White
1.2	Eaves and Ceiling Vent	Epoxy adhesive, 2 coats semi-Flat Wall Enamel Use # 120 sandpaper
1.2.1	Color	White
X SANITARY		
1.0	Pipes and Fittings-Waterline	1/2" x 3 meters PPR Pipe, 1/2" PPR Plain Tee, 1/2" PPR Threaded Elbow, 1/2" PPR Plain Elbow, 1/2" PPR Threaded Tee, 1/2" PPR 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
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	Counter top lavatory with flexible hose, angle valve, P-trap, drainage pipe and bracket
3.2	Counter Top	Granite Counter Slab, 0.60m x 2.40m Galaxy black
3.3	Lavatory Faucet	Chrome plated faucet
3.4	Foot Faucet	Plain Bibb Faucet (1/2" x 4") - Chrome
3.5	Urinal	0.125 gpf Exposed Top Spud Urinal and Manual Piston-Type Urinal flush valve
3.6	Other Accessories	4" x 4" (100mm x 100mm) Stainless floor drain, Stainless Towel bar Tower Ring, Counter Mirror 0.70x0.90m, Stainless Handheld Shower Round Head, with extra long hose and bracket holder
XI RAILINGS AND OTHER ARCHITECTURAL		
1.0	Railings, Louvers and Ladder Cages	Prefab 38mmØ 304 Stainless pipe

ITEMS		DETAILS
		20mmØ Stainless Steel Plain Round bar (standard)
2.0	Others	Standard Round Bar, Standard Stainless steel flat Bar, Standard Tubular, G.I. Pipe, 1¼"Ø x 20', Sch.40, Steel Bars Structural Grade 40, Welding Rod and Stainless
XII ELECTRICAL		
1.0	Roughing Ins	
1.1	Circuit Breaker and Branch	Refer to Electrical details and design analysis
1.2	Conduits - Main Line	PVC Utility Box 2"x4", PVC Junction Box 4"x4", service entrance cap 1½" Ø
1.3	Conduits Powerline	PVC Rigid Conduit 3/4" x 3m, 3/4" Long Elbow
1.4	Conduits Lighting line	1/2" Polyflex, PVC Rigid Conduit 1/2" x 3m, 1/2" Long Elbow
1.5	Conduits - ACU	PVC Rigid Conduit 1/2" x 3m, 1/2" Long Elbow, 1/2" Long Elbow
1.6	Wiring Mainline	200 mm², THHN Wire (Stranded)
1.7	Wiring Lightingline	3.5 mm², THHN Wire (Stranded)
1.8	Wiring Powerline	5.5 mm², THHN Wire (Stranded), 8.0 mm², THHN Wire (Stranded) (ACU)
1.9	Wiring Rough-ins	PVC Utility Box 2"x4", PVC Junction Box 4"x4", service entrance cap 1½" Ø
2.0	Finishing	
2.1	Switches	Switch, Flush Type,Single-Gang , 2-Gang "Wide series"3-Gang "Wide series"
2.2	Outlets	Duplex Convinience Outlet, Flush Type "Wide series", ACU Outlet, Flush Type,1-Gang "Wide series"
3.0	Fixtures	
3.1	Refer to Plan for Location	LED Circular Downlight 8"Ø, 20 Watts (Day Light)
3.2	Refer to Plan for Location	LED Circular Downlight 6"Ø, 12 Watts (Day Light)
3.3	Ballroom Area	Dimmable LED Recessed Ceiling Panel Downlight,20 Watts, 170mmx170mmx20mm (Day Light)
3.4	G/f Lobby	Pendant Light
3.5	Refer to Plan for Location	Dimmable LED Circular Ceiling Lamp, 400mmx38mm, 24w-220V (Suface mounted)(Warm White)
3.6	Refer to Plan for Location	Dimmable LED Recessed Ceiling Panel Downlight, 20 Watts ,170mmx170mmx20mm (Warm White)
3.7	G/f Lobby	LED Double Head Ceiling LAMP, 9 Watts (Warm White)
3.8	Refer to Plan for Location	LED Circular Drop Light, 18 Watts (Day Light)
3.8	Refer to Plan for Location	Flexible Waterproof LED Strip light,AC220V with EU power plug, 120 led/m. 2835 SMD High brightness (Warm White)
3.8	Refer to Plan for Location	Chandelier (design for approval by MTI)
3.8	Refer to Plan for Location	Wall/Post Light (design for approval by MTI)
3.8	Ballroom area	Hand Dryer (design for approval by MTI)
XIV TESTING		
1.0	Testing	
1.1	Concrete	Contractor is required to submit test certificate prior to concrete pouring
1.2	Rebar	Contractor is required to submit test certificate prior to concrete pouring
1.3	Waterline	All waterline shall undergo flood and leak testing prior to finishing and before acceptance.

ITEMS**DETAILS**

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