

PROPOSED CONSTRUCTION OF 2 BEDROOM BUNGALOW

AT

**PRIMARY SCHOOL OKOROBILOM
COMMUNITY IN EASTERN OBOLO L.G.A
AKWA IBOM STATE**

BILLS OF QUANTITIES



CLIENT:

BOPANE HCDT
45 AHOADA ST.
RUMUIBEKWE HOUSING ESTATE
OFF ABA ROAD, PH
RIVERS STATE



RC: AK 18989

CONSULTANT

MBINTEX KONSULT
5 MBAJA AVE. OKOROMBOKHO
Eastern Obolo, Akwa Ibom state



PREPARED BY:
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**NIGERIAN INSTITUTE OF QUANTITY SURVEYORS
The Professional Construction Cost Managers**

BILL NO. 1: PRELIMINARIES				
COST CENTRE	COMPONENTS	TIME RELATED CHARGES	FIXED CHARGES	TOTAL CHARGES
	BILL NO.1 PRELIMINARIES Part A: Project Particulars Name of the Project: Construction of 2 Bedroom Detached Bungalow Nature of project: The project involves; construction of 2 Bedroom Detached Bungalow Building, Site works/Infrastructures etc, from foundation to finishes and Hand over. Location of project: Okorobilom Duration of the Project: 6 months Client: Bopane HCDT Name of Contractor Drawings; Architechural and Mechanical Services Bills of Quantities: In accordance with BESMM4R Form of Contract: The Nigerian Construction Industry			
1.1B	Part B: Pricing Schedule			
1.1.1	EMPLOYER'S REQUIREMENT			
1.1.2.06	Control and Protection Multi-service gang- BOPANE Project Unit-12 Project Monitoring by other approved bodies	Wks		1,100,000.00
1.1.2.07	Design, Approvals and permit 2 Processing Fees: (a) Site Plan and Analysis (SPAR) (b) EIA Report 3 Others: Local Authority Approval/ Logistics Stakeholder engagement Logistics 4 Commissioning Logistics	Wks	Item Item	500,000.00 900,000.00
	EMPLOYER'S REQUIREMENT TO COLLECTION			2,500,000.00

1.1.2	MAIN CONTRACTOR'S COST ITEM			
1.1.2.1	Management and Staff			
1.1.2.1.1	Project Specific Management and Staff		Item	
1.1.2.2	Site Establishment			
1.1.2.2.1	Site accommodation		Item	
1.1.2.2.2	Temporary works in connection with site establishment	2	Nr	
1.1.2.2.3	Furniture and Equipment		Item	
1.1.2.2.5	Consumables and services; Stationaries, Computer ink cartridges, Courier charges, postage, tea, coffee, First aid consumables, stationeries etc.	Wks		
1.1.2.2.6	Bought- in services			
1.1.2.2.7	Sundries; Main contractor's signboards, safety and information notice boards, fire points, Employer's composite signboards.		Item	
1.1.2.03	Temporary Services			
1.1.2.3.1	Temporary Water Supply		Item	
1.1.2.3.2	Temporary gas Supply	Wks		
1.1.2.3.3	Temporary electricity Supply		Item	
1.1.2.04	Security of Site			
1.1.2.4.1	Security Staff; security guards and Watchmen for 6months	2	Nr	
1.1.2.4.3	Hoarding, Fences and Gate		M	
	PAGE 2 MAIN CONTRACTOR COST ITEM TO COLLECTION			

1.1.2.05	Safety and Environmental Protection			
1.1.2.05.1	Community Relation and Engagement		Item	
	Safety Programme; Notices and information to neighbours; Community relations Safety audits, Staff safety training, ,Personal Protective equipment (PPE) for workers and multi-service gang, Fire points, Temporary fire alarms, Fire estinguishers, Nurse, Traffic Marshals, etc.		Item	
1.1.2.5.1				
1.1.2.5.2	Barriers and safety scaffolding; guardrails and edge protection, temporary Staircase balustrades,etc.		Item	
1.1.2.06	Control and Protection			
	1 Survey, Inspections and Monitoring		Item	
	2 Setting Out		Item	
	3 Samples		Item	
1.1.2.08	Temporary Works			
	Access Scaffolding, Type---; Bringing to site, erecting and initial safety checks and including desmantling and removing from site		Nr	
1.1.2.09	Site Records			
	Site Records; photography, Works Records.		Item	
1.1.2.10	Completion and Post- completion Requirements			
	1 Testing and Commissioning plan		Item	
	2 Handover		Item	
	3 Post- completion Services	Wks		
	PAGE 3 TO COLLECTION			

1.1.2.11	Cleaning			
1	Site Tidy		Wks	
1.1.2.13	Sites Services			Item/Nr/M/ M2/M3
1	Temporary Works			
2	Multi-service gang- Administrator	Contract Project Architect Project Quantity Surveyor Project Engineer	Wks	
1.1.2.15	Transportation/Haulage Allow a provisional sum for transortation materials.			Item
	PAGE 4 TO COLLECTION			
	COLLECTION: PAGE 2 PAGE 3 PAGE 4			
	MAIN CONTRACTOR COST ITEM TO COLLECTION EMPLOYERS COST ITEM			
	PRELIMINARIES CARRIED TO MAIN SUMMARY			

BILL NO.2-2 BEDROOM BUNGALOW

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUBSTRUCTURE (ALL PROVISIONAL)				
1.5	EXCAVATING AND FILLING				
1.5.4.1.1	Site clearance; clearing site vegetation and other growth and dispose offsite 80m away	175	M ²		
	Site Preparation				
1.5.5.2.1	Remove top soil, average 150mm depth, stored on site	175	M ²		
1.5.10.1.2	Retained excavated topsoil on site to temporary spoil heaps 80m distance	26.3	M ³		
	Excavation and filling				
1.5.6.2.1	Excavation from strip level, foundation excavation not exceeding 2m deep strip foundation.	38.3	M ³		
1.5.6.2.1	Ditto; pits for column bases, over 1m but not exceeding 2m deep.	13	M ³		
1.5.8.1.1.1	Disposal, ground water, depth 150mm below strip level		Item		
1.5.8.1.1.1	Ditto; excavated material offsite 50m away	10.3	M ³		
1.5.11.1.1.1	Filling obtained from excavated material; final thickness of filling exceeding 500mm deep, 520mm thick backfill to trench excavaton and treated with antitermite.	41	M ³		
1.5.12.1.1.1	Imported filling with Laterite, blinding bed, over 50mm but not exceeding 500mm deep,150mm thick to ground floor, compacted in layers 150mm depth, with antitermite.	52	M ³		
1.5.12.1.1.1	Imported filling with hardcore, blinding bed, over100mm but not exceeding 500mm deep,120mm thick, level to falls, to ground floor.	22	M ³		
1.5.11.1.1.1	Filling obtained from excavated material not exceeding 500mm deep, 150mm thick to external perimeter of trench	2.80	M ³		
1.5.16.1.1.1	Damp proof mainbrane, not exceeding 500mm wide,500 guage, horizontal, polythene sheeting laying on blinding hardcore filling to receive concrete	155	M ²		
1.11	INSITU CONCRETE WORK				
1.11.2.1.2.2	Plain insitu concrete grade 20mm(1:4:8) /M7.5 aggregate, horizontal work ≤ 300mm thick, in blinding, poured on or against earth; Column base.	0.65	M ³		
	Reinforced Insitu Concrete (1:2:4-20mm aggregate M15)				
1.11.2.1.2.1	Reinforced insitu concrete , grade 20mm aggregate, horizontal work ≤ 300mm thick,in column bases	1.78	M ³		
1.11.5.1.1.1	Ditto; vertical work ≤ 300mm thick,column in structures,reinforced =5%	0.5	M ³		
1.11.5.1.1.1	Ditto; Horizontal work ≤ 300mm thick, in Plinth beam in structures,reinforced =5%	1.64	M ³		
	Page 1 To collection:				

	Plain Insitu Concrete (1:3:6-20mm aggregate)				
1.11.2.1.2.1	Plain insitu concrete, grade 20mm aggregate, horizontal work ≤ 300mm thick, in trench, in structures, poured on or against blinding.	2	M ³		
1.11.2.1.2.1	Ditto; Horizontal work poured on or against hardcore.	23.3	M ³		
	Ditto, Horizontal work, ≤ 300mm thick in Step and ramp.	2	M ³		
	Formwork to insitu concrete				
1.11.14.1.1.	Plain formwork to Edges of horizontal work ≤ 500mm high, 150mm wide	50.3	M		
1.11.21.1.1.	Ditto; Sides of attached columns, regular, rectangular in shape.	13.2	M2		
	Reinforcement				
1.11.34.1.1.	High yield steel bars, 12mm diameter, straight bars 12m long; 96m in Columns.	0.08	T		
1.11.34.1.1.	High yield steel bars, 12mm diameter, straight bars 12m long; 144m in Columns base.	0.14	T		
1.11.33.1.1.	High yield bars, 8mm diameter links/ stirrups in Columns	0.02	T		
1.11.34.1.1.	High yield steel bars, 12mm diameter, straight bars 12m long; 288m in Plinth beam.	0.19	T		
1.11.33.1.1.	High yield bars, 10mm diameter links/ stirrups in Columns and Plinth beam	0.09	T		
1.11.37.2.2	Mesh, Weight, 2.22kg/m ² , fabric reinforcement A142; minimum side and end laps; 150mm	155	M ²		
	1.14 MASONRY				
	Brick/Block Walling in foundation				
1.14.1.2.2.1	Walls, overall thickness 150mm thick battered on both sides in Common /stretcher bond, cement mortar (1:3)	150	M ²		
1.11.1.1.3	Plain insitu concrete (1:10), mass concrete in filling voids.		M ³		
	Allow for a defined Provisional Sum to cover other works not measured in the Substructure.	1	Item		
	FINISHES				
1.28.7.2.1	Finish to Walls, Cement and Sand (1:4) rendering 12mm thick, exceeding 600mm wide Externally	28.8	M ²		
	Wall Tiles:				
1.28.7.2.1	Finish to Walls; 250mm x 400mm x 8mm Glazed Ceramic tiles laid on Walls, exceeding 600mm wide to approved pattern on cement and sand bed (measured separately); finished with straight butt joints and flush with pointing coloured cement grout .	28.8	M ²		
	Cement Backing; 5mm Cement Binder paste	28.8	M ²		
	Protection				
	Protect all works in this section		sum		
	Page 2 to collection:				
	Collections:				
	Page 1....				
	Page 2....				
	SUBSTRUCTURE CARRIED TO SUMMARY				

SUPERSTRUCTURE					
CONCRETE WORK; FRAMES AND WALLS					
Ground Floor fo Roof Level.(1:2:4					
1.11.5.1.1.1	Vibrated reinforced insitu concrete, grade 20mm aggregate, filled into formwork and well packed around reinforcement (developing 21KN/sq.mm working strength at 28 days), Vertical work;columns, ≤ 300mm thick,in structures, reinforce=5%	0.74	M ³		
1.11.2.1.2.1	Ditto; horizontal work in Lintels and roof Beams.	3.5	M ³		
Concrete facia-Parapet wall at roof beam					
Concrete facia-Parapet wall- Architrave made of Cement and Sand mortar 1:4mix, filled hollow with concrete work as required.					
		53.5	m		
Form Work to Insitu Concrete:					
1.11.21.1.0.	Plain formwork to sides of columns, 12 in numbers, regular, rectangular in shape.	19.8	M ²		
1.11.18.1.0.	Ditto; Sides and soffits of lintels, regular, rectangular in shape.	42	M ²		
1.11.18.1.0.	Ditto; to sides of roof beams, regular, rectangular in shape.	22.5	M ²		
Reinforcement in Superstructure.					
High Yield Bars to BS 4449					
1.11.34.1.1.	High yield steel bars,10-12mm diameter, straight bars 12m long; 168m in Columns	0.12	T		
1.11.33.1.1.	High yield bars, 8mm diameter links, stirrups in Columns.	0.07	T		
1.11.34.1.1.	High yield steel bars,10-12mm diameter, straight bars 12m long; 151.35m in Lintels	0.29	T		
1.11.34.1.1.	High yield steel bars,12mm diameter, straight bars 12m long; 57.6m in Beams.	0.18	T		
1.11.33.1.1.	High yield bars, 8mm diameter links, stirrups in Lintels and Beams.	0.04	T		
CONCRETE WORK: CARRIED TO SUMMARY					
SUPERSTRUCTURE CONT'D.					
Brick/Block Walling in Superstructure					
EXTERNAL & INTERNAL WALL					
1.14.1.2.2.1	Walls, overall thickness 150mm thick battered on both sides in Common /stretcher bond, cement mortar (1:3) externally	119	M ²		
	Ditto; Internally	188	M ²		
EXTERNAL AND INTERNAL WALLS: CARRIED TO SUMMARY					
					-

ROOF CONSTRUCTION					
1.16	CARPENTARY Sawn hardwood treated timber size: Structural Timbers, 50mm x 100mm Rafters and associated timbers fixed with 150mm size nails at 1200 centres and specially treated with solignum.	150	M		
1.16.1.1.1.1	Ditto; 50mm x 75mm purlins fixed at 600mm centres	522	M		
1.16.1.3.1.1	Ditto;75mm x 100mm wall plates	55	M		
1.16.1.4.1.1	Ditto; Roof and floor joists 50mm x 100mm Tie beams	143	M		
1.16.1.5.1.1	Ditto; 50mm x 100mm Strutting, fixed at 1200mm centres	350	M		
1.16.1.7.1.1	Ditto;50mm x 50mm Partition and wall members.	625	M		
	Sundries 12mm diameter mild steel holding down bolt 45mm long with hexagonal nuts and washers including forming pockets in blockwork and grouting mortar, and boring 100mm hardwood.	85	Nr		
	<u>CARPENTRY WORK CARRIED TO COLLECTION</u>				
1.17	<u>SHEET ROOF COVERING</u> 0.55mm gauge darked-Coloured Step tiles Longspan aluminium roofing sheet of high Quality, fixed with single lap covering 150mm end laps to sawn hardwood purlins (measured separately) at approximately 850mm centres with 80mm long drive screw nails with plastic caps and washers. Covering > 500mm wide,sloping at 30° underlays on purlins.	205	M ²		
1.17.4.1.3.7	Boundary work, at the ridge fixed with nails and special washers 600mm girth, Ridges sloping	15	M		
1.17.4.1.5.7	Ditto; Valleys sloping	15	M		
1.17.5.1.9.1	Flashings,Eaves 150mm girth lining to openings.	57	M		
	<u>ROOF COVERING CARRIED TO SUMMARY</u>				
	<u>COLLECTIONS:</u> CARPENTARY SHEET ROOF COVERING				
	ROOF CONSTRUCTION TO SUMMARY				

1.23	WINDOWS, SCREENS AND LIGHTS				
	The following aluminium window tower or approved equivalent; complete all necessary iron mongery, assembled and fixed to;including cutting and pinning lugs to concrete or block work opening; surrounding and bedding frame in cement mortar(1:4). Supply and fix in place Aluminium framed glass projected window fully glazed with 5mm thick sheet glass size: 600mm x 600mm high.	3	Nr		
1.23.1.1.1	Ditto; Projected Window size: 600mm x 1200mm high.	6	Nr		
1.23.1.1.1	Ditto; Projected Window size: 1000mm x 1200mm high.	7	Nr		
1.23.1.1.1	Ditto; Projected Window size: 1200mm x 1200mm high.	2	Nr		
1.24	DOORS, SHUTTERS AND HATCHES Supply and fix the following door of approved quality and design to suit size				
1.24.2.1.1.1	Virony doors or equivalent; size:750mm x 2100mm high.	3	Nr		
1.24.2.1.1.1	Ditto; 900mm x 2100mm high.	7	Nr		
1.24.2.1.1.1	Approved Security door size:1200mm x 2100mm high.	2	Nr		
1.26	METAL WORK;BURGLARY PROOF Supply and fix the following mild steel burglary proof panels made of Wrought iron Sq pipe for window Protector design, fixed to concrete work/block work with lugs, including making good surfaces disturbed and painting with 2 gloss paint to suit window openings.				
1.26.2.1.1.1		18	Nr		
	WINDOWS, DOORS AND METAL WORK TO SUMMARY				
	<u>SUPERSTRUCTURE TO COLLECTIONS:</u> Concrete work Block work Roof Construction and covering Windows, door and metal work				
	SUPERSTRUCTURE CARRIED TO SUMMARY				
1.32	FURNITURE , FITTINGS AND EQUIPMENT				
	HANDRAILS Fabricate and fix approved iron handrails at the entrance door/ verander.		M		
	FURNITURE , FITTINGS AND EQUIPMENT TO SUMMARY				

1.38	MECHANICAL SERVICES				
	<u>Sanitary Appliance and Fittings</u>				
1.32.2.1.4	Hand wash basin, 450mm x 350mm c/w bottle trap tap and accessories, 'Twyford' or approved equivalent.	3	Nr		
1.32.2.1.4	Vitreous China or Tyford Water Closet complete with accessories, 'Twyford' or approved equivalent.	3	Nr		
1.32.2.1.4	Vitreous China toilet roll holder, 'Twyford' or approved equivalent.	3	Nr		
1.32.2.1.4	Float mirror, 600mm x 450mm x 5mm, 'Fikington' or equivalent.	3	Nr		
	<u>Fixtures</u>				
	9kg multi- purpose dry powder fire extinguisher; waterloo or equivalent.		Nr		
1.38.2	<u>Terminal Equipment and Fittings: Fresh water distribution</u>				
	Pipe Work; Allow a provisional sum for all pipe work(PRP Pipes, Pvc gum, thread tape, etc as specified in the Mechanical Engineering drawings) in connection with Plumbing work				
1.38.3.1.1			Item		
	<u>Builders Work</u>				
	Allow a provisional sum for builder works in connection with Mechanical Services.		Item		
	MECHANICAL SERVICES TO SUMMARY				

1.39	ELECTRICAL SERVICES				
	Primary Equipment:				
1.39.1.1.1.1	Supply and install the following High equipment, System, high level in plant room Type:				
	200A Busbar chamber (Mem)	1	Nr		
	Electrical Control; 100A ELCB	1	Nr		
	100A 4-way TPN Distribution board	1	Nr		
	200A TP&N Gear Switch	1	Nr		
	Cut out fuse box	1	Nr		
	Neutral Link/Connector	1	Nr		
	300mm x 450mm board	1	Nr		
1.39.2.1.1.1	Terminal Equipment:				
	Supply and install the following approved rated Lamps and other Fittings complete with accessories:				
	Decorative wall bracket fitting	12	Nr		
	200W PoP flush Light mounted fittings	20	Nr		
	100 W Water tight security fittings	8	Nr		
1.39.3	Cable Contentment:				
	50mm diameter upvc cable duct-Kano or equal in blockwall chases, including cutting chases in block wall and making good.	120	M		
	Ditto; buried in Ceiling	168	M		
1.39.4	Cable Contentment Fittings:				
	Supply and fixed the following: Joint boxes, Connectors, bends,tees,sets,junctions, reducers, Fire barriers and the like.	95	Nr		
	Extra over 50mm pipe ducts for 50mm elbows	80	Nr		
	Ditto; 25mm	100			
1.39.5	Cables				
	16mm ² single core pvc insulated copper conductor, drawn in upvc duct (measured).	100	M		
	10mm ² 1c pvc/pvc copper cable	100	M		
	4mm ² 1c pvc/pvc copper cable	100	M		
	2.5mm ² 1c pvc/pvc copper cable	200	M		
	1.5mm ² 1c pvc/pvc copper cable	500	M		
	Electrical Service to Page collection.				

FLOOR, WALL, CEILING AND ROOF FINISHINGS					
	<u>Ground Floor : Floors</u>				
1.28.1.2.1.3	Screeds, beds and toppings 40mm thick, exceeding 600mm wide, level and to falls only =50° from horizontal, backing and beddings 44mm thick in cement and sand mortar (1:5) laid on concrete bed (measured separately) to receive tiles.	136	M ²		
	Cement Backing; 5mm Cement Binder paste	136	M ²		
1.28.2.2.1.7	Floor Tiles: Finish to Floors; 400mm x 400mm x 8mm Vitrified tiles laid on floor, exceeding 600mm wide to approved pattern on cement and sand bed (measured separately); finished with straight butt joints and flush with pointing coloured cement grout .	136	M ²		
	Ditto; Skirting 100mm high.	170	M		
	Cement Backing; 8mm Cement Binder paste	170	M		
	<u>Walls</u>				
1.28.7.2.1	Finish to Walls; Cement and Sand (1:4) rendering 12mm thick, exceeding 600mm wide Externally and internally.	614	M ²		
	<u>Window and Door Skirting/Design</u> Architrave Balustrade made of Cement and Sand mortar 1:4mix, include concrete work as required.	105	m		
1.28.7.2.1	Wall Tiles: Finish to Walls; 250mm x 400mm x 8mm Glazed Ceramic tiles laid on Walls, exceeding 600mm wide to approved pattern on cement and sand bed (measured separately); finished with straight butt joints and flush with pointing coloured cement grout .	54	M ²		
	Cement Backing; 5mm Cement Binder paste	54	M ²		
1.28.9.2.1	<u>Ceiling</u> Finish to ceilings,Suspended ceiling 600mm thick x 600mm wide as specified.	136	M ²		
	FINISHINGS TO SUMMARY				
	DECORATION; PAINTING Painting to general surfaces, exceeding 300mm girth,internal, patterned, one undercoat and two finishing coats of Peacock or other approved quality emulsion paint on wall Externally and internally.	614	M ²		
	PAINTING CARRIED TO SUMMARY				
	COLLECTION: FINISHINGS DECORATION; PAINTING				
	INTERNAL FINISHES TO SUMMARY				
1.34	DRAINAGE BELOW GROUND				
	Foul Drain:				

1.34.7.1	<p>Inspection Chamber Construction of inspection chambers, size 450mm x 450mm x 600mm using 150mm thick solid sandcrete block and covered with precast reinforced concrete slab size 450mm x 450mm x 50mm</p>	4	Nr		
1:34.8.2.3	<p>Soak Away Pit (S.A.P) Soak Away Pits; internal size: 2950mm x 2600mm x 3000mm deep using 150 mm thick solid sandcrete block wall built honey comb with reinforced concrete columns and plaster internally with the bottom/base casted with plain concrete grade 30 as well as covered with reinforced concrete slab as per Engineer details.</p>	1	nr		
1:34.10.2.3	<p>Septic Tank (S.T) Septic Tank; internal size: 3000mm x 2600mm x 3200mm deep using 150 mm thick solid sandcrete block wall with reinforced concrete columns/ cross beams and plaster internally with the bottom/base casted with plain concrete grade 30, as well as covered with reinforced concrete slab as per Engineer details.</p>	1	nr		
1.34.16	Allow for all pipe work in connection with drainage		Item		
DRAINAGE CARRIED TO SUMMARY					
MAIN SUMMARY					
FACILITATING WORKS					

SUBSTRUCTURE				
SUPERSTRUCTURE				
INTERNAL FINISHES				
FITTINGS, FURNISHINGS AND EQUIPMENT				
SERVICES				
PREFABRICATED BUILDING AND BUILDING UNITS				
WORK TO EXISTING BUILDING				
DRAINAGE BELOW THE GROUND				
TOTAL				
SUB-TOTAL				
PROVISIONAL SUMS				
DEFINED PROVISIONAL SUM				
WORKS TO BE CARRIED OUT BY STATUTORY UNDERTAKERS				
SUB-TOTAL				
MAIN CONTRACTOR'S FIXED PRICE				
DIRECTOR'S ADJUSTMENT(+/-)				
SUB TOTAL				
DAY WORKS (PROVISIONAL)				
TOTAL TENDER PRICE(EXCLUSIVE OF VAT)				
ADD VAT				
CARRIED TO GENERAL SUMMARY				

GENERAL SUMMARY					
ITEM	DESCRIPTION	QTY	UNIT	AMOUNT	TOTAL
1	BILL NO. 1: PRELIMINARIES	1	Nr		
2	BILL NO.2: MAIN BUILDING	1	Nr		
	TOTAL				
	ADD PROFIT AND OVERHEAD	20%			-
	TOTAL2				-
	ADD VAT				-
	GRAND TOTAL				-