

**CONSTRUCTION OF FACTORY WORKSHOP - SKELDON ESTATE
BILL OF QUANTITIES**

Item	Description	Qty	Unit	Rate	Amount
1	Preliminaries & General Items				
1.1	Provide temporary buildings for Contractor's Site Office, Storage and workers accommodation and Guysuco's Site Engineer's office.				
	(a) Contractor's office size 4572mm long x 3000mm wide		item		
	(b) Storage accommodation 4572mm long x 2500mm wide.		item		
	(c) Workers shed 6000mm long x 3000mm wide.		item		
	(d) Guysuco's Site Engineer's Office 3000mm x 2500mm		item		
1.2	Provide for temporary access, cross-overs and hardstandings. Include for the reinstatement of any private or public ways damaged by such temporary works or Contractor's equipment		Item		
1.3	Provide Water and Electricity for the works.		item		
1.4	Provide for the protection of all sections of the works.		Item		
1.5	Provide for the removal of construction plant, surplus materials, temporary materials and debris from the site on completion of the works and leaving the site in a clean and tidy condition.		Item		
1.6	Mobilization Bond Provide for an unconditional Bank Guarantee to the value of ten percent of the Contract price.		item		
1.7	Performance Bond Provide for an unconditional Bank Guarantee to the value of ten percent of the Contract price.		Item		
1.8	Insurance Provide for insurance for the works:				
	(a) Contractor's All Risk		item		
	(b) Employer's Liability		item		
	(c) Public Liability		item		
1.9	Provide for the safety and health of workers on site in compliance with statutory regulations.		item		
1.1.0	Provide for cost in connection with Contractor's statutory requirements for contribution to the National Insurance Scheme in respect of Contractor's Employees		item		
1.11	Provide for the testing of concrete used in the Works; both slump and cube tests are required.				
	(a) Slump: 2 no. per batch; one before placing and the other during placing.		item		
	(b) Cube tests: four cubes are to be taken for each batch of concrete; two are to be tested at seven days and two at twenty eight days.		item		
1.12	Allow for preparing all shop detail drawings for fabrication. Two sets to be issued to the Engineer for checking				
1.13	Provide a sum for subterranean termite treatment of building.		item		
	Preliminaries & General Items to Summary				

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Item	Description	Qty	Unit	Rate	Amount
2	Measured Works				
	Workshop Building				
	Foundation, Columns And Walls				
2.1	Provide equipment and labour to grub site not exceeding 300mm deep. Rate to include for the disposal of spoil as directed by Guysuco's Representative on site.	1000	m ²		
2.2	Excavate in open cut for foundation not exceeding 600mm deep. Rate to include for disposal of spoil as directed by Guysuco's Representative on site.	190	m ³		
2.3	Provide, point, tar, ring and drive 400-450mm butt diameter x 19.8m long greenheart piles for foundation. Rate to include for boring and dowelling piles with 25mm diameter bars.	36	No.		
2.4	Provide and fix shuttering fabricated from 25mm thick construction plywood to foundation. Rate to include for fixing all struts and ties.	505	m ²		
2.5	Provide, place and compact 150mm thick white sand as fill to foundation trench.	98	m ³		
2.6	Provide, place and compact 50mm thick blinding concrete to top of sandfill.	317	m ²		
2.7	Provide, clean, bend and fix the following high tensile rebars to workshop foundation:				
	(a) 10mm dia. Bars.	2,243	kg		
	(b) 16mm dia. Bars.	5,638	kg		
2.8	Provide, place and compact structural concrete (4500psi crushing strength at 28 days) to workshop foundation.	102	m ³		
2.9	Provide, clean, bend and fix the following high tensile rebars to stub columns of workshop:				
	(a) 10mm dia. Bars.	225	kg		
	(b) 16mm dia. Bars.	1153	kg		
	Total Carried Forward				

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Item	Description	Qty	Unit	Rate	Amount
	Total Brought Forward				
2.1.0	Provide and fix 25mm diameter x 600mm long anchor bolts in in 75mm PVC sleeves to concrete columns. Rate to include for levelling and grouting base plates with a nonshrink grout.	96	No.		
2.11	Provide and fix 16mm diameter x 600mm long anchor bolts in in 75mm PVC sleeves to concrete columns.	36	No.		
2.12	Provide, place and compact structural concrete (4500 psi crushing strength at 28 days) to stub columns and steel stanchions.	3	m ³		
2.13	Provide equipment, labour and materials to weld 6mm diameter bars as ties to stanchions.	600	kg		
	FLOOR				
2.14	Provide, place and compact 600mm thick white sand as fill to underside of floor area.	609	m ³		
2.15	Provide, place 500g damp proof membrane to top of sandfill.	1,012	m ²		
	Total Carried Forward				

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Item	Description	Qty	Unit	Rate	Amount
	Total Brought Forward				
2.16	Provide, fabricate and fix wrought shuttering to workshop floor floor slab. Rate to include for all struts and ties.	30	m ²		
2.17	Provide, clean, bend and fix the following rebar to Workshop floor:				
	(a) 12mm dia. Bars.	4,762	kg		
2.18	Provide, place and compact structural concrete (4000psi crushing strength at 28 days) to floor slab of Workshop as shown on drawings.	205	m ³		
2.19	Provide labour and materials for the fabrication of workbench to the following workshops:(a) Diesel Workshop - Size 5000mm long x 1100mm wide	4	No.		
	(b) Instrument Workshop - Size 5000mm long x 1100mm wide	4	No.		
	(c) Electrical Workshop - Size 5000mm long x 1100mm wide	4	No.		
	(d) Mechanical Workshop - Size 5000mm long x 1100mm wide	5	No.		
	Rate to include for the provision of a suitable hardwood, 50mm x 50mm x 10mm mild steel angle on long edges and mild steel bolts and nuts with two washers each.				
3	Steel Structure				
3.1	Provide scaffolding, materials, labour and lifting equipment to erect the following members to Factory Workshop as shown on drawing:				
	(a) 356mm x 171mm x 51kg/m rafter with 20mm thick end plates with holes to accommodate 22mm diameter black bolts. Rate to include for 6mm thick cleats with 14mm diameter holes.	131	m		
	(b) 305mm x 165mm x 40kg/m as Eaves to roof. Rate to include for 16g cleats with 14mm diameter holes and 12mm thick end plates 14mm diameter with holes.	27	m		
	(c) 254mm x 146mm x 31kg/m rafter with 15mm thick end plates with holes to accommodate 22mm diameter black bolts. Rate to include for 6mm thick cleats with 14mm diameter holes. (Lean- to roof)	38	m		
	(d) 305mm x 127mm x 48kg/m longitudinal and transverse beams with end plates as shown in drawing. Rate to include for boring holes in end plates to accommodate 15mm diameter bolts as shown on drawings.	268	m		
	(e) 254mm x 254mm x 107kg/m main stanchions with 25mm thick base plate with holes to accommodate 25mm diameter anchor bolts and 12mm thick end plate as shown on drawing. Rate to include for 6mm thick cleats with 14mm diameter holes.	143	m		
	Total carried forward				

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Item	Description	Qty	Unit	Rate	Amount
	Total Brought forward				
	(f) 203mm x 203mm x 46kg/m stanchions with 16mm and 10mm thick base and end plates respectively to gable end. Rate to include for 6mm thick cleats with 14mm diameter holes as shown on drawing.	47	m		
	(g) 203mm x 203mm x 46kg/m stanchions with 16mm and 10mm thick base and end plates respectively to lean-to roof. Rate to include for 6mm thick cleats with 14mm diameter holes as shown on drawing.	20	m		
	(h) 150mm "Z" purlins fabricated from 16g plain galvalume sheets. to roof and walls. Rate to include for 12mm diameter bolts and nuts along with washers and boring holes in purlins to facilitate connection.	1,344	m		
	(i) 22mm diameter x 75mm long black bolts and nuts with washers to connection between rafter and stanchion.	300	No.		
	(j) 16mm diameter x 60mm long bolts and nuts with washers to connection between longitudinal beams and stanchions and rafters and stanchions.	1400	No		
	(k) 26g galvalume prepainted roofing sheets with self tapping screws and neopreme washers.	1001	m ²		
	(l) 26g galvalume prepaint sheets as sidings with self tapping screws and neopreme washers.	675	m ²		
	(m) 26gauge galvalume prepainted flashing between vent and main roof and wall and lean-to roof 450mm girth.	300	m		
	(n) translucent sheets to roof and walls	171	m ²		
	(o) 26g prepainted corner flashing and edge trims	600	m		
	(p) Wind brace fabricated from 100mm diameter galvanized pipe	340	m		
	(q) 12mm diameter x 900mm long sag rods with nuts and washers at both ends.	880	No.		
	(r) 32mm x 250mm greenheart fascia and barge boards. Rate to include for all materials necessary for fixing fascia and barge boards and the application of three (3) coats of oil paint.	602	bm		
	(s) box gutters fabricated from 16g galvalume prepainted sheets. Rate to include for 32mm x 6mm mild steel brackets and screws for fixing brackets	70	m		
	(t) 150mm PVC downpipe. Rate to include for bends and pipe straps.	202	m		
3.2	Provide, materials scaffolding, labour and brushes to apply three (3) coats of anticorrosive paint to all structural members.	700	m ²		
	Total carried forward				

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Item	Description	Qty	Unit	Rate	Amount
	Total brought forward				
3.3	Provide and lay 400mm 200mm x200mm hollow concrete blocks between stanchions to floor height as shown on drawings. Rate to include for vertical reinforcement 2 # 12mm diameter per block along with 6mm diameter bars every two rows as brickforce and filling blocks with grade C35 structural concrete at 28 days	177	m ²		
3.4	Provide and lay 400mm 200mm x150mm hollow concrete blocks between stanchions above floor height as shown on drawings. Rate to include for vertical reinforcement 2 # 12mm diameter per block along with 6mm diameter bars every two rows as brickforce and filling blocks with grade C35 structural concrete at 28 days.	1,906	m ²		
3.5	Provide and apply 12mm thick 1:3 rendering to both faces of hollow block walls	3,812	m ²		
3.6	Provide labour and materials to cast reinforced concrete coping to top of reinforced hollow block walls. Rate to include for shuttering with struts and ties, 6mm links, 10mm main bars as shown on drawings and grade C35 structural concrete at 28 days.	4	m ³		
3.7	Provide and fix aluminium louvre window manufactured by Ansa Mc Al Trading Ltd with white electrostatic baked on finish. Overall Size 4500mm wide x 4500mm high with four panels each, complete with mullions, head sills and butterfly winding clip plugged and screwed to opening in external walls	6	No.		
3.8	Provide and fix horizontal sliding sash windows to external walls of workshop offices. Size 1524mm wide x 1829mm high	16	No.		
3.9	Provide and fix the following type doors to workshop:				
	(a) Rolite doors size 4500mm wide x 6000mm high	5	No.		
	(b) Purpleheart raised panel doors, size 914mm wide x 2134mm high.	19	No.		
	(c) Solid metal door size 1219mm wide x 2134 mm high	1	No.		
3.1.0	Provide and apply three (3) coats of emulsion paint to hollow block walls.	3,812	m ²		
	Total Carried forward				

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Item	Description	Qty	Unit	Rate	Amount
	Total Brought forward				
3.11	Provide a sum for lockers fabricated from 25mm thick plywood as shown on drawing. Rate to include for the application of three coats of oil paint, doors and all ironmongery:				
	Locker Size 500mm wide x 500mm high.	48	No.		
3.14	Provide and fix cupboard to lunch room as shown on drawing.				
	Size 900mm wide x 1000mm high	4	m		
3.15	Provide and fix double drainboard stainless steel kitchen sink. Rate to include for all fittings and making entire system operable.				
		1	No.		
3.16	Provide and lay 50mm x 150mm glazed ceramic tiles to cupboard and splashback. Rate to include for thinset, spacers and grout.				
		7	m ²		
3.17	Provide a sum for the installation of machines. Rate to include for labour, lifting equipment and moving machines from present position to new location.				
			item		
3.18	Provide a sum for electrics in accordance with technical specifications provided.				
		prov	sum		
	Workshop Building Total to Summary				
4	External Work				
4.1	Drain				
4.1.1	Excavate in open cut for storm water drain not exceeding 500mm deep. Rate to include for the disposal of spoil as directed by Guysuco Representative on site.				
		40	m ³		
4.1.12	Provide, place and compact 150mm thick white sand to underside of drain.				
		36	m ³		
4.1.13	Provide, clean, bend and fix the following rebars to storm water drain: (a) 10mm dia. Bars.				
		586	kg		
4.1.14	Provide, materials and labour to fabricate and fix plywood shuttering to drain. Rate to include for all struts and ties.				
		50	m ²		
4.1.15	Provide, place and compact structural 100mm thick structural concrete (3000 psi crushing strength at 28 days) to bottom and walls of stormwater drain.				
		20	m ³		
	Drain Cost to Summary				
4.2	Walkway				
4.2.1	Excavate in open cut for walkway not exceeding 350mm deep. Rate to include for the disposal of spoil as directed by Guysuco Representative on site.				
		52	m ³		
4.2.2	Provide, place and compact 150mm thick white sand to underside of walkway.				
		28	m ³		
4.2.3	Provide, clean bend and fix #65 BRC fabric to walkway.				
		210	m ²		
4.2.4	Provide and fix wrought shuttering to walkway. Rate include for all struts and ties.				
		34	m ²		
	Total carried forward				

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Item	Description	Qty	Unit	Rate	Amount
	Total Brought forward				
4.2.5	Provide, place and compact 100mm thick structural concrete (3000 psi crushing strength at 28 days) to walkway.	20	m ³		
	Walkway Cost to Summary				
4.3	Driveway and Ramp				
4.3.1	Excavate in open cut for driveway not exceeding 450mm deep. Rate to include for the disposal of spoil as directed by Guysuco Representative on site.	25	m ³		
4.3.2	Provide, place and compact 600mm thick white sand to driveway.	60	m ³		
4.3.3	Provide, clean bend and fix 12mm diameter bars to driveway and ramp to Workshop.				
	(a) 6mm diameter bars.	50	kg		
	(b) 10mm diameter bars.	1540	kg		
4.3.4	Provide and fix wrought shuttering to driveway and ramp to Workshop Rate to include for all struts and ties.	50	m ²		
4.3.5	Provide, place and compact 200mm thick structural concrete (4000 psi crushing strength at 28 days) to driveway and ramp.	82	m ³		
	Driveway and Ramp to Summary				
	Access Road				
5	ROADWAY 110 Meters Long				
5.1	Provide labour and equipment for the excavation of roadway to formation level. Rate to include for the disposal of spoil as directed by the clients representative on site.	655	m ³		
5.2	Provide labour and equipment to place and compact earthen material for road shoulder 1.524m wide to roadway as shown on drawing.	335	m ²		
5.3	Provide place and compact 600mm thick white sand subbase to roadway	462	m ³		
5.4	Provide place and compact 250mm thick white sand, sand clay subbase to roadway	193	m ³		
5.5	Provide place and compact 150mm thick first grade crusher run as base material to roadway.	116	m ³		
5.6	Provide labour and equipment for the excavation of soft spots in roadway. Rate to include for the disposal of spoil as directed by the client's representative on site.	75	m ³		
5.7	Provide place and compact white sand as fill to soft spots in subgrade.	75	m ³		
5.8	Provide labour and equipment for insitu compaction testing of subbase and base material at 7 meter intervals.		item		
	Total Carried Forward				

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Item	Description	Qty	Unit	Rate	Amount
	Total brought forward				
5.9	Provide and apply RC 250 as prime coat to base course. Rate of application three (3) litres per square meter.	660	m ²		
5.1.0	Provide and apply 20mm aggregate as first lift to base course. Rate of application 22.73kg/m ² .	660	m ²		
5.11	Provide and apply RC 250 as tack coat to base course. Rate of application three (1.5) litres per square meter.	660	m ²		
5.12	Provide and apply 10mm aggregate as second lift to base course. Rate of application 11.36kg/m ²	660	m ²		
5.13	Provide and apply sand seal to DBST. Rate to include for sand and RC 250 as tack coat at the rate of 1.5 litres per square meter	660	m ²		
	Cost of Roadway To Summary				

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6	Fire Fighting System				
6.1	Provide and fix internal and external fire fighting system comprising the following:				
	(a) 75mm dia Fire hose - 30.5m and nozzles	4	No.		
	(b) 100mm Fire hydrants	2	No.		
	(c) Fire extinguishers	8	No.		
	Rate to include for all materials and labour to make entire system operable.				
7	Provide a provisional for works that may be deem necessary but are not included in the scope of work.		prov		1,500,000
	Fire Fighting System to Summary				
	Measured Work To Summary				
Item	Description	Qty	Unit	Rate	Amount
	SUMMARY SHEET				
	Preliminaries & General Items				
	Measured Works				
	Workshop Building				
	Walkway				
	Driveway and Ramp				
	Roadway				
	Fire Fighting System				
	Sanitary Block				
	Cost of Project Cost				